Mashhad University of Medical Sciences

چهارمین همایش بین المللی تغذیه بالینی ایران
4th International Clinical Nutrition Congress

چهارمین کنگره بین‌المللی تغذیه بالینی ایران

4th International Clinical Nutrition Congress

مشهد، مجتمع شهدای سلامت (برج سپید) دانشگاه علوم پزشکی مشهد ۲۷ تا ۲۹ اردیبهشت ۱۴۰۱

Shohadaye Salamat (Sepid) Complex , Mashhad, Iran 17-19 May 2022

Congress Book

Including Abstracts, Programs, Maps, and Time Tables

Invited Oral presentation

NUTRITION IN PEDIATRICS

Nonalcoholic fatty liver disease in children

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Nonalcoholic fatty liver disease (NAFLD) represents a spectrum of fatty liver disease that occurs in the absence of secondary causes of hepatic steatosis. NAFLD is subdivided into three categories, defined by histologic findings; Nonalcoholic fatty liver (NAFL) which is presented with hepatic steatosis without hepatocellular injury, Nonalcoholic steatohepatitis (NASH) which define as hepatic steatosis with inflammation and hepatocellular injury, with or without fibrosis, and NASH cirrhosis with a cirrhosis and current or previous evidence of NASH or NAFL.

NAFLD is strongly associated with obesity. Predictors of more advanced disease include markers of insulin resistance, prediabetes/diabetes, and Hispanic ethnicity. Most patients with NAFLD have no symptoms caused by the liver disease, although many have symptoms and signs of other obesity-related comorbidities. Screening for NAFLD should be performed in all children with obesity (body mass index [BMI] ≥95 th percentile), and for those who are overweight (BMI ≥85 th percentile) if other risk factors are present (signs of insulin resistance or a family history of NAFLD) and should be initiated between 9 and 11 years.

Screening should consist of measurement of serum alanine aminotransferase (ALT). A provisional diagnosis of NAFLD can be made by excluding other causes of liver disease through a focused clinical evaluation. however, a definitive diagnosis of NAFLD can only be made by liver biopsy which helps assessment of severity of disease and guides therapeutic decisions

For children and adolescents with NAFLD and obesity, management includes weightless and counseling directed at improving diet and exercise habits.

Keywords: Nonalcoholic fatty liver disease, Pediatrics, children

Nutritional management in celiac disease

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Celiac disease also known as gluten sensitive enteropathy, is a common immune mediated inflammatory disease of the small intestine. Celiac disease caused by sensitivity to dietary gluten and related proteins in genetically predisposed individuals. It is estimated to affect approximately 0.5 to 1 percent of the general population in many parts of the world.

Classic clinical features include persistent diarrhea, chronic constipation, recurrent abdominal pain, and failure to thrive. Non-gastrointestinal manifestations include dermatitis herpetiformis, neurologic disease, and behavioral symptoms, arthritis, liver disease, and iron deficiency.

Diagnosis is performed by serologic screening test which measures one of several antibodies that are specific for celiac disease, with the patient on a gluten containing diet. In this stage, the most clinically useful test is for IgA antibodies against tissue transglutaminase (tTG-IgA), which is highly sensitive, specific, and more cost-effective than other antibody tests. Intestinal biopsy is valuable for all patients to achieve maximal diagnostic certainty and exclude other gastrointestinal diseases. The characteristic histologic changes include villous atrophy on small intestinal biopsy.

Patients with serologically and histologically confirmed celiac disease and compatible clinical or laboratory manifestations should adhere to a gluten-free diet for life. A gluten-free diet requires strict avoidance of wheat, rye, and barley. Specific serologic testing should be repeated after six months on a gluten-free diet. A decrease in the antibody titer indicates adherence to the diet and supports the diagnosis of celiac disease. The most common reasons for lack of response are poor compliance or inadvertent gluten ingestion.

Keywords: celiac, Pediatrics, Nutritional management

Food allergy in pediatric

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Food allergies arise from abnormal immunologic reactions, usually to food proteins. Food allergies are categorized into either immunoglobulin E (IgE)-mediated or non-IgE-mediated processes. IgE-mediated food allergy typically develops rapidly after food ingestion, usually within a minute and symptoms can affect one or more organ systems. Non-IgE-mediated food allergies present as more subacute or chronic symptoms, which are typically isolated to the gastrointestinal tract .Both IgE and non-IgE-mediated mechanisms can be involved in atopic dermatitis and eosinophilic gastrointestinal disorders (EGIDs). The type of gastrointestinal signs and symptoms may vary in some disorders, depending upon whether the food is consumed regularly or infrequently. Chronic vomiting and diarrhea, particularly if accompanied by a failure to thrive, suggest disorders such as food protein-induced enteropathy, FPIES, or EGID.
Cow's milk allergy (CMA) is the most common food allergy in young children which presents with a wide range of clinical syndromes due to immunologic responses to cow's milk proteins. Manifestations of milk allergy include IgE-mediated reactions like urticaria, angioedema, and anaphylaxis, mixed IgE- and non-IgE-mediated reactions such as atopic dermatitis and eosinophilic esophagitis, and non-IgE-mediated forms of allergy that present with delayed gastrointestinal manifestations.
The elements in the evaluation of food allergy include history and physical exam followed by some combination of skin testing, in vitro testing, elimination diets, food diaries, and various types of food challenges.
Once a diagnosis of food allergy is made, education of patients and families about avoidance is a crucial therapeutic intervention. Although strict avoidance is simple in theory difficult in practice.
Keywords: Food allergy, Pediatrics, immunology

Nutrition and Enteral Feeding in Preterm Neonate

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The aims of nutrition and Enteral Feeding in preterm neonates are to achieve: 1. growth and nutrient accretion similar to intrauterine rates; 2. best possible neurodevelopmental outcome; and 3. To prevent specific nutritional deficiencies.
The principles include early enteral feeds promoting normal gastrointestinal structure and function, motility and enzymatic activity and delayed nutrition can result in growth restriction with long-term complications of parenteral nutrition, dysbiosis of the intestine, poor organ growth, and poorer neurological outcomes. Additionally, Breast milk is protective against necrotizing enterocolitis (NEC), sepsis, and retinopathy. The feeding guide includes Buccal colostrum, to provide the benefits of colostrum to all sick and premature infants we can place colostrum in the buccal cavity for 48 hrs of life, and route of administration. However, when premature infants can coordinate sucking and swallowing? And when we can add breast milk fortifier to breast milk? Preterm milk formula is indicated for infants born <34 weeks' gestation and <2 kg. Nutrient enriched post-discharge formula (NEPDF) formulated to meet the ongoing enhanced nutrient needs of infants born <34 weeks, once they reach 37 weeks CGA/≥2 kg/at discharge from NNU. Volumes >180 mL/kg are not usually necessary and other reasons for poor growth should be sought before further volume increases are introduced. Term formulas do not provide adequate nutrition for preterm infants at standard dilution and will require modification to ensure individual requirements are met. If we want to change to the different types of milk feed must slowly change from one type of milk feed to another to ensure the infant tolerates the change in feed. Evaluation of Feed tolerance is important. Poor gut motility is common among VLBW/ELBW infants and some will have episodes requiring temporary discontinuation of feeding or delay in advancing feeds. Routine aspiration of GR is not recommended in preterm infants.
Keywords: Nutrition, Enteral Feeding, Pediatrics, Preterm Neonate

Role of Diet in the Chronic Diarrhea

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Chronic diarrhea, defined as diarrhea for more than four weeks, is a common but challenging clinical problem. Specific dietary components may cause or aggravate chronic diarrhea. Diagnosis of a dietary cause of chronic diarrhea can help us to choose appropriate treatment. There were multiple mechanisms for aggravation of chronic diarrhea by dietary components. Some dietary component in sufficient quantities can cause diarrhea in a normal gut (eg, fructose), some of them can cause diarrhea due to an underlying condition (eg, dairy products in lactase deficiency). There was some idiosyncratic intolerances reaction to some foods. On the other hand, gut alterations can limit digestion or absorption of dietary components (eg, short bowel, pancreatic insufficiency). Patients with chronic diarrhea and malnutrition may present with deficiency of selected micronutrients such as vitamin A, zinc, folic acid, copper, and selenium. Zinc in combination with vitamin A seem to be effective in reducing chronic diarrhea in developing countries. Determining the nutritional components for chronic diarrhea can accelerate treatment strategies.

Keywords: Diet, Chronic Diarrhea, Pediatric

Nutritional management in inborn error of metabolism

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Metabolic disorders typically result from the absence or abnormality of an enzyme or its cofactor or impaired transport of a biochemical, leading to either accumulation or deficiency of a specific metabolite.

Congenital metabolic diseases can present in newborns, infants, children, or adults. The onset and severity may be influenced by changes in dietary intake, fasting, dehydration, intercurrent illness, medications, strenuous activity, childbirth, trauma, or surgery. The signs and symptoms vary depending upon the age and disorder. Neurologic and gastrointestinal symptoms and signs are the most common presenting features of inborn errors of metabolism (IEM) Laboratory presentations of IEM include acid-base disorders, hyperammonemia, hypoglycemia, anemia, neutropenia, thrombocytopenia, and abnormalities of liver function.

The diagnostic approach to the child with suspected IEM depends upon the clinical presentation. When the clinical presentation is associated with certain groups of disorders, additional testing is needed to narrow the differential diagnosis.

Phenylketonuria is a disorder affecting the aromatic amino acid, phenylalanine. The incidence of PKU is approximately 1 in 10,000 in European populations, But more prevalence in Iranian papulation, about 1 in 5800 and also the most prevalence disease in IEM disorder in Iran.

Optimal outcome for IEM depends upon early recognition. Delay in diagnosis may result in acute metabolic decompensation, progressive neurologic injury, or death. Although newborn screening programs increase the detection of IEM, they cannot be relied upon exclusively. Improved detection depends upon a high index of suspicion. Nutritional interventions are considered as one of the most important methods of treatment

Keywords: Nutritional management, metabolism, Pediatric, inborn error

NUTRITIONAL INTERVENTIONS IN CARDIOVASCULAR DISEASES_ PREVENTION AND THERAPY

Role of nutritional predicting factors in cardiovascular disease

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The leading cause of mortality in the world in 2019 is attributed to cardiovascular disease by estimation of owning 32.2% of all-cause deaths. Cardiovascular disease (CVD) is a group of chronic disorders that interfere with the normal function of

the heart and blood vessels. Among primary and secondary prevention pathways for CVD and complex interventions of cardiac rehabilitation, nutritional intake of the individual is of high importance. Evidence suggests that dietary components such as whole grains, fiber, tomato, egg, red meat, cholesterol, and salt may play a role in accelerating or decelerating the process of developing CVD. For instance, a higher ratio of plant protein to animal protein in the diet is associated with reduced cardiac death which could be as a result of less intake of cholesterol. Evidence suggests that not only low intakes of fruit and vegetables are significantly correlated with a higher risk for ischemic heart disease, but consumption of 3 servings of vegetables per day can also lower the risk of CVD. Hence, having multiple factors in the diet that have a compound effect on cardiovascular health makes it pivotal to study the effect of dietary intake as a whole on cardiovascular health. Results from studies that have investigated the diet from a more thorough perspective indicate that among dietary patterns, the Mediterranean diet has a better chance of decreasing the likelihood of CVD rather than balanced diet or traditional diet which have shown contradictory findings.

Keywords: nutrition, predicting factors, cardiovascular disease

Long term effects of nutrition in the first 1000 days of life for prevention of cardiometabolic risk factors

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A growing body of evidence reported that non-communicable diseases (NCDs) including cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes originate from early life. NCDs are usually caused by interaction of genetic factors, gender, age, ethnicity, environmental exposures, and lifestyle behaviors.
Breastfeeding is perfectly designed for the child's nutritional needs and it is the most advantageous feeding option for infants. Human milk contain bioactive factors including hormones, growth factors, neuropeptides, and anti-inflammatory and immunomodulatory agents. In addition to its short-term benefits, it has several beneficial effects for prevention of NCDs for both mothers and children. These effects are mainly because of the appropriate amount of protein, as well as its fatty acid content. Food preferences are established in first months of life, so providing healthy complementary feeding after 6 months will be useful in lifelong healthy food preferences. Moreover, healthy complementary foods are important for prevention of obesity and related cardiometabolic risk factors. Many studies showed long-term protective effects of healthy nutrition in the first 1000 days of life in prevention of NCDs and related cardiometabolic risk factors particularly on hypertension, obesity, diabetes, dyslipidemia, and cardiovascular diseases at individual and population levels. However, there are some controversial findings about these effects because of recall bias for exclusivity and duration of breastfeeding and low availability of infant nutrition data in longitudinal studies.
The primordial and primary prevention of NCDs should start with an emphasis on improving healthy nutrition in the first 1000 days of life.

Keywords: Prevention; Non-Communicable Diseases; Risk Factors; Breastfeeding; Complementary food

Role of Vitamin D Supplement in The Improvement of Cardiovascular Risk Factors; True or False?

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The major physiological role of vitamin D has been proved according to regulation of phosphorous and calcium homeostasis and appropriate bone mineralization. Recent years have witnessed a shift in focus to non-skeletal benefits of vitamin D such as cancer, diabetes and cardiovascular disease (CVD). Vitamin D deficiency is highly prevalent in populations across the globe and a further 30–50% are at risk of being vitamin D deficient. In recent years, Vitamin D supplementation has increased in primary care settings in the Iran.
Observational studies have reported an inverse association between low serum 25-hydroxyvitamin D (25(OH) D) levels and presence of CVD risk factors, including dyslipidaemia, blood

pressure and inflammation. Current evidence suggests a role for several vitamins in the protection of proper heart function, especially those with antioxidant potency, and thus multiple vitamin deficiencies may contribute to development of CVD. Previous published systematic reviews and meta-analyses have revealed no beneficial effect of vitamin D supplementation on CVD risk factors. However, a recent meta-analysis showed that vitamin D supplementation improved serum 25(OH)D levels, significantly lowered serum high sensitive C-reactive protein (hs-CRP), triglyceride (TG), low density lipoprotein (LDL), total cholesterol (TC), blood pressure and increased high density lipoprotein (HDL). Vitamin D supplementation also appears to improve arterial stiffness.

Vitamin D receptors are expressed in vascular tissues, including the vascular smooth muscle and myocardium, directly influencing calcium influx, diastolic function and muscle relaxation. Vitamin D also has impact on the parathyroid hormone and renin-angiotensin-aldosterone system and may effect on endothelial function and arterial thrombogenesis.

Studies suggests that vitamin D supplementation ≥4,000 IU/d and achieved serum 25(OH)D concentrations ≥86 nmol/L are required for improvements in CV Vitamin D D risk factors.

Keywords: Prevention; Cardiovascular Risk Diseases; Risk assessment; Vitamin D

The association of diet quality indices with risk of cardiovascular diseases in adult population

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Higher adherence to healthy food habits can be the cornerstone of cardiovascular diseases(CVDs) prevention. Numerous studies have developed various diet quality indices, including Mediterranean diet score(MDS), Dietary Approaches to Stop Hypertension(DASH) diet, low carbohydrate diet(LCD), dietary diabetes risk reduction score(DDRRS), dietary inflammatory index(DII), Healthy Eating Index(HEI), Alternate HEI(AHEI), and Healthy Diet Indicator(HDI), to help assess and compare diet quality across and within various populations in relation to cardiovascular health. This review critically assessed the possible association between these priori–defined dietary indices commonly applied in epidemiological studies with CVDs risk. We conducted a search in all publications available on MEDLINE, ISI Web of Science, and EMBASE through January 2022. Among the wide variety of indices, studies with pre-defined diet quality indices and CVDs risk were selected. Strong evidence from large prospective studies for different populations, races, ages, genders showed that higher scores of MDS, DASH, HEI, and AHEI, characterized by higher consumption of whole grain, fruits, vegetables, legumes, nuts, low-fat dairy, plant proteins, unsaturated fats and lower consumption of red and processed meats, simple sugar, saturated fats, and animal proteins, were significantly associated with lower risk of CVD outcomes including chronic heart diseases, myocardial infarction, and stroke. Also, a diet with a higher DII score is associated with a higher risk of CVDs. However, the association of HDI and also low-carbohydrate diet, which is known with high LCD and DDRRS scores, with CVD risk is unclear. Therefore, it is concluded that the priori diet quality scoring criteria including MDS, DASH, HEI, AHEI, and DII may facilitate use by clinicians in individual settings as well as public health guidelines for the prevention of CVDs. However, the ongoing studies may provide more certainty in the future, especially on the role of HDI, LCD, and DDRRS score with risk of CVDs.

Keywords: diet quality, risk assessment, nutrition, CVD

Shared Aspects in CVD and Cancer from Dietary Perspective

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Cardiovascular disease (CVD) and cancer are the first two leading causes of death worldwide and are major focus of the World Health Organization's joint prevention programs. Cancer and CVD have some shared risk factors and pathophysiological mechanisms. For instance, pro-inflammatory cytokines and signalling molecules, with either

tumorigenesis or cardiotoxic properties, are seen in both CVD and cancer patients. These pathophysiological conditions are influenced by various lifestyle factors such as dietary habits. Globally, 20% of mortality (11 million deaths) and 255 million DALYs were attributable to unhealthy diet in 2017. Therefore, improving diet quality is regarded as a cornerstone to decrease diseases risk and their-related economic burden. However, despite mounting evidence, there is still debate regarding the most efficient dietary approaches to deal with various risk factors of CVD and cancer. Although unhealthy diet is linked to increased risk of CVD and cancer, each component has a major connection with a specific type of cancer or cardiovascular disease. Therefore, it is relevant to identify which ones and to what extent each dietary factor affects the risk of CVD and cancer. In this report, we will discuss various dietary factors that can simultaneously affect the risk of both cancer and CVD. These factors include sugars, salt, saturated and trans fatty-acids, as well as low fruit and vegetables consumption.

Keywords: Cancer; Cardiovascular Diseases; Diet

Nutrition & Complementary Therapy in Cardiovascular Disease

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Today, cardiovascular disease (CVD) is one of the leading causes of death worldwide. Lifestyle factors, including nutrition, play an important role in the etiology of cardiovascular disease. The association of nutrition with cardiovascular disease occurs principally through the role of diet on several primary and secondary CVD risk factors, including high blood cholesterol, high blood pressure, obesity, and diabetes mellitus.

Many complementary interventions have great potential to alleviate the symptoms of some diseases. Complementary therapies (CT) have become a scientific and attractive treatment for many disorders. The growing interest for treatment of some disorders by CT is due to: evidences linking many disorders to some lifestyle habits; patients focusing more their remedies and their desire to consume fewer drugs. At the same time, nutritionist, physician and other health workers are progressively having more positive attitudes about the role of CT for prevention and treatment of some life threatening disorders in current years indeed.

Prescription of diet regimen and CT simultaneously, can reduce some of health burden arising from cardiovascular diseases and bring down the effects of related risk factors in the long term.

Considering the benefits of complementary therapy in the prevention and treatment of some disorders, this current study examines and introduces the types of scientific and approved some supplements parallel with nutrition for prevention and treatment of CVD.

Keywords: Nutrition, Complementary Therapy, Cardiovascular Disease

MILITARY NUTRITION

Properties of Compact Food Bars

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Compact food Bars (CFBs) are used in meals ready-to-eat (MRE) diets during maneuvers and military operations and as emergency food products (EFPs) in emergencies and crises, such as natural disasters and warfare, in order to promote crisis management. Ready-to-use therapeutic food (RUTF) is used for therapeutic purposes in malnourished individuals and patients with *acquired immune deficiency syndrome* (AIDS). Some of the properties of CFBs include high nutritional value, high nutrient content, high energy density, no need for preparation, readiness to use, long-lasting preservation, low spoilage due to the low moisture content, low volume and weight, and ease of transportation and distribution. The energy level and type and amount of fat, protein, carbohydrates, fiber, and micronutrients should be considered in the formulation of CFBs. The main ingredients of these dietary products are cereal, skimmed milk, soy and its products, vegetable oil, sugar, and plant nutrients. Such food products are remarkably valuable to individuals in crisis. CFBs play a key role in the survival of victims of war and natural

disasters. The present study aimed to review the properties and production of CFBs.

Keywords: Compact Food, Ready-to-Eat, Emergency Food Product, Ready-to-Use Therapeutic Food, High Energy Density, Military Operation

Emerging Areas of Military Nutrition Research

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Diet and nutrition are critical components of holistic approaches to maintaining healthy, ready and capable military forces. This concept is reflected in the increasingly inter-disciplinary nature of military nutrition research that explores topics ranging from manufacturing practices influencing ration composition and nutrient delivery, to the individual and environmental factors impacting nutrient requirements, dietary choices and nutrient metabolism. Within this spectrum, emphasis is often placed on the broad topics of: (1) determining operational nutrition requirements in all environments, (2) characterizing nutritional practices of military personnel relative to the required (role/environment) standards, and (3) developing strategies for improving nutrient delivery and individual choices. Contemporary issues include improving the diet quality of military personnel, optimizing operational rations,and increasing understanding of biological factors influencing nutrient requirements. Emerging areas include: (1) precision nutrition (identifying sources of inter-individual variability can better target nutrition recommendations for health and performance optimization to narrowly defined groups or individuals), (2) integrated “omics” (facilitates a systems biology approach to nutrition science, integral to informing precision nutrition initiatives, by measuring hundreds to thousands of genes, epigenetic modifications, proteins, small molecules, and microorganisms to understand inter-individual variability in nutrition requirements and responses to nutrition interventions, (3) nutrition and the gut microbiota (the gut microbiota contributes to inter-individual variability in response to nutrition interventions and military stressors, and can potentially be targeted by nutrition interventions for health and performance optimization), and (4) wearable sensors and portable technology (simultaneous and continuous measurement of biological responses, environmental factors, physical activity, sleep patterns, circadian rhythms, dietary intake, and other factors to enable delivery of the right nutrition intervention at the right time in any military environment.

Keywords: Emerging Areas, Military Nutrition, Research

Overview of Iranian Military and Combat Ration Characteristics

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The main condition for maintaining the authority and success of the armed forces is access to healthy, active, motivated and efficient personnel. Therefore, they defend the country by relying on physical and mental health. Providing a proper diet in terms of quantity and quality is one of the main factors for achieving a set with this level of quality indicators. A review of the strategy and performance of armed forces rations around the world shows that nutrition has a special place in defense doctrine. Factors affecting the efficiency of the Armed Forces include the design, formulation and production of appropriate diets in terms of nutritional quality, organoleptic and ease of consumption, according to the combat-climatic conditions. A ration can be formulated to enable the military to make the right decisions and react quickly in times of crisis. It should also lead to peace of mind, lack of analysis of the physical and mental strength of the military. To produce a military ration, many restrictions and requirements must be considered. The limitations include sensory acceptance, nutritional value, usefulness for the armed forces, high productivity, low cost, sanitation, air delivery capability, universal acceptance, worldwide environment, weight and volume, shelf life, self-heating capability, performance enhancement, modularity, boredom and resistance to biological and chemical threats. Therefore, this study describes the unique features of Iran's military operational rations.

Keywords: Military Ration, Meal Ready to Eat, First Strike Ration

Feeding in flight groups

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Introduction: The human body needs energy to perform its internal interactions and external activities through the entry of various nutrients, which after entering the gastrointestinal tract become digestible substances for cells to obtain energy. The energy obtained from food varies according to which of the main dietary functions such as proteins, carbohydrates and fats. We first refer to the principles of nutrition in aviation and then to the disorders caused by non-observance of these principles.
Discussion: Due to all its characteristics, the human body has its own ability to interact in the physiological conditions of the earth's surface, and separation from physiological conditions such as changes in altitude and changes in atmospheric pressure and the effects of acceleration forces cause disorders in the human body. Only the effects of these substances on the digestive system are mentioned. Due to the ascent to heights and decrease in air pressure, gases produced in the human body, especially gases from metabolism and food metabolism, cause bloating in the gastrointestinal tract.
Pre-flight feeding: To prevent bloating, flight attendants are advised to eat foods that have a higher protein content than a carbohydrate content.
In-flight nutrition: During the flight, in order not to drop blood sugar, it is recommended to use carbohydrates that decompose quickly and provide adequate energy for nerve and brain cells.
After the flight: To compensate for lost energy and minimize the effects of stress, it is recommended to eat a high-energy diet, including foods high in fat, carbohydrates and fiber. Due to the importance of pilots and flight crews who are valuable personnel and a lot of money has been spent on their training and training, improving the eating habits of this group will prevent many diseases and disabilities.
Keywords: Abnormal conditions, Flight, Food metabolism, Flight stress

FASTING _ HEALTH

Fasting, recent advances

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Rationale: Time-restricted feeding (TRF) is a kind of Intermittent fasting that defines as eating only during a certain number of hours each day. It has been suggested that intermittent fasting can improve cardiovascular risk factors. This study was conducted to evaluate the effect of intermittent fasting on pulse wave velocity (PWV) and pulse wave analysis (PWA) indices (as the Arterial stiffness indices) in metabolic syndrome volunteers.
Methods: This was a cohort study that was carried out among adult volunteers with metabolic syndrome, before and after Ramadan (as an intermittent fasting) in Mashhad, Iran. Volunteers classified to fasting and not fasting groups (based on at least 10 days of fasting during this fasting period). The aortic pulse wave velocity and central aortic pressure waveform were detected. Central systolic pressure, central pulse pressure and indices of arterial stiffness (such as augmentation pressure and augmentation index) were provided from analysis of the waveform.
Results: Ninety-five adult metabolic syndrome volunteers (65 male and 30 female with the mean age of 45.4± 9 years) participated in this study. This study showed a significant reduction in PWV, central systolic pressure, central pulse pressure, central augmentation pressure and central augmentation index in fasting group. There was no significant change in these arterial stiffness indices among not fasting group.
Conclusions: This study suggested that intermittent fasting may be considered as a strategy for arterial stiffness improvement in metabolic syndrome volunteers.
Keywords: intermittent fasting, arterial stiffness, pulse wave velocity

Effects of Ramadan fasting on Hypertensive and Diabetic Patients of Karachi

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This presentation will cover three studies conducted by the author. The first study was conducted on 75 Type 2 diabetic patients and the objective was to assess the effect on Ramadan fasting on blood pressure, fasting glucose, cholesterol, triglyceride, high density and low density lipoproteins. The second study was conducted on 117 hypertensive patients and the objective was to find out the effect of Ramadan fasting on blood pressure, physical activities and obesity. The third study was performed on hypertensive and diabetic patients with controls. One hundred fifty-five subjects were included in this study. First study showed that Ramadan fasting is safe for Type 2 diabetic patients and associated with weight loss and overall diabetic control. Furthermore, the fasting also reduces the waist measurement, systolic blood pressure, triglyceride and HDL. The second study concludes that fasting does not incur any harm for the hypertensive patients. Nevertheless, it significantly reduces the systolic and diastolic blood pressures. Factors such as changes in physical activities, sleeping patterns, and weight reduction, except for the number of fasting days, do not affect the fasting hypertensive patients. The third study inferred that fasting was benefitted, not only healthy subjects but also reduces the weight, blood pressure and fasting blood sugar.

Diabetic Patients' management in Ramadan

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Background: The voluntary of Ramadan fast may help create better patient-physician bounding, improve concordance to management strategies and enhance the therapeutic alliance between them. Medical personnel must observe, assess and evaluate each person separately.

Findings: During Muslim fasting, glucose homeostasis is disturbed by both the underlying pathophysiology and the medications used to treat the condition in diabetic patients. During fasting, insulin resistance/deficiency can lead to excessive glycogen breakdown and increased gluconeogenesis in patients with diabetes. Furthermore, in type 1 diabetes, augmented ketogenesis is likely to occure. As a result, the risks faced by diabetic patients are hypoglycemia, hyperglycemia, diabetic ketoacidosis, dehydration, and thrombosis.

Management: Metabolic instability is a major challenge for management of diabetic patients who fast during Ramadan. One of the main concerns is the increased risk of hypoglycaemia. Anti-diabetic drugs that act by increasing insulin sensitivity and have extra-pancreatic effects have a significantly lower risk of hypoglycaemia than drugs that act by increasing insulin secretion. Those patients with type 2 diabetes who are obese and are under glycemic control with only diet or anti-diabetic drugs that act by increasing insulin sensitivity are considered low risk, and they can fast during Ramadan. Fasting is not advised for those with type 1 diabetes who is not in good metabolic control or is taking multiple dose insulin injection.

Conclusions: Many persons with controlled diabetes and without any chronic complications of diabetes can fast safely during Ramadan, but they must be under close supervision and be aware of risks. The physician has to reach a balance between the patients' desire along with cultural habits, on one hand, biomedical needs, and medical guidance on the other. This is one of the best examples of patient-centered care (PCC), meaning that providing treatment which "is respectful of and responsive to individual patient preference, needs, and values and ensures that patient values guide all clinical decisions".

Keywords: Diabetes, management, Ramadan fasting

NUTRITION IN CRITICAL CARE

Nutritional care of patients hospitalized in the intensive care unit

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Malnutrition is an important and prevalent dysfunction in hospitalized patients. This situation is even more prevalent in critically ill patients admitted to intensive care units (ICUs). In critically ill patients, marked inflammatory response, hypermetabolic state, underfeeding from delays in initiating of nutritional support, or interrupting delivery of prescribed nutrients for interventional procedures can lead to malnutrition The purpose of nutrition screening is to estimate the probability of a better or a worse outcome due to nutrition-related factors and whether nutrition therapy may influence this. Malnutrition is a known risk factor for adverse consequences such as increased morbidity and mortality rate, prolonged length of stay, and higher health cost. In ICU Patient High nutritional risk is associated to longer ICU-LOS, prolonged-MV, increased infection and 28-day mortality. Malnutrition is potentially reversible with the adequate nutritional support .So early nutrition support is a strategy that reduces malnutrition and improves patient outcomes. It is recommended that a full nutritional assessment should be performed on the first day of hospitalization, and physicians and nutritionists must follow the existing guidelines to reduce the gap between nutritional needs and patient intakes. It has been proposed that patients should receive a minimum of 80% of energy and protein prescribed to them and that this metric could serve as a quality indicator. Feeding protocols should be used and have proven beneficial in the nutrition of ICU patients. A clearly defined feeding protocol has shown to decrease the rate of patients who cannot be enterally fed at all and will increase the delivery of calories. Protocols should be locally tailored according to expertise, local barriers, facilities, and patient subpopulation in the ICU.

HOSPITAL FOOD

FOOD: CONSIDERATIONS FOR HOSPITAL INFECTION CONTROL

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A hospital food service responsibility is to provide nutritious and safe food to patients and other staff. Despite the fact that food safety had significant progress in recent years, outbreaks of nosocomial gastroenteritis are still of paramount importance worldwide.

Susceptible hospitalized patients to infectious diseases (elderly and immunocompromised) coupled with mass production of food, made hospitals a potential place for outbreaks of foodborne illnesses. The outbreaks may result from breakdown in only one-step of food safety control measures.

Foodborne illness is caused by bacteria, virus, parasite or chemical contaminants. Salmonella spp., Shigella spp., E. coli, Listeria monocytogenes, Campylobacter spp., Yersinia enterocolitica, norovirus and Hepatitis A virus are the most important ones.

Furthermore, contaminated food can be associated with nosocomial outbreak of multidrug-resistant bacteria, such as extended-spectrum-beta-lactamases (ESBL)-producing Enterobacteriaceae.

To minimize the risk of foodborne disease in vulnerable patients, types of food served in healthcare settings should be selected more carefully such that, high-risk foods should not be served to high-risk patients. On the other hand, early case identification of foodborne pathogens can prevent further transmissions and removal of contaminated products can be expedited.

Keywords: Hospital food, Foodborne illnesses, Multidrug-resistant bacteria

Analytical Methods to Determine Macronutrients and Micronutrients in Tube Feeding Formulas

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Numerous tube feeding (TF) formulas are currently available owing to the constant development of new products marketed for nutritional support clinicians. Standard formulas are used for most of the patients who require TF support. Therefore, the characteristics of the TF formula and the research used to support each type of formula should be evaluated carefully. Clinicians must monitor the content of TF products given the frequency of production changes, which may affect their applicability and efficacy. Such undersupply

or oversupply could be particularly harmful to patients receiving long-term TF. Despite the widespread use of TF at home and in hospitals, studies are lacking on the macronutrient and micronutrient compositions of enteral mixtures. As such, the amount of trace elements and vitamins must be investigated in available products. This review study aimed to summarize the current knowledge on the methodological approaches used for the analysis of macronutrients (fats, carbohydrates, and proteins), vitamins, and minerals in TF formulas. Osmolalities have been determined in mOsm/kg using an osmometer, which is a device used to calculate osmolality by measuring freezing-point depression. Some minerals (copper, iron, calcium, manganese, magnesium, potassium, zinc, and phosphorus) have also been measured by inductively-coupled plasma spectrometry after wet ashing. Moreover, selenium has been measured by hydride generation and atomic-absorption spectroscopy, and iodine content has been analyzed by thiosulfate titration. Multiple methods have also been used for the analysis of water-soluble vitamins (WSVs) and fat-soluble vitamins (FSVs) in TF samples. Other commonly used methods include chromatographic and microbiological assays. Chromatography is among the most recent approaches used for measuring WSVs and FSVs, such as niacin, riboflavin, thiamin, choline, and vitamin B6. These vitamins do not often bind to proteins and could be analyzed separately or simultaneously even in different forms. Furthermore, microbiological analysis seems to be the selective assay for pantothenic acid and folate measurement although for different reasons. Pantothenic acid is mostly found in its unbound form, while competitive protein binding coupled with chemiluminescence detection seems to be the method of choice for vitamin B12 and biotin analysis in TF.

Keywords: Tube feeding, Vitamins, Macronutrients, HPLC, ICP

Hospital Catering and Malnutrition

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Introduction: In hospitals through worldwide, the practices regarding hospital diets and catering are very different. Often prescriptions are made independently from the evaluation of nutritional status. Therapeutic diets are frequently associated with decreased energy and increased risk of malnutrition. Hospital Malnutrition is a common problem and highly prevalent. The main problem areas included food quality and quantity. So it should be addressed as an important health issue and appropriate strategies. The consequences of undernutrition affects quality of life and probability to increases length of hospitalization, mortality and morbidity and extra costs of health care.

Methods: Clinical nutrition program implemented in some Iranian hospitals. The conclusion of a multi-centre survey on hospital malnutrition provides a comprehensive illustration of hospital malnutrition.

Results: Some of the results of these studies include: The overall moderate/severe malnutrition risk in hospitals and ICUs were 36% and 53%, respectively. The present study showed that the patients received 59.2% of their energy and 55.5% of their protein requirements during ICU stay.

Conclusions: According to the following: High prevalence of malnutrition and undernutrition in the hospitals High prevalence of NCD-related diseases in obesity Major problems in hospital catering and therapeutic diets and new nutrition technologies including catering and clinical nutrition Lack of insurance coverage for basic nutrition services Severe conflict of interest Lack of proper position of clinical nutrition team in health care system It seems more important than ever to pay attention to the proper position of hospital nutrition and catering.

Keywords: HOSPITAL CATERING, CLINICAL NUTRITION, MALNUTRITION

Exploring the Bacterial Safety and Hygiene of Handmade Enteral Tube Feedings by 16S rRNA Based Sequencing

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Introduction: The enteral tube feeding (ETF) system includes a key therapeutic instrument for

preventing the malnutrition in hospitalized patients. The microbial constitution of ETFs fulfills a critical role in patient's wellbeing, mainly for those who are immunocompromised. The present study aimed to evaluate the bacterial condition of handmade ETF samples gathered from the Imam Reza Hospital, Tabriz, Iran.

Methods: In sum, 45 ETF samples were collected and the bacterial compositions of the samples including counts of total mesophilic bacteria (TMB), Enterobacter spp., and Pseudomonas spp. were scrutinized by communal microbiological methods. The PCR amplification and molecular classification of the isolated bacterial strains was done by 16S rRNA gene sequencing.

Results: The investigation of the ETF samples indicated that no sample had zero TMB count, while 57 % of the samples had ≥ 104 colony forming units (CFU) of TMB, ≥ 103 CFU of Pseudomonas species, ≥ 102 CFU of Enterobacter spp., and ≥10 CFU of Klebsiella pneumonia.

Conclusions: according to the results, ETFs must attain a more suitable level of microbial quality through the application of rigorous health ethics combined with constant monitoring.

Keywords: Microbiological Analysis; PCR; Enteral Tube Feeding; 16S rRNA amplification; Total Mesophilic Bacteria

Hospital Food During Corona Virus Epidemy, from practice to reality

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Introduction: Food is one of the most important component of hospital hoteling. In fact, without a therapeutic food, treatment process wouldn't be completed. Hospital food should meet basic standards of quality and safety specially during Corona virus pandemy and provision of therapeutic food and supplement is vital. The most challenge and concern about hospital foodservice, was safety of kitchen staff and equipment during food preparing, serving and dish and tray washing process, as there could be chances of virus contamination. The other important subject was preparing compatible and nutritious food for patients. Also at the time of admission of infected patients, hospitals met challenges in service performance due to shortage of information, guidelines, supply and equipment.

Intervention: In the onset of epidemy, for rapid nutritional response to this viral infection and to improve foodservice plans around country, MOH developed an update to hospital food and nutrition service standard, provided nutrition information for patients and medical team about how to boost immune system against corona virus, developed a guideline for food and anti-viral drugs interactions, prepared protocols for control of COVID-19 side effects by nutrition and supplementation of patients in different stages of disease to overcome these challenges and raise rate of viability of patients.

Finding: Enforce on temperature controlling before food serving, avoid of raw vegetables serving for infected patients, frequent serving fruits and vegetable juices, closure of staff self-service and restaurant, regular disinfection of kitchen equipment, replacing porcelain with disposable dishes, providing nutritious foods and high calorie snacks for patients and medical team, prescription of food supplement for patients and nutrition education of personnel were new approaches to hospital food during corona virus epidemy.

Conclusion: Management of food and nutrition service in hospitals in Corona virus crisis, is critical for patient treatment that should include increasing nutrition knowledge, preparing nutritious foods, supplementation and preparing safe food that should be monitored and evaluated by hospital system.

Comparison of nutritional values and clinical outcomes associated with Blenderized Tube Feeding versus Commercial enteral formula

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There are emerging documents in the especially pediatric inpatients that shown blenderized tube feeding (BTF) may better tolerate, but not much is known about the effect of BTF on clinical outcomes in adults. The recently published studies investigated the effect of BTF on nutritional status and adequacy in adults. The findings showed that the use of BTF, compared with commercial enteral

formula (CEF) due to having inadequate calories and deficiency of some macronutrients and micronutrients increases the risk of malnutrition and nutritional deficiencies in adults. Also, daily changes in nutrients and their osmolarity can increase some problems such as constipation in adults. In addition, the presence of higher contamination in BTF increases the risk of nosocomial infections in patients. Therefore, BTF may not be considered an appropriate formula for adult patients who are malnourished or at risk of malnutrition due to the potential aggravation of clinical outcomes.

Keywords: commercial enteral formula (CEF), blenderized tube feeding (BTF), critically ill patients

Importance of Listeria monocytogenes in Hospital food safety

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Foodborne diseases are a variety of diseases causing by pathogens through contaminated foods. Most of foodborne illness are infections caused by different bacteria, viruses, and parasites.

Foodborne listeriosis is one of the most serious and severe foodborne diseases with high mortality rate about 20%–30%, which is a relatively rare with 0.1 to 10 cases per 1 million people per year. It is estimated Listeria monocytogenes infects 23,150 and kills 5,463 people worldwide as an important foodborne disease. Populations who are susceptible to Listeria infections are the elderly, immunocompromised individuals, pregnant women and children.

There are many reports about foodborne Listeria monocytogenes infection from hospital-provided foods for example base on report of Public Health England, nine of the eleven outbreaks reported to national surveillance in the UK were associated with hospital catering foods also there are more than 50 published reports of foodborne listeriosis that included patients who were or had recently been hospitalized and consumed food in a hospitals.

The responsibility of a hospital food services are to provide nutritious and safe food to patients, as many of hospitalized patents are vulnerable people like immunocompromised individuals and children, foodborne listeriosis could be a high risk food safety concern, so hospitals should implement food safety management system to avoid serving high-risk foods to patients at risk for listeriosis.

Keywords: Listeria monocytogenes, Hospital food safety, foodborne diseases, food safety

BRAIN DISORDERS, MOOD STATUS AND NUTRITION

The effect of some nutrients on treatment of bipolar and depression disorders

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The most common mental disorders that are currently prevalent in numerous countries are depression, bipolar, schizophrenia, and obsessive-compulsive disorders. World Health Organization has reported a worldwide prevalence of mental disorders between 4.3 to 26.4 percent. Mental disorders are among the leading causes for some disability in the US as well as other countries. According to the National Alliance on Mental Illness nearly 3% of people in the United States have a diagnosis of bipolar disorder; People with this condition may experience dramatic shifts in their moods, energy levels, and sleep patterns. These shifts in mood may include manic or hypomanic episodes, during which the person feels extreme elation or irritability. During episodes of bipolar depression, they may experience feelings of sadness and hopelessness. Typically, most of these disorders are treated with prescription drugs, but many of these prescribed drugs can cause unwanted side effects. For example, lithium is usually prescribed for bipolar disorder, but the high-doses of lithium that are normally prescribed have some side effects include: a dulled personality, reduced emotions, memory loss, tremors, and weight gain. These side effects can be

so severe and unpleasant that many patients become noncompliant and, in cases of severe drug toxicity, the situation can become life threatening. Most antidepressants and other prescription drugs cause severe side effects, which usually discourage patients from taking their medications. Such noncompliant patients who have mental disorders are at a higher risk for committing suicide or being institutionalized. One way for psychiatrists to overcome this noncompliance is to educate themselves about alternative or complementary nutritional treatments. Current research in psychoneuroimmunology and brain biochemistry also indicates the possibility of communication pathways that can provide a clear understanding of the association between nutritional intake, central nervous system, and immune function thereby influencing an individual's psychological health status. The dietary intake pattern of the general population in many Asian and American countries reflects that they are often deficient in many nutrients, especially essential vitamins, minerals, and omega-3 fatty acids. A notable feature of the diets of patients suffering from mental disorders is the severity of deficiency in these nutrients. Scientific studies have indicated that daily supplements of vital nutrients are often effective in reducing patients' symptoms in this kind of disorders. Supplements that contain amino acids also reduce symptoms, because they are converted to neurotransmitters that alleviate depression and other mental disorders. Based on emerging scientific evidence, this form of nutritional supplement treatment may be appropriate for controlling major depression and bipolar disorders. The aim of this study is to emphasize which dietary supplements can aid the treatment of the two common mental disorders include depression and bipolar disorders.

The association between animal protein sources and risk of neurodegenerative diseases: a systematic review and dose-response meta-analysis

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Objective: We aimed to investigate the associations between dietary animal protein sources and the risk of developing neurodegenerative diseases in the general population.
Methods: A systematic literature search was performed in PubMed, Scopus, Web of Science, and Google Scholar until October 2021. The certainty of the evidence was rated using the GRADE approach.
Results: Thirty-three prospective cohort studies were eligible. Dietary fish consumption was associated with a reduced risk of Alzheimer's disease (RR= 0.75, 95% CI 0.57, 0.97, n = 7), dementia (RR= 0.84, 95% CI 0.75,0.93, n = 9), and cognitive impairment (RR= 0.85, 95% CI 0.81, 0.95, n = 10). The RR for Parkinson's disease was significantly higher for the highest compared to the lowest intake categories of total dairy (RR= 1.49, 95% CI 1.06, 2.10, n = 5) and milk (RR= 1.40, 95% CI 1.13, 1.73, n = 6). The linear dose-response meta-analysis revealed every 200 g per day increase of total dairy intake was associated with an 11% higher risk of Parkinson's disease (RR: 1.11, 95% CI: 1.02, 1.20, n=4) and 12% lower risk of cognitive impairment (RR: 0.88, 95% CI: 0.80, 0.97; n = 2). Furthermore, there was a strong linear association between fish consumption and dementia risk (RR:0.72, 95% CI: 0.54,0.97, n=5).
Conclusions: Dairy consumption is associated with an increased risk of Parkinson's disease. However, a higher intake of fish may be associated with lower neurodegenerative diseases. Future researches are needed to confirm the present associations.
Keywords: Animal protein, Neurodegenerative diseases, Meta-analysis

Nutrition Bio Shield (NBS) supplement effects on Depression, Anxiety, Stress and Food craving in women with depression and obesity: A double blind Randomized Clinical Trial

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Purpose: Nutrition Bio Shield (NBS) supplement is a natural product that is processed from whole wheat grains. We aimed to determine the effects of

the NBS supplement on depression, anxiety, stress, and food craving in women with depression and obesity in a double-blind randomized clinical trial.
Methods: Fifty-six eligible clients with BMI ≥ 25 and mild or moderate depression signed the informed consent form. They were randomly assigned to receive daily 5 grams of NBS supplement or similar placebo both produced by the NBS Company. The assessments included the Depression Anxiety Stress-21 questionnaire, Food Craving Questionnaire, Visual analogue scale for appetite, precise anthropometric measurements, and body composition analyses. The assessments were conducted at the baseline and repeated after 4 and 8 weeks. One month after the study finished the participants' weight was assessed. We analyzed the data by independent sample t-test, repeated measures Analysis Of Variance (ANOVA), and Multivariate analyses of covariance (MANCOVA).
Results: At the baseline no significant differences were observed between the groups regarding the main and demographic variables. After four weeks stress reduced significantly in the NBS group ($p = 0.04$), and after eight weeks anxiety ($p = 0.02$), stress ($p = 0.008$) and food craving ($p = 0.05$) reduced significantly in the NBS group compared to the control. After controlling for the demographic variables and baseline measurements, ANCOVA model revealed a significant effect of NBS in reducing anxiety ($F = 12.4$; df =1; Eta-squared = 0.28; $p = 0.001$) and stress ($F= 7.66$; df =1; Eta-squared = 0.19; $p = 0.009$). Fisher's exact test showed no significant difference regarding side effects between NBS and placebo ($p = 0.47$).
Conclusion: The NBS product was efficient in reducing stress and anxiety after controlling for demographic variables and baseline measurements compared to the placebo and it was safe.
Trial registration number: IRCT20140203016465N7
Keywords: Nutrition Bio Shield (NBS); depression; anxiety; stress; food craving; obesity; RCT

Gut Brain Axis, Brain Disorders and Nutrition

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Gut bacteria population has reproducibly been involved in vast human diseases, including inflammatory bowel disease, psoriatic arthritis, type 1 diabetes, atopic eczema, coeliac disease, obesity, type 2 diabetes, arterial stiffness and brain disorders.
Human microbiota has, therefore, a fundamental role in host physiology and pathology. Gut microbial alteration, known as dysbiosis, is a condition associated not only with gastrointestinal disorders but also with diseases affecting other organs.
Recently, it became evident that the intestinal bacteria can affect the CNS physiology and inflammation. The nervous system and the gastrointestinal tract are communicating through a bidirectional network of signaling pathways called the gut-brain axis (GBA), which consists of multiple connections, including the vagus nerve, the immune system, and bacterial metabolites and products. The enteric nervous system (ENS) is the largest component of the autonomic nervous system and is uniquely equipped with intrinsic microcircuits that enable it to orchestrate gastrointestinal function independently of central nervous system (CNS) input. Here, we will be addressing the main neurological disease that are evidently linked to GBA.
MS- Patients with RR-MS have a microbiota that, compared with healthy controls, has higher amounts of species including Pedobacteria, Flavobacterium, Pseudomonas and Streptococcus. In contrast, they have a lowered microbial population of Prevotella Bacteroides, Faecalibacterium and Lactobacillus. Restoration of the microbial population through dietary manipulations in patients with RR-MS appears to reduce inflammatory events and the reactivation of the immune system.
AD- Alzheimer's disease (AD) is the most common cause of progressive dementia that affects almost 50 million people worldwide. Up today, neither a therapeutic nor a prophylactic strategy exists against this neurodegenerative disorder. A few studies suggested alteration in the commensal microbiota and pathogenic infections as potential causes of AD. Stool microbial profile of AD patients display decreased numbers of Firmicutes and Actinobacteria with higher Bacteroidetes compared to their controls.
Migraine- It has been estimated that appx. 14% of the adult population worldwide are affected by migraine being three times more prevalent among

females. According to Global Burden of Disease (GBD) study in 2018, migraine has been recognized as the first leading cause of disability in those aged less than 50 years. The exact pathogenesis of migraine is still unclear but it comprises numerous factors, including the GBA. To date, several researches have shown that migraine is associated with some GI disorders such as H pylori infection, IBS, and celiac disease. The effects of diet are of interest.

Depression- Depression is an ever increasing serious mental illness caused by numerous factors. It is described as low emotional disposition, loss of confidence, and apathy. Depression is suggested to result from complex interactions of an individual's genetics and their environment, including some dietary factors. Major depressive disorder (MDD) tops the spot in contributing to the worldwide disease burden, as claimed by the WHO. The study of GBA and its alterations affecting mental health is a relatively new research topic that has gained popularity these past years.

CONCLUSION:

Current evidence suggests a reciprocal influence of GBA and inflammatory activation in the brain. The diverse bidirectional interactions of GBA and food/dietary ingredients can no longer be ignored. More evidence is warranted before these findings can be translated for diagnostic and therapeutic applications in human.

MNT in MV

Enteral versus Parenteral Nutrition in Patients Requiring Mechanical Ventilation: Clinical implications and Outcomes

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Acute critical illness requiring mechanical ventilation carries a risk of severe malnutrition with substantial adverse effects including infections, muscle wasting, delayed recovery and even increased mortality. It is already agreed that nutritional support is a vital component of care process in clinical management of these patients, however, it is a complex combination of timing, dose, duration, delivery among which type and appropriate route of administration is still matter of debates and uncertainties. We have intensively reviewed the current literature and re-visited advantage and disadvantage of enteral or parenteral nutrition (EN, PN, respectively) in patients requiring mechanical ventilation with regard to clinical implications and outcomes. It is speculated that outcomes and costs should be considered on an individual base of patient in intensive care units (ICUs) for admission duration more than 48 h. In the case of contraindications to EN, PN should be normally implemented within 3–7 days. Further, there are accumulative evidence that EN is associated with improvements in gastrointestinal mucosa integrity, immune function, and tissue repair responses which results in lower nosocomial infections, shorter hospital and ICU stay lengths and more affordable health-care costs.

Dietary supplementation in critically ill patients

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Background: Critical illness is a major promoter of systemic inflammation and organ failure due to oxidative stress, excessive free radical production, and depletion of antioxidant defenses. The aim of this review was to provide a review of recent meta-analyses to determine the effects of vitamin D, antioxidant vitamins (E, C, and β-carotene), selenium, and zinc supplementation in critically ill patients.

Methods: Relevant studies were searched in international databases including PubMed/MEDLINE, Science Direct, Scopus, Cochrane Central Library, and Google Scholar up to November 2021. Meta-analysis studies investigating the effects of vitamin D, antioxidant vitamins, and trace elements on outcomes of clinical illness were included in this review.

Results: Overall, the results of 31 meta-analyses were reported in the study. The beneficial effects of vitamins D, C, and selenium supplementation in reducing over-all mortality, length of stay in hospital and intensive care unit, secondary

infection, duration of mechanical ventilation and other adverse effects related to hospitalization were reported in a number of studies. Adverse and insignificant results were reported regarding vitamin A, vitamin E, β-carotene, and zinc supplementation in critically ill patients.
Conclusion: Timing, dosage, and duration of the supplementation still need to be clearly defined. Larger randomized trials are warranted to fully assess the effect of vitamins D, C, and selenium supplementation in the critically ill as adjuvant therapy to routine medications.

Changes in macro and micro nutrient metabolism in mechanically ventilated patients with critical ill

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Acute respiratory distress syndrome (ARDS) is a clinical state in which patients develop diffuse pulmonary infiltrates, severe hypoxia, and respiratory failure. Underlying clinical events such as sepsis, trauma and… that lead to the development of ARDS also result in, usually are in hypercatabolic state and rely in part on proteolysis to meet their immediate metabolic needs. . A high degree of malnutrition or an inadequate nutrition strategy can significantly increase the rate of complications, leading to a vicious cycle in which inflammation, infections, and increased oxygen consumption are strongly interconnected. Reduction in respiratory muscle strength, immunosuppression is a negative consequence of underfeeding, which leads to problems in weaning from mechanical ventilation. Overfeeding leads to undesirable outcomes such as stress hyperglycemia, delayed weaning from mechanical ventilation. Effective MNT requires carefully understanding metabolic changes, assessment and monitoring. Variables that affecting the REE of patients include the following: medications, treatment procedures, modalities of mechanical ventilation, weaning of respiratory support, type of nutrition, and body compositions. Among these complications, the most important are systemic inflammatory response syndrome (SIRS), sepsis, ventilator-associated complications, oxidative stress and malnutrition. From a molecular point of view, the critically ill patient's nutrition status is closely related to all the above-mentioned factors.. Few studies have compared REE measured by indirect calorimetry or REE calculated by using equations for adult patients with ventilator, showed substantial difference between measured and calculated REE (from 30% to 49%). Therefore, we need to identify the factors that modify REE of mechanically ventilated patients in the ICU. The aim of this paper is to review metabolic changes and metabolic affecting factors in a clinical setting have to consider for planning adequate nutrition therapy in mechanically ventilated patients in the ICU.

The effects of hypo- and hypercaloric dietary intervention on mechanical ventilation and length of stay in ICU and hospital in critically ill patients

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Background: Nutritional therapeutic goals for critically ill patients should be considered for minimizing the potential for malnutrition and reducing the catastrophic outcomes of critical illness. A systematic review and meta-analysis was conducted in order to assess the effect of hypocaloric and hypercaloric diet on outcomes of critical illness.
Materials and Methods: PubMed-Medline, SCOPUS, Web of Science and Embase databases and Google Scholar were searched up to December 2021. Random- and fixed-effects analysis was used to perform meta-analysis. Subgroup analyses were carried out to express the results across various subgroups. Begg's test was performed to detect publication bias. Quality assessment was performed using Cochrane Collaboration's tool.
Results: A total of 12 studies were included in meta-analysis. Hyper-caloric diet had no significant effect on days of intensive care unit (ICU) (WMD = 0.95days; 95% CI: -0.41, 2.30; P= 0.172) and duration of mechanical ventilation (MV) (WMD = 0.71days; 95% CI: -1.53, 2.94; P= 0.535), but

significantly enhanced hospital length of stay (HLOS) (WMD = 391 days; 95% CI: 2.18, 5.65; P<0.001). Hypo-caloric diet significantly decreased duration of MV (SMD = -1.07 days; 95% CI: -1.97, -0.17; P= 0.006) and HLOS (WMD = -2.93 days; 95% CI: -5.47, -0.40; P= 0.023). However, it had no effect on days in ICU (WMD = -0.16 days; 95% CI: -1.18, 0.86; P= 0.754).

Conclusion: The results of the present meta-analysis indicate that hypocaloric dietary approach has beneficial impacts on the recovery of critically ill patients in comparison with iso- and hypercaloric interventions.

Keywords: Hypocaloric diet; Hypercaloric diet; Mechanical ventilation; ICU; Meta-analysis.

OBESITY TREATMENT_ NON-INVASIVE BODY CONTOURING

Adipose Tissue Physiology

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Adipose tissue plays an important role in body metabolism both as an energy storage and more importantly as a highly active endocrine tissue. Different types of adipose tissue as well as the adipose tissue amount and distribution are important determinants of the consequent physiological and metabolic effects. White adipose tissue (WAT) and brown adipose tissue (BAT) are the two main types of fat tissue, which have significant secretory, morphological, and metabolic differences. Visceral adipose tissue (VAT) is generally associated with higher pro-inflammatory milieu, and consequently higher cardiovascular and metabolic risk compared with the subcutaneous adipose tissue (SAT). Low grade inflammation is a hallmark of obesity, which may induce obesity-associated disorders such as insulin resistance, endothelial dysfunction, atherosclerosis and cancers. Additionally, WAT expansion in response to excess calorie intake or other contributors would be either through adipogenesis and an increase in the number of adipocytes (hyperplasia) or lipogenesis and an increase in the size of adipocytes (hypertrophy), which the latter is associated with more health complications. A major role of adipose tissue in the integration of systemic metabolism is mediated by the secretion of adipokines. These peptides are involved in a range of pathways from appetite regulation and energy expenditure to insulin resistance, immunity and inflammation, and vascular and endothelial homeostasis. Studies are still in progress to investigate WAT and BAT physiology, and adipose tissue and adipokines as the targets of interventions, in health, obesity and different diseases.

Non-Invasive Body Contouring: Criteria for Patient Selection

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Non-invasive body contouring techniques which is a rapidly growing field in aesthetic medicine, improves the body's appearance through the removal of excess adipose tissue, skin tightening and cellulite reduction. As with any treatment, there are particular indications and contraindications for non-invasive interventions. The criteria to choose the best candidate for this kind of treatment is a concern. Patient selection is discussed regarding skin tightening, fat reduction and cellulite improvement goals. Patients' age and skin tone are important. For example, radiofrequency skin tightening applications on the body appear best suited for younger patients with mild to moderate skin laxity without a significant degree of underlying structural contributions. Moreover, body mass index (BMI) plays an important role in patient selection process. Ideal high intensity focused ultrasound (HIFU) candidates are preferred to have BMI lower than 30 and good skin tone. Also, BMI between 22 and 28 is preferred for radiofrequency fat reduction. Cellulite reduction devices are best used for those individuals with a normal BMI and stable weight. Moreover subcutaneous adipose tissue (SAT) thickness should be assessed. To name, <1 cm of SAT in the treatment zone is one of contraindications for HIFU, it must be >2.5 cm.

Regarding the safety of related devices skin type of patients are important. Infrared devices are generally safe for darker pigmented skin types or tanned skin, though a test spot is generally recommended. Also there are contraindications for each devices which should be noticed; Such as implanted electronic and metal devices, pregnancy,

current use of isotretinoin, hip surgery or replacement, treatment over tattoos or permanent makeup/filler, blood dyscrasia or diseases with altered collagen-vascular properties. General characteristics such as age, smoking, skin type, BMI, patient's expectations, medical condition, skin disorders as well as adipose tissue thickness, altogether should be noticed.

Promoting the Health using TAYYEB Approach

Explain the Conceptual Model of TAYYEB Food

Dr. Hosein Zamani

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Tayyeb food can have commonalities with topics such as good food, useful food, halal food, temperamental food, clean food, food without external and internal pollution, complete nutritional value food, healthy food, harmless food. Therefore, having the advantages of other active and prominent brands in the field of food, such as halal food; Organic food, healthy food, and purposeful food in combination is the necessity of TAYYEB food. In the conceptual model of Tayyeb food, the quality level is in fact the boundary between halal and haram, in which the observance of halal and organic standards is one of the prerequisites for receiving the Tayyeb emblem. The lower limit of this border is "evil", which leads to a decrease in quality and its meaning; Impurity, sanctity, being contrary to nature, filthiness, being harmful, incorrect in method and process, and being privileged due to abuse and destruction. The upper limit is also Tayyeb, which improves the quality and its meaning; Purity, being halal, charm, beauty, usefulness, effectiveness in growth and health, correctness in method and process, excellence in effect. On this basis, it is possible to use all the God-given capacities of a food product when its quality level is Tayyeb for all stages.

Familiarity with the concept of healthy and healthy food

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With the advancement of technology, the rate of foodborne illnesses has increased, which is due to the introduction of some toxins during the food production chain or changing food consumption patterns and causing diseases such as allergies, cardiovascular diseases, liver diseases, cancer. Since food production is an interconnected chain from farm to fork, failure to follow the correct principles in each stage of the production chain, including planting, holding, harvesting, transportation, storage, processing, packaging and distribution, leads to It leads to unhealthy and unsafe food and consumption of such products has various side effects. These days, the term "functional" foods is widely used. These are foods that, in addition to providing energy, contain compounds that help prevent some diseases, health and increase longevity. It should be noted that some products of plant, animal and marine origin are inherently functional; Fruits and vegetables contain pigments such as carotenes, anthocyanins, phenolic compounds, fiber, or oils containing polyunsaturated fatty acids such as omega-3, omega-6, and omega-9. Other terms such as probiotics, prebiotics, synbiotics and post-biotics are also used today. Some foods, including dairy and fermented products, can be used as probiotic, prebiotic, or post-biotic carriers. Consumption of some edible mushrooms, in addition to providing some protein, vitamins and minerals, also have therapeutic roles. Recently, microalgae have also found a major role in the supply of protein, vitamins and minerals in some communities, especially in communities with protein deficiency. Consumption of natural vegetable oils, especially those with low levels of trans fatty acids, is not only not harmful, but also some of them, including oils containing essential fatty acids, need to enter the body through the diet. In recent decades, we are facing an increasing consumption of ready-to-eat foods, fast foods and snacks, especially by children and adolescents. Because in the preparation of such foods, the oil is exposed to high temperatures several times, in which toxic compounds such as acrolein and acrylamide are formed. Due to the increasing awareness of consumers about the relationship between food and health and the harmful role of excessive consumption of oils and fats, especially

trans fats on human health, it is necessary to find ways to reduce oil absorption in fried foods and oil substitutes and replace with useful oils like sesame oil, olive oil and so on. Today in the world, the production of organic foods (free of any harmful additives such as toxins, pesticides, etc.) has received much attention. In general, organic food is food that has been produced without genetic modification and the use of pesticides and chemical fertilizers. We hope that with the cooperation and interaction of executive bodies, universities, other educational-research centers and industry, we will take steps to provide healthy and safe food in order to have a healthier, fresher and more efficient society.

Healthy body and healthy food with good bread

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Bread is the most important food that is very effective in the health of the body and is most used in meals. There are a variety of diseases in society, including diabetes, that are typically incurable and require long-term medication. When the beneficial components of flour such as Wheat villi, bran and germ are separated from it, its consumption is harmful to the body; Consumption of this flour causes various diseases such as blood sugar, hyperlipidemia and blood cholesterol. Many experts believe that the use of unhealthy flour increases the production of stomach acid and as a result produces general weakness and opens the way for the entry of infectious diseases. It can be said that one of the side effects of eating unhealthy bread is osteoporosis. The use of unhealthy flour also may cause inflammation in the body, weakened immune system and rheumatism; Obesity, diabetes, high blood sugar and hyperlipidemia are other diseases that occur in the body following the consumption of unhealthy bread. There is a lot of research that shows that adding supplements to flour is also harmful to the body; Because we take the beneficial components of wheat that God has enriched from wheat and instead enrich it with supplements according to our own formula. Experience and observations made in the process of treating patients with whole flour nutrition show that many diseases, including gastrointestinal and intestinal diseases, can be treated with whole flour.

Food safety and quality based on Tayeb model in food chains

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Food safety is of particular importance to all organizations that produce, supply, or transport food, and ultimately food consumers. Examination of verses, hadiths, rules, and etiquettes in the field of nutrition shows that the religion of Islam has established etiquettes and rules for the entire food chain from production to consumption of food products in order to achieve the highest level of quality control and guarantee in the food chain. From this perspective, the process of nutrition in Islamic civilization has strategic value and credibility, therefore, in order for it to flow in the right direction, important principles and rules have been established, deviation from which will cause a crisis in Islamic society. The various stages of the food chain include production, harvesting, processing, storage, distribution, and consumption. In verses and hadiths, to control and guarantee the quality of each of these stages, instructions have been issued that can be combined to design and produce food standards. By extracting the main components of the Islamic attitude and their conceptual composition in the form of a conceptual model, the summary of the Islamic attitude to the food chain explained that food is a crucial fact and in addition to affecting the body and causing its growth, strengthening and repair It is possible that it has the same effects on the whole space of human behavior, morality, and psyche. This analysis also shows that the quality of food in the process of production to consumption is influenced by material and spiritual factors. Therefore, the instructions issued in Islam for the production to consumption chain include both material and instructions. According to the mentioned capacities for food products, the proposed solution to achieve the optimal use of food is to develop a standard process of TAYYEB food and its establishment along the production chain to consumption. This will cause the most care to be taken during food processes to maintain its natural

quality and originality and allow the human to use the superior properties of food products.

MALNUTRITION IN HOSPITAL

Malnutrition in Different Diseases

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Malnutrition as an important aspect of hospital care can affect the prognosis of various diseases greatly. Trauma and major surgeries are among the most important disease conditions which can lead to malnutrition. Tissue injuries, malabsorption, wound discharges, organ dysfunction, medications, inflammatory processes are among important causes of malnutrition in hospital
Malnutrition can increase complications (wound healing metabolic complication and delay recovery), hospital stay and care costs. Prediction and prevention of malnutrition in hospitals should be of concern in medical care units. National protocols and appropriate tools for clinical and para clinical assessment are in use in hospitals in Iran. Evaluation, complication assessment and management of malnutrition will be reviewed regarding guidelines and new evidences.
Keyword: Hospital malnutrition, in patient nutritional assessment.

Nutrition Day Results of Hospitals in Iran

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Introduction: Nutrition day is a worldwide initiative for awareness increment on disease-related malnutrition to enhance the quality of nutritional care. This study aimed to evaluate malnutrition prevalence and nutritional routes in three teaching hospitals in Mashhad.
Methods: This is a cross-sectional study that was conducted in Imam Reza teaching hospital, Qaem teaching hospital, and Kamyab hospital on Nov 4th, 2021, using Nutrition day standardized questionnaires.
Results: 346 inpatients (180 M: 166 F; mean age of 46.4±10.5 years) from the non-ICU units and 75 inpatients (46 M: 29 F; mean age of 63.8±14.3 years) hospitalized in ICUs or CCUs enrolled in this study. This study shows that 30.27% of non-ICU patients were at risk of malnutrition or malnourished and 20% of all patients were concerned about unintentional weight loss during the last 3 months. Most of the patients had oral nutrition (91%) and 2.0% and 2.3% of them had enteral (EN) and parenteral nutrition (PN) respectively. Fifty five percent of patients consumed regular hospital food, 26.8% had a special diet, 5% received ONS drinks and 3.3% had fortified hospital food. Also, 52.0% of ICU patients had oral nutrition intake, 30.6% received EN and 17.3% were NPO.
Conclusions: This study showed that 30.27% of non-ICU patients were malnourished or at risk of malnutrition. The prevalence of artificial nutrition isn't high in these teaching hospitals.

Key Words: Nutrition Day, Malnutrition, Hospital

ROLE OF NUTRITION IN IMPROVING THE PERFORMANCE OF MUSCLES

Nutritional strategies and supplementation for rehabilitation after competition and sports injuries.

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Muscle injuries during sports competitions are common among athletes and compromise competitions and training schedules. Nutritional support is a crucial key to improving the performance of damaged muscles and also maintaining the body composition to promote a quick and safe return to play during the interventions to treat a sports injury. I want to present an overview of the nutritional strategies and the recommendations after a muscular sports

injury, emphasizing the use of main nutrients and elements for muscle recovery, such as proteins, antioxidants, healthy fatty acids, and probiotics. The muscle injury are classified as three stages: destruction-inflammation, repair, and remodelling phase. In all stages, energy recommendations should follow the estimated energy requirement plus the overall 10-15% injury/stress percentage of increase. During the repair phase, optimal protein consumption is key for muscle mass maintenance and to reduce the anabolic resistance of skeletal muscle in case of injury. Antioxidant intake from food sources may control the oxidative stress, which occurs during the inflammatory phase, as well as omega 3 fatty acids through stimulation of the anti-inflammatory pathway. Moreover, probiotic consumption has been investigated in the sports field to improve muscle repair by enhancing protein absorption capacity and immune cell function in the intestine. It is a must to carry out clinical studies with injured athletes to determine how the consumption of nutrients and elements can influence the recovery processes of injured athletes. We, in the Mashhad medical university, are planning to conduct new studies on muscles injuries foucosing on rehabilitation and also preventing the muscles damages.

Keywords: muscle recovery, Nutritional strategies, supplementation, sports injuries

Muscle injuries in sport

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- This is a mixed abstract

Skeletal muscle tissue has the largest mass in the human body, accounting for 40 to 45% of the total weight in men and 25 to 35% in women. Muscle injuries are among the commonest injuries (between 10% and 55% of all sports-related injuries) that occur in sports and physical activities. With increasing numbers of participants in sports and physical activities, there has been a dramatic increase in the number of patients with muscle injuries. Muscle injuries can occur as a result of bruising, stretching, or deep-cut. The classification divides such injuries into mild, moderate, and severe. Muscle injuries can also be broadly classified as either traumatic/ acute (mostly in contact sports such as Rugby, Soccer, Boxing) or overuse/chronic injuries (mostly in non-contact sports such as Running, Racquet Sports, Gymnastics).

Muscle contusions can occur in any muscle group subjected to a sudden large direct, compressive force. Strains, however, tend to occur in muscles that cross two joints, such as the rectus femoris and the hamstrings muscles. For a strain injury to occur, the muscle must be stretched beyond its resting length. Once muscle injury has occurred, healing progresses through three distinct phases, regardless of the etiology (contusion, strain, or laceration). These phases are as follows; destruction, repair, and remodeling.

For immediate care of muscle injuries, POLICE approach (an updated version of RICE-approach-protection, optimal loading rest, ice, compression, elevation) has generally been considered as being the best method to reduce swelling and relief pain within the first 24 to 48 hours. A clinical examination and assessment of the muscle function together with the history of occurrence of the injury are mostly sufficient for making the right diagnosis. In some cases, additional tests (MRI, X-ray, Ultrasound, CT-Scan) may be required to determine the extent of the injury or to identify possible additional injuries.

FOOD SECURITY

Food security in the world

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In 1945, the Food and Agriculture Organization of the United Nations (FAO) is founded. FAO is a specialized agency of the United Nations that leads international efforts to defeat hunger. They adopted: 'The Right to Adequate Food'. FAO organized the 1996 World Food Summit and requested that 'The Right to Adequate Food' should

be given a more operational content. Therefore, they adopted "We pledge our political will and our common and national commitment to achieve food security for all and to continue an ongoing effort to eradicate hunger in all countries, with an immediate view to reduce the number of undernourished people to half their present level no later than 2015." Food security exists when all people have physical and economic access to adequate, healthy and nutritious food at all times, and available food provides the needs of a diet in accordance with their preferences for an active and healthy life. Notably world hunger has increased in 2020 under the shadow of the COVID-19 pandemic. It was projected that between “720-811” million people in the world be faced hunger in 2020. But, around 118 million more people were faced with hunger in 2020 and the prevalence of undernourishment (PoU) increased by 1.5 percent in just one year. It has been anticipated that world will face around 660 million people who suffer from hunger in 2030. Thus, the 2030 Agenda adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. They recognized that ending poverty and other deprivations must go hand-in-hand with Sustainable Development Goals (SDGs) and strategies that improve health and education and reduce inequality. Therefore, they affirm an urgent call for action by all countries - developed and developing - in a global partnership and confirm "Transforming our world," the agenda for 2030, is inevitable for eradicating hunger. The final goal of The 2030 Agenda is peace and prosperity for people and the planet, now and into the future.

Keywords: Food Security, global, nutrition

Food insecurity in the world and Iran in the context of the COVID-19 pandemic: transformative change and priorities

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Introduction: Given the unprecedented nature of the COVID-19 crisis and the importance of early implementation of prevention programs, it is essential to understand better its potential impacts on various food security dimensions and indicators.

Methods: In this scoping review, research databases were searched using a search strategy and keywords developed in collaboration with librarians. The review will include all field and community trials and observational studies in all population groups. Searching electronic databases, study selection, and data extraction conducted by two researchers independently. A narrative synthesis implemented to summarize findings if meta-analyses are not appropriate.

Results: COVID-19 affects the four dimensions of food and nutrition security: availability, accessibility, consumption, and stability through the food and nutrition sub-systems. Disruption of financial exchanges, transportation, and closing of stores led to reduced production, processing, and distribution sub-systems. Rising unemployment, quitting some quarantined jobs, increasing medical healthcare costs, and increasing food basket prices in the consumption sub-system, results in lower access to required energy and nutrients, especially in the lower-income groups. Increased micronutrient deficiency and decreased immunity level, increased overweight, obesity, and non-communicable diseases would also occur.

Conclusion: The current review results can be used in predicting the effect of COVID-19 on the food security, especially in vulnerable populations, and developing effective interventions. This review provides information for policymakers to better understand the factors influencing the implementation of these interventions and inform decision making to improve food security.

Keywords: COVID-19 pandemic, Food and nutrition security, Availability, Access, Utilization, Stability, Systematic review

Food Insecurity and its Impact on multiple chronic conditions

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Food insecurity is a serious public health issue affecting 2 billion people worldwide. Food insecurity is associated with increased risk for multiple chronic diseases, including obesity; type 2 diabetes, cardiovascular disease, and mental health, diseases which their global prevalence and comorbidities are high; as well as disability adjusted life years (DALYs) have attracted the most attention. Studies found low food security or high Food Insecurity has been associated with increased risk of morbidity and mortality resulted from cardiovascular disease. Gender differences reinforces relation between food insecurity and chronic disease, so that adult women with food insecurity compared the same men have more type 2 diabetes. Even, several studies showed an association between food insecurity and mental disease, including stress, depression, anxiety, sleep disorders, and suicidal ideation. This association was influenced by social determinants of health. Possible direct or indirect pathways link food insecurity and cardio metabolic disease. These determinants are poverty, micronutrient deficiencies, and environmental exposure to toxins and pollutions. The links between food insecurity and adverse health outcomes are well-established. These important results provide a compelling rationale for identification of food insecurity in clinical settings. Given well-validated screening measures are available in multiple languages including in Persian, it is recommended to do food insecurity screening with emphasis. Therefore, it is necessary to develop guidelines for monitoring screening, especially in critical situations such as the COVID19 epidemic. It should be noted for implementation of this, local contexts and resources must be considered. Finally, we suggest public health officials to plan for this serious need of our country.

The impact of food insecurity on mental health in different population groups

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Numerous studies have identified nutrition as an important determinant of mental health and psychological well-being. Food insecurity, defined as poor access to safe, nutritious and sufficient food, affects various stress-related problems. We have reviewed the impact of food insecurity on mental health, emphasizing on developing countries. Different population groups including children, adolescents, adults and the elderly may suffer from psychological problems due to food insecurity. It has been revealed that the presence of food insecurity, and also, the transition between food insecurity and food security can affect the externalizing (such as behaviors, cognitive functions, academic performance), and internalizing (such as depression, anxiety) dimensions of psychological health in children. Even in adolescents, it has been shown that the presence of food insecurity results in body dissatisfaction and eating disorders which can lead to more mental problems. It has also been shown in adults that stress, a potential contributor to poor mental health, has a direct association with food insecurity. In particular, in the recent pandemic of COVID-19, studies suggested an exacerbation of stress following food insecurity. A study claimed that the relative risk of mental illness from food insecurity is about 3-fold of losing a job in COVID-19 pandemic. However, it seems that community economic status and social context affect this association. Interestingly, a stronger association was found between food security and mental health problems where the prevalence of food insecurity was lower. In general, food insecurity may contribute to mental health problems, both through inadequate nutrient intake and through a sense of inequality and stress.

SPECIAL SUBSTRATES IN ICU

L-Carnitine Effects on Clinical Status and Mortality Rate in Septic Patients

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Sepsis is one of the major causes of high morbidity and mortality in intensive care units (ICU) and severe sepsis leads to some metabolic disorders. The previous studies indicate that l-carnitine deficiency in septic patients and causing mitochondria dysfunction and worsening metabolic disorder. Reducing mortality in sepsis by nutritional supplements may help mitigate the risk of clinical outcomes in sepsis patients. The results of the recent studies showed that plasma carnitine

levels were significantly associated with the Sequential Organ Failure Assessment score (SOFA). On the other hand, other studies showed carnitine supplementation had no significant effect on SOFA score change in a short time, while carnitine deficiency was associated with significantly increased SOFA score in critically ill patients. L-carnitine supplementation indicated a significant decline in 28 days' mortality as well. Evidence from limited data suggested that carnitine may help to reduce mortality risk in sepsis patients, but further studies are required with different doses and durations.

Keywords: L-carnitine, Sepsis, critically ill patients

Effects of curcuminoids in critically ill patients

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Inflammation and oxidative stress are closely linked in critically ill patients. Inflammation is an adaptive response produced by detrimental conditions. Also, oxidative stress induced by an imbalance between the production of reactive oxygen species (ROS) and antioxidant defense, plays a key role in inflammation and its complications. There is controversy on the efficacy of common therapeutic agents used for critically ill patients. Because of diverse side effects of chemical anti-inflammatory therapeutic agents, herbal medicine has been proposed as an alternative medical strategy. Curcuminoids are the most active compounds of the Curcuma longa L. with polyphenolic structures used in traditional medicine for years. Having various biological targets, they have been extensively investigated as natural agents with several activities such as immunomodulatory properties. Among these, anti-inflammatory and anti-oxidant activities of the curcuminoids have the most pivotal roles in critically ill patient. However, the curcuminoids are safe, but more studies are needed to identify the effective doses on clinical outcomes of critically ill patients.

Keywords: curcuminoids, inflammation, oxidative stress

Role of vit. A and C in critical care illness

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Vitamin C deficiency is common during critical illness because of increased requirements, decreased intake, reduced recycling and increased urinary excretion. Vitamin C has multiple key metabolic functions and act synergistically. Vitamin C has important antioxidant, anti-inflammatory, and immune-modulating effects, and is an essential cofactor for mono- and dioxygenase enzymes, deficiency can increase the severity of illness and hamper recovery. Several small clinical studies show improvement of organ function or even a reduction in mortality with i.v. vitamin C, but large clinical trials are required.
Vitamin A deficiency is more common during infection, and supplementation reduces severe morbidity and mortality from infectious diseases. Vitamin A modulates activities at the cellular level and, via its interrelationship with hormones such as thyroid, insulin, and corticosteroids, has diffuse metabolic effects on the body. Mild vitamin A deficiency may cause fatigue, susceptibility to infections, and infertility. The most common use of vitamin A supplementation is to offset steroids' effect. When considering supplementation, the potential benefits must be weighed against the risk of harm. Vitamin A toxicity can be critical and even result in death. Having more than an average of 1.5 mg a day of vitamin A over many years may affect your bones, making them more likely to fracture when you're older. The evidence for supplementation with vitamin A is currently limited to expert opinion and is not backed up by rigorous trials.

keywords: vitamin A, vitamin C, vitamin, critical care

Probiotic and Synbiotic supplementation in critically ill patients

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Among critically ill patients, regardless of the heterogeneity of disease state, extreme and persistent dysbiosis occurs. The loss of "health-promoting" bacteria and overgrowth of pathogenic bacteria in critically ill patients may make them prone to hospital-acquired infections, sepsis, multi-organ failure (MOF), energy homeostasis disturbance, muscle wasting, and cachexia.

Theoretically, modulation of gut microbiota through pre, pro, or synbiotics can be considered as a potential treatment for maintaining energy and macronutrient homeostasis, preserving muscle mass and improving clinical outcome by maintaining the gut epithelial barrier, nourishing host epithelial cells, changing the host metabolism, and optimizing immune system function. While, in practice, the results of clinical studies are heterogeneous.

About energy balance, it seems that pre, pro, or synbiotics have no significant beneficial effect on feeding tolerance and energy homeostasis, but they may significantly reduce the prevalence or duration of diarrhea. According to the effect of probiotic or synbiotic supplementation on macronutrient homeostasis, limited data on critical illness suggest that fasting blood glucose, insulin, and lipid profile do not significantly change, but nitrogen balance may clinically improve.

It should be noticed that the administration of probiotics or synbiotics in critically ill patients can have a beneficial effect on inflammatory markers, so it may reduce systemic inflammatory responses, sepsis, and MOF. Although clinical endpoints such as ICU length of stay and mortality rate remain unchanged.

As the overwhelming existing evidence suggests that probiotics and synbiotics are safe in the critical care setting, they can be prescribed for their beneficial effects as indicated. Further clinical and basic research is needed to personalize, ideal probiotic and synbiotic therapies for critically ill patients.

Keywords: ICU, critically ill, Probiotic, Synbiotic

Effect of French maritime pine bark extract as an antioxidant in critical care

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Inflammation leads to immune system dysfunctions such as systemic inflammatory response syndrome and compensatory anti-inflammatory response syndrome. Subsequently, organ dysfunction and infection occur. Many randomized controlled trials (RCTs) and meta-analyses have shown that early initiation of nutrition support reduced mortality rates and infectious complications, and improved outcomes in critical care patients. Besides, the use of a nutritional formula containing antioxidants has been shown to reduce serum IL-6 and increase glutathione in (traumatic brain injury) TBI patients in ICU (intensive care unit).

One of the potent antioxidants whose anti-inflammatory effect has been proven in several studies is French maritime pine bark extract. It is composed of several oligomers, including flavan-3-ols catechin, epicatechin, taxifolin, caffeic acid and ferulic acid. Our meta-analysis of six RCTs indicated a significant reduction in C-reactive protein as an inflammatory biomarker and plasma free radicals as an oxidative stress biomarker in chronic condition after taking pine bark extract. Another positive effect on other cardiometabolic factors such as blood pressure has been shown by the meta-analysis of 15 RCTs. There are no specific adverse events reported for this supplement.

Also, we conducted a RCT to investigate the effect of French maritime pine bark extract (Oligopin) in TBI patients in ICU. Our study showed that this supplement resulted in improved inflammatory and clinical outcomes in this patients with multiple traumas and thereby increased the survival rate.

Key words: antioxidant, immunomodulatory formula, critical care

The Role of Vitamin D in Critical Illness

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The potential role of cholecalciferol (vitamin D3) in multiple body organs, disease states, infectious diseases, and critical illness is becoming increasingly evident. Recent evidence from observational studies indicates the role of vitamin D deficiency (VDD) in worsening critical illness outcomes. Some recent findings show that VDD may increase the length of hospital stays, organ

failure, and increase infection risk. The randomized controlled trials (RCT) were performed on critically ill patients demonstrated that treatment VDD with high-dose vitamin D3 intervention is required. Critically ill patients have a relatively weak response to vitamin D intervention versus to the healthy population. VDD is a predictor marker for adverse outcomes in critical illness and critical illness survivors. Recent studies propose that early VDD treatment in critically ill patients with high-dose vitamin D may improve mortality and pro-inflammatory cytokines. Vitamin D intervention is inexpensive and safe in critical illness trials. Toxicity from high-dose vitamin D in trials in the critically ill has been limited to mild hypercalcemia. However, further randomized clinical trials in this area must be conducted for future reference.

Keywords: critical care, outcomes, vitamin D

OBESITY MANAGEMENT

Updates on Pharmacotherapy in Obesity Treatment

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Obesity is officially recognised as a chronic disease. The prevalence of obesity is increasing all over the world and it has caused serious health problems in developed and even underdeveloped countries. Obesity-related complications increases the likelihood of various diseases and ultimately mortality. Therefore, combating obesity is among the greatest public health challenges.

Currently lifestyle changes such as, a balanced diet with healthy nutritional choices and physical activity are the main and initial recommendations for the treatment of overweight and obesity. Behavioral modifications should also be considered as a basic approach. However, if the lifestyle modification approaches fail, pharmacotherapy and as a last method of treatment surgery may be considered.

The diagnosis of obesity and overweight is based on BMI kg/m2, body fat distribution and related health complications and comorbidities. In patients with BMI above 27kg/m2 and comorbidities or BMI over 30 kg/m2, drug therapy may be considered as the main line of treatment.

Currently FDA approved Anti-obesity drugs include Phentermine–topiramate, GLP-1 receptor agonists (Semaglutide), Naltrexone–bupropion, Lorcaserin, and Orlistat. Mechanism of these drugs, usually include reducing intestinal absorption, decreasing appetite or increase of energy expenditure. Furthermore, several different drugs and supplements are used around the world, some of which have been accepted and ongoing research is being conducted.

In this review, we will discuss obesity treatment methods with the main emphasis on pharmacotherapy, drugs' side effects, dosage and outcomes according to the latest available obesity guidelines.

Current State of Obesity in Iran

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Body-mass index (BMI) has increased steadily in most countries in parallel with a rise in the proportion of the population who live in cities and nutrition transition. In a developing country such as Iran, the rate of obesity is 20%. In the United States (US) the rate of obesity in men and women are almost similar (33.3 and 35.3%, respectively), while in Iran obesity is more frequent in women than men (30 vs. 17%, respectively). Morbid obesity defined as BMI>40 kg/m2 affects 4.7 and 1.3% of adults in the US and Iran, respectively.

Reports from the Tehran Lipid and Glucose Study (TLGS), the Caspian Study and other cohorts in Iran demonstrate an alarming increase in the rate of overweight and obesity in Iranian children and adolescents. Worldwide, there are a total of 155 million (one in 10) children overweight and around 30 – 45 million classified as obese. Much concern is being expressed both about the early consequences and lifetime effects of obesity. As a great public health challenge, the World Health WHO is working with its member states to implement the "Global Strategy on Diet, Physical Activity, and Health" to combat childhood obesity. The program of "Ending Childhood Obesity" has been implemented in Iran; however, due to COVID-19 crisis, its program is rather slow.

Obesity epidemic must be addressed by long-term, concerted policy efforts worldwide. Appropriate changes in lifestyle along with healthy eating, regulation of food supply, public education, healthy commuting through walking or biking need gradual infrastructure change and, last but not least, the motivation and incentives in various societies. There is an urgent need for an integrated approach for healthy lifestyle that enhances financial and physical access to healthy foods, to avoid replacing under nutrition disadvantage in Iran with a more general malnutrition disadvantage that entails excessive consumption of low-quality calories.

Diet Therapy in Management of Obesity: A Review on Recent Guidelines

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Obesity which is a principal global health concern is one of the main lifestyle diseases. It is contributed with several comorbidities which can be prevented or treated in early stages including diabetes, metabolic syndrome, dyslipidemia, cardiovascular diseases, obstructive sleep apnea, cancer and even death. Therefore, early diagnosis and treatment of these patients is a concern. Recent guidelines focus on a multi-disciplinary approach in obesity management. Nutrition therapy, chronic disease management, psychological interventions, physical activity, pharmacotherapy and non-invasive and invasive interventions like surgery is preferred.

A balanced, healthy and individualized diet regardless of the composition of nutritional therapy which provides a daily energy deficit of 500 to 750 kcal is recommended. Very low calorie diets (VLCDs: less than 800 kcal/day) should only use in certain indications or conditions confirmed by medical supervision but not in routine obesity treatment. However, they are insufficient to meet all the nutritional needs for children, adolescents, pregnant or lactating women and the elderly. Meal replacement diets may contribute to nutritionally well-balanced diet and weight loss maintenance. Structured meal plans, portion control and eating patterns are recommended as possible interventions. Fasting diets are the recently become popular and the evidences are persuasive as well.

Weight loss of 0.25 to 1.0 kg per week as well as 5-10% reduction in body weight over 6 to 12 months are recommended. Although several patients believe that successful treatment is maximum weight loss in the shortest possible time; suggestions remind that 5-10% body weight loss is sufficient to reduce or prevent comorbidities. However; waist circumference reduction should be given more attention than weight loss per section which represent visceral fat reduction as well as decreased associated cardiometabolic risks.

Life style modifications and prevention of weight regain and weight cycling are the key points of treatment regardless of used techniques including behavioral and nutritional interventions with or without pharmaceutical treatment or bariatric surgery.

New Dietary supplementation in Obesity

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Background: Worldwide, chronic diseases such as diabetes, cardiovascular disease, stroke, and Obesity contribute to 60% of all deaths, and the proportion is predicted to increase to 75% by the year 2020. High prevalence of nutrition problems such as malnutrition and mineral or vitamins deficiencies has augmented the Complications of this diseases. Survival is generally shorter for those patients who can not lose weight. People with obesity for several reasons such as decrease the rate of metabolism, overeating, sedentary life style, Bulimia and genetics requires to some medications and Dietary Supplements. A restricted calory diet effective in Obesity prevention and treatment by decreasing energy intake and also and physical activity help to increase metabolism and energy expenditure rate . Used properly, certain dietary supplements may help reduce the risk of obesity by increasing energy expenditure rate, full gastric volume and decreasing macronutrient absorption such as fat and carbohydrate. However, some people that consumed nutritional supplements for obesity prevention, suffer unexpected side effects or drug interactions with dietary supplements, for example diarrhea, flatulence and some gastro intestinal disorders.

The purpose of this review is to summarize the studies evaluating the effects of nutritional

supplements on obesity prevention and treatment and explain the future direction in this field

Methods: A search in PubMed, Google Scholar, Scopus and some book was undertaken to identify relevant literature using search terms, including Obesity, nutrition, dietary supplement, supplementation, dietary intervention and prevention.

Results: We evaluated several clinical studies that used the any type of supplement in obesity models. The articles were classified according to the nature of the supplements: Garcinia Cambogia , Caffeine, probiotics, herbal fiber, vitamin D, green tea, and etc.

CONCLUSION: Some supplements were found to be effective in prevention and treatment of Obesity. The correct management of dietary supplements is an effective aid to help reduction of risk and modulation of outcome, therefore, it is important to define what complementary therapies can be used for this population.

Nutritional supports before and after bariatric surgery

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In recent decades, non-communicable diseases have a major burden of diseases and mortality in human societies, so that the epidemic of these diseases in the last century is progressing rapidly. This has changed the attitude and practice of health policy makers at various global, regional and national levels. Due to obesity known as the cause of many of these diseases and on the other hand has an increasing prevalence in the world and in Iran, has led to obesity is considered as a specific disease. Therefore, the treatment of obesity is special and importance. Obesity surgery is one of the best methods of treating obesity that has recently received a lot of attention from patients and physicians. Gastric bypass and other bariatric surgery can result in long-term weight loss.

This treatment method can have the greatest impact on the treatment of obesity and its related complications when, in addition to the correct selection of patients and the correct performance of the appropriate surgical method, the following items are considered: Complete preoperative evaluation, modification of eating habits and lifestyle before surgery, proper and complete postoperative patient management, such as regular periodic evaluation, proper diet, proper supplementation, and continued lifestyle modification.

The Registered dietitian provides evidence based nutrition counseling and education to patients during each phase before and after surgery. They are the interdisciplinary team's nutrition expert and will help patients to understand the role of nutrition and diet in pre and post-operative surgery.

Accordingly, in this article we examine the importance of nutritional attention in patients undergoing surgery, the measures required before surgery such as assessing nutritional status, correcting nutritional deficiencies, correcting eating habits, and weight lose 2 weeks before surgery and take the necessary postoperative measures such as postoperative diet, regular periodic evaluation, supplementation, and required biochemical tests.

Key words: nutritional support, obesity, bariatric surgery, supplementation

Novel Approaches in Obesity Treatment: The Role of Gut Microbiomes

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Obesity as a worldwide epidemic has a dramatic increasing prevalence in developed and developing countries. As such, it is the fifth greatest cause of non-communicable diseases. Currently, over 1 billion people around the world are overweight or obese. In Iran, the age-adjusted prevalence of overweight /obesity is estimated to be 42.8% and 57% in men and women respectively. Nowadays, due to many etiological factors, obesity is difficult to regulate and intestinal microbiota has been considered a new factor affecting obesity and host energy metabolism. Studies have shown that energy homeostasis imbalances result from dysbiosis which can contribute to negative host metabolism regulation. Since the gut microbiome has important functions such as the impact on dietary energy harvesting and the control of anti-inflammatory and metabolism, any alteration in

the composition of the gut microbiota may trigger and develop obesity or vice versa. Fecal microbiota transplantation (FMT) is the administration of a solution of fecal matter from a donor into the intestinal tract of a recipient in order to directly change the recipient's gut microbial composition and confer a health benefit. There are preliminary indications to suggest that it may also carry therapeutic potential for obesity and metabolic syndrome.

EARLY RECOVERY AFTER SURGERY

ERAS and nutritional instructions in colorectal surgery

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Enhanced Recovery After Surgery (ERAS) is an evidence-based protocol for perioperative management in colorectal operations. This protocol is followed before, after and during operation.
ERAS has been proven to reduce both operation time and post-operative complications.
As advanced laparoscopic techniques developed in colorectal surgery, ERAS protocol became the best established standard for peri-operative care.
Using minimally invasive techniques, early oral feeding, avoiding drains and early catheter removal are some elements of ERAS recommendations.
Not only surgeons but many other health care providers including anesthesiologists, nurses, psychotherapists, nutritionists,etc., have also to be aware of ERAS protocols.
Fortunately, it has been years, since Iranian surgeons have been following the most recent updates of ERAS protocol as an inevitable task in their practice.

Nutrition in Enhanced Recovery After Surgery (ERAS)

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The Enhanced Recovery After Surgery (ERAS) Society was formed in 2010 for the purpose of developing best-practice protocols and an implementation model to decrease variability in care and improve patient outcomes. Nutrition is a key component of ERAS. Nutritional support came to be regarded as a panacea for all surgical ills in ERAS. Nutritional elements in ERAS include Preoperative education, Avoid fasting with carbohydrate loading, Nutrition risk screening, No nasogastric tubes, Prevention of nausea and vomiting, Early oral nutrition, Stimulation of gut motility, Judicious fluid management, Audit of adherence to ERAS elements and outcoms. The dietitian plays an important role in carrying out theses elements and thus is integral to the success of an ERAS program.

NUTRITION IN CANCER

Nutritional Status in Cancer Patients in Iran

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Introduction: Malnutrition impacts cancer prognosis, increase morbidity, mortality, and treatment discontinuation and decrease survival, quality of life, and treatment costs. Therefore, nutritional assessment may help in treatment management individually and at the national planning level. The aim of this study is to assess the nutritional status of patients with cancer in Iran.
Methods: Global database libraries including PubMed, Scopus, and national databases such as Magiran, and SID were searched and studies which reported nutritional status of patients with different cancer and treatments were included
Results: Malnutrition prevalence ranged from 44.6 up to 98% in different studies. The worst nutritional status was reported in upper gastrointestinal (GI) cancer patients in different studies. Pre-treatment malnutrition found in 52% of alive patients and 82% of dead patients after chemotherapy demonstrating the importance of

early nutritional assessment and management before malignancy therapy. Nutritional status diminished with different cancer treatment particularly surgery reaching from 70% to 98% seven days after major intraabdominal surgery in GI malignancies. Also, radiation worsened nutritional status in hospitalized cases reaching from 55.8% to 67.2% (p=0.008) as well as outpatients with PG-SGA score up to 14±6. The malnutrition continued after 4-6 weeks after radiotherapy with mean PG-SGA score of 9.3±6 in esophageal cancer patients. Nevertheless, few patients referred for nutritional counselling.

Conclusion: Nutritional status was diminished among Iranian cancer patients even at diagnosis and worsened after treatments. Thus, individualized nutritional screening and interventions and national programs essential in patients with malignancy.

Keywords: Malnutrition, Neoplasms, Nutritional Status, Nutritional Assessment, PG-SGA

Multidisciplinary Management of Cancer and Nutrition Place in Patients Treatment

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Malnutrition occurs in 40 to 80 percent of cancer patients and is a major cause of morbidity and mortality in those with advanced disease. Malnutrition is associated with poorer overall survival in various malignancies, as well as reduced benefit from cancer therapy, increased chemotherapy-related toxicity, and poorer quality of life.

In some cases, malnutrition may be related to an inability to ingest or absorb nutrients because of the primary disease process or its treatment, but in other cases, it is attributable to cancer associated anorexia/cachexia syndrome (CACS).

Parenteral or enteral nutritional supplementation may be an appropriate option for cancer patients who meet both of the following criteria, they are either notably malnourished or at risk of becoming so during cancer treatment, they have a potentially curable disease or look forward to the promise of a long disease-free period after cancer treatment.

Although there is controversy as to when parenteral nutritional support is indicated, it may be justified in a malnourished patient undergoing cancer surgery and where there is a strong possibility that a patient may be cured or attain a substantial improvement in survival. Even under these circumstances, the benefits of parenteral nutrition must be counterbalanced by the risks associated with its use.

Referral of patients with CACS to a registered dietician can provide practical and safe advice for feeding; education regarding high-protein, high-calorie, nutrient-dense food; and advice against fad diets and other unproven or extreme diets. For most patients with advanced cancer and CACS, enteral tube feeding or parenteral nutrition to manage cachexia not used routinely. A short-term trial of parenteral nutrition may be offered to very select group of patients.

PROSPECT IN NUTRITIONAL RESEARCH

Interdisciplinary research in nutrition: a path to have a sustainable diet

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Interdisciplinary research defined as “a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice.” Current challenges, e.g., climate change and food security, involve the interaction between humans and their environment. In order to address any one of these challenges, a monodisciplinary approach is too limited. Research methodologies, ideas and knowledge from different disciplines are required to study how humans interact with their environment.

In nutrition science, a field of knowledge where diverse disciplines come together, achieving a sustainable diet is one of the research topics of today. According to the Food and Agriculture Organization definition, sustainable diets are

protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy while optimizing natural and human resources. In order to achieve sustainable diets, multiple actions must be taken to improve the food production system, change dietary habits, and reduce food loss and waste. Hence, it is crucial to generate interdisciplinary knowledge about promoting human well-being that takes into account factors such as diet and nutrition, the environment, economics, and social and legal factors. It is imperative that interdisciplinarity be applied across multiple dimensions to attain food system sustainability: bringing agriculture back into harmony with environmental systems, restructuring food production to be more nutrition-sensitive, and ensuring policies and institutions affecting the food system are socially and environmentally responsible. Therefore, there is an increasing demand for interdisciplinary scholars and specialists who can analyze and deal with the complex issue of global food security and sustainable food production.

Nutritional science needs and priorities for the coming decades: time for a paradigm shift

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Based on John Bernal, science is by nature more variable than any human occupation. Nutrition science is not exempt from this law. This article aims to discuss paradigms in nutrition sciences using Thomas Kuhn argument regarding scientific revolutions. Despite the fact that food and nutrition have been studied for centuries, it is considered relatively a young science. In fact, in the beginning of the 20th century, with the discovery of vitamins and single nutrient deficiency diseases, nutritional science was evolved into a new paradigm characterized by reductionist, nutrient focused approach. This approach was extended from individual to population-based solutions, e.g., fortification of selected staple foods with micronutrients, such as iodine in salt and iron in flour which were effective at reducing the prevalence of common deficiency diseases. As a result, nutritional science was underpinned by reductionist epistemology which has been dominant ever since. In the second half of the 20th century, the rising burdens of diet related non-communicable diseases (NCDs) draw attention to new dietary factors, i.e., sugar and fat. However, reductionist models were translated poorly to NCDs. Despite development of large nutrition studies, including large cohorts, randomized clinical trials, and, more recently, genetic consortiums, single nutrient theories were proven inadequate in explaining the association between diet on NCDs. In the same time, the coexistence of hunger and malnutrition with obesity and NCDs in many countries and regions created a more challenging situation. Limited success in prevention and management of NCDs along with the social and environmental challenges of contemporary world resulted the discipline enters a new paradigm. The new paradigm is characterized by holistic and transdisciplinary approaches which requires the removal of barriers and boundaries between disciplines and institutions in order to achieve true integration. Such integrative approaches, can be more effective in reducing malnutrition in all its forms, and halting the interrelated breakdown of the planetary systems that support all forms of life and health.

Key words: Nutritional science, Paradigm shift, scientific revolutions

Oral presentation

Dietary inflammatory index, healthy eating index, and major dietary patterns in relation to rheumatoid arthritis patients

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Introduction: Considering the role of nutrients and dietary components in the development of chronic diseases such as RA is an age-old attempt. Many arthritic patients have the belief that dietary habits be able to exacerbate or ameliorate their symptoms. Whether diet quality and pattern can reduce the risk of rheumatoid arthritis (RA) are issues of continued scientific debate and interest. Therefore, we aimed to examine the association among the overall diet quality such as Healthy Eating Index (HEI), Dietary Inflammatory Index (DII), and major dietary patterns on the risk of RA.
Methods: We searched several databases, including PubMed, Google Scholar, Scopus, Cochrane, and up-to-date from 2016 to 2021 for all publications based on the combination of keywords.
Results: Previous studies have shown the validity of the DII for predicting the relationship between the overall inflammatory potential of diet and common chronic diseases such as CVD, cancers, and RA. Current studies have shown that RA was positively associated with the Western diet and negatively associated with the healthy diet. In addition to dietary pattern studies, other recent studies have reported a significant relationship between DII scores, HEI and RA.
Conclusion: Greater adherence to diets low in DII scores, high in HEI scores, and a healthy patterned diet may associate with lower odds of having RA. This review suggests that dietary habits may influence the development of RA and clinicians should consider paying attention to the quality and pattern of individuals' diets as an effective strategy for implementing RA preventive programs.

Key Words: healthy dietary pattern, rheumatoid arthritis, Dietary Inflammatory Index, Healthy Eating Index.

The Effects of Crocin on HDL Cholesterol Uptake Capacity in Patients with Metabolic Syndrome: A Randomized Clinical Trial

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Background: HDL cholesterol uptake capacity (CUC) is reduced in patients with metabolic syndrome (MetS). We have assessed the effect of crocin supplementation on HDL CUC in patients with MetS.
Methods: A total of 44 subjects with MetS were randomly allocated to one of two groups: one group consumed placebo and the other group received crocin at a dose of 30 mg (2 tablets of 15 mg per day) for 8 weeks. Serum biochemical factors were determined using an AutoAnalyzer BT3000 (BioTechnica, Italy). The modified CUC method is a cell free, simple, and high-throughput assay that used to evaluate HDL CUC of serum samples. The decision tree analysis was undertaken using JMP Pro (SAS) version 13.
Results: The mean age of the crocin and placebo groups were 38.97±13.33 and 43.46±12.77 years, respectively. There was a significant increase in serum HDL CUC in the crocin group comparing with the placebo group in patients with MetS (P-value<0.05). The decision tree analysis showed that subjects with HDL CUC more than 0.89% did not have hypertension (P-value<0.05).
Conclusion: Crocin supplementation at a dose of 30 mg for a period of 8 weeks can improve serum HDL CUC in patients with MetS.
Keywords: Metabolic Syndrome; Crocin; HDL-C; HDL functionality

The Effects of Synbiotic Supplementation on Antioxidant Capacity and Arm Volumes in Survivors of Breast Cancer-Related Lymphedema

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Introduction: Synbiotics found to be beneficial in breast cancer survivors (BCSs) through its antioxidant properties. The aim of this study was to assess the effects of symbiotic supplementation on edema volume and some oxidative markers among obese and overweight patients with BCRL.
Method: This randomized double-blind, placebo-controlled trial was conducted on 88overweight and obese BCSs aged 18–65 years. All the subjects were given a specified low-calorie diet (LCD) and were randomly assigned into two groups to intake 109 CFU/day symbiotic supplement (n=44) or placebo (n=44) for 10 wk. Edema volume and serum total antioxidant capacity (TAC), malondialdehyde (MDA), glutathione peroxidase (GPx), and superoxide dismutase (SOD) concentration were measured at baseline and after the 10-wk intervention.
Results: Ten-wk supplementation with synbiotics leads to a significant reduction in serum MDA levels (P=0.001) and an increase in serum SOD concentration (P=0.007) compared to placebo. No significant changes were observed in serum GPx, TAC, and edema volume between groups.
Conclusion: Our findings reveal that 10-wk synbiotic supplementation along with a LCD programreduced serum MDA levels and elevate the activity of SOD in overweight and obese patients with BCRL. However, its effect on serum GPx, TAC, and edema volume was not significant.
Keywords: Antioxidant, Breast cancer, Lymphedema, Synbiotic

The Effect of Dietary Phosphorus Restriction on Urine Protein Excretion in Patients with Proteinuria: A Randomized Controlled Trial

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Introduction: Recent evidence has suggested that the most important factor in reducing proteinuria might be a decrease in phosphorus intake, not a decrease in protein intake per se. As a result, the present study was designed to determine the effect of dietary phosphorus restriction, independent of protein intake, on the urinary protein excretion in patients with proteinuria.
Methods: Seventy-one patients with proteinuria were enrolled in a parallel randomized controlled trial study. The patients were randomly allocated to receive either a recommended phosphorus-restricted diet (n = 36) or a recommended control diet (n = 35), for 8 weeks. A diet was designed and recommended to participants in a way that both trial groups would receive the same amount of energy and protein and the only significant difference between them was the amount of phosphorus intake. The study outcomes included the changes in spot urine protein-to-creatinine ratio, the changes in serum and urine levels of phosphorus, as well as the changes in estimated glomerular filtration rate (eGFR).
Results: The mean ± standard deviation of age, body mass index, and eGFR of the participants were 59 ± 14 years, 29 ± 5.5 kg/m2, and 56.1 ± 21.7 mL/min/1.73 m2, respectively. The amount of phosphorus intake decreased significantly in the phosphorus-restricted group compared to the control one (−709 vs. −369 mg/day; P <.001). This decrease is accompanied by a significant reduction in urine protein-to-creatinine ratio in the phosphorus-restricted group; however, this change did not reach a significant level when compared to the control one (the mean change: −75.78 vs. −55.25 mg/g; P =.539). Limiting the phosphorus intake did not change its serum and urine values as well as eGFR at the end of the trial.
Conclusions: Although adherence to a phosphorus-restricted diet by patients with proteinuria led to a significant decrease in urinary protein excretion, this change was not significantly different from that of the control diet. Further studies with larger sample sizes and different designs will reveal more evidence for a link between phosphorus intake and proteinuria.

Keywords: Diet, Phosphorus, Restriction, Proteinuria

Effect of resveratrol supplementation on hepatic steatosis and cardiovascular indices in overweight subjects with type 2 diabetes: a double-blind, randomized clinical trial

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Introduction: Type 2 diabetes mellitus (T2DM) is closely associated with non-alcoholic fatty liver disease (NAFLD) and cardiovascular diseases (CVD). Growing body of evidence hypothesized that resveratrol can decrease the risk of hepatic steatosis and CVD in patients with T2DM. We aimed to evaluate the effect of resveratrol supplementation on hepatic steatosis indices (Lipid accumulation product (LAP) and visceral adiposity index (VAI)), and cardiovascular indices (Castelli risk index I (CRI-I), CRI-II and atherogenic coefficient (AC)) in patients with T2DM.
Methods: In this double-blind, randomized controlled trial, seventy-six patients with T2DM were assigned into the resveratrol (received 1000 mg/d resveratrol) or placebo groups for 8 weeks.
Results: A total of 71 patients completed the intervention. We found no significant difference between the resveratrol group and the placebo group in LAP, VAI, CRI-I, CRI-II and AC at the baseline and the end of intervention. Resveratrol supplementation compared to the placebo showed a non-significant decreasing trend in LAP (-2.61 (-12.83 to 3.50) vs. -1.37 (-6.48 to 7.87); P=0.15), and VAI (-0.31 (-0.62 to 0.19) vs. -0.02 (-0.44 to 0.25); P=0.11). Moreover, resveratrol compared to the placebo had no effect on CRI-I, CRI-II and AC.
Conclusions: 1000 mg/d resveratrol supplementation for 8 weeks could not significantly improve steatosis indices, and had no effect on cardiovascular risk. Further studies with longer intervention durations are needed to reach a firm conclusion. Registered at the Iranian clinical trials website (IRCT20171118037528N1).
Keywords: Type 2 diabetes mellitus, Resveratrol, Steatosis, Cardiovascular risk

Associations between dietary inflammatory index and incidence of breast and prostate cancer: a systematic review and meta-analysis

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Objectives: Dietary inflammatory index (DII) scores have been inconsistently linked to cancer risks. Therefore, a systematic review and meta-analysis was performed to examine the associations between the DII and the risks of breast and prostate cancer among men and women.
Methods: Relevant studies were identified by searching PubMed and EMBASE databases up to March 2018. Data were available from 13 studies; of these, four studies used a prospective cohort design and nine studies were case-control studies. A total of 231 947 individuals from nine countries were included in these studies for the meta-analysis. The results were pooled using a random-effects model.
Results: A pooled, adjusted odds ratio (OR) analysis indicated that there was a direct relationship between the highest versus lowest DII scores and prostate cancer risk in men (OR: 1.31; 95% CI: 1.04–1.57) but not the breast cancer risk (BCR) in women (OR: 1.65; 95% CI: 0.96–2.33). In the subgroup analyses, a more significant association between DII score and increased BCR was noted in premenopausal (OR: 2.03; 95% CI: 1.06–3.00) than in postmenopausal women (OR: 1.52; 95% CI: 0.89–2.16). When the results were stratified by body mass index, a positive association was observed between DII score and increased BCR in women (OR: 1.83; 95% CI: 1.48–2.18). Furthermore, there was no significant association between the highest versus lowest DII score and BCR among women who received hormone therapy (OR: 1.29; 95% CI: 0.93–1.64).
Conclusions: Men and premenopausal women who exhibit higher DII scores have increased

prostate and breast cancer incidence risks, respectively. Moreover, body mass index had positive associations with the relationship between DII score and BCR in women. Further prospective cohort studies with longer follow-up periods are needed to support this possible association between DII score and cancer incidence.

Keywords: Dietary inflammatory index, Breast cancer, Prostate cancer, Systematic review Meta-analysis

A Systematic Review of the Efficacy of the Curcumin on Glycemic Control in Patients with Type 2 Diabetes

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Background: Type 2 diabetes mellitus (T2DM) is a group of unusual metabolic conditions that are principally formed of insulin resistance (IR). Some studies showed that T2DM/IR is connected with cardiovascular conditions. Some studies recommend that curcumin may influence not only glucose homeostasis but also the vascular risk of T2D patients. The aim of this systematic review is the effect of curcumin on glycemic indices in diabetic patients.

Methods: A comprehensive search was conducted in PubMed, Scopus, Embase and Google Scholar up to 05 March 2020 to identify randomized control trials investigating the effect of curcumin supplementation on glycemic indices including fasting blood glucose (FBS), Hemoglobin A1c (HbA1C) and Homeostatic Model Assessment for Insulin Resistance (HOMA-IR).

Results: Eleven articles, comprising 1131 individuals with T2DM were included in the study. Treatment with curcumin significantly reduced the level of FBS and HbA1c in 8 and 7 studies, respectively. The level of HOMA-IR evaluated in 5 studies and curcumin supplementation significantly declined this factor in three of them. Totally, patients who took supplementation over long periods (≥12 weeks) showed a significant decrease in glycemic indices.

Conclusion: The current systematic review showed that curcumin as an herbal bioactive compound could be a safe potential hopeful for developing glucose metabolism and decreasing FBS and totally improving glycemic control. Nonetheless, more clinical trial studies need to verify effect curcumin with larger populations.

Keywords: Curcumin; Turmeric; Type 2 diabetes mellitus; Glucose

The effect of propolis on liver fibrosis among patients with nonalcoholic fatty liver disease: A randomized clinical trial

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Introduction: Nonalcoholic fatty liver disease (NAFLD) is the most common chronic liver disease, while no drugs have been approved for its treatment. The pieces of evidence indicate that propolis as a novel anti-inflammatory agent might be a promising candidate to treat NAFLD. We aimed to evaluate the efficacy of propolis on hepatic steatosis and fibrosis in patients with NAFLD.

Methods: This randomized clinical trial was conducted on 54 patients with NAFLD. Patients were randomly assigned to receive propolis tablets at a dose of 250 mg twice daily for 4 months or placebo. The improvement in hepatic steatosis and fibrosis was evaluated using two-dimensional shear wave elastography.

Results: Improvement in the hepatic steatosis was significantly higher in the propolis group than the placebo group, even after adjustment for baseline value and changes in weight, energy intake, and physical activity. A significant reduction was observed on the liver stiffness in the propolis group (-0.65 ± 0.56 kPa; p = .001), whereas it increased in the placebo group (0.27 ± 0.59 kPa; P-value= .037). Also, the intake of propolis significantly decreased

high-sensitivity C-reactive protein (hs-CRP) levels compared with the placebo group (-0.371; 95%CI: -0.582 to -0.16 mg/L; p = .01). There was no significant improvement in insulin resistance in both groups (P-value > .05).
Conclusion: Propolis seems to have protective effects on hepatic steatosis and fibrosis and to reduce the serum levels of hs-CRP in patients with NAFLD.
Keywords: Nonalcoholic fatty liver disease, Liver fibrosis, Propolis, Shear Wave Elastography

Dietary antioxidants and risk of Parkinson's disease: a systematic review and dose-response meta-analysis of observational studies

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Introduction: The aim of the current review was to explore the association between various dietary antioxidants and the risk of developing Parkinson's disease (PD).
Methods: PubMed, Scopus, Web of Science, and Google Scholar were searched up to March 2021. The certainty of the evidence was rated using the GRADE scoring system. In addition, a dose-response relationship was examined between antioxidant intake and PD risk.
Results: Six prospective cohort studies and two nested case-control, as well as six case-control studies were eligible. The pooled RR was significantly lower for the highest compared to the lowest intake categories of vitamin E (0.84, 95% CI 0.71, 0.99, n = 7), and anthocyanins (0.76, 95% CI: 0.61, 0.96, n = 2) in cohort studies. Conversely, a significantly higher risk of PD was observed for higher lutein intake (1.86, 95% CI: 1.20, 2.88, n = 3) among case-control studies. Dose-response meta-analyses indicated a significant association between a 50 mg/d increase in vitamin C (RR: 0.94, 95% CI: 0.88, 0.99, n = 6), a 5 mg/d increment in vitamin E (RR: 0.84, 95% CI: 0.70, 0.99, n = 7), a 2 mg/d increment in β-Carotene (RR: 0.94, 95% CI: 0.89, 0.99, n=6), and a 1 mg/d increment in zinc (OR: 0.65, 95% CI: 0.49, 0.86; n = 1) and the reduced risk of PD.
Conclusions: Overall, higher intake of antioxidant-rich foods may be associated with a lower risk of PD. Future, well-designed prospective studies are needed to validate the present findings.
Keywords: Antioxidants, Parkinson, Meta-analysis

Development, Validity and Reproducibility of a Dish-based Semi-quantitative Food Frequency Questionnaire in Iran

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Introduction: The food frequency questionnaire (FFQ) is the method of choice for dietary assessment in epidemiological studies. Ffqs focusing on mixed-dishes and simple food items are useful where mixed-dishes are an essential part of food consumption.
Objective: Regarding the fact that the nature of the Iranian diet is mixed-dish, the present study aimed to design and assess the validity and reproducibility of a dish-based semi-quantitative FFQ in the Iranian adult population.
Methods: A list of 302 food items was collected from four geographical areas around Iran. The validation study was conducted on 97 healthy adults. The FFQ was introduced at the beginning of the study and 10 months after; two three-day food records were collected during the study. Also, biomarkers including 24-hour urinary potassium and nitrogen, serum retinol, and alpha-tocopherol were measured.
Results: A 142-food-item FFQ was concluded. The correlation coefficient between the second FFQ and

the second three-day food record ranged from 0.225 to 0.323 for macronutrients and 0.128 to 0.476 for micronutrients. The percentile agreements (same or adjacent quartile) between the two methods were more than 60% for all nutrients. The intraclass correlation coefficient between ffqs (except for vitamin E) ranged from 0.363 to 0.578. The correlation coefficient between the second FFQ and the second biomarker assessment was 0.241 for protein.

CONCLUSIONS: According to the results, the dish-based semi-quantitative FFQ had acceptable validity and reproducibility for most macro and micronutrients in relation to the comparison method and could be used to rank individuals based on energy and nutrients intake.

Keywords: Validity, Reproducibility, Food Frequency Questionnaire, FFQ, Dish-based

Prevalence of Sarcopenia and its association with nutritional dietary intake, socioeconomic status, depression, lifestyle and physical activity in healthy over 55 years old adults – A prospective population-based cross-sectional study

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Background: Sarcopenia, an age-related disease, is linked to further disadvantages in old adults caused by aging, but the lifestyle, nutritional pattern, financial and social state, depression, and physical performance are known as other risk factors that we aimed to assess in Mashhad-Iran for the first time.

method: In this cross-sectional population-based study, healthy subjects were evaluated according to the European Working Group on Sarcopenia in Older People 2 (EWGSOP2) established criteria using a randomized cluster sampling method. Muscle mass was calculated by Bioelectrical impedance analysis, a hydraulic hand dynamometer measured muscle strength, and muscle performance was assessed through the 4 m gait speed test. A comprehensive assessment for the effect of nutritional dietary intake, financial situation, depression (BDI-13), quality of life (SF-36), and physical activity on sarcopenia was performed.

Result: Seven hundred and sixty-six healthy over 55 years old adults included. The prevalence of Pre-Sarcopenia, moderate-Sarcopenia, and severe-sarcopenia was 49%, 1.8%, 2.1%, respectively. A significant difference had been found for gender (odds ratio (OR) for being female=1.16), age (OR=1.034), not working (OR=1.973), higher physical activity level (OR=0.805), higher education (OR=0.759), higher economic status (OR=0.418), BMI (OR=1.032), obesity level (OR=1.212), Systolic blood pressure (OR=1.014), BDI-13 score (OR=1.062), quality of life (OR=0.981), and overall dietary intake of most nutrients include energy (OR=0.999) and protein (OR=0.961) between EWGSOP2 groups with and without adjustment (P-value <0.05).

Conclusion: sarcopenia is a complex multifactorial disorder. Controlling depression, lifestyle, and the amount of dietary intake of nutrients could be very important in preventing this disease.

Keywords: Sarcopenia, Nutrition, Lifestyle, Depression, Muscle mass, Aging, blood pressure

Dietary insulinemic potential, sleep quality and quantity in Iranian adults: Yazd Health Study and TAMYZ study

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Background & Aims: To examine the link between dietary insulin index (DII) and load (DIL) and sleep duration/quality for the first time.
Methods: This cross-sectional study conducted on data from the recruitment phase of YaHS-TAMYZ prospective study in Yazd, central Iran. Data on demographic characteristics, dietary intakes, sleep quantity and quality, and potential confounders were gathered by interview. Sleep quality and its components (insufficient sleep, delay in falling asleep, medication use for sleep, and sleep disorder) were assessed by a modified version of Pittsburgh questionnaire. The link between DII/DIL and low sleep quality and short/long sleep duration was studied using multivariable logistic regression.
Results: In total, 5925 individuals aged 20 to 70 were eligible to take part in the current study. After adjustment for all potential confounders, participants in the highest DIL score tertile had a lower chance for sleep disorder (OR=0.38; 95%CI: 0.17-0.85, Ptrend=0.02) and delay in falling asleep (OR=0.66; 95%CI: 0.42-1.03, Ptrend=0.05) compared to those in the lowest tertile. The DII was also linked to a lower chance for sleep disorder (OR=0.61; 95% CI: 0.39-0.93, P trend=0.02). The DIL was inversely associated with sleep medication use and delay in falling sleep in men and women, respectively (P<0.05). Moreover, DII was linked to a decreased odds of sleep disorder in women (P<0.05). The associations were observed in those with overweight or obesity but not in those without overweight (P<0.05).
Conclusion: Higher DIL and DII might be associated with sleep quality and its components. Prospective investigations are needed in the future to confirm these findings.
Keywords: Sleep Duration, sleep quality, insulin Load, insulin Index, Adults, Cross-Sectional

Effects of High protein versus medium protein delivery on the Nutritional Adequacy, and clinical outcomes with critically ill patients: A randomized controlled trial

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Background: Proper nutritional support plays an important role in improving the clinical outcomes of patients admitted to the intensive care unit (ICU). Based on the available scientific evidence, protein intake is more important than calorie intake. However, there is disagreement about the appropriate dose of protein to reduce morbidity and mortality in patients admitted to the ICU unit. We aimed to evaluate the effect of high protein nutritional support vs. medium protein nutritional support on clinical and nutritional status in critical ill patients.
Methods: This was a double-blind, randomized controlled trial conducted on 60 patients in the intensive care unit (ICU) of Imam Reza hospital in Mashhad, Iran. Patients were divided into two groups: high protein nutritional support (2/2 g/kg/d) and medium protein nutritional support (1 g/kg/d). At the beginning of the study, demographic information and evaluation of anthropometric indices including height, weight (via Seca bed scale), body mass index were recorded. APACHE II and NUTRIC score questionnaires were assessed two times during the intervention. SOFA questionnaire was filled out

every other day. The SARC-F and Scale Clinical Frailty questionnaires were completed for each patient at the beginning of the study. The mortality rate was calculated within 28 days and 60 days of the start of the intervention.

Results: Baseline characteristics were similar in the two groups. Anthropometric and biochemical measurements and clinical evaluations (APACHE II questionnaire, SOFA questionnaire, and NUTRIC questionnaire) were evaluated during the days of hospitalization in the ICU. Hospital mortality in the intervention group was statistically significant (P = 0.029). The general trend of factors related to the clinical and nutritional status of patients (APACHE II, NUTRIC, SOFA) was almost constant in the intervention group and increased in the control group, but this trend of changes was not statistically significant.

Conclusion: our randomized controlled trial suggested that a high protein delivery target of 1.67 g/kg/day significantly reduced hospital mortality and improved clinical outcomes in adult ICU patients.

Keywords: Critical Care; Nutrition; Protein; Mortality

Effects of cornelian cherry consumption on blood lipid profiles: A systematic review and meta-analysis

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Introduction: Polyphenolic and flavonoid compounds are claimed to improve blood lipid profiles and to provide protective effects against cardiovascular disease. For this reason, we conducted a systematic review and meta-analysis of studies that comprehensively investigated the effects of cornelian cherry supplementation on lipid profiles in rat models.

Methods: Up to December 2020, 855 articles were screened, and finally, seven articles were selected as eligible for the meta-analysis.

Results: This meta-analysis revealed that cornelian cherry supplementation significantly decreased low-density lipoprotein (LDL) (WMD = -6.38 mg/dl; 95% CI, -9.93 to-2.84; p < .001), triglyceride (TG) (WMD = -52.36 mg/dl; 95% CI, -80.50 to -24.22; p < .005), and cholesterol level (WMD = -37.16 mg/dl; 95% CI, -51.19 to -23.13; p < .005) in treated rats compared with control groups. A non-significant increase in high-density lipoprotein (HDL) level was observed (WMD = 4.21 mg/dl; 95% CI, -3.25 to 11.66; p = .268).

Conclusions: These results suggest that cherry supplementation may have health effects by modifying lipid profiles. However, there is a need for more well-controlled human clinical trials to make more definitive conclusions about the potential health benefits of cherry supplementation.

Keywords: cornelian cherry; flavonoids; lipid profile; phenolic; supplementation.

The effect of brewed chicory leaf consumption on patients with non-alcoholic fatty liver disease (NAFLD)

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Introduction: Non-alcoholic fatty liver disease (NAFLD) is a broad term that includes a variety of liver problems ranging from simple steatosis to non-alcoholic steatohepatitis (NASH), which can lead to cirrhosis and liver cancer. This study aims to evaluate the effects of chicory leaf consumption on liver enzymes levels in NAFLD patients.

Methods: We randomly allocated 60 patients with NAFLD into interventions (15gram brewed chicory leaf + usual treatment) and controls

(usual treatment) for 6 weeks. Participants in the intervention group have brewed 7.5gram chicory leaf in 200 ccs of water for 20 minutes, twice a day before lunch and dinner. Food and Agriculture Organization (FAO) dietary guidelines for Iranians were used by both groups. To compare qualitative variables between groups, the Chi-square test was applied. The Independent t-test and Paired t-test were used to compare quantitative variables between and within groups. SPSS 24 (SPSS, Inc.) was used to analyze the data, and significance levels were set at 0.05.

Results: There wasn't any difference between the two groups in baseline information. At the end of the study a significant reduction in ALT (-14.50±17.08 vs. 0.65±5.25, p<0.0001) and AST (-6.40±11.27 vs. -0.05±3.75, p=0.01) was seen between the intervention group compare to control group but not in ALP (8.03±48.84 vs. -2.93±10.97, p=0.272), and GGT (-0.19±3.13 vs. -0.36±1.95, p=0.801).

Conclusions: Brewed chicory leaf consumption was led to remission of NAFLD by decreased, liver enzymes. (IRCT registration number: IRCT20190819044565N2)

Keywords: Chicory, Non-alcoholic fatty liver disease, Aspartate Aminotransferases, Alanine Transaminase

Association of Low Serum Vitamin D with Higher Mortality and Deteriorated Clinical Outcomes in Critically Ill Patients: Results of a Prospective Study

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Background: Vitamin D deficiency (VDD) is highly prevalent among critically ill patients. The present study aimed to evaluate vitamin D status and its association with clinical outcomes in the intensive care unit (ICU).

Materials and Methods: This prospective, multicenter study was conducted at seven ICUs of the teaching hospitals affiliated to Mashhad University of Medical Sciences, Iran during July 2019-March 2020. Serum vitamin D of the patients was measured within 24 hours after ICU admission, and they were followed-up in terms of disease severity based on the scores of acute physiologic assessment and chronic health evaluation II (APACHE II), sequential organ failure assessment (SOFA), and nutritional status (NUTRIC).

Results: In total, 236 patients were enrolled in the study, and 69.1% had lower vitamin D levels than 20 ng/ml upon ICU admission. The patients with VDD had higher disease severity (mean APACHE II score: 15.41± 6.49; P=0.026). In addition, the mortality rate was higher in the patients with VDD (P=0.002), and VDD was independently associated with mortality (OR: 4.83; 95% CI: 1.63-14.27; P=0.004).

Conclusion: According to the results, VDD was highly prevalent in critically ill patients and associated with increased disease severity. Furthermore, VDD was an independent risk factor for mortality.

Keywords: Critically Ill Patients, Vitamin D Deficiency, Intensive Care Unit, Mortality, Vitamin D

Nutrition Support Among Critically Ill Pediatric Patients: The Current Practice

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Introduction: Pediatric Intensive Unit (PICU) admitted patients are considered as a nutritionally high-risk population in whom optimum energy and nutrient delivery is an important treatment strategy. The present study aimed to investigate the nutritional adequacy indices and their relations to clinical outcomes in critically ill children.
Methods: This project was a retrospective cross-sectional study carried out at the Akbar Children's Hospital, Mashhad, Iran. All critically ill children with PICU stay >48 hours during May-June 2019 were enrolled. Age, gender, medical diagnosis, nutritional status, energy and protein requirements and deliveries, and clinical outcomes of patients were extracted.
Results: Seventy-one patients were included in the study. The prevalence of malnutrition was 45.3% and 52.4% in PICU patients with surgical and non-surgical underlying diseases, respectively. There were significant associations among nutritional status of the patients (upon the PICU admission time), infection, and mortality rate. Mean ± SEM values of the estimated energy requirement and delivered energy were as 85.7±1.6 and 68.3±2.1 Kcal/kg/d, respectively. In addition, the estimated protein requirement and delivered protein were 2.5±0.08 and 1.8±0.03 gr/kg/d, respectively. Energy intake had a negative association with infection rate and lower protein delivery was negatively associated with prolonged length of stay on mechanical ventilation.
Conclusion: Significant associations between energy/protein delivery and some clinical outcomes were shown. The findings indicate the necessity of immediate further studies on different nutritional interventions efficacy as well as monitoring of optimal nutrition support barriers in critically ill children.
Keywords: Critical Care Outcomes, Intensive Care Unit, Pediatric, Nutrition Therapy, Nutrients.

Vitamin supplementation in critically ill patients: an overview of systematic reviews and meta-analyses

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Purpose: Despite the poor micronutrient status in critical illness as well as the remarkable importance of the role of micronutrients, it remains unclear how to optimize supplementation of vitamins, appropriate dose, and duration of vitamin administration in critically ill patients. Higher stress and critical situations result in a severe depletion of vitamins due to a combination of raised utilization, poor absorption, and altered metabolism.

Methods: We reviewed systematic reviews and meta-analyses of vitamins C, D, and thiamine supplementation in critically ill patients. An electronic literature search was conducted between 2010 and 2021, using PubMed, Web of Sciences and Scopus. Systematic reviews and meta-analyses were considered eligible papers.
Result: After the initial search we screened 483 articles; a total of 41 systematic reviews and meta-analyses were eventually included and evaluated. Included studies contain studies ranging from 4-29 randomized clinical trials. Studies on vitamin C (n= 18) and vitamin D (n=17) assessed the effect of it on pancreatitis, postoperative atrial fibrillation, the outcome associated with critical illness, sepsis, pulmonary diseases as well as Covid-19. Thiamin administration improved ICU delirium and outcomes related to sepsis in combination with vitamin C (n = 6).
Conclusion: There is a controversy between studies and meta-analyses assessing the effect of vitamins on critical care and more studies for determining the dose and duration of vitamin supplementation in critical care are required.
Key words: vitamin supplementation, critical care, sepsis, pulmonary diseases

Is curcumin effective in the treatment of Prostate diseases? Findings from a systematic review of clinical trials

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Background: Prostate cancer is a substantial cause of morbidity and mortality worldwide. Benign prostatic hyperplasia is another prostate condition, which like prostate cancer is more common among ageing men and linked to inflammation. Curcumin has anti-inflammation, anticancer and anti-tumor activities. In this study, a systematic review was undertaken with the aim of estimating the effect of curcumin/turmeric supplementation on prostate diseases.
Methods: A comprehensive search was conducted in PubMed, Scopus, ISI Web of Science and Google Scholar up to 15 April 2020 to recognize clinical trials assessing the effects of curcumin/turmeric alone or in combination with other herbs on prostate diseases.
Results: Eleven records comprising 745 patients met the eligibility criteria. Eight studies were conducted on patients with prostate cancer and three studies were conducted on other diseases of prostate. Totally, study outcomes are too heterogenic, and in some studies curcumin/turmeric supplementation had some favorable effects on the prostate diseases, including beneficial effects on prostate-specific antigen (PSA) (in two out of six studies), quality of life (in one out of two studies), stress oxidative markers, feeling of incomplete bladder emptying, urination frequency, intermittency, urgency, weak stream, straining, and nocturia. Curcumin/turmeric supplementation had no significant adverse effects among patients.
Conclusion: Curcumin/turmeric supplementation might have some beneficial effects on some parameters related to the prostate diseases, however, in some studies, these natural products had no considerable favorable effects on prostate diseases. Further studies using curcumin particularly in high bioavailable forms are needed to assess the effects of curcumin on prostate conditions.
Keywords: Curcumin; Turmeric; Prostate; Prostate-specific antigen; Prostate cancer

Effects of high dose vitamin D supplementation on inflammatory biomarkers in confirmed cases of COVID-19; a randomized double-blinded clinical trial

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Background: Coronavirus (COVID-19) has affected more than 218 million individuals globally, leading to >4 million deaths. Vitamin D (Vit-D) has immune-modulating effects that modify the inflammatory response. This study aimed to evaluate the effects of high-dose Vit-D supplementation on inflammatory markers in COVID-19.
Method: This double-blinded randomized clinical-trial was conducted on 140 hospitalized patients aged >30 years. Patients were randomly allocated to one of two groups: intervention with a single dose of 50,000 IU of Vit-D capsules and daily 10,000 IU Vit-D orally syrup from the second day of admission for 29 days (n=70) and control with the intake of 1000 IU Vit-D syrup orally per day for 30 days (n=70). Blood samples were taken at baseline and the end of the intervention. Neutrophil-Lymphocyte Ratio (NLR) and C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), and Red Cell Distribution Width (RDW) were evaluated. The decision tree analysis was undertaken using JMP Pro (SAS) version 13.
Result: the average age in the intervention and control groups was 59.96±13.44 and 60.82±13.85 years, respectively. There was a significant time×group effect for of CRP (p=0.021) and NLR (p=0.048). This finding indicates that the changes in these variables over time were significantly different between the intervention and control groups. The decision tree analysis showed that age was most important factor to predict responding to patients' vitamin D treatment . Also it has also been shown that if a man is younger than 73 year old and

NLR is more than 3.8, there is a 90% probability that he will respond better to vitamin D therapy.
Conclusion: Our results showed that a high dose of Vit-D supplementation positively affected inflammatory markers in COVID-19. Further randomized-control trials are needed to confirm the effects of Vit-D in COVID-19 in different clinical stages of this disease.
Keywords: Vitamin D, COVID-19, Inflammatory factors, Nutrition, Supplementation

Household Food Insecurity during Pregnancy and Risk of Anthropometric Indices Failures in Infants: A Retrospective Longitudinal Study

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Introductions: Food insecurity is associated with several adverse health outcomes especially among children and may increase the risk of fetal malnutrition throughout intrauterine growth. The present study aimed to investigate the impact of household food insecurity (HFI) during pregnancy on the growth indicators of infants aged less than six months.
Methods: This retrospective longitudinal study was carried out on 2,481 mother and infant dyads at the healthcare centres of Khorasan Razavi province, Iran, during November 2016-March 2019. Data were extracted from the Sina Electronic Health Record System (SinaEHR®). The household food insecurity access scale (HFIAS) was used to measure food insecurity. Multinomial logistic regression was applied considering household food insecurity as a factor and the covariates of maternal age, pre-pregnancy BMI, education level, and parity.
Results: Approximately 67% of the participants were food-secure, while 33% had varying degrees of food insecurity. The children born to the mothers in the food-insecure households were respectively 2.01, 3.03, and 3.83 times more likely to be stunted at birth (95% CI: 1.17-3.46), four months (95% CI: 1.21-7.61), and six months of age (95% CI: 1.37-10.68) compared to their counterparts in the food-secure households. However, no significant differences were observed in mean birth weight, birth height, and head circumference at birth between the two groups.

Conclusions: HFI during pregnancy is a risk factor for stunting in infants aged less than six months. Our findings could be incorporated into nutritional interventions during and before pregnancy as HFI may have detrimental effects on children's growth.

Keywords: Food Insecurity, Pregnancy, Infants, Stunting

On the Relationship between Non-alcoholic Fatty Liver Disease with Body Composition and Bone Mineral Density in Overweight/Obese Adolescents

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Background: Nonalcoholic fatty liver disease (NAFLD) is a health problem growing in line with the rising prevalence of obesity in children and adolescents, which may be correlated with different metabolic abnormalities such as osteoporosis.
Objectives: This study aimed to evaluate the possible relationship between NAFLD with body composition and bone mineral density (BMD) in obese and overweight adolescents.
Methods: This cross-sectional study encompassed 70 adolescents aged 11 - 18 years and was conducted during March 2016 and September 2016 in Mashhad, Iran. Anthropometric parameters and blood biomarkers were measured. Fat mass, fat-free mass, and BMD were determined using dual-energy X-ray absorptiometry (DXA) scans, and NAFLD was also assessed using Fibroscan. All statistical data were analyzed using SPSS software version 21. Multivariate linear regression assessed the relationship between liver fat content with bone-related indicators, and

multivariate logistic regression detected the relationship between body composition and NAFLD.
Results: Total and trunk fat mass were significantly correlated with higher NAFLD even after controlling for intervening factors (total fat mass, OR = 1.27; 95% CI, 1.016 to 1.59, P = 0.036; trunk fat mass, OR = 1.35; 95% CI, 0.97 to 1.88, P = 0.045). Moreover, liver fat content was significantly correlated with lower BMD Z-score after adjusting for gender, BMI Z-score, ALT, fat mass index, total lean mass, and physical activity (β = -0.285, P = 0.048).
Conclusions: The findings of the present study suggest that excess adipose tissue is correlated with higher NAFLD. Moreover, liver steatosis may be correlated with decreased BMD Z-score in overweight/obese adolescents.
Keywords: Non-alcoholic Fatty Liver Disease, Adolescent, Body composition, Bone density, Osteoporosis

The Best Predictive Biochemical Markers to Evaluate the Adherence to Mediterranean or DASH Diet

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Background: A better understanding of predictors of diet adherence is necessary to improve dietary interventions and choose the best dietary pattern to achieve healthier lifestyle and lesser medical complications. This study aimed to explore the predictors of dietary adherence across blood markers.
Method: The study population comprised 120 healthy individuals older than 30 years old whose 54 % were women. Serum markers including hematological, lipid profile and liver parameters were obtained. To evaluate patients' mediterranean diet or DASH diet adherence, they filled food frequency questionnaire as well. To identify best predictive serum marker of the adherence to mediterranean or DASH diet we divided study population into two subgroups including low or high diet adherence. For obtaining the DT we employ 4.1.1 and SAS JMP.
Result: Groups shows no significant differences among demographic variables. The decision trees with 2 and 3 layers identified the various predictive serum markers of diet adherence in this regard. Both shows that HDL level is the best predictor of adherence to mediterranean or DASH diet. First, decision tree for mediterranean diet shows that if patients' HDL levels were >= 52 mg/dl, probably, they had higher adherence to mediterranean diet (79.13%). Moreover, LDL and ALT levels caused a break in second layer of the tree. With 91.35% probability, if patients had HDL levels < 52 mg/dl as well as LDL levels > 167 mg/dl, they may had poor adherence to mediterranean diet. Also if they had HDL levels >= 52 mg/dl along with ALT levels < 62 U/L, they were 86.76 % more likely to follow these diet. Second, decision tree for DASH diet shows that people who had HDL levels >= 71 mg/dl had higher adherence to diet with 93.96 % probability. Higher adherence to DASH diet may be seen when people had HDL levels <71 mg/dl accompanied by LDL levels >= 58 mg/dl and Cholesterol levels < 119 mg/dl (95.32%).
Conclusion: serum HDL concentration is the best mediterranean or DASH diet adherence predictor among serum markers including lipid profile and liver indexes. We determined the optimum HDL cutoff point of 52 and 71 mg/dl for adherence to mediterranean or DASH diet, respectively. In second step, for mediterranean diet, LDL and ALT levels are related valuable predictors. Moreover, for DASH diet, LDL and cholesterol levels are second and third layers' predictors.
Keywords: Mediterranean, DASH, Lipid Profile, Liver Enzyme

Malnutrition in patients with Cystic Fibrosis

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Introduction: Thecystic fibrosis patient registry is a way that collects longitudinal demographic, clinical, and treatment information of persons with

cystic fibrosis (CF) and useful in providing an integrated resource for improving patient care and conducting research on the disease. CF is a life-threatening genetic disorder in whichmalnutrition is one of the main burdens of disease along with lung disease. The aim of this study wasto investigate the trend of change in malnutrition and clinical outcome in CF patients based on CF registry.

Method: This longitudinal study was conducted in2017-2021 on 250 CF patients referred to the CF clinic of Akbar hospital in Mashhad. For each patient, the comparative demographic, clinical and laboratory data of patients were recorded.

Result: About 54% of studied patients were boys (n=135) and 46% were girls (n=115). The mean patients age (SD) was 9.85 ±6.02 years, with a range of 6 month to 37 years. The mean age of diagnosis was 18.83 ± 38.82 and about 9.6% of patients diagnosed after 5 years. In 75% of patients, family history was positive. The most important clinical presentation at the time of diagnosis was failure to thrives.Other were include Recurrent pneumonia, Steatorrhea and Meconium Ileus.Trend of change in malnutrition showed BMI z score increased significantly from -1.42 ± 1.7to -.72 ± 1.33in 2017 compared with 2021($p<0.05$), although 19.8% were moderate to severe undernutrition.

Conclusion: It seems thatmulti-disciplinary management particularly nutritional supporthad a significant effect in the final clinical improvement.

Keywords: Cystic Fibrosis, Malnutrition, Failure to Thrives, Registry

The effect of Enteral and parenteral nutrition enriched with omega-3 fatty acids on clinical outcomes in intensive care patients: a systematic review

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Introduction: Anti-inflammatory and immunomodulatory effects of omega-3 fatty acids have been proven. Artificial nutrition support as a primary therapeutic reduces adverse clinical outcomes in critically ill patients. We aimed to investigate the effect of enteral (EN) and parenteral (PN) nutrition enriched with omega-3 fatty acids on clinical outcomes in intensive care patients.

Method: PubMed, Scopus, and Google Scholar were searched for randomized clinical trials (RCTs) on omega-3 enriched enteral and parenteral nutrition in intensive care patients until September 2021.

Result: Finally, 36 randomized clinical trials met the inclusion criteria. From 21 publishments of enteral nutrition therapy, 20 of them revealed no significant reduction in mortality. 6 different studies showed a significant decrease in ICU length of stay (LOS) and ventilation duration. Also, between 15 remaining studies that investigated the effect of W3-contained PN in ICU patients, a significant reduction in mortality has been observed in one study. ICU LOS reduced in most of the studies in intervention group but it was just significant in three studies and ventilation duration had not a considerable reduction in any studies.

Conclusion: Despite the proven positive effects of omega-3 fatty acids, this review study shows no strong significant evidence for enhancement of clinical outcomes. However, due to the limitations identified in RCTs included in this review, further research is needed to investigate w-3 PUFAs administration in enteral and parenteral nutrition therapy.

Key words: Enteral nutrition, parenteral nutrition, W3 fatty acid, Intensive care patients

The association between eating disorders with body image in young athletes

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Introduction: Adolescents have a particular attention to their body weight and shape for a variety of reasons. Eating disorders are one of the most important psychological disorders, but the main cause of these disturbances is not yet well known.

Methods: This descriptive-analytic study was performed in 225 athletes aged 12 to 30 years, who were at least more than a year active in their sports disciplines in Tehran. Eating disorder was confirmed by (EAT-26), The BSQ-8B, was used to

measure athlete's concerns about their body shape. Data were analyzed using SPSS 25.0
Result: The percent of female athletes was 57.4% of interviewees. 6.4% of athletes had marked concern with their body shape and 49.3% expressed no concern with their body shape. There were negative correlation between Eating disorder with Body image (r=-0.367). Athletes with eating disorder criteria were more concerned about their body shape.
Conclusion: Results suggest that improvement in body image are associated with decreases in eating disorder's outbreak.
Key Words: athletes, eating disorder, body image

The effect of beetroot inorganic nitrate supplementation on cardiovascular risk factors: A systematic review and dose-response meta-analysis of randomized controlled trials

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Background: Inorganic nitrate is one of the most effective compounds in beetroot on improving cardiovascular function due to its convertion in body to nitric oxide. This review and meta-analysis aimed to investigate the role of beetroot inorganic nitrate supplementation on cardiovascular risk factors in adults.
Method: We conducted a systematic literature review of articles published between January 2010 to September 2020 in PubMed, Embase, ISI Web of Science, Scopus, Cochrane Library, and gray literature databases. We included the original randomized clinical trials (RCTs) in which the effect of beetroot inorganic nitrate supplementation on endothelial function, arterial stiffness, and blood pressure had been studied.
Results: 39 studies were included for qualitative synthesis, out of which 28 were eligible for meta-analysis. Beetroot inorganic nitrate supplementation was significantly associated with reduced Diastolic Blood Pressure (-1.12 mmHg, p=0.02), Mean Arterial Pressure (-0.34 mmHg, p= 0.01), Arterial Stiffness (Augmentation Index: -3.41 %, p<0.001) and improved Endothelial function (Flow Mediated Dilation: 0.79%, p<0.001) and Cardiac Output (0.18 L·min−1, p<0.001).
Conclusion: Inorganic nitrate supplementation from beetroot might have a beneficial effect on cardiovascular risk factors. Further high-quality investigation will be needed to provide sufficient evidence.
Keywords: Beetroot, Cardiovascular risk factors, Inorganic nitrate

Impact of Gastric Bypass Surgery on the Hepatic Fibrosis of Patients with Non-alcoholic Fatty Liver Disease in 30 Follow-up

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BACKGROUND: Roux-en-Y gastric bypass surgery (RYGB) has shown efficacy in weight loss, but its role in liver fibrosis remains unknown. The present study aimed to investigate the effect of RYGB on the hepatic status measured by noninvasive methods in the midterm follow-up.
METHODS: This longitudinal study was conducted on patients with extreme obesity, and NAFLD referred for RYGB during 2016-2018 for three years after their surgery. A liver biopsy was performed intraoperatively. The patient anthropometrical parameters, biochemical

variables, and liver stiffness (LS) using two-dimensional shear-wave elastography were recorded and analyzed before and in short-term (6 months) and midterm (30 months) follow-ups.
RESULTS: 54 patients were included with a mean age of 40.3 years; 83.3% were women. The excessive body mass index loss of the patients was 78.1% and, a significant reduction was seen in LS measurement. Moreover, two patients (4%) had worsening showed in fibrosis stage, twenty-eight (54%) no change and twenty-four (42%) showed improvement, thirty months after the surgery. The liver fibrosis stage regressed to F0 in 91% of the patients. Hepatic fibrosis resolved in the midterm follow-up in some patients whose fibrosis had progressed and deteriorated in the short-term follow-up.
CONCLUSIONS: RYGB proved an effective procedure for sustained weight loss and improved liver fibrosis in NAFLD patients in midterm follow-up.
Keywords*:* Gastric Bypass Surgery; Bariatric Surgery; Non-alcoholic fatty liver disease; Fibrosis; Weight loss; Obesity

The association between vitamin C and markers of endothelial: a systematic review

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Introduction: Previous studies presented that ascorbic acid (AA) plays an important role in atherosclerosis conditions. Also, it neutralizes the Reactive Oxygen Species (ROS) in endothelium by reducing inflammatory biomarkers. This systematic review aims to evaluate the association between AA and vascular adhesion molecules (VCAM-1), intracellular adhesion molecules (ICAM-1), neutrophil recruitment and tumor necrosis factor-alpha (TNF-a).

Methods: A systematic search was performed on databases including Cochrane, Pubmed, Scopus, and Google Scholar from inception to 25 of December 2021. After performing screening among seven hundred twenty-five studies, 33 articles were included for reading the full text. Finally, fifteen articles were included for this study. Just two intervention study data extract for ICAM-1 plasma level in diabetic and claudicate patients.

Results: We found that the AA attenuates ox-LDL in cardiovascular diseases. Also, the plasma concentration of AA and ICAM-1 and VCAM-1 are contrariwise. Thus intravenous infusion of vitamin C in two intervention studies in dosages of 1000 up to 3000 mg reduces the plasma ICAM-1 concentration WMD: -7.46 (95% confidence interval -12.83, -2.08) in, p-value<0.006. Therefore, vitamin C protects endothelial walls agonist TNF-a apotheosis. The AA in long term improves certain echocardiographic parameters. Moreover, low AA status induces endothelial dysfunction in obese men.

Conclusion: There is an inverse relationship between AA plasma concentration and ICAM-1, VCAM-1 and TNF-a. Also, low AA status activates endothelial dysfunctions.

Keywords: ICAM-1, VCAM-1, TNF-a, Ascorbic acid

Explaining the barriers to dietary modification and the factors affecting it from the perspective of Tehran women

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Introduction: The high prevalence of non-communicable diseases (NCDs) and their rising trend in Iran, remind us of the critically of assessing their underlying factors and implementing prevention programs. Modifying nutritional patterns is a basic axial of changing lifestyle and prevention of NCDs. Considering the lack of related studies from Iran, this study aimed to search for perceptions and experiences of women.
Methods: A qualitative study, performed using the grounded theory approach. several semi-structured focus group discussions were performed. Participants were women, the mean age was 44 years. All interviews and focus group dialogs were audio-recorded and transcribed exactly. Data gathering and analysis were performed simultaneously based on the Strauss and Corbin analysis method.
Results: According to content analysis of information, barriers to healthy nutrition are "inefficient training"," nonexistence of access", "individual flavor and favorites".
Conclusion: Findings of the current study showed the main barriers to healthy nutrition as comprehended by women; such information can be useful in planning prevention policies for families.
Keywords: Healthy nutrition, Barriers, women, Diabetes, Cardiovascular disease, chronic kidney disease.

Evaluating the Effect of COVID-19 Pandemic on Lifestyle of the Iranian Population: A Google Trend analysis

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Introduction: Coronavirus disease 2019 (COVID-19) has caused a great health burden in the world. Motion restriction to reduce disease transmission has affected the lifestyle of people. Studies reported that the prevalence of obesity has increased since the emergence of the COVID-19 pandemic. The aim of this study was to evaluate the effect of COVID-19 social distancing and movement restrictions on healthy behaviors of the Iranian population through analyzing their search trend in Google website.
Materials and methods: This trend analysis study was conducted on the trend of search in Google.com website from November 2017 till December 2021. The search terms included obesity and weight loss and the trends were limited to the Iran geographic region. The annual search trends as well as search trends from December to May were compared between before and after COVID-19 movement restriction act (March 2020). Data was analyzed using the analysis of variance (ANOVA) test in the statistical package for social sciences (SPSS) version 16.
Results: A significant time effect was observed in search index for both obesity (p=0.023) and exercise (p=0.026) search terms. Search index was significantly higher for obesity from December 2018 to May 2019 compared to the same time period in 2017-2018 (p=0.022). The search index for exercise was significantly lower from December 2019 to May 2020 (p=0.032) and December 2020 to March 2021 (p=0.006) compared to the same time period in 2017-2018 with the lowest index observed in 2020-2021 time period.
Conclusions: The findings of this study showed a significant effect of COVID-19 and its movement restriction on the health behavior of the Iranian population.
Keywords: Metabolic syndrome; health behavior; coronavirus 2019; exercise

Randomized controlled trial to evaluate the effects of synbiotic supplementation on serum adiponectin and inflammatory biomarkers in postmenopausal overweight and obese breast cancer survivors

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Introduction: Adipokines and inflammatory factors levels have been associated with poor prognosis and survival amongst breast cancer survivors (BCSs). The present study aimed to investigate the impact of synbiotic supplementation along with a low-calorie diet on some recurrence-related factors such as

adiponectin, tumor necrosis factor-alpha (TNF-α), and high-sensitivity C-reactive protein (hs-CRP) among obese and overweight BCSs.
Methods: This randomized, triple-blind, placebo-controlled clinical trial was conducted among overweight or obese postmenopausal survivors of hormone-receptor-positive BC. Seventy-six BCS were randomized to a 10^9 CFU/day synbiotic supplementation or placebo for 8 weeks. All participants were given a low-calorie diet program. The serum concentration of adiponectin and other inflammatory biomarkers was measured at baseline and after 8 weeks.
Results: Adiponectin level significantly increased among BCS who received synbiotic compared with the placebo (+13.58 (10.08, 18.17) vs. -0.42 (-2.90,1.98) µg/ml; P < 0.001). Furthermore, TNF-α (-17.09 (-32.05, -13.60) vs. 0.20 (-3.97,2.00) ng/L; P < 0.001) and hs-CRP levels (-1.14 (-1.90, -0.88 vs. -0.06 (-0.38,0.15) mg/L; P < 0.001) significantly reduced in the intervention group in compared with the placebo.
Conclusions: 8-week synbiotic supplementation among overweight and obese postmenopausal BCSs had favorable impacts on adiponectin, TNF-α, and hs-CRP.
Keywords: Breast neoplasms, Cancer survivors, Adiponectin, Probiotic.

The reduction of food waste and its environmental impacts in a Campus Canteen in Iran: an intervention study

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Background: Population growth urges all stakeholders to tackle the problem of food losses and food waste, particularly in light of their cost and environmental impacts. This study, to determine the amount of food waste in a restaurant located at a university in Iran through the interview and weighing method.
Methods: The data was obtained from 300 students attending the canteen of Shahid Beheshti University of Medical Sciences in Tehran (Iran), where the food waste occurring at lunchtime was measured for a total of almost 26 meals. Later estimate environmental tolls of the food waste.
Results: After intervention focusing on nutrition education designed for students, a decrease in food waste was observed compared with the beginning, from 60.65 to 50.73 g per person. In addition, the amount of gray water was reduced significantly by 12.5%, from 43.75 to 25.69 m^3 p value=0.033).
Conclusion: Nutrition education designed for students was more effective in reducing food waste. Moreover, the research results can provide a policy-making basis and data support for reducing food waste in universities and realizing water footprint reduction in university canteens
Keywords: Food Waste, Campus Canteen, Environmental Effects, Iran

The effect of fish oil supplements on serum levels of albumin, lipid profiles, and kidney function in patients with hypoalbuminemia admitted to an intensive care unit, Randomized controlled trial

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Background: This study compared the effects of fish oil and paraffin oil on critically ill adult patients with hypoalbuminemia admitted to the intensive care unit (ICU).
Methods: The present single-center, double blind, randomized controlled trial was conducted on 104 patients hospitalized at ICU. The study group (n=53) was administered with 5 gr fish oil via nasogastric tube (900 mg EPA and 600 mg DHA) for 14 consecutive days, while the control group was administered with the paraffin oil (n=51). Serum levels of lipid profile, liver enzymes, creatinine, blood urea nitrogen, and albumin were measured.
Results: It was found that in the study group, the TG level statistically decreased, while the levels of HDL-C and albumin increased. In addition,

receiving omega 3 oil had no significant effect on serum levels of total cholesterol, LDL-C, VLDL, liver enzymes, creatinine and BUN.
Conclusion: In general, receiving EN fortified with fish oil may increase the serum levels of albumin and HDL-C while decreasing the TG levels in in the patients with hypoalbuminemia. Thus, omega-3 PUFA may play a therapeutic role in increasing the albumin level in patients with hypoalbuminemia. The relationship of alterations in albumin levels with the use of fish oil requires further investigation.
Keywords: Hypoalbuminemia, Omega-3, Intensive care unit, Liver enzymes, Kidney function

Factors associated on obesity and abdominal obesity; results from Kurdish population- based study

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Introduction: Obesity is medical condition that increases the risk of non- communicable diseases. The aim of this study was to report of obesity status, abdominal obesity, and factors affecting them among participants of Ravansar non-communicable diseases (RaNCD) study.
Methods: This study was applied data from baseline phase of RaNCD cohort study on 10000 Kurdish adults. Participants based on the body mass index (BMI) were categorized in underweight, normal, overweight, and obese. Abdominal obesity was defined based on the International Diabetes Federation (IDF) criteria. To evaluate factors affecting obesity, structural equation modeling was applied by estimate standardized coefficient.
Results: Based on the BMI, 43.35% (n=4355) of the participants had overweight and 26.91% (n=2703) of them were obese. Based on the IDF criteria, 79.37% (n=7967) had abdominal obesity (61.3% of men and 95.5 % women). The direct effect of socioeconomic status (SES) on overweight and obesity was − 0.070, the indirect effect was 0.127, and the total effect was 0.057. The indirect effect through three variables such as physical activity, dietary pattern, and smoking status, on the outcome.
Conclusion: This study indicated high prevalence obesity in Kurdish population especially abdominal obesity in women. Lack of physical activity, unhealthy dietary patterns, and smoking could develop overweight and obesity. Therefore, the need for weight loss interventions and strategies to prevent chronic non-communicable diseases is seen.
Keywords: obesity; abdominal obesity; physical activity; dietary pattern

The Effects of Synbiotic Supplementation on Enteral Feeding Tolerance, Protein Homeostasis and Muscle Wasting of Critically Ill Adult Patients: A Randomized Controlled Trial

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Background: Enteral feeding intolerance, energy-protein malnutrition, and muscle wasting are common conditions in the critical care setting. The

primary aim of this study was to investigate the effect of synbiotic supplementation on enteral feed volume, energy and protein homeostasis, and muscle mass maintenance in critically ill adult patients.

Methods: A consecutive of 42 patients admitted to the Edalatian Medical ICU, requiring enteral nutrition (EN) were prospectively randomized to receive the synbiotic capsule (containing a combination of Lactobacillus, Bifidobacterium, Streptococcus, and fructooligosaccharides) or placebo (21 patients in each group) for a maximum of 14 days.

Results: Mean EN volume, energy, and protein intake were 962.5±533.82 ml, 770±427.05 kcal and 38.5±21.35 g (fourth day) vs. 590±321.1 ml, 472±256.81 kcal, and 23.6±12.84 g (first day) in the synbiotic group ($p<0.05$). Changes in the placebo group were not statistically significant. On day 1 nitrogen balance (NB) was -19.84±8.03 in the synbiotic vs. -10.99±9.12 in the placebo group ($p=0.003$). On day 14, NB was -14.18±13.05 in the synbiotic and -9.59±7.71 in the placebo group ($p=0.41$). Mid-arm circumference (MAC), 24-hour urine creatinine, and creatinine-height index were almost steady in the synbiotic group, while they decreased in the placebo group.

Conclusion: Overall, it can be concluded that enteral nutrition supplemented with synbiotics may increase enteral feed volume, energy and protein intake during the first four days. It is also associated with nitrogen balance improvement and muscle mass maintenance of critically ill adult patients.

Keywords: Synbiotic, Critical Illness, Enteral tolerance, Energy homeostasis, Nitrogen balance, Muscle wasting

Investigate the Radioprotective Nutraceuticals to Improve or Prevent from Morbidity and Mortality in Radiation Disaster

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There have been an increasing number of natural disasters and human-caused emergencies in recent years, which has led to the displacement and refugees of a number of people and affected communities. A nation's survival would be threatened by the intentional use of radiological, and nuclear agents in acts of terrorism or war. Radiation has come to be felt as a persistent threat across several generations. After the recent nuclear accidents, there was an increase in concern about the dangers of nuclear power and radiation. These days, exposure to radiological, nuclear and chemical agents are common and it gets more and more in different countries. Indeed, increase rate of morbidity and mortality, lack of foods and nutritional deficiency diseases, such as malnutrition, are as a result of emergencies such as radiation disaster in population of different countries. Therefore, emergency management should consider nutrition as a critical issue. Radiation can lead to other more different disease such as nutritional deficiency disease (anemia, marasmus, pellagra, etc.), immune system dysfunction, cardiovascular disease and chronic inflammation in addition to mentioned disease.

Radioprotective agents, also called radioprotectors, are developed in order to reduce or eliminate free radical damage. Radioprotectors should have several desirable features such as minimal toxicities, availability, cost effectiveness and protect normal tissues. It appears that chronic treatment with antioxidants contribute to reduction of the long-term effect of radiation compared with the administration of antioxidants or other radiation modifiers prior to exposure, such as beta-carotene, in Chernobyl disaster, ascorbic acid, selenium, α-tocopherol succinate, vitamin A, α-lipoic acid, N-acetylcysteine, organosulphur compounds (e.g. amifostine), phenylpropanoids, and polysaccharides, that counter oxidative stress caused by free radicals and reactive oxygen species and decrease inflammatory cytokines, such as IL-1, IL-6, TNF-α, IFN-γ, and TGF-β. In a practical context, antioxidant supplements may be limited in their effectiveness unless they are effective approximately one day after total-body irradiation. Plant compounds such as polyphenols, flavonoids, anthocyanins, lignins, and tannins are another antioxidant agents.

Experimental animals exposed to radiation are getting improved results when using medicinal plants like Tinospora cordifolia, Podophyllum hexandrum, Hippophe rhamnoides, and Radiola imbricate. However, the majority of plant-based radioprotectants have not yet been tested in clinical trials. As a result, plant-based radioprotective agents require rigorous clinical trials before they can be approved as potential drugs. Furthermore, plant-based compounds react differently to different doses of radiation in different experimental models. It is possible to make plant-based radioprotective drugs accessible and feasible for human applications by increasing the number of clinical trials conducted for these studies. Therefore, the present study has been undertaken to investigate the radioprotective nutraceuticals to improve or prevent from morbidity and mortality in emergencies such as radiation disaster in population of different countries.

Poster presentation

Metabolically healthy and unhealthy obesity phenotypes and kidney function: evidence from a large Kurdish cohort

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Introduction: Obesity often initiates or coexists with certain metabolic abnormalities. This study was conducted with the aim of investigating the risk of renal function by glomerular filtration rate (GFR) in different abdominal obesity phenotypes.
Methods: This cross-sectional study was performed on 9,811 participants of 35 to 65 years of the base-line phase data of Ravansar Non-Communicable Diseases (RaNCD) cohort study, western Iran with Kurdish ethnicity. Obesity phenotypes were categorized four groups including metabolically unhealthy obesity (MUO), metabolically healthy obesity (MHO), metabolically unhealthy non obesity (MUNO), and metabolically healthy non obesity (MHNO). Analysis of logistic regression models was conducted to determine associations between DII and hypertension.
Results: The mean GFR was 77.37± 14.02, 76.44± 13.34, 74.95± 14.12 and 73.97± 13.81 ml/min/1.73 m2 in MHNO, MHO, MUNO and MUO groups (P<0.001). After adjusting for potential confounders including sex, age, energy intake and physical activity, the GFR in the MUNO (β= -0.98, 95%CI: -1.62, -.34) and MUO (β= -0.83, 95%CI: -1.63, -.03) groups was significantly lower than the MHNO group.
Conclusions: Findings of this study indicated that MUNO phenotype and MUO was associated with higher risk of kidney function measured by GFR.
Keywords: Metabolic syndrome, Obesity, metabolically unhealthy obesity, kidney function

The Association of Major Dietary Patterns and Rheumatoid Arthritis Disease Activity

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Introduction: Rheumatoid arthritis (RA) is an autoimmune disease with chronic and systemic inflammation. Diet is an important environmental factor in the development of RA. This study aims to assess the relationship between major dietary patterns and the activity of RA.
Methods: This cross-sectional study was performed on 183 patients with RA in Kermanshah, Iran. The diagnosis of RA was made according to the 2010 American College of Rheumatology criteria. The activity of RA was assessed based on disease activity score 28 (DAS-28) and nutritional information through a valid 147-item food frequency questionnaire. Dietary patterns were extracted using factor analysis.
Results: Three major dietary patterns including were identified. After adjusting confounders, individuals in the highest tertile of high protein anti-inflammatory dietary pattern which emphasizes consumption of dairy products, red meats, white meats, vegetables oils, condiments, vegetables and fruits as well as low in salts and refined grain had lower DAS-28 scores than those in the lowest tertiles (T3= 2.09±0.14 vs. T1= 3.75±0.13; P-value<0.001). Considering the low fiber dietary pattern, patients in the top tertile of low fiber dietary pattern had the highest DAS-28 scores than those in the bottom tertile (T3= 3.40±0.15 vs. T1= 2.95±0.15; P-value=0.036).
Conclusion: This study shows an inverse relationship between following a high protein anti-inflammatory dietary pattern and the activity of RA. In addition, adherence to the low

fiber dietary pattern might be associated with a higher RA disease activity. Further prospective investigations are required to confirm such association.

Keywords. Dietary Pattern, Food Frequency, Rheumatoid Arthritis, Disease Activity Score-28.

Comparison of serum vitamin D, calcium and zinc levels in patients with COVID-19 and healthy cases in Shoushtar city: A case-control study

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Introduction: COVID-19 is a global public health concern. As no standard treatment has been found for it yet, several minerals and vitamins with antioxidants, immunomodulators, and antimicrobials roles can be sufficient for the immune response against it. The present study evaluates the serum vitamin D, calcium, and Zinc levels in patients with COVID-19.
Methods: This research is performed in May 2020 on 93 patients with COVID-19 hospitalized in a Shoushtar city hospital and 186 healthy cases with no symptoms of it. The serum vitamin D, calcium, and zinc levels were collected and analyzed using correlation coefficient and independent t-test and ROC diagram via SPSS 18.
Results: Vitamin D levels had a significant difference between the case and control groups (p=0.008). Serum calcium and serum zinc levels also had statistically significant differences between these groups (p<0.001). Based on the ROC curve and its area under the curve, the level of serum vitamin D, calcium, and zinc have been useful in predicting the status of healthy and patient individuals. The area under the curve for the serum zinc level has been larger than calcium and vitamin D.
Conclusion: The results showed that serum zinc, calcium, and vitamin D levels in COVID-19 patients are lower than in the control group, And the serum level of zinc was more effective than the others. The supplementation with such nutrients is a safe and low-cost measure that can help cope with the increased demand for these nutrients in risk of acquiring the COVID-19 virus.
Keywords: COVID-19, Vitamin D, Calcium, Zinc

The effect of apple cider vinegar supplementation and running on anthropometric indices and body composition of overweight female students of Shushtar University of Medical Sciences in 1399

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Introduction: Exercise and use of herbal supplements are the most popular methods to control weight and prevent overweight and obesity and its complications. The aim of the present study was to investigate the effect of apple cider vinegar supplementation and running on anthropometric indices and body composition in overweight female students of Shoushtar University of Medical Sciences.
Methods: In this semi-experimental study with pre-test-post-test design, 24 overweight girls aged 19 to 25 years with a body mass index of 25 to 30 were randomly divided into three groups (exercise, supplement, exercise + supplement). The exercise program consisted of 6 weeks, three times a week and 20 minutes of moderate-intensity running each time. 200 mg of apple cider vinegar per kilogram of body weight was given daily to the supplement groups for 6 weeks. After the last session, Anthropometric indices (including weight, whr and BMI) and body composition were measured again. Finally, the data were analyzed by one-way statistical analysis and the significance level was p=0.05.
Results: The results showed that after 6 weeks of supplementation and running, BMI and body fat percentage decreased significantly (p=0.003) waist circumference did not change significantly (p=0.2) weight in the two groups of exercise and exercise + supplement had changed significantly (p=0.001)
Conclusion: It seems that supplementing with apple cider vinegar and running have positive effects on physical condition. Therefore, encouraging students to physical activity and using apple cider vinegar in their diet can be useful in losing weight and increasing health.
Keywords: apple cider vinegar, running, anthropometric indices, overweight

Relationship between nutritional adequacy and clinical outcomes in critically ill neonates in Post Gastrointestinal Surgery condition

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Introduction: Critically ill neonates (CIN) in a neonatal intensive care unit (NICU) have unique nutritional needs that, according to previous studies, the impact of nutritional support on clinical outcomes has become a major challenge. The purpose of this observational study was to investigate the probable relation between major nutritional support indices and clinical outcomes of CIN after post-gastrointestinal surgery condition in the NICU.
Methods: This cross-sectional study was carried out in Akbar Children's Hospital, Mashhad, Iran in 2019. A total of 59 post gastrointestinal surgical CIN with NICU length of stay >72 hours were enrolled. Clinical outcomes, including the length of ventilator dependency, ICU and hospital stay, 28-day mortality and possible infection were gathered. Delivered energy and protein were recorded as well. SPSS software (version 20) was used for data analysis.
Results: In this study, there was no correlation between energy and protein intake and NICU and 28-day mortality. Lower energy intake was significantly associated with increased infection rates, duration of mechanical ventilation, and length of NICU stay (P≤001, P≤0.005, and P≤0.07, respectively) and protein intake was oppositely related with infection rates, duration of mechanical ventilation, and length of NICU stay (P = 0.004, P = 0.02, P = 0.009 and P = 0.03, respectively).
Conclusion: The importance of clinical outcomes in this study requires sensible measures in CIN that increase nutritional adequacy in these cases is significantly reduced by reducing the rate of infection and length of hospital stay.
Keywords: Nutritional support, Clinical outcomes, Neonatal intensive care unit

The Effect of Intermittent Fasting on Cardiometabolic Risk Factors, Body Composition, and Gastrointestinal Microbiota in Obese Patients

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Purpose of review: Intermittent fasting (IF), an energy restriction strategy, is widely accepted as a dietary pattern that affects the composition of the gastrointestinal microbiota. In this review, we assessed the effect of IF and other time-restricted feeding types on intestinal microbiota, followed by changes in cardiometabolic risk factors, and body composition.
Recent findings: It has been proved that daily calorie intake in the IF group is lower than the normal group averaging 31%. Also, some studies indicated that IF could be effective for men who suffer from secondary obesity. IF can be associated with potential clinical health outcomes by increasing the diversity and abundance of microbial families, including Bifidobacteriaceae, Lactobacillaceae, and Akkermanisaceae. Most studies prove that IF can effectively decrease fat mass, oxidative stress, inflammatory cytokines. Furthermore, the IF group has an increase in the production of short-chain fatty acids (SCFAs) so it can improve the communities of gut microbiota which have a connection with the cardiovascular risk factor. Some studies indicated that IF can improve vasodilatory parameters too. Many studies determine that IF can reduce the levels of lipopolysaccharides (LPS). In the IF group, BMI, weight, and Waist circumference decreased significantly in comparison to the normal group.
Conclusion: Recent studies have shown that IF can reduce cardiometabolic risk factors and have a positive effect on body composition by

significantly altering the intestinal microbial community.
Keywords: Intermittent fasting, Gastrointestinal microbiome, Cardiometabolic risk factors

Probiotics and their possible role in the prevention or treatment of Covid-19: A systematic review

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Introduction: Today, the use of probiotics is very popular among the public. In this study, the immune effects of probiotics will be investigated, which play an effective role in reducing the incidence of Covid-19 disease by promoting the level of immune system. The aim of this study was to collect all studies related to probiotics and their possible role in the prevention or treatment of COVID -19 and achieve a comprehensive result.
Material and Method: The article is a systematic review that uses PRISMA flowchart to extract articles. So the articles of the last 10 years that have been scientifically published in the databases of Google Scholar, PubMed, and Science Direct have been analyzed. Most articles (82%) confirmed the positive effect of prebiotics on Covid-19.
Results: After searching for the keywords probiotics, treatment, prevention, coronavirus, covid-19 and combining them in databases according to the inclusion and exclusion criteria, 18 articles were finally reached. In the initial search, 3, 18 and 292 articles were extracted in PubMed, Science Direct and Google Scholar, respectively. According to the search strategy and PRISMA flowchart, 18 articles were identified qualitatively by reviewing both authors.
Conclusion: Because 5 to 10 percent of patients with Covid-19 have symptoms such as nausea, vomiting, diarrhea, and abdominal pain, researchers believe that coronavirus affects the gut microbiome. Therefore, inflammation and changes in the patients intestinal microbiome lead to more severe disease and poor treatment results. Researchers believe that probiotics strengthen the immune system, increase the population of good bacteria, prevent the multiplication of pathogens, and help create a stable and balanced microbial environment in the body.
Keywords: Probiotics, Treatment, Prevention, Coronavirus, Covid-19.

Association between the prevalence of obesity and adherence to the Mediterranean diet in the infertile couple

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Introduction: This study aimed to assay the prevalence of obesity in relation to adherence to a Mediterranean diet in the infertile couple.
Methods: This is a cross-sectional study that was conducted between ۴۳۲men (۲۰to ۴۵y old) and ۴۳۲women (۲۰to ۴۵y old) with a history of infertility in Ghafghaz center (infertility treatment center in Ardabil) in December 2021. Anthropometric indices were measured and the frequency of various foods consumed during a usual week was recorded. Adherence to a Mediterranean diet was assessed by a diet score that incorporated the inherent characteristics of this diet.
Results: Prevalence of overweight and obesity were ۵۴% and ۳۸% in men and ۶۲% and ۵۹% in women. An inverse association was observed between diet score, waist-to-hip ratio (r = −0.52, P = 0.021), and body mass index (r = −0.39, P = 0.038) after adjusting for sex and age. Greater adherence to the Mediterranean diet (i.e., highest tertile) was associated with a 54% lower odds of being obese (odds ratio 0.54, 95% confidence interval 0.39 to 0.60) and a 57% lower odds of having central obesity (odds ratio 0.57, 95% confidence 0.44 to 0.62) compared with a non-Mediterranean diet (i.e., lowest tertile) after controlling for age, sex, physical activity status, metabolism, and other variables.
Conclusion: There was an inverse association between adherence to a Mediterranean dietary pattern and the prevalence of obesity in infertile men and women. There is a need for more clinical trial studies to confirm this association.
Keywords: obesity, adherence to the Mediterranean diet, infertile couple

Omega-3 fatty acids deficiency is a risk factor of prinzmetal angina: a case control study

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Introduction: Prinzmetal angina is an unusual syndrome of cardiac pain. Studies have shown that the level of pro-inflammatory factors increases in these patients. Due to the role of omega-3 fatty acids in reducing inflammation, this study investigated the relationship between serum omega-3 fatty acids and the risk of prinzmetal angina incidence.
Methods: Thirty five prinzmetal angina patients and 34 healthy person were recruited during the third trimester and fasting bloods were taken for plasma fatty acid analysis.
Results: High docosahexaenoic acid (DHA) (OR=0.16 95% CI: 0.04–0.66), high total n-3 (OR=0.16 95% CI: 0.04–0.66) and a low n-6:n-3 ratio were associated with significantly lower odds of prinzmetal angina (OR=6.45 95% CI: 1.42–27.24). After adjustment for age and sex, those with high DHA still had significantly lower odds of prinzmetal angina (OR=0.18 CI=0.04–0.88). Those with high total n-3 (OR=0.21 95%CI=0.05–0.99) and a low n-6:n-3 ratio were also at significantly reduced risk of prinzmetal angina (OR=4.69 95%CI: 1.00–21.99), although the magnitude of the difference was reduced.
Conclusion: Study results quantified persons with lower omega-3 PUFA levels as being six times more likely to be prinzmetal angina patient, compared to person who had higher omega-3 PUFA levels. Further clinical trial studies are needed to confirm this relationship.
Keywords: Omega-3 fatty acids, Docosahexaenoic acids, Prinzmetal angina patients

Serum vitamin D level and its association with blood pressure and obesity in prinzmetal angina and healthy persons: a case-control study

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Introduction: Vitamin D deficiency is a main risk factor for cardiovascular disease. Low serum vitamin D can increase blood pressure and weight in person. This study aimed to assay and compare the serum vitamin D level and its association with blood pressure and obesity among prinzmetal angina patients and healthy persons in Ardabil. **Methods**: This case–control study was conducted among 34 healthy persons and 35 prinzmetal angina patients that were selected from those referred to Imam Khomeini Hospital in Ardabil using simple sampling method. Vitamin D was measured by Chemi-luminescence immunoassay method.
Results: There was significant difference in serum 25- hydroxy vitamin D between groups of study (P= 0.0001). The mean ± SD of 25-Hydroxy vitamin D in prinzmetal angina was 12.16 ± 5.21 and in healthy persons was 23.44 ± 2.52 ng/ ml. Between vitamin D and waist circumference there was significant association in prinzmetal patients (p= 0.04, s= 0.236). There was not significant relation between vitamin D with blood pressure and BMI in study participants (P≥0.05).
Conclusion: Vitamin D can effect on obesity in prinzmetal angina patients. More interventional study is need to confirm this association.
Keywords: Vitamin D, Blood pressure, Obesity, Prinzmetal angina

Nutritional Support of critically ill neonates in Post Gastrointestinal Surgery condition

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Introduction: Optimum nutritional support of critically ill neonates is a major challenging issue in neonatal intensive care unit (NICU). Malnourished neonates are prone to rapid nutritional depletion, which leading to muscle wasting, vital organ dysfunction, delayed wound healing, and decreased immune function. We studied energy and protein delivery and

adequacy during post gastrointestinal surgery period in this study.
METHODS: This cross-sectional study was carried out in Akbar Children's Hospital, Mashhad, Iran. All post gastrointestinal surgical critically ill neonates with NICU length of stay >72 hours were enrolled. Anthropometric indices, nutritional support route, energy and protein intake were gathered from the third day of hospitalization till discharge time. SPSS software (version 20) was used for data analysis.
Results: A total of 59 eligible neonates (59% male) with a mean age of 6±8.3 days were studied. The patients with mean weight= 2.9 kg (SD=0.49) and mean height= 49.9 cm (SD=2.3) were enrolled. Enteral nutrition (47.5%) was the most frequent used feeding route among different methods of nutritional support. Adequacy of delivering energy and protein were 35.5% and 79.7%), respectively.
Conclusion: While almost 80% of neonates received adequate protein, only 35.5% of them had adequate energy intake. This study provides evidence for realistic customized decision making on nutritional support protocols in our NICU.
Keywords: Nutritional adequacy, Gastrointestinal surgeries, Neonatal intensive care unit

Serum levels of some inflammatory factors and oxidative stress in COVID-19 patients received glutamine that admitted to the intensive care unit

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Introduction: Inflammation is seen in COVID-19 patients, and reducing this inflammation with appropriate therapies may improve these patients' health. This study aimed to assess serum levels of some inflammatory factors and oxidative stress in COVID-19 patients with respiratory infections that received glutamine based on the hospital routine.
Methods: In this cross -sectional study, 120 COVID-19 patients aged 35-65 who consented to use glutamine were included to study. For 5 days, this patient consumed 10 g of glutamine supplement three times per day. At the end of the 5 days, blood samples were taken again to test for serum levels of interleukin 1 beta, hs-CRP, tumor necrosis factor-α and malondialdehyde, then all data were analyzed.
Results: Serum levels of interleukin 1 beta (before study: ۴. ۰۲± 0.0۳ after study ۲.0 ۱± 0.0۹), tumor necrosis factor-α (before ۷.۰2 ± ۳. ۲ after ۴.۰1 ± ۲.۱) and hs-CRP (before1۸. ۰۲± ۴. ۱ after 1۳.۴1 ± 4.9) were significantly reduced with five days of glutamine supplementation ($p < 0.05$).
Conclusion: Glutamine supplementation in COVID-19 patients with respiratory infection significantly reduced serum levels of interleukin-1 beta, hs-CRP, and tumor necrosis factor-α. More studies with large sample size are needed to confirm this association.
Keywords: Glutamine, COVID-19, Oxidative stress, Inflammation

The Effectiveness of eHealth Nutritional Interventions in Middle-Aged and Older Adults – A Systematic Review

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Introduction: The risk of chronic malnutrition-related diseases increases with age. In the face of an aging population, finding solutions to provide adequate health care to middle-aged and older people is essential for health care departments. The purpose of this study was to review the effectiveness of e-health programs in providing nutritional interventions for middle-aged and older adults.
Method: A systematic search in 5 databases (PubMed, CINAHL, Cochrane, Web of Science, and Global Health) was conducted from 2016 to July 2021 according to the PICOT checklist. Studies that used e-health to provide nutritional interventions in adults over 40 years of age were selected for review, and their health and behavioral outcomes were recorded. Two independent reviewers reviewed the research articles under the judgment of the third reviewer.
Result: seventy-one studies were selected to review. The most common type of e-health interventions was through mobile applications (31%), and most studies (89%) provided multi-part health interventions aimed at improving

nutrition and other health behaviors (such as exercise, smoking cessation, drug adherence). There was also a substantial discrepancy between the studies' methods, making it impossible to perform a proper meta-analysis. However, the results generally showed that e-health interventions improved anthropometric, clinical, and overall dietary outcomes but did not improve behavioral outcomes such as fruit and vegetable consumption, rooted in existing articles' limitations and inconsistencies.
Conclusion: E-health programs' effectiveness in providing health interventions for middle-aged to older adults is supported by improved anthropometric and clinical outcomes. However, inconsistency and methodological limitations of the articles remained.
Keywords: E-health, nutrition, telemedicine, elderly, middle-aged

Food security association with some risk factors of obesity-related disease in Ardabil population

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Introduction: Studies indicated that food security can be a main factor influencing on the obesity and chronic disease. The aim of this study was the food security assessment and its association with some risk factors of chronic obesity-related disease in Ardabil population.
Methods: This cross-sectional study was done between 350 adults of Ardabil that were selected by random sampling from Persian cohort study participants. The duration of the study was from January 2018 to January 2019. Food insecurity of study participants was measured using the United States Department of Agriculture 18-item questionnaire. Some risk factors of chronic diseases including fasting blood glucose, lipid profile, liver enzymes, and dietary information were measured on the day of the interview. To assess the association between variables the correlation and linear regression tests were used.
Results: Forty-eight and six percent of the study participants were food secure and 51.4% were in food insecurity status. There were a significant difference in weight, blood glucose, blood pressure, and serum triglyceride levels between the food security status groups (P <0.05). The food insecurity score had significant association with participants, weight (p=0.005, β=1.66), serum triglycerides (p=0.022, β=0.027), body mass index (p=0.003, β=0.645) and fasting blood sugar (p=0.0001, β=0.664).
Conclusion: About half of the participants were in food insecurity status. Food insecurity status can be associated with obesity and some risk factors of chronic obesity-related diseases. This problem requires main food policies to reduce food insecurity in the community.
Keywords: obesity, food security, obesity-related chronic disease, Ardabil

Seafood Consumption, Omega-3 Fatty Acids Intake, and Life-Time Prevalence of Depression in the Tabriz women

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Background: The aim of this study was to determine the type of association between fish and seafood consumption, omega-3 polyunsaturated fatty acids (ω-3 PUFA) consumption, and depression incidence.
Methods: In this Cross-sectional study the fish and seafood consumption and ω-3 PUFA intake were assessed through a validated food-frequency questionnaire. Self-reported life-time medical diagnosis of depression or use of antidepressants was considered as outcome. Depressive symptoms were collected by the Beck Depression Inventory-II. Logistic regression models were used to estimate the association between seafood products and ω-3 PUFA consumption and depression. Multiple linear regression models were fitted to assess the association between fish and long-chain (LC) ω-3 PUFA intake and depressive symptoms.
Results: Out of 500 participants, there were 238 cases of depression. Total seafood consumption was associated with depression. The odds ratios (ORs) (95% confidence intervals (CIs)) for the 2nd, 3rd, and 4th quintiles of consumption of fatty fish were 0.69 (0.58–0.83), 0.71 (0.62–0.83), and 0.63 (0.59–0.88), respectively, and p for trend = 0.702. Moderate intake of total LC ω-3 PUFA (approximately 0.5–1 g/day) was significantly associated with a lower prevalence of depression.
Conclusion: In our study, moderate fish and LC ω-3 PUFA intake, but not high intake, was associated with lower odds of depression suggesting a U-shaped relationship.

Keywords: fish; omega-3; eicosapentaenoic acid; docosahexaenoic acid; depression

Barriers of Nutritional Management in Critically ill neonates in Post Gastrointestinal Surgery Condition

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Introduction: Optimum nutritional support of critically ill neonates is a major challenging issue in a neonatal intensive care unit (NICU) because they are recognized as a high-risk group. Therefore, providing proper nutritional support is an intricate and critical process. For this reason, nutritional support barriers in these patients were a challenge and so investigated in this study.
METHODS: The files of critically ill (59 eligible neonates) after post gastrointestinal surgical with NICU length of stay >72 hours in 2019 at Akbar Children's Hospital, Mashhad, Iran were retrospectively studied. Nutritional support barriers were gathered from the third day of hospitalization till discharge time. SPSS software (version 20) was used for data analysis.
Results: The files of 59 critically ill, post-surgical neonates were retrospectively studied. Among all potential barriers of optimum nutrition support were gathered, the fluid restriction was the major barrier, affecting 38.9% of the patients. Other barriers were the non-availability of calorie-dense solutions and prolonged pre-and post-operative fasting, affecting 27.1% and 17% of the patients, respectively. Among the gastrointestinal problems leading to a shortstop feeding, distention was the most major gastrointestinal problem, affecting 10.2% of the patients, after that vomiting (8.5%), large gastric residual volume (6.7%), and diarrhea (5.1%).
Conclusion: According to the results of our study, realistic decisions are needed to improve outcomes, and further studies are needed to follow up and monitor the effect of our decisions.
Keywords: Nutritional barriers, Gastrointestinal surgeries, Neonatal intensive care unit

Barriers of Nutritional Management in Critically ill neonates in Post Gastrointestinal Surgery Condition

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Conclusion: According to the results of our study, realistic decisions are needed to improve outcomes, and further studies are needed to follow up and monitor the effect of our decisions.
Keywords: Nutritional barriers, Gastrointestinal surgeries, Neonatal intensive care unit

Effect of omega-3 supplementation on fatty liver and visceral adiposity indices in diabetic patients with non-alcoholic fatty liver disease: a randomized controlled trial

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Introduction: Non-alcoholic fatty liver disease (NAFLD) as the most common chronic liver disease is closely linked to type 2 diabetes mellitus (T2DM). Omega-3 supplementation has been proposed as a strategy to manage T2DM and NAFLD. The present study aimed to investigate the effect of omega-3 supplementation on fatty liver index, lipid accumulation product and visceral adiposity index in diabetic patients with NAFLD.
Methods: In this 12-week double-blind, randomized controlled clinical trial, sixty diabetic patients with NAFLD were randomly assigned into the omega-3 and placebo groups for 12 weeks. The omega-3 group received 2000 mg/d omega-3 as capsule.
Results: Fifty-six participants completed the study. No significant difference was found between the two groups in the terms of fatty liver index, lipid accumulation product and visceral adiposity index at the baseline. Omega-3 supplementation compared with the placebo led to a significant improvement in fatty liver index (-3.6 ± 12.1 vs. 0.9 ± 8.9; P = 0.04), lipid accumulation product (-14.2 ± 27.9 vs. 8.0 ± 26.3; P = 0.002) and visceral adiposity index (-0.5 ± 0.9 vs. 0.0 ± 0.8; P = 0.01).
Conclusions: Omega-3 supplementation for 12 weeks improves fatty liver index, lipid accumulation product and visceral adiposity index. The study protocol was registered under Iranian Registry of Clinical Trials identifier number IRCT2016102530489N1.
Keywords: Non-alcoholic fatty liver disease, Omega-3, Diabetes mellitus, Fatty liver index, Visceral adiposity

The Association of Dietary Total Antioxidant Capacity with Inflammatory Biomarkers in Patients Who are Candidate for Coronary Artery Bypass Graft Surgery: a Cross-sectional Study

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Introduction: Antioxidant compounds can attenuate inflammation and delay degenerative processes especially in the cardiovascular system. This study aimed to determine the relationship between dietary total antioxidant capacity (DTAC) and serum biomarkers in patients undergoing coronary artery bypass graft surgery.
Methods: In this cross-sectional study, 146 patients who had referred to Imam Ali Hospital in Kermanshah were recruited. Fasting blood glucose (FBG), inflammatory markers (interleukin [IL]-17, intercellular and vascular cell adhesion molecules [ICAM, VCAM]), and total antioxidant capacity (TAC) were also measured.
Results: A regression model adjusted for confounding variables presented that the coefficients of ICAM and VCAM (ng/dL) in the third tertile of DTAC were lower than those in the first tertile (β = −417.2, 95% confidence interval [CI] = −509.9 to −324.5, $p < 0.001$; β = −293.2, 95% CI = −334.3, −252.1, $p < 0.001$, respectively). The β of serum TAC (ng/dL) in the third tertile was 0.86 (95% CI = 0.77, 0.95, $p < 0.001$) higher than that in the first tertile.
Conclusions: DTAC had no statistically significant relationship with FBG, and IL-17 levels. In this study DTAC was associated with increased serum TAC and decreased cell adhesion molecules. Therefore, diet antioxidants may be beneficial in attenuating of inflammation in coronary artery diseases.
Keywords: Coronary artery bypass; Diet; Antioxidants; Interleukin-17; Cell adhesion molecules

Relationship between the Consumption of Milk-Based Oils Including Butter and Kermanshah Ghee with Metabolic Syndrome: Results from RaNCD Cohort Study

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Introduction: The prevalence of metabolic syndrome (MetS) in recent years has been growing in different societies, which may be due to lifestyle changes including changes in diet, in particular the consumption pattern of edible oils. The purpose of this study was to investigate the relationship between the consumption of animal oils including butter and Kermanshah ghee with MetS and its components in the adult population of Ravansar Non-Communicable Disease (RaNCD) cohort study.
Methods: This cross-sectional study was carried out on 5550 adults aged 35–65 years using baseline data of Ravansar's prospective study center in Iran. MetS was defined according to the criteria of modified NCEP ATP III for Iranian adults. Relationship between the consumption of butter and Kermanshah ghee and MetS was analyzed by logistic regression model using STATA software.
Results: In our study, the frequency of MetS was 31.40%. The mean body mass index and mean age were 27.1±4.6 kg/m2 and 47.6±8.2 years. The mean values of consumed butter and Kermanshah ghee were 3.3±1.8 and 5.1±2.3 g/day, respectively. After adjusting the confounding variables, the highest to the lowest quintile of butter and Kermanshah ghee consumption showed a reverse correlation with the MetS (OR = 0.7, 95% CI = 0.5–0.9) and (OR= 0.7, 95% CI=0.6–0.9), respectively.
Conclusion: This study revealed a reverse relationship between milk and Kermanshah ghee consumption with MetS and its components. Therefore, consumption of milk-based oils may be associated with lower cardiovascular risk factors.
Keywords: butter, Kermanshah ghee, metabolic syndrome, oil, Ravansar cohort

The Association of Dietary Total Antioxidant Capacity with serum levels of lipid profile and Anthropometric Indices in candidate of coronary artery bypass graft: a Cross-sectional Study

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Introduction: Antioxidant compounds can attenuate inflammation and delay degenerative processes especially in the cardiovascular system. The relationship between dietary total antioxidant capacity (DTAC) and the serum levels of lipid profile and Anthropometric Indices in patients undergoing coronary artery bypass graft surgery.
Methods: In this cross-sectional study, 146 patients who had referred to Imam Ali Hospital in Kermanshah were recruited and demographic, anthropometric, physical activity and dietary data were collected. Weight, Height, Waist and hip circumferences, were also measured. And Waist to hip ratio (WHR) and body mass index (BMI) were calculated. Moreover, following 10–12 hours of fasting, 10 mL of venous blood sample (in the first 24 hours of hospitalization) was taken from each participant to evaluate biochemical parameters including lipid profile (total cholesterol [TC], low- and high-density lipoprotein cholesterol [LDL-C and HDL-C], and triglycerides [TG]).
Results: The BMI of patients was 27.0 ± 3.8 kg/m2 that was not statistically significant among DTAC tertiles (p = 0.249). The mean values of WHR was not significantly different among the antioxidant tertiles (p = 0.664. The linear regression analysis in the crude and adjusted models indicated that the mean β values of TG (mg/dL) in the third tertile of DTAC was −1.8 (p = 0.865) and −3.6 (p = 0.734) respectively, which were lower than that in the first tertile, but did not reach the statistically significant.
Conclusions: DTAC had no statistically significant relationship with lipid profile and anthropometric indices. In this study DTAC was

associated with increased serum TAC and decreased cell adhesion molecules. Therefore, diet antioxidants may be beneficial in attenuating of inflammation in coronary artery diseases.
Keywords: Coronary artery bypass; Diet; Antioxidants; lipid profile; Anthropometric Indices

A systematic review of the Clinical Use of Curcumin for the Treatment of Rheumatoid Arthritis

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Introduction: Rheumatoid arthritis (RA) is a chronic inflammatory joints disease which is prevalent in about 0.5-1.0% world population. New therapies for RA had no effect in some cases and had some adverse effects. Curcumin with an antioxidant, anti-inflammatory and immunomodulatory properties might have beneficial effects on RA. In the present study, a systematic review was undertaken with the main aim of estimating the effect of curcumin supplementation on RA.
Methods: A systematic search of the medical databases, PubMed, Scopus, ISI and Google Scholar was performed up to 21 March 2020 to identify clinical trials assessing the effect of curcumin/turmeric on RA.
Results: Six studies comprising 259 RA patients with six to 12 weeks duration were included in the systematic review. Disease activity score of 28 joints (DAS-28), Visual analog scale (VAS) for pain and American College of Rheumatology (ACR-20) were assessed in five, three and three studies, respectively. Treatment with curcumin significantly reduced DAS-28 score in four studies and VAS for pain in three studies and significantly increased ACR-20 in three studies. Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) were assessed in six and five studies, respectively, four studies reported a significant reduction in ESR and CRP in response to curcumin treatment. Rheumatoid factor (RF) was significantly reduced after consumption of curcumin in all three studies, which measured it. Curcumin consumption had no serious adverse effects.
Conclusion: The present systematic review suggests that could be used as safe agent to treat RA. However, more studies are needed to confirm these results.
Keywords: Curcumin; Arteritis; Rheumatoid arteritis; DAS-28; Systematic review

A systematic review of the beneficial effects of curcumin on kidney diseases

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Introduction: Chronic kidney disease (CKD) is an important cause of morbidity and mortality worldwide, which could develop and progress to the end-stage renal disease. Increased inflammation and reduced antioxidant capacity is a common complication among CKD and hemodialysis patients. Curcumin is natural bioactive compound with antioxidant and anti-inflammatory properties. This systematic review was undertaken with the main aim of assessing the effects of curcumin/turmeric supplementation on kidney diseases based on clinical trials
Methods: A comprehensive search was performed in PubMed/Medline, Scopus, ISI Web of Science and Google Scholar from inception up to 06 April 2020 to recognize clinical trials assessing the effects of curcumin/turmeric alone or in combination with other herbs or nutrients on renal diseases.
Results: Twelve studies met the eligibility criteria. These randomized controlled trials (RCTs) comprising 631 patients conducted on chronic kidney diseases (CKD), hemodialysis patients, diabetic proteinuria and nephropathy, and lupus nephritis. Totally, curcumin/turmeric supplementation had favorable effects on the renal diseases, particularly in terms of inflammation and stress oxidative, however, with the exception for proteinuria, their effects on clinical parameters such as blood urea nitrogen, creatinine, glomerular filtration rate (GFR) and serum albumin were weak and insignificant. No serious adverse effects were reported following curcumin/turmeric supplementation.
Conclusion: Within the limitations of this review, it can be concluded that

curcumin/turmeric supplementation might have some beneficial effects on inflammatory and stress oxidative parameters of patients with renal diseases, however, except for proteinuria, these natural products had no considerable positive effects on clinical outcomes of kidney diseases.

Keywords: Curcumin; Turmeric; Kidney, Renal diseases; Proteinuria; Diabetic nephropathy

The effects of magnesium supplementation on serum level of brain derived neurotrophic factor (BDNF) and depression status in patients with depression

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Introduction: Recent researches suggest that there is a relationship between the pathogenesis of depression and serum Brain Derived Neurotrophic Factor (BDNF) levels. Therefore, the purpose of this clinical trial was to determine effect of magnesium supplementation on serum Level of BDNF, magnesium and depression status in patients with depression.

Methods: A double blind randomized clinical trial was conducted on 46 depressed subjects. The participants were randomly allocated into the magnesium (MG) and the placebo (PG) group and received 500 mg magnesium and placebo daily for 8 weeks. Beck's test was conducted and blood samples were taken at baseline and after the intervention period for analysis of serum magnesium and BDNF.

Results: No significant differences were observed in assessed variables between the two groups at the baseline. At the end of intervention, supplementation with magnesium oxide had a significant effect on Beck's test (P=0.01) and serum magnesium (P=0.001), but had no significant effect on BDNF levels (P=0.507) between the two groups.

Conclusions: Daily intake of 500 mg magnesium oxide for at least 8 weeks improved Beck's test score and serum magnesium in depressed patients, but had no significant effect on BDNF levels between the two groups, Which Further research is recommended.

Keywords: Brain Derived Neurotrophic Factor, BDNF, Beck's test, Depression, Magnesium, Randomized clinical trial

The effects of L-arginine supplementation on clinical symptoms, quality of life and anal internal sphincter pressure in patients with chronic anal fissure

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Introduction: The hypertonicity of internal anal sphincter resting pressure one of the main reasons of chronic anal fissure. The aim of this study is assessed the effect of oral administration of L-arginine on anal fissure symptoms improvement by relaxation of the internal anal sphincter.

Method: Seventy-six chronic anal fissure patients (age: 18-65 years) took part in this randomized, double-blind, placebo-controlled trial study from February 2019 to October 2020, at Rasoul-e-Akram Hospital, Tehran, Iran. Participants were allocated into treatment (L-arginine) or placebo group. They took a 1000 mg capsule three times a day for one months and then they were followed up at the end of first and third month after receiving intervention. Clinical symptoms, anal sphincter resting pressure, and quality of life (QoL) were completed at baseline and the end of the study.

Result: The analysis of data was shown significant improvement in bleeding, fissure size, and pain within each group; although this effect was more seen in arginine group compared to control group at the end of the study (P-values<0.001). Follow of that, significant increase in QoL was seen just in patients who treated with arginine (P-value=0.006). Also, the comparison of anal pressures to baseline and between groups at the end of the study showed the significant reduction in sphincter pressure in treated patients (P-value<0.001, =0.049; respectively).

Conclusion: Oral administration of 3000 mg L-arginine can heal chronic anal fissure by reducing anal internal sphincter pressure with less side effect. However, long term study with more follow up is recommended.

Keywords: L-Arginine; Anal Fissure; sphincter pressure; clinical symptoms; quality of life

Food insecurity and mental health: a systematic review and meta-analysis

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Objective: Food security has been suggested to be a risk factor for depression, stress and anxiety. We therefore, undertook a systematic review and meta-analysis of available publications to examine these associations further.
Design: Relevant studies were identified by searching Web of Science, Embase, Scopus and PubMed databases up to January 2019.
Setting: Odds ratio (OR) was pooled using a random-effects model. Standard methods were used for assessment of heterogeneity and publication bias.
Subjects: Data were available from 19 studies with 372,143 individual participants from 10 different countries that were pooled for the meta-analysis.
Results: The results showed there was a positive relationship between food insecurity and risk of depression (OR = 1.40; 95% CI: 1.30-1.58), and stress (OR = 1.34; 95% CI: 1.24-1.44) but not anxiety. Subgroup analysis by age showed that subjects older than ≥ 65 years old exhibited a higher risk of depression (OR = 1.75; 95% CI: 1.20-2.56) than younger participants (OR = 1.34; 95% CI: 1.20-1.50), as well as a greater risk of depression in men (OR = 1.42; 95% CI: 1.17-1.72) than women (OR = 1.30; 95% CI: 1.16-1.46). Finally, subgroup analysis according to geographical location illustrated that food insecure hoseholds living in North America had the highest risk of stress and anxiety.
Conclusions: The evidence from this meta-analysis suggests that food insecurity has a significant effect on the likelihood of being stressed or depressed. This indicates that health care services which alleviate food insecurity, would also promote holistic well-being in adults.
Keywords: Food insecurity, Depression, Anxiety, Stress

Effects of Spirulina Supplementation on Obesity: A Systematic Review and Meta-analysis of Randomized Clinical Trials

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Objective: Evidence has suggested that Spirulina supplementation may affect anthropometric indices. Therefore, a systematic review and meta-analysis was performed to summarize published randomized clinical trials which assess the effect of Spirulina supplementation on obesity. Setting: Pertinent studies were identified using Embase, Scopus, ISI Web of Science, PubMed and Cochrane library databases up to May 2019. Mean Differences (MD) were pooled using a random-effects model. Heterogeneity, sensitivity analysis and publication bias were reported using standard methods.
Results: Results of 5 studies (7 treatment arms) showed a significant reduction in weight (MD: -1.56 Kg, 95% CI: -1.98 to -1.14) after Spirulina supplementation. Subgroup analysis based on health status revealed that weight change in obese subjects (MD: -2.06 Kg, 95% CI: -2.45 to -1.68) was greater than overweight participants (MD: -1.28 Kg, 95% CI: -1.62 to -0.93) following Spirulina supplementation.. Also, pooled analysis showed that Spirulina supplementation led to a significant reduction in body fat percent (MD: -1.02, 95% CI: -1.49 to -0.54) and waist circumference (MD: -1.40, 95% CI: -1.40 to -1.39), but not in body mass index and waist to hip ratio.
Conclusion: Spirulina supplementation significantly reduces body weight, especially in obese individuals, at a dosage of 4 g/day.
Keywords: Spirulina, Obesity, Systematic Review, Meta-Analysis

Potential Roles of Selenium in the Prevention of Alzheimer's Disease

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Purpose of review: Selenium (Se) is recognized for its antioxidant vital role in neurodegenerative disorders, including Alzheimer's disease (AD). Lower concentrations of Se have been seen in the patients with AD. In this review, we discussed the role of Se in AD.
Recent findings: In the most studies it has been demonstrated serum Se levels were decreased in AD patients compare with healthy controls. Also, they had reduced antioxidant levels e.g., it was shown a significant decrease in total antioxidant capacity (TAC) and glutathione (GSH). In reverse in some studies is shown inflammatory factors such as Tumor necrosis factor- α (TNF- α) and high sensitivity C-reactive protein (hs-CRP) has increased. So due to Se antioxidant function it can have neuroprotective role in AD.
In interventional studies it is shown Se supplementation, with or without other antioxidants such as vitamin E and resveratrol, can lead to reduced levels of inflammatory factors and oxidative stress. It also has improving results on cognitive performance, which is assessed by MMSE (mini-mental status examine). In addition, Amyloid-β, which triggers neurodegenerative processes, increased due to high levels of oxidative stress in AD patients and Se has protective regulatory role in the production of Amyloid-β.
Conclusion: Recent studies have shown that serum Selenium can have protective effects on increasing inflammatory factors, Amyloid-β and oxidative stress which reduce the symptoms in AD patients.
Keywords: Alzheimer's disease; Amyloid-β; Dementia; Inflammatory factors; Oxidative stress; Selenium

Can the Nutrition Risk Screening Tool 2002 (NRS-2002) be used in COVID-19 patients admitted to the intensive care unit?

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Introduction: Nutritional status of patients with COVID-19 can affect the recovery process of patients, however, no nutritional scale was introduced to evaluate the nutritional status of the patients. Thus, the main objective of this study was to examine the usefulness of Nutritional status-2002 (NRS-2002) among COVID-19 patients admitted to the intensive care unit (ICU).
Methods: In this cross-sectional study, 73 patients with definitive corona diagnosis admitted to the ICUs of Al-Zahra hospital, Isfahan, Iran in October 2020 to January 2021 were recruited. Dietary intake, NRS-2002, demographic, anthropometric and biochemical indices of patients were recorded.
Results: The majority of patients were at risk for moderate (69.9%) to severe (12.3%) malnutrition. Daily calorie intake (P=0.001) and albumin (P = 0.001) levels in deceased patients were significantly lower than the recovered group. A direct correlation between NRS-2002 and age (P<0.001) and an inverse correlation with daily calorie intake (P=0.002), albumin (P=0.05) and PaO2 (P=0.034) was found. Moreover, there is a strong correlation between NRS-2002 score and chance of death among COVID-19 patients (OR=34.5, 95%CI:(5.2 – 228.93), P-value<0.001). Likewise, the levels of bilirubin direct (OR=8, 95%CI:(1.30 - 49.38), P-value=0.025) and creatine-phosphokinase (OR=0.9, 95%CI:(0.99 - 1.00), P-value=0.035) have a significant direct association with chance of death.
Conclusion: Results showed patients with COVID-19 admitted to the ICU did not have appropriate nutritional status and mortality was higher among patients with lower amounts of the serum albumin and daily calorie intakes. Furthermore, there is a strong association between the NRS-2002 index and the chance of mortality in these patients.
Keywords: COVID-19; Intensive care unit; ICU; NRS

The Effect of Early Enteral Nutrition Supplemented with Synbiotics On Lipid and Glucose Homeostasis in Critically Ill Patients: A Randomized Controlled Trial

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Introduction: The aim of the present study was to investigate the effects of gut microbiota modulation through synbiotic supplementation on lipid and glucose homeostasis in tube-fed critically-ill adult patients.
Methods: This study is placebo-controlled, parallel, single-center, double-blind clinical trial. 42 patients were randomly distributed in placebo and synbiotic groups to receive intervention for a maximum of 14 days. Serum levels of fasting glucose, total cholesterol, and triglycerides, insulin, and free fatty acid were obtained from blood sampling at baseline and the end of the study. Also, insulin resistance was determined by homeostasis model assessment of insulin resistance (HOMA-IR).
Result: Fasting glucose level (Day0=87.84±15.51, Day14=83.76±8.71 mg/dl, P=0.51), fasting insulin level (Day0=9.46±7.31, Day14=7.97±5.19 mIU/L, P=1.00), and HOMA index (Day0=1.89±1.48, Day14=1.72±1.17, P=0.75) during the study were decreasing in both groups, but the decreases were not significant. Total cholesterol, triglyceride, and free fatty acid levels at the beginning of the study were 114.18±43.43 mg/dl, 146.59±53.99 mg/dl, 0.83±0.57 mmol/L, and at the end of the study were 129.10±39.05 mg/dl, 127.40±91.88 mg/dl, 0.88±0.77 mmol/L, respectively. None of these changes were significant either (P=0.99, P=0.38, P=0.90, respectively).
Conclusions: According to our findings, synbiotics supplementation in critically ill patients has no significant effect on lipid and glucose profile.
Keywords: Critical illness, synbiotic, probiotic, Glucose homeostasis, Lipid profile homeostasis, cardiovascular markers

Effect of L-carnitine supplementation on liver fat content and cardiometabolic indices in women with polycystic ovary syndrome: a randomized clinical trial

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Introduction: Polycystic ovary syndrome (PCOS) is a common endocrine disorder among reproductive-age women, and is associated with cardiovascular diseases as well as non-alcoholic fatty liver disease. The recent evidence suggested the beneficial effects of L-carnitine in women with PCOS. The present study aimed to investigate the effect of L-carnitine supplementation on liver fat content and cardiometabolic outcomes in overweight/obese women with PCOS.
Methods: The present study was designed as a 12-week double-blind, randomized controlled clinical trial. Sixty-two overweight/obese women with PCOS were assigned into the treatment (received 1000 mg/d L-carnitine capsule) and the control (received placebo capsule) groups. The outcomes included lipid accumulation product (LAP), atherogenic index of plasma (AIP), atherogenic coefficient (AC) and Castelli II indices.
Results: At the end of the trial, there was no significant difference between the treatment and the control groups in terms of LAP (-1.1 vs. -4.0; P = 0.45), AIP (0.0 vs. -0.09; P = 0.14), AC (-0.2 vs. -0.8; P = 0.06) and Castelli II index (-0.2 vs. -0.6; P = 0.07) after controlling the mean change of waist circumference.
Conclusions: L-carnitine supplementation for 12 weeks has no beneficial effect on liver fat content and cardiometabolic outcomes in overweight or obese women with PCOS. Trial registration: Registered on 30 December 2019 at Iranian Registry of Clinical Trials IRCT20191016045131N1.
Keywords: Polycystic ovary syndrome, L-carnitine, Fatty liver, Atherogenic index, Cardiometabolic.

The association between dairy products and the risk of COVID-19 in a large sample of Iranian adults

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Introduction: The fast spread of the coronavirus disease 2019 (COVID-19) epidemic and its high mortality were quickly noticed by the health community. Dairy products have been recognized as part of a healthy diet that helps strengthen body immunity and prevent infections. The present cross-sectional study can provide a comprehensive picture of the associations between dairy products consumption and COVID-19 incidence.
Methods: This cross-sectional study was undertaken on 8728 adults participants of Yazd Health Study (YaHS) and Taghzieh Mardom-e-Yazd (TAMIZ) study aged 20 to 70 years. Data on dietary intakes were obtained using a validated food frequency questionnaire (FFQ). Multivariable logistic regression analysis was used to assess the association between dairy consumption and COVID-19.
Results: Our finding indicated that moderate intake of total dairy (OR: 0.63, 95% CI 0.46-0.87, P-trend= 0.97) could reduce the odds of COVID-19 and higher intake of low-fat dairy products (OR: 0.51 CI: 0.37– 0.69, p- trend <001) and low-fat milk (OR:0.47 CI:0.35-0.64, p- trend <001) had a protective effect on COVID-19 after adjusting for confounders. However, higher intake of high-fat-dairy-product (OR:1.40 CI:1.09-1.92, p-trend=0.03), high-fat milk (OR:1.54 CI:1.20-1.97, p-trend 0<001), total yogurt (OR:1.40 CI:1.04-1.89, p-trend=0.01), cheese (OR:1.80 CI:1.27-2.56, p-trend =0.001), and butter (OR:1.80 CI:1.04-3.11, p- trend =0.02) were related to increase the odds of COVID-19.
Conclusion: Moderate intake of total dairy could reduce odds of COVID-19 by 37% and, a higher intake of low-fat dairy products had a protective role on COVID-19. Although our study has promising results, stronger clinical studies are needed.
Keywords: Dairy, dairy products, milk, COVID-19

Effects of carbohydrate-restricted diets on liver enzymes: A systematic review and meta-analysis of randomized controlled trials

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Introduction: Liver enzymes are the important indicators of non-alcoholic fatty liver disease (NAFLD) in the general population. Elevated levels of liver enzymes are the main markers of liver dysfunction. Previous randomized clinical trials (RCTs) investigated the effects of carbohydrate-restricted diets on liver enzymes, but their results are contradictory. The aim of this study was to evaluate the effect of low carbohydrate diet on liver enzymes.
Methods: PubMed, Web of Science, Scopus, and Google Scholar have been searched until June, 2021. 9 RCTs evaluated the effects of carbohydrate-restricted diets on liver enzymes such as alanine transaminase (ALT), aspartate aminotransferase(AST), and γ-glutamyl-transferase (GGT). A random effect model was used to estimates the pooled effect size.
Results: The carbohydrate-restricted diets did not show any significant effect of carbohydrate-restricted diets on ALT (WMD=-8.63, 95%CI: -19.17 to 1.91; P=0.109), AST (WMD: -0.80 IU/L, 95% CI: -3.22 to 1.62, p = 0.516) and GGT (WMD: 1.77 IU/L, 95% CI: -11.20 to 14.74, p = 0.790). But the results of subgroup analysis showed that carbohydrate-restricted diets significantly reduced AST in overweight people (BMI=25-29.9) compared to obese people (BMI ≥ 30), in NAFLD patients compared with other people and in longer periods (duration >=8 weeks). In addition, the results show that consuming < 10% energy from CHO increased AST by 2.44 units compared with consumption amounts above 10% CHO.
Conclusion: Carbohydrate-restricted diets did not show any significant effect on liver enzymes.

To confirm the results of the present study, higher quality studies are required.
Keywords: ALT, AST, GGT, LCD

Does Anthocyanins consumption affect weight and body composition? A Systematic Review and Meta-analysis of Randomized Controlled Trials

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Introduction: Anthocyanins (ACNs) are water-soluble plant pigments belonging to flavonoids whose role in weight loss has been shown in previous studies, however, more studies are needed to confirm these results. The present study is a comprehensive review of past research on the effect of anthocyanins on weight.
Methods: PubMed, ISI Web of Science, Scopus, and Google Scholar were searched up to May 2021 for relevant Randomized Controlled Clinical Trials (RCT) assessing the effect of ACNs (pure or products rich in ACNs) consumption on Body Mass Index (BMI), Body Weight (BW), waist circumference (WC), hip circumference (HC), waist–hip ratio (WHR) and body composition indices such as fat mass (FM) and fat free mass (FFM). Random effect model was used in calculation of Weighted mean difference (WMD) and its corresponding 95% confidence intervals (CIs).
Results: Thirty-one RCTs with 1438 participants (0.77 to 640 mg/day of ACN for 28 to 90 days) were included. No significant effect was detected for BW, BMI, WC, HC, WHR, FM and FFM after anthocyanins consumption. Subgroup analysis showed a significant effect of ACNs on WC in the participants with consumption duration of less than 4 weeks (WMD = 2.13 cm, 95% CI: 0.06, 4.21, p = 0.044).
Conclusion: ACNs had no effect on anthropometric and body compositions parameters in adults. Further high-quality clinical trial studies are needed to establish the clinical efficacy of ACNs, optimal dose and intervention duration in people with various health and ethnic conditions.
Keywords: Anthocyanins, RCT, Meta-analysis, Anthropometric Indices, Body Composition

The association between vitamin B and the risk of COVID-19: in a large sample of Iranian adults

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Introduction: The outbreak of coronavirus is one of the health problems of human society that has caused many deaths around the world. Vitamin B is an essential micronutrient for the body that has antioxidant, anti-inflammatory, and immune-regulating properties. The present cross-sectional study can provide a comprehensive picture of the associations between vitamin B and COVID-19 incidence..
Methods: This cross-sectional study was undertaken on 8728 adults participants of Yazd Health Study (YaHS) and Taghzieh Mardom-e-Yazd (TAMIZ) study aged 20 to 70 years. Data on dietary intakes were obtained using a validated food frequency questionnaire (FFQ). Multivariable logistic regression analysis was used to evaluate the association between vitamin B and COVID-19.
Results: Our finding indicated that a higher intake of vitamin B5 had a protective role on COVID-19 (OR: 0. 53 CI: 0.28– 0.99, p- trend =0.02). In addition moderate intake of vitamin B12 (OR: 0.63, 95% CI 0.40-0.98, P-trend= 0.11) could reduce odds of COVID-19 after full adjustments for confounders. Our findings indicated no significant relationship between dietary intake of vitamin B1, B2, B3, B9, and B-complex and COVID-19.
Conclusion: Higher intake of vitamin B5 could reduce odds of COVID-19 and, moderate intake of vitamin B12 had a protective role on COVID-19. Although our study has promising results, stronger clinical studies are needed.

Keywords: Vitamin B, Vitamin B9, Vitamin B9, COVID-19

Effect of Low-Carb ketogenic diet on depression and anxiety: A systematic review and meta-analysis of randomized controlled trials

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Introduction: Depression is a worldwide disease and prevalence of anxiety is higher in depressed patients. Dietary patterns and dietary components have a potential role in the prevention and treatment of mental disorders. Our study was designed to assess the effect of a low carb ketogenic diet on depression and anxiety.
Methods: This study was performed by a search of PubMed, Scopus, and Web of Science. Trials that were in English and had a control group were included in the study. A random effect model was used to estimates the pooled effect size.
Results: Our findings on nine studies demonstrated that a ketogenic diet was not associated with the risk of anxiety (SMD= 0.19, 95 % CI -0.10, 0.47; P=0.20) and depression (SMD= 0.06, 95 % CI -0.11, 0.24; P=0.49). According to the sensitivity analysis, the effect of ketogenic diet on anxiety depends on excluding one of the studies. If this study is excluded, the ketogenic diet significantly increases anxiety (SMD= 0.33, 95% CI 0.12, 0.54; P≤0.001). The subgroup analysis indicated that this diet increases anxiety risk in studies that used SAI to assess anxiety, with less than 26% carb, and in the Australia respectively (SMD= 0.33; 95%CI 0.11, 0.54; P≤.001; I2=0.00, P=0.54), (SMD= 0.31; 95%CI 0.10, 0.52; P≤.001; I2=0.00, P=0.52), (SMD= 0.29; 95%CI 0.08, 0.49; P=0.01; I2=0.00, P=0.42).
Conclusion: A low carbohydrate ketogenic diet shows no benefit on depression and anxiety than a control group diet.

Keywords: Depression, anxiety, ketogenic diet.

Nigella Sativa Supplementation and Non-alcoholic fatty liver disease: A Systematic Review of Clinical Trials

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Background and aim: Based on the results of previous studies, the effects of Nigella Sativa (N. Sativa) on some of the non-alcoholic fatty liver disease's (NAFLD) biomarkers were positive; however, there were conflicting results regarding other variable outcomes. Therefore, the present systematic review of clinical trials was designed to clarify whether N. Sativa effectively prevents the progression of NAFLD.
Methods: A search of four databases (Scopus, Pubmed, Medline, and Google scholar) was conducted to identify the clinical trials that assessed the effects of N. Sativa supplementation on NAFLD. The outcomes variables of interest were biomarkers of hepatic steatosis, liver enzymes, insulin resistance, and inflammation.
Results: Overall, four randomized clinical trials (RCTs) were included. In three studies, the grade of hepatic steatosis decreased significantly after N. Sativa supplementation. Serum levels of liver enzymes reduced significantly in three of four included trials. In the only study that examined the effect of N. Sativa on insulin resistance parameters, all variables related to this factor were significantly reduced. In two included studies that measured biomarkers of inflammation, the serum levels of tumor necrosis factor α (TNF-α), high-sensitive C-reactive protein (hs-CRP), and interleukin 6 (IL-6) decreased significantly after the intake of N. Sativa supplements.
Conclusion: Although the efficacy of N. Sativa on liver enzymes and the grade of hepatic steatosis have been found in some of the included studies, more well-designed clinical trials are needed to determine the definitive effects of N. Sativa on NAFLD. The present study provides some suggestions that help design future studies in this field.

Keywords: Nigella Sativa; non-alcoholic fatty liver disease; clinical trials; systematic review.

Intake of various food groups and risk of pancreatic cancer: A systematic review and dose-response meta-analysis of prospective cohort studies

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Introduction: Despite increasing evidence linking food-based dietary patterns to the risk of pancreatic cancer; Knowledge of the form of this relationship and meta -evidance is insufficient. Our goal was to gather and integrate the links between food groups and the risks of pancreatic cancer (PCa).
Method: We performed a systematic literature search of the PubMed, scopus, web of science databases up to August 2021. We included cohort, case-cohort, nested casecontrol studies, and follow-up studies of randomized controlled trials that investigated the relationship between breast cancer risk and at least 1 of the following food groups: vegetables, fruits, meats, dairy products, nuts, tea and coffee.
Result: Summary risk ratios (RRs) and 95% CIs were estimated using a random-effects model. According to High Lost analysis, nuts significantly reduced (RR=0.84, 95%CI: 0.73-0.98, P=0.02), white meat (RR=1.16, 95%CI: 1.05-1.28, P=0.004) and beef increased the risk of PCa (RR= 1.21, 95%CI:1.03-1.42, P=0.02). Inverse linear association was observed with total fruits (RR per 100g/day,0.96, 95%CI: 0.93-0.99) and direct linear correlation was observed with beef (RR per 100g/day,1.01,95% CI: 1.00-1.03) and pork (RR per 100g/day, 1.02, 95%CI: 1.02- 1.18). There is a non-linear relationship between fish (P: 0.02) with total PCa.
Conclusion: High consumption of nuts, fruits and low intakes of animal meats such as pork, beef and white meat is associated with a reduced risk of pancreatic cancer. It is recommended to avoid taking high animal meats to prevent risk of pancreatic cancer
Keywords: Food groups, pancreatic cancer, cancer, meta-analysis, cohort

The Evaluation of Preoperative Malnutrition Prevalence among Pediatric Surgery Patients in Iran

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Introduction: Considering the importance of malnutrition as a major risk factor for morbidity and mortality following surgery, nutritional assessment is a critical aspect of the initial evaluation, especially among children with surgical indications. The study aimed to assess the preoperative nutritional status among pediatric surgery patients in Mashhad, Iran.
Method: This retrospective observational study included 66 children undergoing major surgery at the pediatric intensive care units (PICUs) of Akbar Pediatric Hospital in Mashhad city during March 2019-January 2020. Nutritional status was assessed using Z-score (WHO weight-for-length, height, and body mass index [BMI]) as Z scores for ages of 0 - 2, 2 - 5, and > 5 years, respectively; Z > -2: natural status, -3 < Z < -2: moderate malnutrition, Z < -3: severe malnutrition.
Results: Of the 66 patients, 43.9% were female. Participants had a median (interquartile range [IQR]) age of 1.62 (12.96) months. The nutritional status upon admission was reported 80.3% normal status, 9% moderate malnutrition, and 10.6% severe malnutrition.
Conclusion: Preoperative Malnutrition was relatively common among children undergoing major surgery at the PICUs. It can affect the pediatric surgical patient in terms of the stress response, healing time, and outcomes. However, at present, there is no recommendation or agreement for nutritional assessment in preoperative pediatric patients. Moreover, studies are currently challenging to examine the association between preoperative malnutrition and poor surgical outcomes. We suggest larger multi-center randomized studies to provide a higher level of evidence to support nutritional intervention before major elective pediatric surgery.

A Correlation between Serum Selenium and Glutathione Peroxidase (GPx) Activity among Pediatric Intensive Care (PICU) Patients

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Introduction: A deficiency in serum selenium levels, as an essential element related to antioxidant protection, can be associated with ICU stressful conditions. However, this correlation is still under-recognized among critically ill children. This study aimed to examine the relationship between serum selenium levels and glutathione peroxidases (GPx) activity among pediatric intensive care (PICU) patients in Mashhad, Iran.
Method: Participants were 66 children admitted to the pediatric intensive care units (PICUs) of Akbar Pediatric Hospital in Mashhad city, during March 2019-January 2020. Serum selenium and glutathione peroxidase (GPx) were measured using ELISA kits and an atomic absorption spectrometer, respectively. These serum levels were evaluated on day -1 (preoperatively) and day +1 (postoperatively).
Results: Only 21% of the participants (14 patients) had optimal selenium concentration (> 50 ng/mL). The results of linear regression analysis indicated a significant association between serum selenium concentration and GPx activity in stress-free conditions (day -1: $P < 0.001$; Pearson's correlation-coefficient = -0.42). However, no significant correlation was observed between serum selenium concentration and GPx activity at day +1 (postoperatively).
Conclusion: Despite the observed correlation in serum selenium level and GPx activity in the preoperative phase, no such correlation was observed in the postoperative phase (day +1). It can be associated with the acute phase of stress caused by the major GI surgeries, following the ICU due to their medical indications. However, further studies are necessary to elucidate this correlation at PICU and its role in the hospitalization process among pediatric surgery patients.

Nutritional Assessment of Phenylketonuria Patients in Tehran

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Introduction: Phenylketonuria patients are at risk for nutritional deficiencies due to the limited intake of routine protein sources. Hence, children and adolescents with phenylketonuria were examined to determine their dietary intake, blood parameters, and nutritional status.
Methods: This cross-sectional study of 80 patients with phenylketonuria (42 girls, 52.5%) was conducted. Information on nutritional and demographic indicators was obtained from the general information questionnaire. Food intake was assessed through 3-day diet recalls. Analyses of the blood were carried out to determine the concentrations of phenylalanine, tyrosine, ferritin, iron, zinc, folic acid, B12, 25-hydroxyvitamin D3, albumin, and calcium.
Results: 57.5% of the participants in the present study had normal weight, based on body mass index for age. We found that children and adolescents with phenylketonuria who were low and normal weight had higher serum iron levels ($p = 0.006$) and higher calcium intake ($p = 0.007$). Additionally, more fat, phenylalanine, tyrosine, iron, and calcium were consumed than recommended while the subjects consumed fewer calories, zinc, and vitamin B12. In most participants, the phenylalanine levels were above acceptable levels.
Conclusion: In this study, iron supplementation was proven to be beneficial for obese children and adolescents with phenylketonuria. A special diet should be followed for these patients and part of the special diet foods provided since the serum levels of phenylalanine in these people is higher than the acceptable levels.
Keywords: Phenylketonuria, nutritional status, children, adolescents

Nutritional status and associated factors among elderly hospitalized in Mashhad

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Introduction: The aging population in developing countries, such as Iran, has become a challenge. Nutrition is one of the most important needs of the elderly. Malnutrition if not detected in a timely manner can lead to deprivation of appropriate nutrition, illness, and a decreased quality of life. In this study, we examined the nutritional status of the elderly hospitalized in Mashhad and its related factors.
Methods: This cross-sectional study was conducted on 200 elderly (100 men and 100 women) hospitalized in two hospitals in Mashhad. Nutrition status was examined in relation to demographic, anthropometric, and individual-health factors. An information questionnaire and a MNA questionnaire, whose validity and reliability were confirmed, were used to collect data. Data analysis was performed using SPSS version 24.
Results: One-quarter of the elderly were at risk of malnutrition, and 6% were malnourished. There was a significant correlation between nutritional status and variables such as age (P = 0.005), body mass index (P <0.001), mobility status (P = 0.001), daily drug use items (P = 0.022), acute illness / psychological stress over the past 3 months (P <0.001), and neuropsychiatric problems (P <0.001).
Conclusion: In light of the importance of nutrition status and its impact on the health and quality of life of the elderly, it is recommended that the continuous assessment and evaluation of the nutrition status of the elderly be put on the agenda.
Keywords: Elderly, Nutrition, Malnutrition, Mini Nutritional Assessment, Hospitalized

The Effect of Curcumin Supplementation on Pulse Wave Velocity in Patients with Metabolic Syndrome: A Randomized, Double-Blind, Placebo-Controlled Trial

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Background: Cardiovascular disease is a leading cause of death in many societies. Arterial stiffness is an initial sign of structural and functional changes in the arterial wall. Pulse wave velocity (PWV) is the gold standard for non-invasive evaluation of aortic stiffness and a modifiable cardiovascular risk factor. Curcumin is a major component of turmeric with known anti-inflammatory and anti-oxidative effects. Since arterial stiffness is affected by inflammation and oxidative stress, it may be improved by curcumin supplementation. The purpose of this clinical trial was to investigate the potential effects of curcumin on improving arterial stiffness in patients with metabolic syndrome.
Methods: This placebo-controlled, double-blind, randomized clinical trial was conducted among metabolic syndrome patients. Sixty-six eligible individuals were randomly assigned to active intervention or control groups. The active intervention group received curcumin supplement at a dose of 500 mg daily for 12 weeks, whereas the control group received placebo capsule. Physical activity, daily dietary energy intake, anthropometric, body composition, biochemical, hemodynamic, and arterial stiffness parameters were evaluated at baseline and the end of the study.
Results: In this study, body weight decreased significantly in the curcumin group compared to placebo. Also, curcumin intervention improved PWV, which remained significant after adjustment for potential confounding factors (P=0.011).
Conclusion: The current clinical trial demonstrated that daily intake of 500 mg of curcumin for 12 weeks can lead to the improvement of arterial stiffness and weight

management among subjects with metabolic syndrome.
Keywords: Arterial stiffness, Pulse wave velocity, Curcumin, Metabolic syndrome

Adherence to Mediterranean dietary pattern and polycystic ovarian syndrome: A hospital-based case-control study

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Background: Polycystic Ovary Syndrome (PCOS) is a common metabolic and endocrine abnormality in reproductive-aged women. This study aimed to investigate the relevance between adherence to the Mediterranean Diet (MD) and PCOS.
Methods: This age and BMI matched hospital-based case-control study was conducted on 108 women with newly diagnosed PCOS (response rate (92%)) and 108 women without PCOS (response rate (77%)). The PCOS women in the case group were diagnosed based on Rotterdam criteria and women without any symptoms of PCOS were selected as the control group. The validated 168-item food frequency questionnaire was used for evaluation of the usual dietary intake. Adherence to the MD was computed according to the score created by Trichopoulos et al. Total MD scores ranged from zero to eight and potential confounding factors considered. The conditional logistic regression (with adjustment for all of the potential confounders) using STATA (version 15) was used to assess the relationship between MD and PCOS.
Results: After adjustment for all of the potential confounders, an increase in adherence to MD had a significant association with reduction of the odds of PCOS (OR for the highest vs. lowest quartile = 0.05; 95% CI 0.001, 0.31; p-trend < 0.001).
Conclusion: We found that adherence to MD had a protective effect on the odds of PCOS. More prospective studies are required to confirm our findings.
Keywords: Mediterranean Diet; Polycystic Ovary Syndrome; Diet; BMI

The relationship between dietary inflammatory index (DII) and metabolic syndrome in Fasa Persian Cohort Study

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Introduction: Metabolic syndrome (MetS) is related to all causes of mortality. Inflammation is one of the important risk factors for MetS. This cross-sectional research aimed to investigate the relationship between MetS and pro-inflammatory diet by utilizing the dietary inflammatory index (DII).
Methods: Our population study consists of 10,017 participants (between 35 and 70 35 to 70 years). In other to collect our data, the Fasa Cohort Study (FACS) population (Fars Province, Iran) was used. The DII was evaluated according to the Shivappa et al. approach and by using the validated 125-item FFQ. Logistic regression was used to determine the relationship between MetS components and DII (P > 0.05).
Results: The overall mean of DII was − 0.89 ± 1.74. However, our result indicates that each unit increase in waist circumference (WC) (OR 0.98, 95% CI 0.96–0.99) and HDL (OR 0.99, 95% CI 0.98 0.99) was associated with significantly reduced odds of being in the 4th DII quartile in males and all study population respectively. We also observe that there is no statistically significant association between MetS and DII (according to adjusted multinomial logistic regression).
Conclusions: Although individuals in the highest quartile of DII had more likelihood to develop MetS, this relationship was not statistically significant among the Fasa Cohort Study (FACS) population.
Keywords: Dietary inflammatory index; Metabolic syndrome; Hypertension

The relationship between food insecurity and likelihood of hospitalization in patients with COVID-19

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Introduction: According to The World Health Organization (WHO), the Corona pandemic is a public health emergency. This pandemic influences the main parts of food security. This research aimed to investigate the association between food insecurity and the likelihood of hospitalization and the length of the recovery period after getting COVID-19.
Methods: This cross-sectional study was conducted through the census on COVID-19 patients diagnosed in Fasa, Iran. Informed consent and all questionnaires (demographic and food security) were completed over the phone. After that, all patients were followed up until recovery. Data were analyzed through the Chi-square test, t-test, and logistic regression and by using SPSS26 ($P < 0.05$).
Results: In this study, 219 COVID-19 patients with a mean age of 40.05 ± 15.54 years old [100 (54.7%) male and 119 (54.3%) female] were studied. The likelihood of hospitalization and the length of the recovery period of more than a month was significantly longer in the food-insecure individuals ($P = 0.001$) and ($P = 0.37$), respectively. However, we observe that the mean length of stay in the hospital in the two groups was not significantly different ($P = 0.76$). After adjusting for all confounding variables, individuals with food insecurity were 3.9 times more likely to be hospitalized than food security groups.
Conclusions: We observed that food-insecure individuals were significantly more likely to be hospitalized than the food-secure group.
Keywords: COVID-19, food insecurity, hospitalization

Evaluation of the relationship between body composition and risk of non-alcoholic fatty liver

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Introduction: When fat accumulates in the liver is defined as Non-alcoholic fatty liver disease (NAFLD). This cross-sectional research aimed to investigate the association between body composition and fatty liver and also determine of cut-off point for forecasting NAFLD.

Methods: Participants were selected from 2016 to 2017 at the nutrition clinic in Tehran, Iran. Body composition was estimated using the dual-energy X-ray absorptiometry scan method and the liver steatosis was measured using the CAP score through the FiroScan™.
Results: Among the total of 2160 patients who participated in this research, 745 (34.5%) subjects had NAFLD. We observed that fat tissue was directly and fat-free tissue was inversely correlated with the risk of NAFLD in almost all factors and if the total fat surpasses 32.23% and 26.73% in females and males and abdominal fat surpasses 21.42% and 13.76% in females and males, the risk of developing NAFLD increases, respectively. Finally, we discovered that the percentage of total fat had the highest AUC (0.932 for men and 0.917 for women) to forecast the risk of NAFLD.
Conclusions: Increasing the amount of total fat and abdominal fat from the cut-off point level leads to rose the likelihood of NAFLD development significantly.
Keywords: Non-alcoholic fatty liver; Body composition; Abdominal fat; Total fat

The effect of hesperidin supplementation on metabolic profile in patients with metabolic syndrome

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Introduction: Metabolic syndrome is a combination of several disorders, which is associated with an increased risk of cardiac diseases, diabetes, stroke, and diseases caused by lipid buildup in arterial walls. The prevalence rate of metabolic syndrome is estimated at 20-25% in adults and 19% in children.The underlying causes of metabolic syndrome include overweight and obesity, insulin resistance, physical inactivity, genetic factors, and aging. Hesperidin is a flavonoid that constitutes 90% of total orange flavanones and has high bioavailability. Hesperidin possess antioxidant properties, which could ameliorate oxidative disorders and metabolic-related disorders through anti-adipogenic, anti-inflammatory, antioxidant, and anti-hypercholesterolemic effects. This review paper aimed to assess the effect of hesperidin supplementation on metabolic biomarkers in patients with metabolic syndrome in RCT studies.
Methods: A systematic search was carried out in the PubMed, Scopus and Google Scholar to find relevant citations from 2000 to 2021. The titles and abstracts of the most relevant RCT studies were obtained and the articles that met the inclusion criteria were read in full text.
Results: It has been reported that hesperidin supplementation significantly decreased the serum levels of glucose, triglyceride, total cholesterol, low-density lipoprotein cholesterol, TNF-α, and high-sensitivity C-reactive protein. In addition, hesperidin supplementation has shown reduction in blood pressure and exerted hypotensive effects.
Conclusion: Taking into consideration the global increasing prevalence of metabolic disorders, therapeutic approaches such as hesperidin supplementation could improve metabolic profile in these patients. Therefore, well-designed dose dependent and long term RCT studies are recommended in future research.
Keywords: Hesperidin, Metabolic syndrome, metabolic biomarkers, RCT

The effectiveness of zinc supplementation on reducing symptoms in children with attention deficit hyperactivity disorder: a systematic review and dose-response meta-analysis of randomized clinical trials

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Introduction: The present systematic review and dose-response meta-analysis was conducted to quantify the efficacy of zinc supplementation on clinical symptoms of attention-deficit/hyperactivity disorder (ADHD) in children.
Methods: Electronic databases including PubMed, Scopus, ISI web of science, and Google Scholar were searched until January 2021. Results were reported as standardized mean difference (SMD) with a 95% confidence interval (CI) using Hedges's adjusted g method.
Results: six randomized clinical trials with 489 school-aged children were identified for the meta-analysis. Our findings showed a significant effect of zinc supplementation on ADHD total scores (SMD: -0.62 Hedges' g; 95% CI: -1.24 to -0.002, P=0.04) but not in hyperactivity scores (SMD: -0.93 Hedges' g; 95% CI: -3.31 to 1.45, P=0.44) and inattention scores (SMD: 0.21 Hedges' g; 95% CI: -0.09 to 0.51, P=0.17) compared to the control group. Besides, the dose-response analysis did not find any significant non-linear association between zinc supplementation dosage or duration on ADHD total scores. The certainty of the evidence was rated moderate to very low for all outcomes.
Conclusion: Zinc supplementation may have beneficial effects in improving ADHD symptoms in children with ADHD. Future well-designed, large-scale randomized controlled trials are needed to establish the benefit of zinc supplementation for ADHD.
Keywords: Zinc, attention deficit hyperactivity disorder, meta-analysis, clinical trials

Dietary Animal vs. Plant Protein Sources in Relationship with the Risk of Biliary Stone; a Case-Control Study

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Background and aim: Dietary intake is one of the modifiable risk factors for biliary stones. In recent studies, there was observed that plant protein intake is associated with a lower risk of biliary stones in comparison to animal protein intake; however, the results are conflicts. The aim of the current study is the comparison between the effect of animal protein and plant protein on the formation of biliary stone in one of the gastroenterology and liver disease centers in Iran.
Methods: 110 cases who had a history of biliary stone and 230 controls who were normal in terms of biliary diseases and presented to our medical center from November 2017 to October 2018 enrolled in this study. Food frequency questionnaire (FFQ) was used for the nutritional assessment; moreover, demographic and anthropometric data, habitual history and comorbidities were collected. Statistical analysis was conducted by SPSS software.
Results: Plant protein consumption was significantly lower (p=0.03) and animal protein intake was significantly higher (p=0.02) among men in case subjects compared to controls. Furthermore, the relationship between biliary stone disease and animal protein intake was significant in crude model for men (OR: 1.03, 95% CI=1.01-1.05). In addition, the risk of biliary stone was significantly lower in patients with higher consumption of plant protein (for women: OR: 0.94, 95% CI=0.89-0.99, for both sex: OR: 0.96, 95% CI=0.93-0.99).
Conclusion: Plant proteins among men are significantly reversely associated with biliary stone disease compared to animal proteins. Also, high animal protein intake can be a major risk factor among men.
Keywords: Biliary stone, Diet, Plant Protein, Animal Protein, Gall stone.

Malnutrition and its association with the mortality in liver cirrhosis; a prospective nutritional assessment in two referral centers in Iran

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Background and aim: Liver cirrhosis is a chronic liver condition caused by different conditions including viral infection, alcoholism, and autoimmune disorders. Malnutrition is one of the complications of liver cirrhosis that is associated with poor outcomes in these patients. This study aimed to determine the association of malnutrition with mortality in liver cirrhosis patients by the Subjective Global Assessment (SGA) questionnaire.
Methods: This prospective cross-sectional study was conducted on liver cirrhosis patients who were referred to two referral centers for liver disease in Tehran, Iran in 2017. Patients' information including demographics (age, gender, etiology of cirrhosis, alcoholic and smoking history) in addition to triceps skinfold (TSF), mid-arm circumference (MAC) and Child-Pugh score and Model for End-Stage Liver Disease (MELD) score were recorded in all patients. Patients were classified into A, B, and C categories based on the SGA questionnaire.
Results: Among 121 patients who enrolled in this study, (68.6%) were males and the mean age of patients was 54.78 ± 11.88. Viral infections were the most common etiology and 65 patients (56.2%) were in the A classification of Child-Pugh Score. TSF (P-value: 0.001) and MAC (P-value: 0.003) were significantly lower in SGA class C. The survival rate in SGA class C was significantly lower than other groups (P < 0.001; log-rank test). The risk of mortality in patients with SGA class A and B was 85% (HR value: 0.15; 95% CI: 0.02-0.87; P-value = 0.03) and 76% (HR value: 0.24; 95% CI: 0.06-0.83; P-value = 0.02) lower than those with SGA class C.
Conclusion: Anthropometric and SGA measure are two easy and accessible methods for assessing malnutrition and mortality in liver cirrhosis patients.
Keywords: Malnutrition, Liver Cirrhosis, Nutrition Assessment

Salt Consumption and Mortality Risk in Cirrhotic Patients: Results from a Cohort Study

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Liver cirrhosis (LC) is a chronic disease defined with hepatocytes necrosis and fibrosis with destroying the normal histological structure of the liver leading to hepatocellular carcinoma. Serum sodium concentration is shown to be as a determinant for prognosis in cirrhotic patients. Since conducting a long-term randomized clinical trial is not logical and feasible to find the optimum dosage of salt intake in patients with cirrhosis; cohort studies are the best design to assess the long-term effects of dietary salt on survival of cirrhotic patients. The aim of this cohort study was to evaluate the association between dietary intake of salt and mortality risk in cirrhotic patients. This study was designed as a cohort in three referral hospitals in Iran in 2018. One hundred twenty one patients aged between 20 and 70 years with established cirrhosis were recruited. Dietary intakes, demographic data, and disease severity were evaluated at the baseline. Participants were followed annually by phone call. Differences in survival and potential mortality rate between cirrhotic patients in the three categories of salt consumption were assessed by Kaplan-Meier, and Cox proportional hazard model. Crude survival was greater in patients with low to moderate salt consumption than in those with high consumption, and even in non-consumers [34.26 (95%, CI: 33.04–35.49) vs.30.41 (95%, CI: 27.13–33.69) vs.32.72 (95%, CI: 30.63–34.80), P = 0.028; log-rank test]. Using the Cox proportional hazard model, it was shown that risk of mortality in the high-salt consumption category was approximately 126 % higher than that of reference category (non-consumers) [HR value 2.26, (95%, CI: 0.91-5.63)], while this risk for the low to moderate consumption group was about 28% lower than the reference category [HR value 0.72, (95%, CI: 0.26-1.99), p-trend = 0.04]. In conclusion, high daily dietary intake of salt might increase the rate of mortality and moderate salt restriction (instead of elimination of salt) decreases risk of death.

Keywords: Salt; Mortality; Cirrhotic; diet.

Antioxidant and antibacterial activity of biosynthesized cerium oxide nanoparticles using Ceratonia siliqua

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Nanotechnology gives new and unique properties to the material by controlling the dimensions and structure of the material. This technology is based on basic sciences such as physics, chemistry, and biology and is one of the new ways to increase food safety. Nanotechnology-based materials, in addition to higher health safety, have lower prices and higher quality. Nanoscience and nanotechnology can be used in food processing, packaging and coatings, disinfection of food equipment, and in the manufacture of biosensors to detect pathogenic contaminants. Due to the widespread use of nanotechnology in nutrition sciences and food industry, in the present study, cerium oxide nanoparticles were synthesized using carob (Ceratonia siliqua) and their antioxidant and antimicrobial properties were investigated. The results of electron microscopy showed that the biosynthesized nanoparticles had a spherical shape and a size of 22 nm. Biosynthesized nanoparticles showed better antioxidant properties than the butyl hydroxy anisole, which is widely used in the food industry as an antioxidant. Biosynthesized nanoparticles also had antibacterial properties against gram-negative and gram-positive bacteria.

Keywords: Antioxidant, nanoparticles, antibacterial, food, nutrition.

Effect of liraglutide on adults obesity and weight loss

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Obesity is a complex multifactorial disease that has several complications, including high blood pressure and dyslipidemia. Major parts of obesity physiology are related to appetite control and regulation centers in the brain. The hypothalamus, which is the main center of appetite regulation, is made up of several nuclei, among which the arched nucleus (ARC) plays a major role in the regulation of food consumption, energy homeostasis, and appetite control. Proopiomelanocortin (POMC) neurons are a group of ARC neurons that are affected by appetite-regulating hormones such as glucagon-like peptide-1 (GLP-1). Liraglutide is a drug for the treatment of type 2 diabetes mellitus and belongs to a new group of drugs called GLP-1 receptor agonist which can act directly on its receptors in POMC anorexigenic neurons and stimulate them and that lead to appetite control as an outcome. Additionally, liraglutide can reduce the rate of gastric emptying and provide a higher satiety rate by its direct effect on GLP-1 receptors located in the vagus nerve, with all the aforementioned it can be concluded that this medicine has the potential to decrease food intake, and reduce body weight. It has been shown that injecting a maximum of 3 mg daily of this drug in overweight or obese individuals with a body mass index (BMI) of more than 30 or more than 27 is associated with obesity comorbidities, in addition to lifestyle and diet modification and increased physical activity can cause weight loss.

Keywords: Liraglutide, Obesity, Weight loss

The effect of nutrition training and physical activity on weight changes in women with high body mass index in the postpartum period

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Introduction: Retaining weight after childbirth is a general health problem because it can cause obesity in the long run. The aim of this study was to determine the effect of nutrition training and physical activity on weight changes with high body mass index in the postpartum period.

Methods: This clinical trial study was performed in 1399 on 64 women with high body mass index (25-34 / 9)who were in 6-12 weeks postpartum. The research units were randomly divided into intervention and control groups. The instruments used in the study were demographic and midwifery questionnaire, physical activity checklist and pedometer. The intervention included training in groups of 5-7 people in 4 sessions of 45-60 minutes with the content of nutrition and physical activity and its benefits in the postpartum period and how to use the pedometer, was performed by the researcher. Weights were measured at weeks 4 and 8. Data analysis was performed using Spss23 software.

Result: the results showed that there was no significant difference between the mean weight in the intervention and control groups before the training program. However, in the results of 4 weeks and 8 weeks after the intervention, compared to the beginning of the intervention, the mean weight (3.3 ± 5.6 and -3.7 6 0.6, respectively) in the intervention group had decreased. Statistically significant (P <0.001).

Conclusion: educational intervention in the field of nutrition and physical activity is effective on weight loss in women after childbirth and can be widely used as a low-cost method to promote women's health.

Keywords: body weight, nutrition, physical activity, obesity, postpartum

Adherence to Lifelines Diet Score (LLDS) in relation to poor quality of life in adolescent girls

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Introduction: Quality of life is an important health consequence in its own right. This study aimed to evaluate the association between Lifelines Diet Score (LLDS), using the 2015 Dutch Dietary Guidelines and underlying international literature, with Poor quality of life in adolescent girls.
Methods: This cross-sectional study was conducted among 733 adolescent girls between 12 and 18 years old from Mashhad and Sabzevar cities in northeastern Iran. The dietary intake was assessed with a valid and reliable food frequency questionnaire. Based on the LLDS guidelines, fully food-based scores, we categorized food groups as having positive, negative, neutral, or unknown effects. Only the positive and negative foods are included in the study. To evaluate health-related quality of life, the SF-12v2 questionnaire was used. Logistic regression was utilized in crude and adjusted models to explore the association between LLDS and poor quality of life.
Results: Subjects in the highest tertile of LLDS had a lower chance for the poor quality of life compared to subjects in the lowest tertile of LLDS (odds ratio [OR]:0.63, 95% confidence interval [CI] (0.43-0.91), p = 0.01). After adjusting for known confounders, including percentile BMI, physical activity, energy intake, age, this association remained significant (OR:0.63, CI:0.43-0.93, P=0.02).
Conclusions: Our results indicate that the higher score of LLDS is associated with a lower odds of poor quality of life among Iranian adolescent girls. Further longitudinal studies are needed to confirm these findings.
Keywords: Adolescents; Lifelines diet score; LLDS; Quality of life

Relationship between ratio of Firmicutes to Bacteroidetes and incidence diseases

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Introduction: The human gut microbiota consists of a set of microorganisms that are related to the individual's health status and immune system function. Firmicutes and Bacteroidetes are the major bacteria in the gut microbiota, and the ratio of Firmicutes to Bacteroidetes (F/B) in various diseases has recently attracted attention. This study aimed to investigate the ratio of (F/B) in different diseases and whether this ratio can be used as a marker for disease and a tool for faster diagnosis and preventive measures.
Method: The databases PubMed and google scholar were searched for studies published until December ۳, 2021, for case-control studies detecting gut microbiota in patients with different diseases. alterations of gut microbiota in patients compared with healthy controls were analyzed.
Results: According to the studied articles, the ratio of (F/B) in some diseases such as prostate enlargement, Nonalcoholic steatohepatitis, intima-media thickness, and irritable bowel syndrome can play a role in the development of the disease, but in some other diseases such as autism and gallstones, such a relationship was not found until now.
Discussion: Many discrepancies were observed in different diseases. One of the reasons for these discrepancies is that the gut microbiota of each individual depends on factors such as eating habits, gender, age, genetics, place of residence, and the use of antibiotics and other drugs. Therefore, more studies are needed to achieve certainty in each case.
Keywords: Bacteroides, gut microbiota, Firmicutes, marker, diseases

Effect of High Dose of Vitamin D supplementation on clinical outcomes and mortality in critically ill pneumonic patients

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Introduction: Pneumonia is an acute inflammation of the lung tissue that is divided into two main categories according to the origin of the microorganism; These include nosocomial pneumonia (HAP) and community-acquired pneumonia (CAP). The treatment for this disease is the use of antibiotics, and to reduce the use of antibiotics and prevent resistance caused by these drugs, research is being done to use dietary supplements.
Methods: We performed a randomized, double-blind, placebo-controlled, phase 2 trial of high dose vitamin D3 intervention in vitamin D–deficient pneumonia critically ill patients. After hemodynamic stabilization Randomization occurred was done. Patients in the intervention

group received an enteral dose of 500,000 IU of vitamin D3 or the same placebo. The primary outcomes were 28-day all-cause mortality, the severity of disease, and serum vitamin D3, calcium, and phosphorous levels.
Results: There was no significant difference in the severity of disease and Glasgow Coma score (P> 0.05). Also, there was no significant difference in the 28-day mortality rate between the two groups (P> 0.05). But the difference between the mean serum levels of vitamin D, calcium, and phosphorus between the intervention and control groups was significant (P< 0.05). The analysis showed that there was no significant difference between weaning of the mechanical ventilator, serum urea, and creatinine levels and total white blood cell (WBC) counts between the two groups (P> 0.05).
Conclusions: Enteral high-dose vitamin D3 supplementation did not provide an advantage over placebo for 28-day mortality, and severity of disease among pneumonic critically ill patients. But it could improve the serum vitamin d3, calcium, and phosphorous levels.
Keyword: vitamin D3, critically ill patients, pneumonia

Microbial Quality of Hospital's food and Enteral Tube Feedings in IRAN: A Systematic Review

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Introduction: The use of safe and nutritious foods in the hospital diet is one of the effective factors in treating patients. Regarding that hospitalized people usually have a weakened immune system, hospital meals should have high safety and acceptable health quality. This study aimed to review the microbial quality of a hospital's food and enteral tube feeding (ETF) in Iranian hospitals.
Method: The databases PubMed, google scholar, and ScienceDirect were searched for studies published until December 24, 2021. The Keywords included hospital catering, Enteral tube feeding, microbial contamination, hospital food.
Results: The examination of the ETF samples indicated 57 % (26/45) had ≥ 10^4 colony forming units (CFU) of TMB, ≥ 10^2 CFU of Enterobacter spp., ≥ 10 CFU of Klebsiella pneumonia, and ≥ 10^3 CFU of Pseudomonas species. Nine out of 200 (4.50%) hospital food samples were positive for E. coli O157 and 10.28% of hospital food samples were contaminated with S. aureus strains which were entirely considerable.
Discussion: The results show that there is contamination in hospital foods, but more studies are needed to make the contamination rate closer to reality. Unfortunately, there is no microbial standard for such foods in Iran. It is recommended to continuously check the microbial quality of the hospital's food.
Keywords: hospital's catering, Enteral tube feeding, microbial contamination, hospital food

Food Safety Surveillance In Hospital Catering: A Practical Approach In Iran

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Introduction: Food safety in hospitals is important because most consumers are vulnerable. The purpose of a food safety inspection is to determine compliance with the law and to gather evidence for enforcement in the event of non-compliance. surveillance is an integral part of food safety. This article aims to design a practical approach to surveillance food safety in Iranian hospital catering because there are not any related tools/guidelines.
Method: Tools and guidelines of different countries, the national standard of Iran, and international standards about surveillance food safety in hospital were reviewed.
Results: The tools and guidelines of Canada and Australia, the national standard of Iran and the international standards of FAO and WHO, and also the standard of 2200· were used for this purpose.
Conclusion: For effective surveillance, this surveillance should be done accurately and regularly, and due to the importance of food safety in hospital catering, it is recommended that:
1) this surveillance should be done periodically with short intervals.
2) Because compliance with HACCP greatly reduces the transmission of disease from food, it is necessary to establish strict surveillance as well as compulsion to implement this plan in hospitals.
3)Part of this surveillance includes surveillance the awareness of hospitals catering staff, which should be taken seriously because studies show that even in developed countries this awareness is very low.
Keywords: surveillance- food safety- hospitals catering

The association between obstructive sleep apnea and diet quality: A cross-sectional study

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Introduction: obstructive sleep apnea (OSA) is a common condition characterized by repetitive obstruction of the upper airway during sleep with resultant episodic hypoxia and arousal.

Although short sleep duration has been linked to unhealthy dietary patterns, little is known about the association of obstructive sleep apnea (OSA), a disorder characterized by sleep fragmentation and diet.

Study Objectives: Investigate associations between diet quality and OSA among patients admitted to Imam Reza hospital sleep clinic.

Method: A diverse population (N = 90) completed a food quality questionnaire. All participants were submitted to nocturnal polysomnography and Sleep pattern was analyzed by polysomnography (PSG) and subjective sleep parameters and apnea–hypopnea index (AHI). Moderate-to-more severe OSA was defined as having an AHI > 15 events/hr. Data were analysed with paired sample t-test in SPSS version 25.

Results: Participants were 44.07% female with a mean age of 52.8± 10.02 years. Approximately 79.5% were categorized as having moderate-to-more severe OSA and 20.5% were categorized as having normal and mild OSA.

In adjusted models, moderate-to-more severe OSA was associated with higher intakes of simple sugar, Saturated fatty acids and red meat but no difference in Monounsaturated fatty acids (MUFAs) and Polyunsaturated fatty acids (PUFAs) intake were observed.

Conclusions: Moderate-to-more severe OSA is associated with a less healthy dietary profile and dietary interventions may be effective in improving sleep quality and sleep parameters.

Keyword: obstructive sleep apnea, diet

Effect of cornelian cherry fruit extract on blood pressure, anthropometric and body composition indices in patients with non-alcoholic fatty liver disease: a randomized controlled trial

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Background & Aims: Obesity is an important factor in the pathogenesis of non-alcoholic fatty liver disease (NAFLD). Patients with NAFLD are at increased risk for hypertension. The investigations have hypothesized that Cornus mas L. (cornelian cherry) fruit can improve blood pressure and obesity. We investigated the effect of cornelian cherry fruit extract on blood pressure variables, anthropometric and body composition indices in patients with NAFLD.

Methods: This double-blind, randomized controlled trial was conducted on fifty patients with NAFLD. Patients received 20 cc/d cornelian cherry fruit extract or placebo for 12 weeks. We measured diastolic blood pressure (DBP), systolic blood pressure (SBP), weight, waist circumference (WC), hip circumference (HC), waist-to-hip ratio (WHR), body fat mass (BFM), body fat percent (BFP) and fat free mass (FFM).

Results: The treatment group compared to the control group showed a significant reduction in DBP (-8.62 ± 11.86 vs. 0.53 ± 8.53; P = 0.009), SBP (-8.63 ± 14.37 vs. 0.0 ± 12.67; P = 0.04), BFM (-0.2 ± 3.9 vs. 0.7 ± 2.4; P = 0.02) and BFP (-0.2 ± 4.9 vs. 0.8 ± 2.8; P = 0.05) after adjusting for confounding factors. However, we found no significant difference between groups in weight, WC, HC, WHR and FFM (P > 0.05).

Conclusion: Cornelian cherry can improve blood pressure. Further studies with higher dosages of extract are needed to clarify its effects on obesity. Trial registration: Registered on 30 September 2018 at Iranian Registry of Clinical Trials (IRCT20180419039359N1).
Keywords: Non-alcoholic fatty liver disease; Cornus mas L.; Blood pressure; Obesity.

The efficacy of royal jelly and tocotrienol-rich fraction on impaired glycemic control and inflammation status through irisin in obese rats

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Purpose: Obesity is a leading health problem in the world, and its prevalence as well as obesity-related disorders have been markedly increasing over the past several years. Given that irisin as a key adipomyokine could diminish obesity-induced disorders, this research was therefore aimed to determine whether functional foods like royal jelly (RJ) and tocotrienol-rich fraction (TRF) could exert their metabolism regulatory effects via irisin as well as to examine the impacts of RJ and TRF on obesity-induced glucose intolerance and inflammation status.
Methods: Obesity was induced in male Wistar rats (n=40) via high-fat diet (HFD) during 17 weeks. Then obese animals were randomly allocated into 4 groups (n= 10/group): HFD without any supplementation or along with RJ, TRF or both of them for further 8 weeks. At the end of the study, serum glucose, irisin, insulin, tumor necrosis factor-alpha (TNF-α), interleukin-1β (IL-1β), monocyte chemoattractant protein 1 (MCP-1), leptin, and adiponectin were measured.
Results: At the end of the intervention, weight gain following HFD was attenuated over the supplementation with RJ and TRF, but was not reach statistically significant levels. Glucose homeostasis and inflammation were ameliorated in rats receiving RJ and TRF with HFD. Irisin levels were elevated by RJ. Meanwhile, the TRF effect on irisin was not considerable. Our finding demonstrated a negative correlation between serum irisin and FBS, insulin, TNF-α, MCP1, and IL-1β.
Conclusion: The main findings revealed that, despite the lack of significant weight loss, RJ and TRF could promote healthy obesity by mediated irisin in RJ-consuming rats.
Keywords: royal jelly; tocotrienol-rich fraction; irisin; glycemic control; inflammation.

The effect of vitamin D supplementation on hemoglobin concentration: a systematic review and meta-analysis

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Introduction: The purpose of this review was to investigate the effect of vitamin D supplements on hemoglobin concentration in subjects aged 17.5–68 years old; using randomized controlled trials (RCTs).
Methods: Relevant RCT studies were identified from January 2000 to January 2019 by using MeSH terms in PubMed, Embase, Cochrane Library, Clinical trials, Scopus databases and gray literature. The studies were reviewed systematically, and quality assessments were evaluated by the guidelines of the Cochrane risk of bias. The effect of vitamin D supplements (n = 14) on hemoglobin concentration was considered as primary outcome, while its effects on the levels of ferritin, transferrin saturation and iron status were derived as secondary outcomes. In total, 1385 subjects with age range of 17.5 to 68 years old were examined for 3 h to 6 months; Mean (standard deviation) or median interquartile changes in the hemoglobin concentration in each treatment group was recorded for meta-analysis.
Results: Fourteen RCTs met the inclusion criteria. Current study findings propose that vitamin D supplementation leads to a non-significant reduction in hemoglobin levels in subjects (17.5–68 years old) [std. mean difference (SMD): 0.01; 95% CI: − 0.28, 0.29; P = 0.95], also it has no significant effect on ferritin concentrations [std. mean difference

(SMD): -0.01; 95% CI: [− 0.20, 0.18; P = 0.91]. However, vitamin D supplementation demonstrated positive effects on transferrin saturation [mean difference (MD): 1.54; 95% CI: 0.31, 2.76; P = 0.01] and iron status (std. mean difference (SMD): 0.24; 95% CI: − 0.09, 0.39; P = 0.002].

Conclusion: Current review concluded that supplementation with vitamin D had no significant effect on hemoglobin and ferritin levels while positive effects on transferrin saturation and iron status were observed. Further clinical studies are required to determine the actual effect of this intervention on hemoglobin levels.

Probiotics as an adjunct therapy in mechanically ventilated patients: An umbrella systematic review and meta-analysis

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Introduction: The literature regarding the role of probiotics in critically ill patients is unclear; therefore, this umbrella systematic review and meta-analysis was carried out to clarify the effects of probiotics on the clinical outcomes of mechanically ventilated patients.

Methods: The Scopus, Pubmed/Medline, and ISI Web of Science online databases were searched up to November 2021. All meta-analyses evaluating the impact of Pro-, Pre-, or Synbiotics in patients under mechanical ventilation were considered eligible. The Cochran Collaboration's checklist was used to evaluate studies' quality. Data were pooled using the random- and fixed-effects approach.

Results: Eighteen meta-analyses and nine clinical outcomes were re-analyzed. Probiotics significantly decreased ventilator-associated pneumonia (VAP) incidence (ES=0.72; 95% CI: 0.69, 0.76; P<0.001) ($I2$=48.4%, P=0.019)}, nosocomial infection {(ES=0.69; 95% CI: 0.62, 0.76; P<0.001) ($I2$=4.1%, P=0.405)}, intensive care units (ICU) length of stay {(ES=-0.83days; 95% CI: -1.23, -0.43; P<0.001) ($I2$=57.0%, P=0.002)}, ICU mortality {(ES=0.88; 95% CI: 0.81, 0.95; P<0.001) ($I2$=0.0%, P=0.998)}, hospital mortality {(ES=0.85; 95% CI: 0.78, 0.91; P<0.001) ($I2$=0.0%, P=0.815)}, mechanical ventilation duration {(ES=-0.18days; 95% CI: -0.35, -0.02; P=0.031) ($I2$=40.4%, P=0.079)}, antibiotic use {(ES=-1.17days; 95% CI: -2.08, -0.27; P=0.011) ($I2$=66.8%, P=0.006)}, and diarrhea {(ES=0.84; 95% CI: 0.76, 0.92; P<0.001) ($I2$=2.9%, P=0.417)}. There was no significant effect of probiotics supplementation on length of hospital stay (ES=-0.47days; 95% CI: -1.03, 0.09; P=0.103) ($I2$=0.0%, P=0.774).

Conclusion: The obtained results of the current umbrella meta-analysis indicate that probiotics administration could be considered as an adjunct therapy for critically ill patients.

Keywords: Critical illness; Mechanical ventilation; Probiotics; Systematic review; Umbrella meta-analysis

Nutritional Status of Patients upon the Pediatric Intensive Unit (PICU) Admission Time

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Introduction: Nutritional status in pediatric intensive care unit (PICU) admitted patients is considered as an important determinant factor. In such patients, malnutrition would be associated with poor clinical outcome.

Methods: This cross-sectional study was carried out in Akbar Children Hospital in 2019. The nutritional status of 71 critically ill pediatric patients upon the PICU admission time was investigated. The recorded variables included age, gender and primary diagnosis. Also, weight

and height of patients were recorded. The weight to height Z score (according to World Health Organization (WHO) Global Database) was calculated for assessment of malnutrition. SPSS software (version 20) was used for data analysis.
Results: Mean±SEM value of patients, ages were 18.1±2.2 months. The mean±SEM of weight and height of the participants were 7.5±0.45 kilograms (kg) and 68.6±2.6 centimeters (cm), respectively. There were 32 (45.5%) female and 39 (54.9%) male subjects among the studied patients from which 37 (52.1%) were at normal nutritional status, 11 (15.4%) had moderate malnutrition and 23 (32.3%) suffered from severe malnutrition.
Conclusion: According to the results, 47.7% of patients had some degrees of malnutrition. These patients would be at risk for poor clinical outcomes. Therefore, development of a customized advanced nutrition support protocol for this high-risk group is of particular importance and needs immediate action planning.
Keywords: Pediatric Intensive Care Unit, Critical Illness, malnutrition

The role of glutamine supplementation on surgical intensive care unit patients: A narrative review

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Purpose of review: Glutamine (Gln) is increased in the critical ill patients due to catabolic stress conditions. Gln supplementation may improve clinical outcomes in critically ill patients, but results in surgical intensive care unit (ICU) are not clear. This study aimed to review the effect of Gln supplementation in surgical ICU patients.
Recent findings: Recent studies focused that Gln reduced the overall length of hospital stay; consequently, it decreased ICU costs. Few studies demonstrated that days on mechanical ventilation have decreased. Also, plasma Gln concentrations have increased in most studies. Studies showed that supplementation with Alanine-Gln at the dose of 0.5 g/kg/day could significantly reduce in-hospital mortality. Few studies have reported that nitrogen balance is unaltered by 1.5 g amino acids/kg/day. Some studies have shown that Gln decreased infection diseases and enhanced immune systems. Also, IL-6 concentrations have decreased; however, data was limited.
Conclusion: Based on these findings, Gln can have a positive effect on surgical ICU patients but further, more clinical trials are needed to investigate the accurate effect of Gln in these patients.
Keywords: Glutamine; surgical intensive care unit; critical illness

Relationship between Mental health and Body Mass Index

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Introduction: Depression, anxiety and stress are currently the main health problems that cause disability in people and no one in the world will be safe against these problems. As many as 450 million people suffer from a mental or behavioral disorder, and around 3.6% (264 million) of the global population suffers from anxiety.
Methods: The Depression, Anxiety, and Stress Scale - 21 Items (DASS-21) is used to evaluate the mental health of subjects. The weight of the subjects is measured and recorded using the INBODY Model 270 BIA with an accuracy of 100 g. Individuals' height is measured with an accuracy of 0.1 cm using the INBODY Model BSM370. Body mass index is calculated by dividing the weight in kg by the square of height in meters.
Results: Regarding anxiety status, 81.8% of obese people and 79.3% of people who are in normal condition according to body mass index are in a state of severe anxiety. 63% of people with obese body mass index and 47.8% of people with normal body mass index have moderate stress. Regarding depression, 63.6% of obese people and 63.1% of people with normal body mass index have a severe state of depression.
Conclusion: In conclusion, we find a direct relationship between obesity and depression,

anxiety and stress, and BMI correlate positively with mental health parameters.
Keywords: Depression, Anxiety, Mental Health

The association between eating breakfast and quality of life among adolescent girls

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Introduction: Breakfast skipping was known as an important risk factor for some health related disturbances. But very limited data was available about breakfast consumption and quality of life. This study aimed to explore the association between eating breakfast and quality of life.
Method: This cross sectional was conducted on 988 adolescent girls aged between 12-18 years old. Participants were recruited from different regions of Khorasan Rizvi, Iran. Using a random cluster sampling method. Assessment of breakfast consumption was using a pretest questionnaire. Quality of life was assessed by the SF-12-v2 questionnaire. We applied logistic regression analysis in crude and adjusted models to explore the association between eating breakfast and quality of life. \
Result: The subjects who ate breakfast every day had 33% lower odds for poor quality of life than who didn't eat breakfast in the crude model (OR= 67% ;95% CI: 0.45-0.99, P =0.04). After adjustment the confounding factors including age, physical activity, percentile BMI and energy intake, this significant association was disappeared. (OR= 69%; CI:0.44-1.10 P=0.12)
Conclusion: These findings indicated an inverse association between breakfast consumption and poor quality of life; incrude nor in adjusted models. Further studies, particularly longitudinal studies are required.
Keywords: adolescent girls, breakfast, dietary habit, quality of life

The Impact of Ghrelin on Cachexia among Children with Chronic Kidney Disease

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Purpose: Children with chronic kidney disease (CKD) often exhibit symptoms of anorexia and malnutrition that lead to cachexia and are associated with decreased quality of life and increased morbidities. Ghrelin is a growth hormone (GH) that stimulates feeding as a potent orexigenic factor. The aim of this study is to review the role of ghrelin in regulating energy balance, with a focus on cachexia among children with CKD.
Recent findings: The two primary forms of circulating ghrelin are acylated (<10%) and des-acyl ghrelin. Acylated ghrelin promotes food intake while des-acyl ghrelin induces negative energy balance. The plasma levels of des-acyl ghrelin increase in patients with CKD but not acyl ghrelin. Few study findings bolster the potential therapeutic application of ghrelin and its analogs as an appetite-stimulating and anabolic strategy in uremia-associated cachexia. Some studies showed the gherlin could increase food intake and improve lean body mass. Ghrelin regulates metabolic balance and may improve the cachectic condition through insulin-like growth factor (IGF) dependent and IGF independent pathways. Ghrelin mediates anti-inflammatory signals in cells. Some studies indicated that ghrelin administration in children with CKD could reduce the mitochondrial oxidative capacity. The effects of ghrelin on appetite and muscle mitochondria may improve muscle metabolism and nutritional alternations.
Conclusion: According to this study, ghrelin may be recommended as a choice to prevent cachexia in children with CKD. Further clinical trial in large sample size is needed to confirm this recommendation.
Keywords: Cachexia, Children, Chronic kidney disease, Ghrelin

The association between legumes intake and insomnia in adolescent girls

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Introduction: Sleep disorders are a serious worldwide health threat that affecting the life quality of almost one third of the general population. Diet is a modifiable factor that may affect sleep health. This study aimed to explore whether legumes consumption was associated with insomnia symptoms.
Methods and materials: A total of 733 adolescent girls aged between 12 and 18 years old were recruited from different regions of Khorasan Razavi in northeastern of Iran. legumes intake was assessed by a valid and reliable food frequency questionnaire (FFQ). We used a validated iranian version of the Insomnia Severity Index (ISI) questionnaire to assess insomnia. To explore the association between legumes intake and the (ISI), we used logistic regression analysis in crude and adjusted models.
Results: Subject in third tertile of legumes consumption had significantly higher Intake of vitamin A, C, B12, B9, B6, Iron, calcium, Pufa, Mufa, sFA, Fat, protein, carbohydrate and energy compared to Subject in first tertile of legumes consumption. Individuals in third tertile of legume intake, compared to individuals in the first tertile of legumes intake, had a lower odds of insomnia (OR:0.57; 95% CI, CI:0.34¬¬_0.94, P:0.02) in crude model. These associations were remained significant after adjustment for age, energy intake, percentile BMI and physical activity in different models (OR:0.48; 95% CI, CI:0.27¬¬_0.83, P:0.009).
Conclusions: higher legumes intake was associated with lower odds of insomnia. Prospective studies are needed to confirm these findings.
Keywords: adolescent, diet, insomnia, legumes, sleep

The Assoctiaion between Dietary Inflammatory Index with anthropometric indices and metabolic parametrs in Atherosclerosis Patients: A Cross-sectional Analytical Study

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Background: We aimed to evaluate the relationship of the Dietary Inflammatory Index (DII) with metabolic parametrs in atherosclerosis patients.
Methods: A total of 320 patients were recruited in the Ahvaz city through random sampling, but after the inclusion (willingness to participate in the study, age range 18 to 70 years, both sexs) and exclusion (unwillingness to participate in the study, pregnancy and lactation, incomplete demographic or anthropometric information, individuals who did not respond to more than 35 food items in the food frequency questionnaire, weight loss surgery in the last year, chronic diseases like diabetes, fatty liver, follow specific diets, taking specific medicines, smoking and alcohol) criteria considering, 249 participants were included in the statistical analysis. Anthropometric, demographic, and physical activity data were obtained from each subject. A food frequency questionnaire was applied to calculate the DII. Multivariable logistic regression analysis and linear regression analysis were performed to determine the association between DII and metabolic parameters. The study was approved by the research ethics committee of Ahvaz Jundishapur University of Medical Sciences (ethical approval reference number IR.AJUMS.REC.1400.213).
Results: Based on linear regression analysis and after the adjustment of confounding factors (age, sex, energy intake, physical activity, race, BMI, job, and education) were observed a positive association between the DII with FBS (β=1.62, p-

value < 0.001), TG (β=4.53, p-value=0.003), TC (β=5.41, p-value=0.020), LDL-c (β=4.25, p-value=0.01), AIP (β=0.01, p-value=0.01), TC/HDL (β=0.11, p-value=0.02), Na (β=0.41, p-value < 0.001), AST (β=0.96, p-value=0.01), ALT (β=0.75, p-value=0.02). According to the continuous score of DII, there was no significant association between DII and odds of obesity and total cholesterol/high density lipoprotein (TC. HDL-c) ratio in all 3 models (p>0.05).

Conclusions: Findings from this study indicate that DII is associated with some CVD risk biomarkers. Interventions to improve diet quality should regard increasing anti-inflammatory dietary components to enhance the metabolic parametrs in atherosclerosis patients.

Keywords: Dietary inflammatory index; Sleep quality; University students; Iran

The association between low-fat diet and depression prevalence in adolescents

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Introduction: Depression is a common disturbance with high global burden which related to morbidity and mortality among different sex and age groups. Diet is a modifiable factor that may affect neurological disorders. In this study, the association between low fat diet (LFD) and depression was investigated.

Methods: A total of 733 adolescent girls aged between 12 and 18 years old were recruited from different regions of Khorasan Razavi in northeastern of Iran. Dietary intake was assessed by a valid and reliable food frequency questionnaire. We used the percentage of energy from each macronutrient instead of absolute intake. For fat, individuals in the highest stratum received 10points and those in the lowest stratum received 0 points. A Persian version of the Beck Depression Inventory (BDI) was used for the assessment of depression in the current study. BDI is a self-administered questionnaire of 21 items with various options. To explore the association between LFD and depression, logistic regression was used in crude and adjusted models.

Results: No association was found between the highest adherence to LFD and odds of depression (OR: 1.01 CI:0.70_1.59, P=0.96) in the crude model. This association was not significant after adjustment for potential confounders including age, percentile BMI, energy intake, and physical activity (OR: 0.99 CI:0.65_1.51, P=0.99).

Conclusion: No significant association was observed between LFD and odds of depression. Probably, fat intake was important. Further studies are needed to clarify these findings.

Keywords: Low-fat diet, Adolescence, Depression, Diet

Effect of Propolis Supplementation on Athletic Performance, Body Composition, Inflammation, and Oxidative Stress following intense exercise: A Triple-Blind Randomized Clinical Trial

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Background : Emerging evidence indicates that propolis as a novel potential antioxidant has unique benefits. This study aimed to evaluate the effect of propolis on oxidative stress, inflammation, body composition, and athletic performance in healthy active subjects.

Methods: This clinical trial was conducted on 54 male military cadets. Eligible subjects were randomly allocated to receive a single dose of 450 mg propolis twice daily for four weeks or a matching placebo containing microcrystalline cellulose. Cooper 12-min run test and running-based anaerobic sprint test were performed to measure aerobic and anaerobic performance. Blood samples were obtained immediately after Cooper's test to evaluate oxidative stress and inflammation status. Fat mass and fat-free mass were analyzed using bioelectrical impedance.

Results: Mean changes in fat mass, fat-free mass, anaerobic powers, fatigue index, and VO2 max did not differ significantly between the two groups after the adjustment for baseline values (P-value>0.05). A significant change was observed in plasma levels of IL-6 (-1.43±0.11pg/mL), total oxidant status (-3.9±0.2µmol/L), total antioxidant capacity (164±12 µmol/L), malondialdehyde (-0.52±0.03µmol/L), oxidative stress index (-0.45±0.04), and glutathione (48.72±2µmol/L) in the propolis group compared with the placebo group after the adjustment for baseline values and weight changes (P-value<0.05). Although IL-10 concentrations had no significant changes in both groups, the ratio of IL-6/IL-10 significantly reduced in the propolis group compared with the placebo group (-0.174±0.015 vs. 0.051±0.014; P-value: 0.041).
Conclusions: Our results indicated that propolis might have beneficial effects on oxidative stress and inflammation following intense activities in healthy male subjects.
Keywords: Propolis, Oxidative stress, Inflammation, Athletic Performance, Body Composition, VO2 max

Selenium, Zinc, Manganese and Copper deficiencies in dialysis patients and their association with depression and anxiety

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Introduction: We aimed to define the frequency of Selenium, Manganese, Zinc and Copper deficiencies in dialysis patients and their association with mood disorders including depression and anxiety.
Methods: Patients in dialysis sections of Dr.Sheikh hospital from April 2017 to April 2019 were enrolled after taking written consent from them or their parents. Blood samples were obtained for measurement of serum Selenium, Zinc, Manganese and Copper at the time of routine monthly sampling. Then cases were evaluated for frequency of mood disorders. The Child Depression Inventory (CDI) questionnaire and Depression and Anxiety Stress scale (DASS) were used to assess the prevalence of anxiety and depression states, respectively. The frequencies of depression and anxiety were compared between groups with vs. those without trace elements deficiencies.
Results: 40 patients including 18 hemodialysis (HD) (45%) and 22 peritoneal dialysis (PD) (55%) cases enrolled the study. The ages in first and second groups were 12.77±2.94 and 9.34 ±4.03 years, respectively (P= 0.04) No cases of Zinc, Copper and Manganese deficiencies were reported, however, 13(32.5%) patients had Selenium deficiency. Seven of 13 case with Selenium deficiency and 10 of 27 patients with normal Selenium levels had depression (P=0.314). Additionally, 9 of 13 cases with Selenium deficiency and 24 of 27 cases with normal Selenium levels had anxiety (P= 0.125).
Conclusion: Serum levels of Zinc, Manganese, and Copper are within normal ranges in dialysis cases. However Selenium deficiency is common, it does not correlate with depression and anxiety states in dialysis cases.
Keywords: Selenium, Zinc, Copper, Manganese, depression, anxiety

Selenium Deficiency in Dialysis Patients

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Introduction: Trace elements deficiencies are reported in dialysis patients. We aimed to define the frequency of Selenium deficiency in dialysis patients and its correlation with age, gender, duration of dialysis, dialysis modality, and serum levels of blood urea nitrogen (BUN), albumin, total cholesterol and hemoglobin.
Materials and methods: Patients under dialysis in dialysis sections of Dr.Sheikh hospital from April 2017 to April 2019 were enrolled the study after taking written consent from patients or their parents. Blood samples were obtained for measurement of serum Selenium levels at time of routine monthly sampling.
Results: Forty patients enrolled the study. Totally 45% were under hemodialysis and 55% peritoneal dialysis .The ages in first and second groups were 12.77±2.94 and 9.34 ±4.03 years, respectively (P= 0.04) .Serum selenium levels in hemodialysis and peritoneal dialysis patients were 91.95 ±8.43 and 94.1 ± 8.67 microgram (µgr) per liter, respectively (P= 0.374). Thirteen

cases (32.5%) including 38.9% of hemodialysis and 27.3% of peritoneal dialysis patients had Selenium deficiency (P= 0.435). No correlation were found between age, gender, modality of dialysis, dialysis duration , serum levels of BUN , albumin , total cholesterol and hemoglobin with Selenium deficiency (P> 0.05 for all).
Conclusion: Selenium deficiency is common in dialysis patients. Demographic factors, dialysis modality , dialysis duration, serum levels of BUN, albumin , total cholesterol and hemoglobin are not related to presence of Selenium deficiency. Periodic checking of serum levels of Selenium is recommended.
Keywords: child, Selenium deficiency, CKD, peritoneal dialysis, hemodialysis

Frequency of Sodium, Potassium and Acid-Base Disorders in Dialysis Patients

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Introduction: We aimed to define the frequency of sodium, potassium, and acid-base disorders in the dialysis population considering age, gender, dialysis modality, duration of dialysis, and used drugs.
Methods: From June to December 2020 dialysis patients of Dr.Sheikh children hospital were assessed. The frequency of sodium, potassium, and acid-base disorders was calculated. The mean sodium, potassium, pH, and serum bicarbonate levels were compared considering gender, dialysis modality, age and duration of dialysis, and used drugs.
Results: 71 patients aged 125 ± 67 months were enrolled including 57.7% boys, 54.9% were under peritoneal dialysis (PD) and 45.1% under hemodialysis (HD). Hyponatremia , hypernatremia , hyperkalemia , hypokalemia , PH <7.31 and >7.41 , bicarbonate <23 and > 29 mmol/l were reported in 32.4% , 2.8% , 53.5% , 2.8% , 15.5% , 40.9%, 85.9 and 7.05% of patients , respectively .Frequencies of sodium , potassium and acid –base disorders were not significantly different considering age, gender and duration of dialysis (P> 0.05 for all) .However hyponatremia, hyperkalemia, PH>7.41 and bicarbonate > 29 mmol/l were significantly more frequent in HD versus PD patients (P< 0.05 for all). Furosemide significantly were used by patients with hyponatremia and PH >7.41, and Enalaprile in those with hyperkalemia (P< 0.05 for all).
Conclusion: metabolic acidosis, hyperkalemia, PH>7.41and hyponatremia were the most common disorders, respectively. Hyponatremia, hyperkalemia, PH >7.41, and bicarbonate >29 mmol/l were significantly more frequent in HD vs. PD patients. Patients used furosemide more developed hyponatremia and PH >7.41 and those used Enalaprile hyperkalemia.
Keywords: hemodialysis, peritoneal dialysis, acid-base disturbance, sodium disorders, potassium disorders

The effect of saffron (Crocus sativus L.) on improving anthropometric indices and reducing appetite levels

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Background: Obesity is an inflammatory disease that is the most common cause of cardio-metabolic disease such as atherosclerosis. Saffron acts as a functional food and traditional food additive antioxidant that affects many diseases and fights against the progress of inflammatory by antioxidant effect. Therefore, this study aimed to identify the effects of Saffron on anthropometric indices and appetite levels.
Methods: This was a randomized, double-blind, placebo-controlled clinical trial. A total of 63 subjects of atherosclerosis patients with overweight or obesity were recruited from Zafaranieyh Clinic in Tehran, Iran. The participants were divided randomly into two groups. Subjects received 100mg/d saffron or a placebo capsule for 6 weeks. Appetite levels were measured by the Visual analog scale (VAS) questionnaire. Furthermore, anthropometric indices of participants were measured before and after the intervention.
Results: Statistical analysis showed that the hip circumference significantly decreased after saffron supplementation (P= 0.049) (P=0.006). In the saffron group, the mean of anthropometric indices improved, nevertheless, consumption of saffron did not significantly affect other anthropometric indices such as BMI and waist circumference. Moreover, the mean of appetite levels modulated but no statistically significant difference was found in appetite levels.
Conclusions: Saffron may be considered a novel agent to decrease appetite levels and improve the

anthropometric indices index. It is recommended that people use saffron as a spice daily. A great deal of further research will be needed to critically validate the efficacy of saffron and its mechanisms in obesity.

Keywords: Saffron; Anthropometric indices; Appetite levels; Atherosclerosis; Obesity

Genotype-dependent Response to a Low-energy, Moderate Fiber Diet on Brain-Derived Neurotrophic Factor in Patients who are Obese and Overweight with Type 2 Diabetes

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Introduction: Brain-Derived Neurotrophic Factor (BDNF) plays a key role in the pathway of the hypothalamus by reducing appetite, controlling body weight and maintaining energy balance. The aim of this study was to investigate the effects of a low-energy, moderate fiber diet on BDNF in obese and overweight type 2 diabetic patients with the APOA-II polymorphism.
Methods: 56 patients, with type 2 diabetes and a BMI ≥25 kg.m2, were identified from 697 patients with the APOA-II genotype. After adjusting for gender, age and body mass index, an equal number of patients were selected for the CC and TT / TC group from the APOA-II genotype. After six weeks of adhering to a low-energy, moderate fiber diet, 44 patients completed the study. Serum BDNF was measured for the whole population and its serum concentration was compared, pre and psot, in the whole population and between the two genotypic sub-types.
Results: Serum BDNF levels increased significantly in the total participants following the low-energy, moderate fiber diet intervention (from 177.54±141.54 pg/ml to 253.79±206.34 pg/ml, p value = 0.025). However, the increase of serum BDNF levels did not significantly differ between genotypic sub-types.
Conclusion: The present study showed that adherence to a six-week, low-energy, moderate fiber diet significantly increased serum BDNF levels in obese and overweight type 2 diabetic patients.

Keywords: APO AII, BDNF, Low-Energy Diet, Fiber, Genotype

Relationship between Pre-pregnancy Body Mass Index and developing Preeclampsia during pregnancy: Case-control study

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Background: Blood pressure disorders are one of the most common medical complications of pregnancy. The present study was performed aimed to determine the relationship between Pre-pregnancy Body Mass Index and Preeclampsia.
Methods: This analytical case-control study was performed on 240 women referred to the university hospitals in Mashhad, Iran, 2018-to 2019. The convenience sampling technique was recruited to select the samples in the case group from hospitalized individuals with a definite diagnosis of preeclampsia, and those in the control group among pregnant women without preeclampsia referred to the midwifery clinics and the maternity wards of the mentioned hospitals to receive prenatal care. The data collection tools included the demographic characteristics information questionnaire with gynecological/obstetric records, and the Clinical Evaluation Form (CEF) to determine preeclampsia symptoms and their severity.
Results: 90 women with preeclampsia (case) and 150 healthy pregnant women (control) were included in the statistical analysis. There was no statistically significant difference between the

two study groups in terms of education level (p=0.213), occupation (p=0.118). The mean Pre-Body mass index (28.3 ± 6.8) and mean weight before pregnancy (70.7±17.5) were higher in women in preeclampsia group and a statistically significant difference was observed between the two groups (P <0.005). According to the regression of women with higher pre-pregnancy weight (P <0.004, CI: 1.048-1.009, OR: 1.028) and more body mass index (P <0.033, CI: 1.071-0.991, OR: 1.030) were 1.028 and 1.030 times more likely to develop preeclampsia during pregnancy respectively.

Conclusion: Pre-pregnancy body mass index in women was risk factor for developing preeclampsia during pregnancy. Therefore, women in Pre-pregnancy stage are recommended to control their body mass index in order to decrease risk of developing preeclampsia and its' further complications.

Keywords: Body Mass Index, Pre-pregnancy, Preeclampsia, Woman

The effectiveness of nutrition education on lifestyle self-efficacy of women with high body mass index in the postpartum period

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Introduction: Obesity and overweight are among the risky complications of the development and spread of chronic diseases. Belief in self-efficacy is a predictor of a wide range of health behaviors. The aim of this study was to determine the effectiveness of an intervention based on weight-related lifestyle self-efficacy on promoting nutritional behaviors and weight control in obese and overweight women in the postpartum period in Bandar Abbas.

Materials and Methods: The present study was a pretest-posttest study in which 64 women with high body mass index (25-34/9) were selected by step sampling method and randomly divided into control and intervention groups. Data were collected using a weight-efficacy of life style questionnaire. A four-session training program was conducted for the intervention group. The control group received routine postpartum care. The results were analyzed after the intervention in both groups.

Results: The results of the study showed that before the intervention, there was no significant difference in the mean scores of self-efficacy between the intervention and control groups. But after the intervention, the mean self-efficacy score increased to 127±11/3 in the intervention group and a significant difference was observed in all situations (P <0.01). In the control group, no significant difference was observed in any of the situations.

Conclusion: The use of educational intervention based on lifestyle self-efficacy related to the postpartum period has positive results in encouraging women to lead a healthy lifestyle. It is recommended to emphasize the use of a self-efficacy strategy in planning the implementation of interventions that promote nutritional behaviors in women.

Keywords: Lifestyle self-efficacy related to weight, obesity, postpartum

The effect of lutein supplementation combined with a low calorie diet on body composition, inflammatory parameters, and circulating biomarkers of vascular function in the middle-aged obese individuals

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Short title: lutein supplement and obesity

Background and aim: lutein is one of the xanthophyll carotenoids with powerful antioxidant and anti-inflammatory properties that may be effective in controlling obesity and chronic diseases. This study aimed to determine the effect of lutein on body composition, inflammation, sirtuin 1 (SIRT1), plasminogen activator inhibitor-1 (PAI-1), nitric oxide (NO), and endothelin-1 (ET-1) in the obese individuals on a low-calorie diet (LCD).
Materials and Methods: in this 10-week double-blind clinical trial, after a 2-week run-in period, 48 participants aged 45–65 y were randomly assigned to consume lutein (20 mg/d) plus low-calorie diet (LCD) or placebo plus LCD. Data analysis was performed using SPSS.
Results: the mean age, body weight and body mass index of participants were 53.82 ± 4.98 years, 88.49 ± 11.98 kg and 34.11 ± 3.51 kg /m2, respectively. There was a more decrease in the body fat percentage in lutein group vs. placebo group (−8.36% vs − 4.78%, p=0.047). Also, the percentage of body water in the lutein group showed a significant increase compared to the placebo group (2.90% vs 0.91%, p= 0.018). No significant changes were observed in serum levels of C-reactive protein (hs-CRP), IL-6, PAI-1, NO and ET-1. Serum level of SIRT1 significantly increased in lutein group compared to the placebo group, but after adjusting for baseline values and confounders, the between-group difference was not significant.
Conclusion: lutein supplementation could improve body composition in the obese middle-aged individuals. It appears that lutein can be considered in a weight-loss program for the obese older adults.
Keywords: lutein, carotenoid, obesity, and inflammation.

Dietary Interventions Using Nutrients Balance vs List of Food Substitutes

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One of the first lines in controlling diseases and malnutrition is diet therapy, and currently, due to tool limitations, for designing the patients' diet plan, the food groups and the list of food substitutes are being used while suitable databases of foods composition are available. In this study, methods of designing individuals' diets and a total of 8791 foods are reviewed to calculate the nutrients of mixed foods and design a suitable method of diet therapy with more freedom for the patients in the future. Because of the simplicity, food groups are suitable for public health educations but have limitations that could be better covered using nutrient balances. The leading cause of developing the list of food substitutes was the limitations in calculating nutrients in a designed diet that currently could be run using applications. Patients also, by using self-management nutrition applications that are based on the nutrient balancing method shown they are ready to accept this method. According to the behavior changes of society, A well-designed application using nutrient balancing method, along with providing telemedicine for both patients and nutritionist/dietitians, is the future of diet therapies. However, the main limitation is still the need for an extensive, validated, and accurate mixed foods composition database that needs to be developed.
Keywords: Diet, Food Groups, Nutrients, Diet therapy, Nutrition

The effect of early egg consumption on reducing allergy in infants and toddlers

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Food allergy is a prevalent abnormal immunologic response to a food component triggere body's immune system. Itchiness, vomiting, or low blood pressure are the common symptoms of this kind of allergy. Egg, which has the best quality and biological value of protein, is the second common kind of food allergy after cow milk, with the prevalence of 2% of all infants and toddlers under three years old. In this review, according to the importance of egg consumption during growing age, we want to study the effect of early egg consumption on reducing allergies in this group of children. We conducted a comprehensive search in Medline, Up-to-date, and PubMed databases for RCT studies on children under three years who were intervened by early oral egg consumption. During our review, only three studies found significant different means between case and control groups, but no results were found in the other studies in which egg consumption could prevent egg allergy in these years of age. The main reason for this corruption in the result of the studies was that some parents prevented continuing the study after indicating the early

allergy symptoms in their children, which leads to a loss of sample size, especially in the case group. In conclusion, consuming cooked eggs during the first 4- 6 months of life can be a safe strategy and may be effective for reducing egg allergy, but the risks and benefits on the one hand and the egg non-consumption on the other should also be assessed.

Keywords: Allergy, Egg Hypersensitivity, nutrition, Infant

Effect of probiotic supplementation plus low-calorie diet on metabolic endotoxemia markers in coronary artery disease patients: a clinical trial

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Introduction: Alterations in the gut microbiome (dysbiosis) has been associated with increased microbial translocation, leading to chronic inflammation in coronary artery disease (CAD). It has been proposed that modulation of gut microbiota by probiotic might modify metabolic endotoxemia. Therefore, the purpose of this study was to examine the effects of Lactobacillus rhamnosus GG (LGG) on endotoxin level, and biomarkers of inflammation in CAD participants.
Methods: This study was a 12-weeks randomized, double-blind, and intervention on 44 patients with CAD. Patients were randomly allocated to receive either one LGG capsule 1.6 × 109 colony-forming unit (CFU) or the placebo capsules for 12 weeks. In addition, all the participants were also prescribed a calorie-restricted diet. Serum levels of interleukin-1β (IL-1β), Toll-like receptor 4 (TLR4), interleukin-10 (IL-10), and lipopolysaccharide (LPS), were assessed before and after the intervention.
Results: A significant decrease in IL1-Beta concentration (− 1.88 ± 2.25, vs. 0.50 ± 1.58 mmol/L, P = 0.027), and LPS levels (− 5.88 ± 2.70 vs. 2.96+ 5.27 mg/L, P = 0.016), was observed after the probiotic supplementation compared with the placebo. Participants who had ≥2.5 kg weight loss showed significantly improved cardiovascular-related factors, compared to patients with < 2.5 kg weight reduction, regardless of the supplement they took.
Conclusion: These data provide preliminary evidence that probiotic supplementation has beneficial effects on metabolic endotoxemia and mega inflammation in participants with CAD.

Keywords: Coronary artery disease, Lipopolysaccharide, Gut microbiota, Metabolic endotoxemia, Probiotic

Dietary Inflammatory Index (DII) is Related to Disease Activity and Inflammatory Markers in Patients with Rheumatoid Arthritis Patients

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Background: Rheumatoid arthritis (RA) incidence and prevalence has increased in recent decades, and evidence proposes that diet may be a causal factor. Unhealthy dietary patterns may be act to make a pro-inflammatory situation, in that way which leads the development and/or progression of inflammatory markers and disease conditions. Lately, the Dietary Inflammatory Index (DII) has been established to quantity the inflammatory potential of individual diets. **Objective:** This study designed to observe the DII in participants with RA compared to healthy controls and to tell the DII to RA risk, severity of disease's and systemic inflammation.
Methods: Subjects with RA (n=100) and healthy controls (n=100) were enrolled. DII was calculated from food frequency questionnaires (FFQ). Inflammatory markers including the high sensitivity C-reactive protein (HsCRP), and Tumor Necrosis Factor alpha (TNF alpha) concentrations and severity of disease {by Disease activity score (DAS28)} were assessed.
Results: The mean DII score for the RA patients was higher compared with the DII for controls (0.66± 0.23 vs. -0.58 ±0.19, p=0.002), demonstrating their diets were more pro-inflammatory. Subjects in quartiles 4 were more

than 2 ½ times as likely to have RA compared to subjects in quartiles 1 (ORDII Q4 vs. Q1 =2.98; 95% CI=1.3-8.6). DAS 28 was substantially associated with DII score ((β= 1.11, 95% CI: 0.75, 1.47; p=0.001), which means that for every 1-unit increase in DII, DAS 28 increased by 1.11 times. Additionally, subjects in quartile 4 had higher inflammatory markers including Hs-CRP and TNFα compared to quartiles.

Conclusion: In conclusion, participants with a higher DII score (a more pro-inflammatory diet) were an increased chances of RA as compared to individuals who consumed a more anti-inflammatory diet. Furthermore, dietary intakes may be one of the causes leading to development or worsening of the disease severity.

Keywords: Disease Activity, Rheumatoid Arthritis, Inflammation, Dietary Inflammatory Index (DII)

Evaluating the effects of PMS50 supplementation on emotional symptoms in premenstrual syndrome: A randomized clinical trial

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Introduction: Premenstrual syndrome (PMS) is a set of physical, emotional and behavioral symptoms during the luteal phase that resolve with the onset of menstruation. The aim of this study was to evaluate the effects of PMS50 supplementation on emotional symptoms in students of AJUMS, Iran.

Methods: This double- blind clinical trial was conducted on 50 students with PMS residing at dormitories of Ahvaz Jundishapur University of Medical Sciences, between December 2018 and March 2019. Participants were randomly divided to intervention and control groups (n=25) received either PMS50 supplement or placebo (550 mg/day), from one week before till the end of menstruation for three menstrual cycles. Anthropometric indices, physical activity, dietary intake and severity of PMS were evaluated before and post- intervention. Independent t test was used to compare variables between groups and paired t test was used to compare variables within groups before and post- study (SPSS version 22). P<0.05 was considered significant.

Results: After three months, a significant reduction was observed in emotional symptoms specifically mood swings, depression, nervousness, irritability, desire to be alone, anxiety, feeling of hopelessness and poor concentration in the intervention group compared with the control group (P<0.05). Restlessness was significantly improved in both groups (P<0.05). There was no significant difference observed between the two groups regarding the scores of food cravings, change in appetite and self- esteem (P≥0.05).

Conclusion: PMS50 supplementation may be effective in improvement of emotional symptoms in PMS with no side effects.

Keywords: Emotional symptoms, PMS50 supplement, Premenstrual syndrome.

Effect of L-carnitine supplementation on Anthropometric Indices: An umbrella meta-analysis

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Objective: The prevalence of overweight including obesity reported to be 73.6% in adults. Carnitine is an essential nutrient for energy metabolism and can be effective in weight loss. Results of published meta-analyses on the effect of L-carnitine on anthropometric Indices are contradictory. We performed this umbrella meta-analysis to examine the effect of L-carnitine on anthropometric Indices.

Method: There was an overall search of the relevant studies up to December 2021 of three separate databases: PubMed, Scopus, Web of Science. Publications in English language that provided quantitative statistical analysis about the effect of L-carnitine on body weight, body mass index (BMI) and waist circumference (WC) were included. Random-effects model and subgroup analysis based on sample size, study population, and dose of the L-carnitine supplement were performed.

Results: The overall result of the 8 included meta-analysis showed that L-carnitine supplementation can significantly reduce body weight (ES= -0.98 mg/dL; 95% CI: -1.79, -0.16, p= 0.019; I2 = 95.6%, p< 0.001) (ES = -0.49 mg/dL; 95% CI: -0.88, -0.09, p = 0.016; I2= 90.01%, p<0.001), but reduction of WC was not significant (ES= -1.34 mg/dl; 95% CI: -1-83, -0.85, p <0.001; I2 = 00.0%, p= 0.442).

Conclusion: Current evidence support supplementation with L-carnitine for the management of body weight and BMI reduction.
Keywords: Carnitine, Obesity, Umbrella meta-analysis.

Comparison of the effect of a low-carbohydrate diet with a low-fat diet on weight loss and body composition: A Systematic Review and Meta-analysis

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Background & Aims: The prevalence of obesity and related chronic diseases is a serious public health concern worldwide. Despite many studies over the past years comparing the effect of adhering to a low-carb pattern with a low-fat diet on anthropometric indices and body fat percentage, there is still no definite conclusion in this regard. Therefore, the present study aimed to summarize the results of existing studies comparing a restricted diet of fat and a restricted diet of carbohydrates on weight loss.
Methods: A systematic search of the databases PubMed, Scopus, and Cochran Library was performed up to November 2020. All randomized controlled trials (RCTs) comparing the effect of adhering to a low-carb pattern with a low-fat diet on anthropometric indices and body fat percentage were included. The search results were limited to English-language publications. Sixty-three RCTs, including 7660 participants, were selected for the present study.
Results: Pooled analysis indicated that, compared with the low-fat diet, adhere to a low-carb pattern was significantly associated with a greater reduction in BMI (SMD = - 0.07, 95% CI: -0.14,-0.001; P = 0.04), weight (kg) (SMD = - 0.22, 95% CI: - 0.31, - 0.12; P ≤ 0.001) and percentage of body FM (SMD = -0.28, 95% CI: -0.48, -0.08; P = 0.006); however, no significant difference in changes of kilogram of body FM and WC was observed between the two diets.
Conclusions: Overall, adhering to a low-carb pattern was more effective than a low-fat diet in losing weight and body fat percentage.
Keywords: Fat-Restricted, Low carbohydrate, weight, obesity

Association between abdominal obesity and pulmonary function in apparently healthy adults

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Background: Obesity is a public health problem in the general population. Especially, abdominal obesity as a chronic disorder is associated with a high risk of developing non-communicable diseases such as respiratory diseases.

Impairment in lung function that is a sign of early respiratory injury can affect the performance of daily activities and quality of life. This systematic review summarizes the current knowledge of the effects of abdominal obesity on pulmonary function in apparently healthy adults.

Methods: Google Scholar, PubMed, Science Direct, and Scopus databases were searched from 2014 up to August 2020 using relevant keywords. All original articles written in English evaluating the effects of abdominal obesity on pulmonary function in apparently healthy adults were eligible for this review.

Results: A total of 26 studies (23 cross-sectional and three cohort) involving 68,024 participants were included in this review. More than 88% of the included studies reported that abdominal obesity significantly inversely was associated with pulmonary function.

Conclusion: The findings indicate that in subjects with abdominal obesity respiratory function decline possibly due to mechanical compression and obesity-induced airway inflammation. Therefore, nutrition and lifestyle interventions are required for the reduction of abdominal obesity that leads to improving pulmonary function and metabolic disease.

Keywords: Abdominal obesity, Respiratory disease, Pulmonary function, Adults

The effect of zinc supplement intake on patients suffering from COVID-19: A systematic review

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Introduction: The main purpose of this study is to evaluate the effects of zinc supplement intake on patients suffering from COVID-19.

Method: The scientific reports on the PubMed website from Oct 1, 2021, to Dec 2, 2021, were reviewed. These studies release information from patients treated with zinc supplements on patients suffering from COVID-19.

Results: Among 115 studies on COVID-19 and zinc, 8 studies were eligible for systematic review. Finally, 5 reports of Randomized Controlled Trials (RCT) of zinc supplement intake on patients suffering from COVID-19 were conducted in the study. The evidence shows the HDIVZn to reverse the acute phase zinc deficiency associated with COVID-19. The effect of zinc supplementation on the viral replication of patients with COVID-19 is positive due to low zinc levels. Zinc therapy significantly reduced the recovery duration of anosmia and/or hyposmia in COVID-19 patients without affecting the total recovery duration of COVID-19. The addition of zinc supplementation to drug therapy with hydroxychloroquine did not add any clinical values. Mean levels of CD4+T cells increased after the second dose of the COVID-19 vaccine in the zinc supplementation group.

Conclusion: According to our study, patients with COVID-19 who received zinc supplements showed that zinc could be the main active ingredient for the management of COVID-19 Complications. In these studies positive effects of zinc supplementation were seen in reducing the viral load of COVID-19 disease, however, Randomized Controlled Trials (RCT) studies with larger populations are needed to complete these results.

Keyword: Zinc; COVID-19; Immunity

Association between serum glycemic parameters, anthropometric indices and nutrients intake with gallstone disease: A case-control study

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Background and Aims: Gallstone disease (GD) is a common health problem associated with gastrointestinal tract. Due to importance of diet and obesity in development of GD and considering possible effect of insulin resistance in pathogenesis of GD, this study was performed to define the association between serum glycemic parameters, anthropometric indices and nutrients intake with GD among Iranian female patients.

Methods: This case-control study was conducted among women including 74 patients with GD and 75 healthy controls in Gastroenterology and Hepatology clinic of Taleghani Hospital in Tehran, Iran from October 2020 to March 2021. A validated, semi quantitative food frequency questionnaire was used to evaluate the usual intake of participants. To measure glycemic parameters (FBS and fasting serum insulin), blood samples were collected from all participants after 12 hours of fasting. Insulin Resistance Index (HOMA-IR) calculated for all participant. To find the best predictors of GD, multivariate logistic regression was used.

Results: The results of analysis showed a positive significant association between HOMA-IR values (odds ratio: 3.27; 95% confidence interval: 1.16–9.19; P = 0.025) and dietary sucrose intake (odds ratio: 1.07; 95% confidence interval: 1.02–1.12; P=0.006) with GD., No significant association was observed between anthropometric indices (height, weight, BMI) with GD.
Conclusion: Present results suggested that higher HOMA-IR values and high intake of sucrose were positively associated with high risk of GD. To support these findings more studies are required.
Keywords: Anthropometric indices, Gallstone disease, Nutrients intake, Serum glycemic parameters

Association of omega-6/omega-3 ratio with percent of body fat among children

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Introduction: The consumption of total fat and saturated fat as a percentage of total calories has continuously increased among obese children. Moreover, the intake of omega-6 fatty acid increased and the omega-3 fatty acid decreased, resulting in a large increase in the omega-6/omega-3 ratio from 1:1 to 20:1 or even higher. This change in the composition of fatty acids parallels a significant increase in the prevalence of overweight and obesity which was related to high percent of body fat. Present study was conducted to evaluate the association of omega-6/omega-3 ratio with percent of body fat among overweight or obese children.
Methods: A total of 400 children and adolescents aged from 6 to 13 years, with WHO body mass index z-score > 1 SD were participated in this cross-sectional study. Body fat mass was measured by using a portable bioelectrical impedance analyzer (BIA) GAIA 359 PLUS 8 contact electrode BIA system. Valid and reliable semi-quantitative 147-item food frequency questionnaire (FFQ) was used to collect dietary intakes and calculate omega-6/omega-3 ratio.
Results: In this study the mean age of participants was 9 years. The omega-6/omega-3 ratio ranged from 4.3 to 38.7 with the mean ± SD of 9.2±3.1. By linear regression analysis, omega-6/omega-3 ratio had no significant association with percent of body fat in multi variable adjusted model (B= -0.039, 95% CI: -0.22-0.09, P-value= 0.423).
Conclusion: Although we could not find any association between omega-6/omega-3 ratio and percent of body fat among obese children, a balanced omega-6/omega-3 ratio is important for health and in the prevention and management of obesity and high percent of body fat. Further research should be conducted to evaluate the association of omega-6/omega-3 ratio with percent of body fat among their study population.
Keywords: Omega-6/omega-3 ratio, Percent of body fat, Obesity, Children.

The therapeutic impact of Camelina oil on anthropometric indices in patients with NAFLD: A randomized controlled trial.

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Introduction: Non-alcoholic fatty liver disease (NAFLD) is one of the world's most common chronic metabolic diseases. Recently, low omega-3 intake and high omega-6 to omega-3 ratio in plasma and diet have been suggested as risk factors related to obesity and NAFLD. Due to the limited studies of camelina oil (CO) as a rich source of omega-3 in patients with NAFLD, the present study was designed to compare the effect of camelina and sunflower oils on anthropometric indices in patients with NAFLD.
Methods: Forty-six NAFLD patients were allocated into two groups and treated with 20

g/day camelina oil or placebo for three months with a weight loss diet. Anthropometric indices were measured at baseline and three months.
Results: After the three months, CO supplementation significantly reduced weight, body mass index, waist circumference, and WHR compared with the sunflower oil group. These results were held after adjusting for sex, energy intake, and baseline values.
Conclusions: Our study indicated that CO supplementation for three months led to significant changes in anthropometric indices in NAFLD patients. Further investigation is necessary to clarify the mechanisms for these impacts and to confirm whether CSO is an effective complementary therapy for NAFLD.
Keywords: Camelina sativa, omega 3, Anthropometric indices, NAFLD.

Efficacy of resistant dextrin supplementation in patients with type 2 diabetes mellitus: a randomized-controlled clinical trial

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Introduction: The global prevalence of diabetes is predicted to increase dramatically in the coming decades as the population grows and ages, in parallel with the rising burden of overweight and obesity. Cardiovascular disease represents the principal cause of death and morbidity among people with type 2 diabetes mellitus, and conventional medicine in their treatment has limited efficacies and serious adverse effects. Resistant dextrin is widely consumed as a health-promoting, enhancing the immune system and improving blood lipid metabolism. This study investigated the effects of resistant dextrin supplementation on some cardiovascular disease risk factors in patients with type 2 diabetes mellitus.
Methods: This randomized, double-blind, placebo-controlled trial was conducted in 65 female patients with type 2 diabetes. Patients were randomly assigned to receive either resistant dextrin (10 g/d) or placebo for 8 weeks. Anthropometric indices, lipid profile, atherogenic indices were measured at baseline and post-intervention.
Results: Following the intervention, there were significant reductions in weight, body mass index (BMI), triglyceride, TC/HDL, LDL-c/HDL-c, and atherogenic index in the intervention group compared to the control group. There was no significant difference between the study groups regarding total cholesterol, low-density lipoprotein cholesterol (LDL-C), or high-density lipoprotein cholesterol (HDL-C).
Conclusions: Generally, the results indicated that supplementation with resistant dextrin might improve cardiometabolic risk factors in patients with T2DM. Future prospective randomized clinical trials with a longer intervention duration are needed to obtain more accurate conclusions.
Keywords: Resistant dextrin, Type 2 diabetes mellitus, lipid profile, cardiovascular disease.

Effect of Q10 on obesity indices: An umbrella meta-analysis

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Introduction: Obesity is correlated to an increase in the incidence of morbidity and mortality. Several previous studies have found contradictory results regarding how coenzyme Q10 (CoQ10) may affect obesity indices. The purpose of this study was to summarize meta-analyses of randomized controlled trials that examined the effects of CoQ10 on obesity indices.
Methods: We systematically searched PubMed, Scopus, Embase, Web of Science, and Cochrane Central Library databases till December 2021. All Meta-analysis studies assessing the effect of CoQ10 on obesity indices [body weight and body mass index (BMI)] were included. Meta-analysis was conducted using a random-effects model.

Results: Results of random-effect size meta-analysis revealed that supplementation with coenzyme Q10 had no significant reducing BMI (ES= -0.04; 95% CI:-0.33, 0.25; p= 0.783; I2 = 0.0%, p= 0.923), and body weight (ES= 0.18, 95%CI: -0.81, 1.17, p= 0.722; I2 =0.0 %, p= 0.77). **Conclusions:** CoQ10 supplementation may not improve obesity indices. Future well-designed trials are still needed to confirm these results.
Keywords: CoQ10; obesity indices; Umbrella meta-analysis.

Impact of Gastric Bypass Surgery on the Hepatic Fibrosis of Patients with Non-alcoholic Fatty Liver Disease in 30 Follow-up

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Introduction: Roux-en-Y gastric bypass surgery (RYGB) has shown efficacy in weight loss, but its role in liver fibrosis remains unknown. The present study aimed to investigate the effect of RYGB on the hepatic status measured by noninvasive methods in the midterm follow-up.
Methods: This longitudinal study was conducted on patients with extreme obesity, and NAFLD referred for RYGB during 2016-2018 for three years after their surgery. A liver biopsy was performed intraoperatively. The patient anthropometrical parameters, biochemical variables, and liver stiffness (LS) using two-dimensional shear-wave elastography were recorded and analyzed before and in short-term (6 months) and midterm (30 months) follow-ups.
Results: 54 patients were included with a mean age of 40.3 years; 83.3% were women. The excessive body mass index loss of the patients was 78.1% and, a significant reduction was seen in LS measurement. Moreover, two patients (4%) had worsening showed in fibrosis stage, twenty-eight (54%) no change and twenty-four (42%) showed improvement, thirty months after the surgery. The liver fibrosis stage regressed to F0 in 91% of the patients. Hepatic fibrosis resolved in the midterm follow-up in some patients whose fibrosis had progressed and deteriorated in the short-term follow-up.
Conclusions: RYGB proved an effective procedure for sustained weight loss and improved liver fibrosis in NAFLD patients in midterm follow-up. **Keywords:** Gastric Bypass Surgery; Bariatric Surgery; Non-alcoholic fatty liver disease; Fibrosis; Weight loss; Obesity

The Protein and Calories intake After two years of post-Gastric Bypass Surgery: a Cross-Sectional Study

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Introduction: Gastric bypass surgery is a valuable method to control severe obesity. Decreased food intake is an effective mechanism through which gastric bypass surgery reduces body weight. However, limited research has evaluated dietary intake after this surgery. The present study aimed to assess dietary intake, micro-, and macronutrients in the patients undergoing gastric bypass surgery and determine the possible associations with weight changes.
Materials and Methods: This cross-sectional study assessed anthropometric indices and food intake 24 months after gastric bypass surgery in 35 patients. Dietary data were evaluated using three-day food records.
Results: Among 35 patients (mean age: 35.5±16.8 years; 82.9% females), six cases lost ≥50% of their percent excess weight loss (%EWL), and their surgery was unsuccessful. The subjects' mean body mass index (BMI) was 30.5±4.5 kg/m2, and the patients consumed 22.43±7.8 kcal/kg and 0.97±0.2 grams of protein per kilogram of their current body weight daily. A significant correlation was observed between dietary energy density and BMI loss. In addition, the patients with an unsuccessful surgery consumed higher calories than those with a successful procedure.
Conclusions: According to the results, the patients undergoing Roux-en-Y gastric bypass had sustained weight loss while their calorie intake varied. The protein consumption is lesser than recommended and needs more attention.
Keywords: Bypass Surgery, Dietary Intake, Nutrition, Bariatric Surgery, Dietary Patterns

The impact of Gastric Bypass Surgery on Lipid Profile and HDL after Midterm Follow-up

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Introduction: Gastric bypass surgery is validated to achieve sustained weight loss. This study aims to study the impact of weight loss at midterm follow-up after gastric bypass surgery on the lipid profile.
Materials and Methods: The patient demographics, anthropometrical parameters, lipid profile were collected and analyzed before and in short-term and midterm follow-ups. Statistical analysis using univariate and multivariate general linear modeling was carried out.
Results: Fifty-four patients with a mean age of 40.3 years were included in the analysis. 83.3% were females. A significant reduction was observed (p-value < 0.05) in weight, body mass index (BMI), Fat percents, FFM, and waist circumference postoperative. Post-surgery 30 months lipid profile showed substantial improvement, except low-density lipoprotein and total cholesterol. Six months after GBs, HDL-C levels decreased compared to baseline. The number of participants with low HDLc and elevated TG was significantly higher at baseline than the follow-up assessment (p<0.001, p=0.002, respectively). At 30 months after bariatric surgery, HDL-C was considerably improved and increased (p < 0.001). In multivariable regression models, preoperative weight and HDLc level were predictive of changes in HDLc (P<0.001).
Conclusion: Gastric bypass surgery had benefits on the lipid profile after midterm follow-up with lowered serum level of TG and increased HDLc, except LDLc.
Keywords: Gastric Bypass Surgery; Bariatric Surgery; Lipid profile; HDL cholesterol

Using the Theory of Planned Behavior to Predicting Primiparous Mothers' intention to Timely Initiation of infants' Complementary Feeding in Kashan, Iran

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Introduction: Early or late initiation of complementary feeding is one of the important factors of infants' malnutrition. The aim of this study was to Predicting primiparous mothers' intention to timely initiation of complementary feeding using the Theory of Planned Behavior (TPB) in Kashan, Iran.
Method: In this cross-sectional study, 68 primiparous mothers with 2 to 3 months infants, who were exclusively breastfed, completed a researcher-made questionnaire based on the TPB. The questionnaire consisted of 12 two-point scale (correct/ incorrect) knowledge questions, and five-point Likert scale questions about mothers' attitude (12 items), subjective norms (5 items), perceived behavioral control (7 items) and intention (3 items) regarding the timely initiation of complementary feeding. Data were analyzed using Pearson's correlations, and multiple linear regression.
Results: The mean age of respondents was 26.94 ± 4.77 years. The studied variables showed no significant differences between demographic subgroups (education level, job, infant sex). Knowledge had no significant correlation with intention. But perceived behavioral control ($r=0.694$, $p<0.001$), attitude ($r=0.562$, $p<0.001$), and subjective norms ($r=0.500$, $p<0.001$) had significant correlation with intention. In regression analysis, the significant predictors of intention were perceived behavioral control (ß=0.524, $p<0.001$) and subjective norms (ß=0.245, $p= 0.012$).
Conclusions: The results indicate that health education and health promotion interventions should focus more on perceived behavioral control and subjective norms to persuade mothers to timely initiate complementary feeding.
Keywords: TPB, Complementary Feeding, Primiparous Mothers, Intention

Health status and Length of hospital stay in patients of Imam Reza teaching hospital of Mashhad: 2021 Audit

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Introduction: This report aimed to describe patients' health status since admission, Length Of hospital Stay (LOS), and patient's outcome in different units of Imam Reza teaching hospital (except ICUs).
Methods: This is a cross-sectional study that was carried out on hospitalized patients in Imam Reza teaching hospital (on Nov 7th, 2019), using standardized questionnaires. Patients were followed up one month after the study.
Results: 228 inpatients (121 M: 107 F; mean age of 48.4±10.5 years) were included in this study. This study showed that the health status of 53.6% of patients was improved since admission. The highest percentages were reported in Surgery/ Cardiac/Vascular/Thoracic (n=15, 93.8%) and Internal Medicine / Cardiology (n=6, 75%) units. 14.8% of them were deteriorated. The highest percentages were seen inInternal Medicine / General unit (n=6, 31.6%).Follow-up results after one month showed that 79.5% of patients were discharged to home. 100% of inpatients in Surgery/ Cardiac/Vascular/Thoracic (n=16), units were discharged. 9.4% of patients died during one month after the study. The highest percentage was in Internal Medicine / Gastroenterology & hepatology unit (n=3, 20%). 12.5% of patients were still in the hospital. The highest percentage was in Internal Medicine / General unit (n=5, 22.7%).
Conclusions: This study showed that most inpatients' health status were improved since admission to different units of Imam Reza hospital. Also most of them were discharged to home during one month after the study.
Keywords: Health Status, length of hospital stay, Outcome

Hypnotic Activity of A. absinthium hydroalcoholic extracts

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Introduction: Current drugs used in the management of insomnia are associated with side effects. The use of medicinal herbs for insomnia treatment has recently been suggested. The present study aimed to determine the hypnotic activity of the hydroalcoholic extract of Artemisia absinthium (A. absinthium) in mice.
Methods: The toxicity of A. absinthium extract is assessed by their lethal dose of 50% (LD50), and cytotoxicity evaluation was also done with PC12 cell lines by MTT assay. A. absinthium extract (25, 50, 100, and 200 mg/kg) and 3 fractions (n-butanol fraction (NBF), ethyl acetate fraction (EAF), and aqueous fraction (AQF)) were administered intraperitoneally30 minutes before 30 mg/kg pentobarbital intraperitoneal injection in mice; after that, the sleeping time and sleep latency were recorded.
Results: The LD50 value was 2.4 g/kg. The extracts tested showed no negative effect on the proliferation of PC12 cells. A. absinthium extract increased the duration of pentobarbital-induced sleep at doses of 100 and 200 mg/kg. Similarly, AQF, EAF, and NBF at 200 mg/kg could increase sleep duration. The sleep latency was decreased by A. absinthium extract at doses of 100 and 200 mg/kg, AQF, and EAF. Besides, flumazenil reversed the hypnotic effect of A. absinthium extract.
Conclusion. A. absinthium extract probably demonstrated sleep-enhancing effects by regulating the GABAergic system.
Keywords: A. absinthium, Sleep, Medicinal herbs, Insomnia

Malnutrition prevalence in Imam Reza teaching hospital of Mashhad: 2021 Audit

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Introduction: Malnutrition is an important problem in hospitals associated with illness or aging. This study aimed to report prevalence of malnutrition in different units of Imam Reza teaching hospital (except ICUs and Covid19 units).
Methods: This is a cross sectional study that was conducted in Imam Reza teaching hospital on Nov 7th, 2021, using standardized questionnaires. Malnutrition was objectively defined as BMI <20 (kg/m2) or unintentional weight loss >5% in the past three months.
Results: 228 inpatients (121 M: 107 F; mean age of 48.4±10.5 years) evaluated in this audit. This study showed that 5.1% of all patients were malnourished and 19.4% were at risk of malnutrition. The highest percentage of malnutrition were in Burning unit (n=3, 30%). patients in Internal Medicine (n=9, 47.4%), Surgery/General (n=10, 41.7%) and Internal Medicine/ General (n=8, 36.4%) units, had the highest percentage of malnutrition at risk. 7.5% of all patients had unintentionally weight loss within the last 3 months the highest percentages were in Surgery/cardiac (n=12, 75%, on average 5 kg weight loss) and Internal Medicine units (n=13, 68.4%, on average 5 kg weight loss).
Conclusions: The overall prevalence of malnutrition and risk of malnutrition in the hospital was 5.1% and 19.4% respectively. This was the second study to obtain data from all hospitalized patients 'nutritional status in Imam Reza hospital during an audit and the valuable results could supply evidence for clinical nutrition support.
Keywords: Malnutrition, Weight loss, Hospital

Route, type of nutrition and outcome of intensive care units patients in Imam Reza teaching hospital of Mashhad: 2021 audit

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Introduction: This study aimed to describe routes and type of nutrition in intensive care units of Imam Reza teaching hospital.
Methods: This is a cross-sectional study that was conducted on all hospitalized patients in not covid19 intensive care units (ICU) and Coronary care units (CCU) of Imam Reza teaching hospital on Nov 7th, 2021.

Results: Overall 60 inpatients (35 M: 25 F; mean age of 64.8±14.3 years) hospitalized in ICUs or CCUs were evaluated in this study. 60% of them had oral nutrition intake, 21.6% were received enteral nutrition and 18.3% were NPO. The highest percentages of enteral nutrition intake were reported in surgical ICU (n=6, 42.9%) and ICU-A (n=5, 55.6%). 33.3% of ICUs and CCUs patients died during 2 months of follow-up. The highest mortality was in ICU-A (n=7, 77.8%).
Conclusions: The overall prevalence of oral, enteral nutrition, and NPO in the ICUs and CCUs of hospitals was 60%, 21.6%, and 18.3% respectively. The overall mortality rate was 33.3% in ICUs and CCUs of Imam Reza teaching hospital. The results could be evidence for clinical nutrition support.
Keywords: Oral nutrition, Enteral nutrition, Coronary care unit, Intensive care unit, Mortality

A western dietary pattern is associated with NAFLD in an Iranian male population

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Introduction: Dietary modifications remain the mainstay in the management of nonalcoholic fatty liver disease (NAFLD). The present study aims to extract the dietary patterns and investigate their association to NAFLD by gender, among adult participants in Amol, northern Iran.
Methods: In this cross-sectional study, data from 3149 participants in the Amol cohort study (55.3% men, n= 1741) were analyzed. Usual dietary intake was assessed by a validated 168-items semi-quantitative food frequency questionnaire. We classified major dietary patterns by explanatory factor analysis (EFA) and Confirmatory Factor Analysis (CFA). NAFLD diagnosis was based on ultrasound scanning, including increased hepatic echogenicity, abnormal appearance of hepatic arteries, and diaphragm in the absence of excessive alcohol consumption. Multivariable logistic regression was used to explore the relationship between dietary patterns and NAFLD.
Results: Three distinct dietary patterns, including western dietary patterns, healthy dietary patterns, and traditional/mixed dietary patterns were identified. Adult male who adhere to the western dietary pattern were more affected with NAFLD risk (Q1, Q2, Q3, Q4, OR= 1, 1.08, 1.32, 1.32; 95% CI=0.82-1.43, 1.00-1.74, 1.00-1.76, Ptrend=0.04, respectively).
Conclusions: A western dietary pattern, comprising frequent intake of salty and sweet snacks, soft drinks, refined grains, processed meats, cooked and fried potatoes, eggs, and coffee, was associated with a higher odds of NAFLD in an Iranian male population. However, further prospective studies are needed.
Keywords: Dietary patterns, nonalcoholic fatty liver disease, NAFLD

Effectiveness of Community-based Participatory interventions to improve food security in developing countries: a systematic review

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Introduction: This study aims to determine the effectiveness of community-based participatory interventions conducted in developing countries to improve food security dimensions, including availability, access, utilization, and stability.
Method: The following electronic databases, including PubMed/MEDLINE, EMBASE, Web of Science, and Scopus, were searched from 1980 to 2021 for relevant studies. We included randomized and non-randomized controlled

trials, cluster-randomized controlled trials, controlled before and after studies, and controlled trials, evaluating the community-based participatory intervention. The primary outcomes were food security and its indicators, including availability, accessibility (physical and economic), utilization, and vulnerability. Two reviewers independently evaluated the studies.

Results: A broad variety type of community-based participatory interventions was introduced by studies, including food vouchers, home gardens (growing healthful produce), building community self-sufficiency through a neighborhood and household gardening by honoring and utilizing traditional skills and local culture, increasing healthy retail from tribally owned and operated convenience stores, make change in-store nutrition environment and food purchasing behavior in both individual and store level, and mother's empowerment and local capacity. The key outcomes were improving the food security (accessibility), fruit and vegetable intake, food safety, ability to purchase healthy, fresh foods, food and nutrition knowledge, food purchasing behavior at both individual and store levels, and anthropometric index.

Discussion: Community-based participatory interventions improved food security indicators, including availability, accessibility (physical and economic), and utilization. This review provides information for policymakers to better understand the effectiveness of these interventions and inform decision-making to improve food security in developing countries.

Keywords: food security, community-based participatory, developing countries, intervention, systematic review

Dietary and lifestyle indices for hyperinsulinemia with the risk of obesity phenotypes: a prospective cohort study among Iranian adult population

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Introduction: Previous studies have cited insulin-related disorders, including hyperinsulinemia, as one of the main causes of obesity risk and metabolic disorders. We aimed to investigate the relationship of Empirical Dietary Index for Hyperinsulinemia (EDIH) and Empirical Lifestyle Index for Hyperinsulinemia (ELIH) with the risk of obesity phenotypes among Iranian adults.

Methods: Present study was conducted on 2705 subjects including 1604 metabolically healthy normal weights (MHNW) and 1101 metabolically healthy obesity (MHO) individuals. Obesity phenotypes including MHNW, MHO, metabolically unhealthy normal weights (MUNW), and metabolic unhealthy obesity (MUO) were determined using criteria of the Joint International statement (JIS) for metabolic syndrome. Dietary intakes data from the previous year was gathered using a food frequency questionnaire. Cox proportional hazard regression was used to estimate the hazard ratio and 95% confidence intervals (HRs and 95% CIs) of obesity phenotypes incident across tertiles of EDIH and ELIH scores.

Results: The mean±SD of age and BMI of all participants were 33.5±12.2 years and 24.3±3.8 kg/m2, respectively. In the multivariable-adjusted model, a higher ELIH score was associated with a greater risk for incidence of MUO(HR:3.47,95%CI:2.54–4.74; Ptrend=<0.001) and MHO(HR:3.61,95%CI:2.73–4.77;Ptrend=<0.001). Also, a higher score of EDIH was related to an increased risk of MUO incidents (HR:1.35,95%CI:1.02–1.79; P for trend=0.046). However, there was no significant association between a higher score of EDIH and the risk of MHO.

Conclusion: Our findings revealed that a high insulinemic potential of diet and lifestyle, determined by EDIH and ELIH indices, may be related to an increase in the simultaneous occurrence of obesity with metabolic disorders in Iranian adults.

Keywords: Obesity phenotype, Hyperinsulinemia, Diet, Lifestyle, Iran

The Dietary and Lifestyle indices of Insulin Resistance with the Risk of Cardiovascular Diseases: A Prospective Study among Iranian Adult Population

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Introduction: Previous studies have introduced insulin resistance (IR) as a major risk factor for poor cardiovascular diseases (CVDs) outcomes. Diet, body weight, and physical activity are three key pillars of lifestyle that can significantly impact the IR status. **Aim:** We aimed to assess the possible link between the empirical dietary index for IR (EDIR) and the empirical lifestyle index for IR (ELIR) with the risk of chronic heart disease (CHD) and CVDs.
Method: This study was conducted on 4980 participants aged ≥30 years (follow-up rate: 99.85%). Dietary intake data was collected using a validated food frequency questionnaire. Cox proportional hazard regression was used to estimate the hazard ratio and 95% confidence intervals (HRs and 95% CIs) of CVDs and CHD across tertiles of EDIR and ELIR scores.
Result: In the final model, after adjusting for all potential confounding variables, participants who were in the highest tertile of EDIR had a higher risk of CVD (HR:1.36, 95%CI:1.03-1.80, P-trend=0.016) and CHD (HR:1.36, 95% CI:1.01-1.83, P-trend=0.023) compared to the lowest tertile. Also, participants with a higher score of ELIR had a higher risk of CVD (HR: 1.64, 95%CI:1.24-2.16, P-trend=<0.001) and CHD (HR: 1.72, 95%CI:1.28-2.32, P-trend=<0.001).
Conclusion: A greater adherence to the lifestyle and diet with a higher EDIR and ELIR may be associated with an increased risk of CVD and CHD outcomes in the adult population.
Keywords: EDIR, ELIR, diet, lifestyle, cardiovascular diseases, coronary heart diseases

Food insecurity and COVID-19 – A Systematic review article

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Introduction: Food insecurity is defined as a condition of limited or uncertain access to sufficient, nutritious food for an active and healthy life. It has significant health impacts on the physical, social, and psychological status of people in communities suffering from food insecurity. Factors such as acute climate changes (floods and droughts), water resources, improper transportation and pandemics including Corona pandemic may effect on food security. The COVID-19 pandemic is perhaps the biggest global health crisis of our time that is going to bring unprecedented humanitarian challenges with it.
Methods: We searched various English databases such as PubMed ،Scopus, Science direct for words COVID-19, prevalence of food insecurity, nutrition.
Results: Access to an adequate amount of food is a core social determinant of health, and food insecurity is related to poor nutritional intake and higher mortality rates. Even short-term decrease in food security can impact long term health, which can take years to recover from. With the COVID-19 pandemic, people are losing their occupation and income, and supply food chains are interrupted, making this a double crisis- food insecurity and COVID-19, especially for developing countries. The lockdown and COVID-19 pandemic will likely have further effect on the weakening economy.
Conclusions: The damages caused by COVID-19 are associated with food insecurity, nutritional status, productivity, wage earnings and overall economy.
Keywords: Food insecurity, COVID-19, nutrition, low-income adults, food supply, lockdown

Effects of black Caraway (Bunium Persicum) supplementation on glycemic index and lipid profile in type 2 diabetes mellitus patients: A randomized, double-blind, placebo-controlled clinical trial

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Introduction: Type 2 diabetes mellitus (T2DM) is characterized by insulin resistance and abnormalities in insulin production. Dyslipidemia is associated with insulin resistance. According to the anti-diabetic properties of black Caraway, the purpose of this study was to compare the effects of black Caraway intake on lipid profile (cholesterol, triglyceride, LDL, and HDL), insulin resistance, and serum level of fasting blood sugar (FBS) on patients with T2DM.
Methods: Participants were selected in the diabetes clinic of Bu-Ali Hospital in Zahedan. According to the inclusion criteria, 60 participants were randomly divided into two groups placebo (n = 30) and intervention (n = 30). The supplementation was considered with 1000 mg of black Caraway capsule, 2 times/day by meals (lunch and dinner) for 8 weeks. Lipid profile (triglyceride, cholesterol, HDL, and LDL) and Glycemic indices (FBS and insulin resistance) were measured at the beginning and end of the intervention.
Results: In comparison with placebo, black Caraway significantly decreased FBS and insulin resistance ($P < 0.05$). The differences in the triglyceride, cholesterol, LDL, and HDL were not significant ($P > 0.05$).
Conclusion: black Caraway supplementation improved Glycemic indices among T2DM patients, Further clinical trials are needed to be accomplished in this area.
Keywords: Black caraway, Glycemic index, Lipid profile, Type 2 diabetes mellitus

Evaluation of prescribed and intake energy in children admitted to the Pediatric Intensive Care Unit (PICU) due to major gastrointestinal surgery

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Introduction: Nutritional support is essential for children admitted to the Pediatric Intensive Care Unit (PICU), and lack of attention to the amount of energy prescribed and received by the patient can lead to increased complications such as malnutrition and overfeeding. Both of these complications have negative effects on patients. In this study, we examined the amount of energy prescribed and received in children admitted to the ICU due to major gastrointestinal surgery.
Methods: This study was prospective. The audit was performed over four weeks in October 2018. The audit was carried out at the Akbar Children's Hospital, Mashhad, Iran. The inclusion criteria were as follows: 1- Ages between 1 month and 10 years old, 2- Admission to the PICU following gastrointestinal surgeries, 3- Admission to the ICU due to being under critical medical conditions, 4- ICU length of stay > 24 h.
Results: In this study, 30 children were included. In terms of gender, 46% were boys. The average weight was 5.1 kg for boys and 4.8 kg for girls. The average height in both sexes was 58 cm. The average prescribed goal for daily energy intake was 67 ± 12 Kcal/Kg/d and the average delivered daily energy intake was 47 ±11 Kcal/Kg/d. So, 56.7 % of the subjects in the study achieved nutritional adequacy during PICU stay.
Conclusion: This study demonstrates that the amounts of received and prescribed energy were not in the acceptable range and the results of the present study should be considered for future decision-making steps in our PICU to improve nutrition support services.
Keywords: Nutritional Support, Energy Intake, Gastrointestinal surgeries, Intensive Care Units, Pediatric

Prescription and intake of protein in children admitted to the Pediatric Intensive Care Unit (PICU) due to major gastrointestinal surgery

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Introduction: Studies show that more than 25% of patients admitted to the Pediatric Intensive Care Unit (PICU) suffer from acute or chronic malnutrition at the time of admission. Providing the sufficient protein a child needs in the ICU can reduce the risk of mortality, infection, ventilator dependence, and length of stay in the ICU. This study aims to describe the gap between protein prescription and actual intake in children admitted to the ICU due to major gastrointestinal surgery.
Methods: This study was prospective. The audit was carried out at the Akbar Children's Hospital, Mashhad, Iran in October 2018. The inclusion criteria were as follows: 1: Ages between 1 month and 10 years old, 2: Admission to the ICU due to being under serious medical conditions, 3: ICU length of stay > 24 h, 4: Admission to the PICU following gastrointestinal surgeries. The audit was performed over four weeks.
Results: Thirty children were included in this audit. In terms of gender, 54% were girls. The average height in both of them (boys and girls) was 58 cm. The average weight was 4.8 kg for girls and 5.1 kg for boys. The average prescribed daily protein intake was 1.8 ± 0.5 gr/Kg/d. The average delivered daily protein intake was 1.8 ± 0.4 gr/Kg/d. The results showed that 83.3% of the children in the audit achieved nutritional adequacy during PICU stay.
Conclusion: According to the results of this study, it can be stated that the amount of protein intake and administration for children admitted to the PICU was not in the acceptable range. This study can be a model for future studies to improve nutrition services for patients admitted to the intensive care unit.
Keywords: Proteins, Gastrointestinal surgeries, Intensive Care Unit, Nutritional Support, Pediatric

The role of herbal medicine and phytochemicals in inhibition of NLRP3 inflammasome: a comprehensive review

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The NLR family, pyrin domain-containing 3 (NLRP3) inflammasome is a multiprotein complex that induces caspase-1 activation and the downstream substrates involved with the processing and secretion of the pro-inflammatory cytokines interleukin-1β (IL-1β) and IL-18 and tumor necrosis factor-α (TNF- α). The NLRP3 inflammasome is activated by a wide range of danger signals that derive from metabolic dysregulation. It has been shown that nutraceuticals and medicinal plants have antiinflammatory properties and could be used as complementary therapy in the treatment of several chronic diseases that are related to inflammation. Herb-based medicine has demonstrated protective effects against NLRP3 inflammasome activation. Therefore, this review focuses on the effects of medicinal plants on NLRP3 inflammasome activation. A comprehensive search was conducted on online medical databases including PubMed, Scopus, and Web of Sciences from inception to September 2021 without any limitations for language. With regard to the fact that there is no approved drug to control or suppress the excessive activation of the inflammasome, this review has identified various herbal bioactive compounds that can potentially improve immunity-related disorders with an acceptable safety profile. Finding of the current study indicated that nutraceuticals and medicinal plants including curcumin, resveratrol, red ginseng, berberine, propolis, arctigenin, silymarin, quercetin, genistein, and catechin can dramatically reduce activation of the NLRP3 inflammasome and subsequently reduce the levels of other inflammatory factors, such as cytokines. Herb-based, natural products/compounds can be considered novel, practical, and accessible agents in chronic inflammatory diseases by inhibiting NLRP3 inflammasome activation.
Keywords: NLRP3 inflammasome, herbal medicine, inflammation, interleukin-1β, natural products.

A qualitative study to identify why do overweight people dropout of a weight loss diet?

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Background: The treatment of overweight and obese people is challenging, as patients have difficulty adhering to a weight-loss diet. Thus, the present study aimed to identify the reasons for the dropout of weight-loss diets.
Methods: This qualitative study using content analysis was conducted in a comprehensive health center in Shiraz, Iran, between April and October 2020. The study was performed on 27 participants with a history of obesity and diet dropout selected via purposive and theoretical sampling.
Results: The participants included 25 females (92.6%) and two males (7.4%) with a mean age of 33.4 ± 8.4 years. Data analysis resulted in the emergence of three themes and 14 sub-themes. The first theme was personal reasons for diet dropout, which included six sub-themes; i.e., misunderstanding of diet, not having enough motivation, stress and hormonal disorder, having the feeling of "being harmful to health", lack of mental and psychological preparation, and personal taste. The second theme was familial and social reasons for diet dropout, including two sub-themes, i.e., social and familial problems. Finally, the third theme was the reasons related to diet characteristics, including six sub-themes: ineffectiveness of diet, expensiveness of diet food and dietary supplements, family problems, unavailability of food, unscientific and unconventional diets feeling bad about the diet, and unpalatable diet food.
Conclusion: The reasons for diet dropout were divided into three levels: personal reasons, familial and social reasons, and diet characteristics. Overall, clinicians should pay attention to the complexity of diets to increase the success rate of weight management.

Keywords: Overweight, Obesity, Dropout, Weight-loss diet, Qualitative study

The effect of omega-3 versus placebo intervention on the level of inflammatory biomarkers in patients undergoing surgery: Systematic review of randomized controlled trials

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Background: Major Surgeries are associated with a hyperinflammatory response followed by a phase of relative immune incompetence. Previous studies have indicated the effects of fats on inflammation process. Perioperative Omega-3 fatty acids (n-3 FAs) supplements may have beneficial effects on surgery outcome such as Inflammatory markers. Therefore, this study aimed to conduct a systematic review of related effects.
Methods: We conducted a systematic literature review of articles published from 1990 until December 2021 in Databases, including MEDLINE, ISI Web of Science, and Scopus. The review included the randomized controlled trial (RCT) studies (3537 articles) that we assess the effect of preoperative Omega-3 fatty acids supplements on Inflammatory markers after surgery. Finally, ten trials (512 subjects) were included to present the study.
Results: Final studies had preoperative supplementation in patients with some surgeries such as cardiopulmonary bypass surgery, cancer surgeries, open-heart surgery, coronary artery bypass grafting, hip surgery, and Roux-en-Y gastric bypass. The dose of n-3 FAs that patients received ranged from 2 to 13.8 g/day.Four studies provided omega-3 supplementation as PN, three as EN and three as oral. Six studies showed improvement in the inflammatory factors, including hs-CRP, TNF-a, IL-6, IL-8 and IL-10 whereas Two studies didn't report significant changes in hs-CRP, TNF-a, IL-6 and IL-1beta. Overall, PN omega-3 supplementation had a better effect on inflammatory factors than EN or oral supplementation.
Conclusion: Preoperative Omega-3 fatty acids supplementation can improve outcomes and reduce postoperative inflammation.

Keywords: omega-3, inflammation, Perioperative, surgery

The effect of Flaxseed intake on appetite control: A systematic review of Randomized Clinical Trials

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Background: Appetite control has attracted many scientists' attention recently since it contributes to weight management and the prevention of further metabolic disorders. Many studies have been done to assess the effect of flaxseed on satiety perception but the results are controversial. The aim of this study is to review these studies comprehensively (PROSPERO: CRD42021265751).
Methods: Related articles were searched in PubMed/Medline, Web of Science, Scopus, and Cochrane databases on June 2021. No limitation was imposed in the search strategy. The keywords for appetite were visual analog scale, appetite, desire to eat, satiation, satiety, hunger, fullness and for Flaxseed they were flax, flax*, linseed*, lignin*, Linseed Oil, flaxseed, ground flaxseed, flaxseed oil, and Linum usitatissimum.
Results: Thirteen papers were eligible to be included in this systematic review. These studies were inconsistent in results and some of them found no significant effect of flaxseed on appetite. However, three studies revealed a significant reduction in hunger perception as well as appetite, two studies found a decreasing effect on prospective consumption and three other studies observed a positive significant effect on fullness and satiety.
Conclusion: Although there is a limited number of papers related to the effect of flaxseed on appetite perception or its equivalent terms, the available studies can suggest the potential role of flaxseed in decreasing appetite and hunger. More well-designed clinical randomized trials are necessary to prove this relationship more precisely.

Keywords: Flax, Flaxseed, Satiety, Appetite, Hunger, Fullness

The interaction between Alternative Healthy Eating Index 2010 (AHEI-2010) and MC4R rs17782313 variants on central and general obesity indices in women: A cross-sectional study

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Objective: Previous studies have shown that the C allele of melanocortin 4 receptor (MC4R) rs17782313 and Alternative Healthy Eating Index (AHEI) are separately associated with obesity. However, no study has assessed the aim of this study that is to investigate the interaction between MC4R rs17782313 variants and AHEI and their association with central and general obesity indices.
Results: After adjustment for age, energy intake, physical activity, marital and economic status, the interaction between MC4R rs17782313 and AHEI was associated with waist circumference (WC) (β=-0.26, 95%CI: 0.00 to 1.03, P=0.07), hip circumference (HC) (β=-0.41, 95%CI: -0.77 to -0.05, P=0.02), body mass index (BMI) (β=-0.15, 95%CI: -0.29 to -0.02, P=0.02), waist-to-height ratio (WHtR) (β=-0.006, 95%CI: -0.00 to 0.00, P=0.07), trunk fat (TF) (%) (β=-1.82, 95%CI: -4.06 to 0.00, P=0.07), TF (kg) (β=-0.10, 95%CI: -0.22 to 0.01, P=0.06), fat mass (%) (β=-0.15, 95%CI: -0.34 to 0.02, P=0.05), fat mass (kg) (β=-0.28, 95%CI: -0.56 to -0.01, P=0.03), Visceral fat area (VFA) (β=-5.68, 95%CI: -9.55 to -1.80, P=0.004), and fat mass index (FMI) (β=-0.13, 95%CI: -0.23 to 0.00, P=0.06).
Conclusion: Interaction between MC4R rs17782313 and AHEI can be related to some central and general obesity indices in overweight/obese women
Keywords: MC4R, AHEI, obesity, personalized nutrition, gene-diet interaction, nutrigenetics.

Relationship Between Nutritional Literacy Level and HbA1c in Patients With Type 2 Diabetes in Southeast of Iran

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Introduction: Diabetes was identified as the ninth factor in reducing life expectancy. Researches are showing a relationship between the levels of knowledge of type 2 diabetic patients and reducing the complications of the disease. The aim of this study was to assess the relationship between nutritional literacy and the level of HbA1c.
Methods: A total of 64 types 2 diabetic patients were included in this study. This research was performed in December 2021. The level of nutritional literacy was measured by a standard questionnaire with confirmed validity and reliability. The score for each item was 2 for the correct answer; 1 for "I do not know"; and 0 for the wrong answer.
Results: In this study, 64 patients with type 2 diabetes with a mean age of 44.1 ± 6.8 years (range: 32-60) participated, of which 52% were male. Pearson's Correlation coefficient (r) between Hemoglobin A1C and overall nutritional literacy was estimated -0.58 which was statistically significant (P<0.001). patients were get 48%, 55%, 51%, 52%, and 52% of the total score in the dimensions of food portion and sizes, nutrition content of food, healthier food choices and safety, food label reading, and overall, respectively. After adjusting for potential confounders, the findings of the regression model indicated that nutritional literacy and family income were two effective predictors of Hemoglobin A1C.
Conclusion: The nutrition literacy of the patients with type 2 diabetes is at a medium level which needs to be improved with education.
Keywords: Nutritional Literacy, Diabetes, Type 2 Diabetic, HbA1c

The Effect of Social Media on Nutritional Literacy and Blood Sugar in Type Two Diabetic Patients

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Introduction: Social media has a strong effect on people life especially patients. Diabetes was identified as the ninth factor in reducing life expectancy. The aim of this study was to assess the effect of social media on nutritional literacy and blood sugar in type two diabetic patients.
Methods: A total of 64 type 2 diabetic patients were included in this study. This cross-sectional research was performed in December, 2021. The level of nutritional literacy was measured by a standard questionnaire with confirmed validity and reliability. The score for each item was 2 for correct answer; 1 for "I do not know"; and 0 for wrong answer.
Results: The mean age of patients was 44.1±6.8 years (range: 32-60), which 52% of them were men. While 28 patients (44%) had access to social networks and 36 (56%) of them did not have access. The mean nutritional literacy of patients who had access to the social media and did not have, were 31.5±4.2 and 25.6±3.4 (P <0.001), and the mean hemoglobin A1C were 7.6±1.3 and 9.0±1.7 (P <0.001), respectively.
Conclusion: Since the nutritional literacy level was more in the patients with type 2 diabetes who had access to social media, it is suggested to encourage using social media and also improve media literacy in these patients.
Keywords: Nutritional Literacy, Type 2 Diabetic, Social Media.

Quality Evaluation of Iranian Honey Collected from Khorasan Province, Iran

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Honey is a well-known nutritional and medicinal production of honey bees, originated from nectar of the flowers. The physicochemical parameters of honey are serves as indicators of its freshness and originality. So, this survey was designed to assess the parameters of quality control (i.e., HMF (hydroxy methyl furfuraldehyde), reducing sugars, F/G (fructose/Glucose), sucrose, proline contents, distaste activity, and FA (free acidity) values) of 25 honey samples of different brands, available in Khorasan province, Iran. Methods suggested by the Association of Official Analytical Collaboration (AOAC, 1995), the International Honey Commission (IHC, 2009), and the Codex Alimentarius Honey Standards, were applied for the study. Analysis of statistics were performed by using Microsoft Excel Statistical. Obtained data revealed that 8 out of 25 analyzed samples (32%), were complied with all requirements and were generally of acceptable quality. While, 17 remained examined samples (68%) were unconfirmed to the ISO (Iranian standard organization) standards, including 12 samples with low number of diastase (< 8 Schade) and high amount of HMF (> 15 mg/kg), 2 samples with high amount of sucrose, 2 samples with high proline, and 1 sample with high HMF; suggesting inappropriate storage (time and temperature), heat treatment and/or adulteration with industrial sugar. Results indicated that the examined honeys produced in Khorasan Province (Iran) were not of acceptable quality and elucidated the necessity of an effective regulatory framework to be evaluated and rectified periodically and precisely to maintain consumer rights, as well as public health.
Keywords: Diastase, HMF, Honey, Quality, Sucrose

The Relationship Between the Insulinemic Potential of Diet and Lifestyle and Risk of Breast Cancer: A Case-control Study among Iranian Adult Women

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Introduction: Unhealthy diet and lifestyles play an important role in cancer pathogenesis. We aimed to investigate the association of insulinemic potential of diet and lifestyle with the odds of BC using empirical indices including empirical dietary (EDIH) and lifestyle (ELIH) index for hyperinsulinemia, and empirical dietary (EDIR) and lifestyle (ELIR) index for insulin resistance.
Methods: This hospital-based case-control study was conducted among Tehranian adult women aged≥30 years. The final analysis was performed on 134 women, newly diagnosed with histologically confirmed BC as a case, and 267 healthy women of the same age as control. A food frequency questionnaire was used for assessing dietary intakes at baseline.
Results: The mean±SD of age and BMI of participants were 47.9±10.3 years and 29.4±5.5 kg/m2, respectively. EDIH score was remarkably related to the higher risk of BC based on fully adjusted models (OR:2.24;95%CI:1.21–4.12, Ptrend=0.016). Furthermore, subgroup analysis showed a higher BC risk with increasing EDIH score in postmenopausal women (OR:1.74; 95%CI:1.13-2.69) and those without a history of the oral contraceptive pill (OCP) use (OR:1.44;95%CI:1.02–2.04). Moreover, ELIH scores were positively associated with an increased risk of BC in postmenopausal women (OR: 1.98;95% CI: 1.35–2.89), those with a family history of cancer (OR:1.94;95%CI:1.10–3.42), and in individuals who did not use OCP (OR:1.46;95%CI:1.00–2.12).
Conclusion: Our results showed a possible link between EDIH and promoted BC risk. Also, higher EDIH and ELIH scores were strongly associated with an increased risk of BC in postmenopausal women, those with a family history of BC, and those who do not use OCP.
Keywords: EDIH, ELIH, breast cancer, dietary pattern, lifestyle, women

A systematic review of the association between the Mediterranean diet and attention-deficit hyperactivity disorder

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Introduction: Attention-deficit hyperactivity disorder (ADHD) is one of the most common neurodevelopmental disorder in children and adolescents. Dietary patterns have been investigated as a potential risk factor involved in the ADHD and suggested as a way of reducing ADHD symptoms. Plant-based diets like Mediterranean diet have beneficial effects on psychiatric disorders. In this study we systematically reviewed the effects of Mediterranean diet on ADHD.
Methods: Four databases, including PubMed, Scopus, Web of science, and Science Direct were searched up to February 2022. The systematic review included only studies that assessed Mediterranean diet and ADHD. We checked titles and abstracts, evaluated full-text studies, extracted data, and appraised their quality using the Newcastle–Ottawa Scale (NOS).
Results: Ten observational studies with 1272 participants were identified (four case-control and six cross-sectional studies). Results showed that higher adherence to a Mediterranean diet that is high in vegetables, fruits, legumes, nuts, grains, and fish was negatively associated with ADHD in children and adolescents.
Conclusion: Available evidence shows that higher adherence to a Mediterranean diet may decrease the risk of ADHD and reduce their symptoms. Longer-term interventional studies are required to confirm these findings.
Keywords: ADHD, Mediterranean Diet, review, systematic

Effect of two vitamin D repletion protocols on 24-hour urine calcium in patients with recurrent calcium kidney stones and vitamin D deficiency: a randomized clinical trial

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Purpose: In the current study, we aimed to investigate the effect of two treatment protocols on serum levels of vitamin D and 24-hour urine calcium in patients with calcium urolithiasis and vitamin D deficiency.
Methods: This study was a parallel-group randomized controlled clinical trial undertaken in the stone prevention clinic of Shahid Labbafinejad medical center, Tehran, Iran. Study participants received 2000 IU vitamin D daily for 12 weeks or 50000 IU vitamin D weekly for eight weeks. Study variables including 24-hour urine calcium, supersaturations of calcium oxalate and calcium phosphate, serum 25-hydroxyvitamin D and parathormone were measured at the beginning and after 12 weeks.
Results: Eighty-eight patients were randomized to study groups. Of them, 34 patients in the 50000 IU group and 28 patients in the 2000 IU group completed the study. The 24-hour urine calcium significantly increased in both groups (B=69.70, p<0.001), with no significant difference between treatments. Both groups showed no significant change in the supersaturation levels of calcium oxalate and calcium phosphate. In both treatment protocols, serum 25-hydroxyvitamin D increased

significantly (B=12.53, p<0.001), with more increase in the 50,000 IU group (B=3.46, p=0.003). Serum parathormone decreased in both groups (p<0.001), with no significant difference between them.

Conclusions: Although both treatment protocols increased 24-hour urine calcium, they did not increase the supersaturation state of calcium oxalate or calcium phosphate. Controlling the dietary intake of patients could prevent the risk of stone recurrence irrespective of increasing the urinary calcium by vitamin D repletion therapy.

Keywords: Vitamin D Deficiency, Urolithiasis, Clinical trial, Calcium, Urine

Effects of curcumin supplementation on metabolic parameters in women with rheumatoid arthritis: a randomized, double-blind, placebo-controlled clinical trial

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Introduction: Rheumatoid arthritis (RA) is a chronic autoimmune and inflammatory disease that leads to joints damage accompanied by several extra-articular problems, including cardiovascular disease. This study aimed to investigate the effects of curcumin supplementation on metabolic parameters (glycemic indices and lipid profile) in women with RA.

Methods: In this randomized, double-blind, placebo-controlled clinical trial, 48 women with RA were treated with curcumin (500 mg once a day) or placebo for 8 weeks. Fasting blood sugar (FBS), insulin, homeostatic model assessment in insulin resistance (HOMA-IR), and lipid profile of subjects were measured at baseline and the end of the study.

Results: There was a significant decrease in HOMA-IR and serum levels of triglycerides in the curcumin group compared with the placebo at the end of the study (P<0.05 for all). HOMA-IR and triglyceride levels significantly increased within the placebo group. Changes in FBS, insulin, and other lipids profile levels were not significant in any of the groups (P>0.05).

Conclusion: According to these results, consumption of curcumin, as a part of an integrated approach, can modulate metabolic factors in women with RA.

Keywords: curcumin; metabolic parameters; rheumatoid arthritis

The Effect of Curcumin Supplementation on Non-invasive Arterial Stiffness Parameters in Adults with Metabolic Syndrome: A Randomized, Double-Blind, Placebo-Controlled Trial

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Background: Cardiovascular disease is a leading cause of death in many societies. Arterial stiffness is an initial sign of structural and functional changes in the arterial wall. Pulse wave velocity (PWV) is the gold standard for non-invasive evaluation of aortic stiffness and a modifiable cardiovascular risk factor. Curcumin is a major component of turmeric with known anti-inflammatory and anti-oxidative effects. Since arterial stiffness is affected by inflammation and oxidative stress, it may be improved by curcumin supplementation. The purpose of this clinical trial was to investigate the potential effects of curcumin on improving arterial stiffness in patients with metabolic syndrome.

Methods: This placebo-controlled, double-blind, randomized clinical trial was conducted among metabolic syndrome patients. Sixty-six eligible individuals were randomly assigned to active intervention or control groups. The active

intervention group received curcumin supplement at a dose of 500 mg daily for 12 weeks, whereas the control group received placebo capsule. Physical activity, daily dietary energy intake, anthropometric, body composition, biochemical, hemodynamic, and arterial stiffness parameters were evaluated at baseline and the end of the study.
Results: In this study, body weight decreased significantly in the curcumin group compared to placebo. Also, curcumin intervention improved PWV, which remained significant after adjustment for potential confounding factors (P=0.011).
Conclusion: The current clinical trial demonstrated that daily intake of 500 mg of curcumin for 12 weeks can lead to the improvement of arterial stiffness and weight management among subjects with metabolic syndrome.
Keywords: Arterial stiffness, Pulse wave velocity, Curcumin, Metabolic syndrome

Dietary Supplements in Military Personnel: A Review

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Introduction: Army personnel are always faced with many physical and mental challenges. Fitness, mental alertness and readiness to be in stressful situations are among the job requirements of the Armed Forces. However, information on the effectiveness and efficiency of dietary supplements related to the needs of military personnel is limited. Our review aimed to examine the dietary dietary supplement needs for military personnel (protection against bad noises and increased physical and mental performance).
Methods: In this review study, articles published from 2000 to 2021 on dietary supplements for protect against loud noises, improve trauma, and increase the physical and mental performance of military personnel were reviewed. Articles were extracted from Web of Sciences, PubMed and Scopus.
Results: The results showed that magnesium supplementation could be useful for protection against abnormal sounds, glutamine and omega-3 supplementation in trauma and beta-alanine supplementation in physical activity The caffeine supplementation could be used to enhance cognitive performance and improving vigilance and attention when personnel are sleep-deprived. The studies do not support the use of other supplements such as arginine, gingko biloba, ginseng and inulin.
Conclusion: Dietary supplements can be helpful for military personnel in many ways. However, the supplements discussed in this article cover only a small portion of the supplements needed by the military. Although the evidence suggests the potential benefits of dietary supplements for military personnel, this is still controversial and needs further study. Further research could lead to the provision of specific nutritional formulas for military personnel based on potential stressors.
Keywords: Dietary supplements, Military personnel, Caffeine, Glutamine, Omega-3

Effects of 10 Weeks Curcumin Supplementation on Clinical Outcomes and Inflammatory Markers in Patients with Systemic Lupus Erythematosus: A Triple-blinded, Randomized Placebo Controlled Trial

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Background: The aim of this study was to evaluate the effects of curcumin on clinical outcomes and inflammatory markers in patients with systemic lupus erythematosus (SLE).
Materials and Methods: This triple-blinded, randomized placebo-controlled trial was carried out on 62 SLE patients. Curcumin group received two 500 mg curcumin capsules daily and the placebo group received two placebo capsules per day for 10 weeks. Dietary intakes and serum levels of complement C3 and C4, complement hemolytic 50%, anti-double-stranded DNA (anti-ds DNA), rheumatoid factor, erythrocyte

sedimentation rate, high-sensitivity C-reactive protein, interleukin-6 (IL-6) and tumor necrosis factor-α were measured before and after the intervention.
Results: Curcumin induced a significant reduction in anti-ds DNA and IL-6 levels at the end of the intervention in comparison with baseline (52.57±40.21 vs. 43.27±28.34, p=0.014 and 127.11±76.63 vs. 101.49±59.08, p=0.002, respectively). Results of analysis of covariance also revealed that anti-ds DNA and IL-6 levels decreased significantly in the curcumin group compared to the placebo group by the end of the trial (54.24±38.67 vs. 51.68±30.08, p=0.018 and 138.95±92.66 vs. 131.60±82.98, p=0.043, respectively). Levels of other variables remained unchanged (p>0.05).
Conclusion: Curcumin as a safe and effective adjuvant therapy, attenuated the autoimmune activity and inflammation in SLE patients.
Keywords: Curcumin, Systemic lupus erythematosus, Inflammation, Autoimmunity

Determination of vitamin A and D status in hospitalized patients: a study in Iranian hospitals

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Introduction: Evidence has proposed the mediating role of vitamins A and D in immunity, disease recovery and clinical outcomes. Thus, we designed a study to determine vitamin A and D status in hospitalized patients.
Methods: Serum retinol and 25-OH-vit D3 were assessed for 173 patients from medical and surgical wards of three hospitals in Tehran using HPLC and ELISA methods. Serum retinol <30 and 30-100 mcg/dL were described as deficiency and adequacy and serum 25-OH-vit D3 <11, 11-20 and >20 ng/mL were considered deficient, insufficient, and sufficient, respectively. Also, serum hsCRP was measured using turbidimetric immunoassay to determine inflammation.
Results: Totally, 89 patients from medical and 84 from surgical wards were assessed. Only one third of the patients had favorable retinol and vitamin D3 status, 46.8% had both vitamins deficiency and 82.7% had some degrees of inflammation. There was no difference regarding vitamin D3 between the studied wards (Chi-Square, p= 0.39), but vitamin D supplementation was higher in medical wards (Chi-Squared, p=0.03). More patients had vitamin A deficiency and inflammation in surgical wards (Chi-Squared, p= 0.007 and p=0.01, respectively). Binary logistic regression adjusted for possible confounders (age, gender, ward, serum hsCRP, supplementation, smoking, hospitalization duration, energy intake and reason of hospitalization) showed that low serum retinol was only associated with inflammation (OR=1.03, p=0.001), and female had lower chance of vitamin D deficiency (OR=0.39, p=0.02).
Conclusions: Health professionals should control vitamin A and D deficiency in patients regardless of their disease in medical and surgical wards and consider appropriate modifications.
Keywords: hospital, inpatient, malnutrition, retinol, vitamin D3, 25-OH-vit D3

Current Position of Food Waste in Tehran Hospitals

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Introduction: Hospital food is the main source of nutrients delivery for the most of the patients. Discarding food results in poor nutritional and health outcomes and has economic and environmental consequences. Therefore, in this study we assessed food waste production by the hospitalized patients.
Methods: A cross-sectional study evaluated daily food waste production in three educational hospitals in Tehran. A nutritionist collected demographic and clinical data and recorded food intake using a 24h food recall and extracted ingested energy and nutrients using Nutritionist IV software. Food leftover was measured using a calibrated scale during breakfast, lunch and snacks in a given day.
Results: Mean age of the participants was 57.5 years (n=171, 67.1% male). The median of daily discarded food per patient was 519.0 gr [IQR: 553.5]. The most wasted meal was lunch

(median:292.0 gr [IQR: 466.5]), but snack and lunch waste had the highest proportion of the served food (62.4% and 51.3%). Waste quantities in snack, lunch and breakfast were inversely correlated with energy intake (rspearman= -0.5, -0.4 and -0.3, respectively and p<0.001 for all). Linear regression showed that total food waste was associated with age (standardized Beta=-0.2, p=0 .02) and malnutrition status (standardized Beta=0.3, p=0 .001).

Conclusions: Plate food waste is rather high in hospitalized patients, especially in aged and malnourished ones, which can negatively affect disease recovery and have an unwanted financial burden on the health system.

Keywords: Food Waste, Hospitals, Patients, Energy Intake

The effect of trehalose administration on oxidative stress indices in patients with history of myocardial infarction (MI) and systemic inflammation

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Introduction: Oxidative stress is related to inflammatory processes which play important roles in the development of cardiovascular disease. Trehalose, a nonreducing disaccharide, has shown antioxidant and anti-inflammatory effects in various experimental models. Therefore, the present study aimed to investigate the potential efficacy of intravenous (IV) trehalose administration on oxidative stress markers in patients with history of myocardial infarction (MI) and elevated C-reactive protein (CRP).

Methods: This randomized, double-blind trial enrolled 15 men (aged 18-80) with history of myocardial infarction and evidence of systemic inflammation. The patients were randomly assigned, in a 2:1 ratio, to receive either IV trehalose (15 g once weekly) or placebo for 12 weeks. At baseline and at the end of study, pro-oxidant/antioxidant markers including malondialdehyde (MDA), thiol groups (GSH), nitric oxide (NO), myeloperoxidase (MPO), glutathione peroxidase (GPx), Superoxide dismutase (SOD), catalase (CAT) and pro-oxidant-antioxidant balance (PAB) were assessed. Within- and between-group comparisons were performed using paired and independent samples t-test, respectively.

Results: There were no significant differences in the pro-oxidant/antioxidant markers between the studied groups at baseline. IV trehalose administration could significantly increase the SOD activity, while increased GPx activity was found in the placebo group. Trehalose treatment had no effects on other oxidative stress markers in this study. Moreover, the changes in these parameters showed no significant differences between the studied groups.

Conclusions: According to the findings, trehalose administration was not effective in reducing oxidative stress in patients with a history of MI and elevated CRP levels. This might be due to the small sample size of this study, so larger studies are warranted to better assess the efficacy of this disaccharide in this clinical context.

Keywords: Anti-oxidant enzymes, Coronary artery disease, Oxidative stress, Trehalose

The effect of the 5 minute Premature Infant Oral Motor Intervention (PIOMI) verus oral stimulation program to achieve breastfeeding in term infants with feeding problems: a randomized clinical trial

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Introduction: To evaluate the effect of the 5-minute premature infant oral motor intervention (PIOMI) and a 15 minute Fucile treatment on term infants with feeding problems.
Methods: Stable term infants (N = 51) born between 37 and 41 weeks gestational age with feeding problems were randomly assigned into two intervention groups and a control group. Two intervention groups received the PIOMI or Fucile treatment once daily for 7 consecutive days and the control group received routine care only. The type of feeding method was compared in three groups. All statistical analysis were performed using R 4.0.2 and the significance level was set at 0.05 and were performed using SPSS software version 23.0.
Results: The type of feeding method changed and some infants have access to breastfeeding from pre to post treatment in all groups due to natural growth and development (p-value<0.05). However, this progress was more dominant in the Fucile group. The Fucile group had a significant number of infants have access to breastfeeding after treatment compared to both controls and PIOMI after treatment (p-value = 0.007).
Conclusions: Some of the infants in both interventions groups access to breastfeeding. However, the longer oral motor therapy can be tolerated in term infants and had a greater effect over shorter therapy in term infants.
Keywords: Feeding, sucking, premature infant oral motor intervention (PIOMI), oral stimulation program, Intensive Care Units, Neonatal

The Effect of Green Coffee Consumption on High Blood Pressure

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Background: Hypertension is a major risk factor for the development of coronary, cerebrovascular, and peripheral vascular diseases, which lead to myocardial infarction, stroke, and vascular death. Green coffee extract is particularly producer a great deal of chlorogenic acids (CGA) that may reduce the risk of high blood pressure. Therefore, the target of the study was to summarize the available publications on the effect of green coffee consumption on high blood pressure.
Methods: The systematic review was done with a search in PubMed-Medline and Scopus. The search strategy included keywords related to blood pressure and green coffee. Inclusion criteria were randomized controlled clinical trials conducted on people aged between 18 and 70 years. The publication date of articles was from 2004 to 2018. Exclusion criteria were articles not published in English.
Results: We discussed five articles that included our criteria. Green coffee had moderate effects on high blood pressure. It sounds that the effect of green coffee on reducing blood pressure is because of its phenolic compounds, as well as caffeine and chlorogenic acids, coffee's roasting status, participants' ethnicity, and even gender.
Conclusion: Green coffee intake for a long time might moderately decrease blood pressure. However, there is still a need for further clinical trials.

Effects of Evening Meal Timing on Weight Loss: A Pilot Open-Labelled Randomized Clinical Trial

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Background: studies have shown the effect of meal timing on weight-loss diet success with controversial results. The current study evaluated the effect of evening meal timing on weight and body mass index (BMI) in overweight/obese subjects who were on a standard weight-loss diet.
Method:A total of 70 obese/overweight employees of Ahvaz Jundishapur University of Medical Sciences took part in this randomized clinical trial (RCT). Participants were randomly assigned into a limited meal timing weight-loss (LMTWL) group with the last meal before 06:00 PM and a non-limited meal timing weight-loss (NLMTWL) group with the last meal before 12:00 AM. All participants followed a standard weight-loss diet as follows: 53% carbohydrate 30% fat and 17% protein. Weight and body mass index was measured at the run-in-period (2 weeks), baseline and the end of four weeks. Independent sample T-test was used to compare parametric continuous variables between the two groups.

Result: Of participants, 60% were female. However, there was no significant difference between the two groups based on sex. Also, age, height, physical activity level, BMI and energy intake was similar between the two groups. There were no differences in LMTWL and NLMTWL groups based on weight (P=0.89) and BMI (P=0.91) before and after four weeks of the intervention.
Conclusion: Meal timing did not influence the amount of weight lost by overweight/obese subjects on a weight-loss diet. However, more RCTs with larger samples and longer follow-up durations (with a focus on nutrient intake, circadian clock patterns, and the interaction between genotype and chronotype) are needed to confirm this finding.

The effect of high-performance inulin on appetite, energy intake and anthropometric indices in patient with type 2 diabetes

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Introduction: This trial was conducted to evaluate the effects of high-performance inulin on anthropometric indices and appetite status in patient with type 2 diabetes.
Methods: Forty-six patients with type 2 diabetes were randomly assigned to two groups. Subjects received 10g/d high performance inulin (n=23) or 10 g/d placebo (n=23) for 8 weeks. Anthropometric indices were measured at baseline and after 8 weeks. Dietary intakes and appetite status were evaluated by food records and Visual Analogues Scale respectively.
Results: After 8 weeks, in the high-performance inulin group there were a significant decrease in waist circumference, hip circumference, energy intake and Total Satiety score compared to placebo group. Inter group analysis showed that a significant decrease in energy intake. Conclusions: high performance inulin may improve body weight, anthropometric indices and appetite statues in type 2 diabetic patients.
Keywords: high performance inulin, anthropometric indices, appetite, type 2 diabetes

A systematic review and meta-analysis of randomized clinical trials on the effects of Momordica charantia L on blood pressure

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Introduction: Several reports have indicated a positive effect of Momordica charantia (MC) on blood pressure (BP); nevertheless, these findings have been controversial. Therefore, a systematic review and meta-analysis of randomized controlled trials (RCTs) were aimed to investigate the effects of MC supplementation on BP.
Methods: PubMed, Scopus, ISI Web of Science, and Cochrane library databases were searched (up to June 2020) to identify RCTs investigating the effects of Momordica charantia supplementation on systolic blood pressure (SBP) and diastolic blood pressure (DBP). Weighted mean differences (WMD) were pooled using a random-effects model. Publication bias was assessed by Egger's and Begg's test and heterogeneity was evaluated using Q tests and the I2 statistic.
Results: Eventually, only five articles (six treatment arms) 305 participants (154 as intervention group/151 as control), which reported data of interest entered for data analysis. The meta-analysis showed a non-significant reduction in SBP (WMD: −2.28 mmHg; 95% CI: −6.62, 2.05, P = .302), with significant heterogeneity between selected studies (I2 = 77.3%) and (WMD: −0.8 mmHg, 95% CI: −2.65 to 1.04, P = .394) with significant between-study heterogeneity (I2 = 38.1%). When studies were categorized based on participants' mean age and duration of intervention, SBP and DBP had a large non-significant decrease in subjects with equivalent and less than 50 years' subset and short duration (≤8 weeks'). Consumption of MC preparations was not associated with a significant reduction in either SBP or DBP.

Conclusions: However, we found a significant hypotensive effect of MC in younger adults and in short-term interventions. Future adequately powered clinical trials, with larger sample size, which consider proper standardization of MC preparations and exclusively include hypertensive patients, are needed to investigate the clinical potential of MC on blood pressure control among these patients.

Keywords: Momordica charantia, Bitter gourd, Bitter melon, Blood pressure, Meta-analysis, Randomized controlled trial.

Oral synbiotic supplementation in patients with migraine: Effects on clinical features and inflammatory markers

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Introduction: This literature suggests a relationship between gut microbiome and migraine headache pathogenesis. However, the effect of manipulating gut microbiome on migraine remains unclear. This study aimed to investigate the effect of synbiotics on migraine characteristics and inflammatory markers in women with migraines.

Methods: Sixty-nine participants completed a randomized double-blind controlled trial, receiving synbiotic (10^9 CFU of 12 types of probiotics + fructooligosaccharides prebiotic) or placebo supplementation, twice per day for 12 weeks. Migraine severity, migraine days per month, frequency and duration of attacks, number of painkillers consumed, gastrointestinal problems, serum Highly sensitive C-Reactive Protein (Hs-CRP) (a marker of inflammation) and zonulin (a marker of gut permeability) levels were measured at baseline and the end of the intervention. Bivariate comparison and intention-to-treat (ITT) were used for analysis.

Results: Synbiotic supplementation compare to the placebo resulted in a significant reduction in the mean frequency of migraine attacks (- 1.02 vs - 0.30, respectively, P = 0.011), percentage change of the number of painkillers used (- 7.5% vs 27.5%, respectively, P= 0.008) and gastrointestinal problems (- 35% vs - 2.5%, respectively, P = 0.005), zonulin level (- 4.12 vs 0.85ng/ml, respectively, P = 0.034), and Hs-CRP level (- 0.43 vs - 0.09 mg/l, respectively, P = 0.022). Reduction in the migraine severity and duration did not reach a statistically significant level.

Conclusions: Synbiotic supplementation may be considered as a complementary treatment for women with migraines to improve migraine characteristics and markers of inflammation and gut permeability and reduce the burden of disease.

Keywords: Migraine, Headache, Gut integrity, Inflammation, Synbiotics

A systematic review and meta-analysis of clinical trials on the effect of synbiotics and probiotics supplementation on autoimmune disorders

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Introduction: Today synbiotics are considered as immunomodulatory agents. The current systematic review and meta-analysis investigated the effect of synbiotics and probiotics on inflammatory and oxidative stress markers in autoimmune disease.

Methods: The English literature search was performed using PubMed, Scopus, Web of Science, and the Central Cochrane Library through March 2020. Random effects models and generic inverse variance methods were used to synthesize quantitative data by STATA14.

Results: From a total of 623 entries identified via searches, ten RCTs (n = 440; 216 as intervention, 224 as controls) were included. An additional eleven studies with same intervention and different markers were also explained systematically. The pooled effect

size showed that Interleukin (IL)-6 (WMD = −7.79 pg/ml; 95% CI = −13.81, −1.77, P = 0.011), Tumor Necrosis Factor (TNF)-α (WMD = −1.05 pg/ml; 95% CI = −2.01, −0.10, P = 0.030), high sensitivity C-Reactive Protein (hs-CRP) (SMD = −0.58; 95% CI = −0.79, −0.37, P < 0.001), Malondialdehyde (MDA) (SMD = −0.36; 95% CI = −0.68, −0.04; P = 0.026), Homeostasis Model of Assessment-estimated Insulin Resistance (HOMA-IR) (WMD = −0.71; 95% CI = −1.05, −0.37, P < 0.001), and beta cell function (HOMA-β) (WMD = −15.18; 95% CI = −22.08, −8.28, P < 0.001) changed following probiotics (or synbiotics) supplementation. Also, supplementation with doses more than 2 billion CFU could reduce IL-10 concentrations (WMD = −1.84; 95% CI = −2.23, 1.87; P < 0.001). Glutathione (GSH) and Total Antioxidant Capacity (TAC) levels did not influence by synbiotics and probiotics; insignificancy was remained after subgrouping for participants' age, study duration, and disease duration.

Conclusions: Our findings revealed that synbiotics and probiotics supplementation has significant effect on some inflammatory and oxidative stress markers; although, the number of trials was too small to powerful conclusion and further investigations may be needed.

Keywords: Synbiotics, Probiotics, Inflammation, Oxidative stress, Meta-analysis, Systematic review

A systematic review and meta-analysis of randomized controlled trials on the effects of zinc supplementation on inflammatory biomarkers and oxidative stress in adults

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Introduction: Current evidence is debatable regarding the feasible effects of zinc supplementation on the inflammation and oxidative stress status of adults. This systematic review and meta-analysis aimed to clarify this inconclusiveness.

Methods: Literature search was conducted via online databases such as PubMed, Scopus, ISI Web of Science, Cochrane Library, and Google Scholar until June 2020. The overall effect was presented as the weighted mean difference (WMD) at 95 % confidence interval (CI) in a random-effects meta-analysis model. Publication bias was also assessed using Egger's and Begg's statistics

Results: In total, 25 clinical trials (n = 1428) were reviewed, which indicated that zinc supplementation significantly affects the concentration of C- reactive protein (WMD: -0.03 mg/l; 95 % CI: -0.06, 0.0; P = 0.029), interlukin-6 (WMD: -3.81 pg/mL; 95 % CI: -6.87, -0.76; P = 0.014), malondialdehyde (WMD: -0.78 µmol/l; 95 % CI: -1.14, -0.42; P < 0.001), and total antioxidant capacity (WMD: 95.96 mmol/l; 95 % CI: 22.47, 169.44; P = 0.010). In addition, a significant between-study heterogeneity and a non-significant increment was reported in nitric oxide (WMD: 1.47 µmol/l; 95 % CI: -2.45, 5.40; P = 0.461) and glutathione (WMD: 34.84 µmol/l; 95 % CI: -5.12, 74.80; P = 0.087).

Conclusions: According to the results, zinc supplementation may have beneficial anti-inflammatory and anti-oxidative effects in adults.

Keywords: Zinc, Inflammation, Oxidative stress, Meta-analysis

The effect of dietary counseling and medical nutrition therapy on HbA1c levels in patients with diabetes in Imam Reza hospital of Tabriz, Iran

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Introduction: Diabetes mellitus is one of the most common non-communicable metabolic disorders .HbA1c is an important indicator of long-term glycemic control with the ability to reflect the cumulative glycemic history of the preceding two to three months. Medical nutrition therapy (MNT) plays an important role in managing the diabetes. This study investigates the effect of dietary counseling on HbA1c levels in patients with type II diabetes mellitus of Imam Reza hospital.
Methods: In this study Participants were randomly allocated to intervention and control groups. A dietary schedule consisting %50-55carbohydrate, %10-25 protein and less than %30 fat was prescribed in a 20 minute counseling session for case group and their diet was carried out during the hospital stay and continued at home, while the control group was left without any intervention. HbA1c levels were assessed at baseline and after 6 months. SPSS software utilized to data analysis using t-test analysis. Significance level was set less than 0.05.
Result: 100 patients with 35 – 55 years old, participated in this study. during the 6-month follow-up period, HbA1c levels were significantly improved in the case group. At baseline, HbA1c was 7.2 ± 1.0% and during the 6-month follow-up period was 5.9 ± 0.5%, (P < 0.001).
Conclusion: According to study results, patients with type II diabetes who received medical nutrition therapy, showed significant improvements in outcome HbA1c. So, it seems dietary counseling program is essential in prevention and decrease of type II diabetes complications.
Key Terms: dietary counseling, type 2 diabetes, medical nutrition therapy, HbA1c

Investigation of serum lipid profile altered in pregnant women at Tabriz, Iran

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Background: Hypertension and hyperlipidemia are major risk factors for cardiovascular disease, accounting for the highest morbidity and mortality among the Iranian population. The objective of this study was to determine the association between serum lipid profiles in hypertensive pregnant women with normotensive control subjects in Tabriz, Iran.
Methods: A cross-sectional study was carried out among 234 participants including 159 hypertensive pregnant women and 75 normotensive controls from January to December 2016 in the Al – Zahra women hospital in Tabriz, Iran. Data were collected on sociodemographic factors, blood pressure, and lipid profile including total cholesterol (TC), triglyceride (TG), low density lipoprotein (LDL), and high density lipoprotein (HDL).
Results: The mean (± standard deviation) systolic blood pressure and diastolic blood pressure of the participants were 137.94±9.58 and 94.42±8.81, respectively, which were higher in the hypertensive pregnant women (P<0.001). The serum levels of TC, TG, and LDL were higher while HDL levels were lower in hypertensive subjects compared to normotensives, which was statistically significant (P<0.001). Age, waist circumference, and body mass index showed significant association with hypertensive pregnant women (P<0.001) but not with normotensives. The logistic regression analysis showed that hypertensive pregnant women had 1.1 times higher TC and TG, 1.2 times higher LDL, and 1.1 times lower HDL than normotensives, which was statistically significant (P<0.05).
Conclusion: hypertensive pregnant women in Iran have a close association with hyperlipidemia and need measurement of blood pressure and lipid profile at regular intervals to prevent cardiovascular disease, stroke, and other comorbidities.
Keywords: Risk factors, cardiovascular diseases, hyperlipidemia, blood pressure

Evaluation of the HACCP implementation role in bacterial contamination of hospital prepared formulas of Imam Reza Hospital in Tabriz, Iran

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BACKGROUND: Enteral nutrition (EN) is crucial for patients that cannot feed orally. Different mixtures have been used for EN and several advantages and limitations have been mentioned for each. blenderized tube feedings (BTFs) contain natural foods and economic reasons can be the most important reasons justify the use of these formulas. One of the most important issues that should be considered are contamination of BTFs. The purpose of this study was to evaluate the role of HACCP implementation in bacterial contamination of hospital prepared formulas of Imam Reza Hospital in Tabriz.
Methods: In this study, bacterial contamination of BTF samples were evaluated before and after the HACCP implementation, in special room for preparation of formulas. Samples were tested for the presence of total coliforms, Escherichia coli (E. coli), Staphylococcus aureus (S. aureus), Listeria monocytogenes (L. monocytogenes), and Salmonella. Statistical analysis was done using SPSS. differences were reported as significant at $p < 0.05$.
Results: before the implement of HACCP standards, S. aureus and total coliforms of samples were >101 cfu/g and >103 cfu/g respectively, but after the HACCP implementation (such as utilize the sterile bottles, hand hygiene improvement efforts, Separate the raw material washing room and material blenderizing room and etc), S.aureus and total coliforms were <101 cfu/g. E. coli, Salmonella, and L. monocytogenes were not detected in samples.
CONCLUSIONS: The results of microbial tests, clearly demonstrated the success of the HACCP plan implementation, in the preparation of blenderized tube feedings in hospital.
Key Terms: Enteral nutrition, HACCP, BTF

The relationship between adherence to a dietary approach to stop hypertension (DASH) diet with oxidative stress and antioxidant capacity in young women

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Introduction: The Dietary Approaches to Stop Hypertension (DASH) diet is a healthy dietary pattern that may have advantageous effects on oxidative stress (OS) and antioxidant status. This study evaluated the association between adherence to the DASH diet with total antioxidant capacity and markers of OS in healthy young women.
Methods: One hundred and fifty five young girls were included. A validated food frequency questionnaire was recruited to assess the dietary intake of participants. The total antioxidant capacity and free radical scavenging activity of serum and urine were quantified using the ferric reducing/antioxidant power (FRAP) and α, α-diphenyl-β-picrylhydrazyl (DPPH) methods, respectively. Malondialdehyde (MDA) was measured using a method based on the formation of thiobarbituric acid reactive substances. A colorimetric assay was used to quantify pro-oxidant antioxidant balance.
Results: Individuals with the highest adherence to the DASH diet consumed significantly more fruits, vegetables, low-fat dairy products, nuts, legumes and seeds and lower intake of sugar-sweetened beverages and sodium versus those at lowest adherence. Women with the greatest adherence to the DASH-style diet (those in the 3th tertile), were more likely to lower urinary FRAP, DPPH and MDA than those in the 1st tertile ($p<0.05$). In multivariate multinomial logistic regression, a higher adherence to a DASH dietary pattern was related with a lower levels of urinary FRAP (OR=0.82; 95%CI: 0.71-0.94, p=0.005), urinary DPPH (OR=0.47; 95%CI: 0.28-0.78, p=0.003), and urinary MDA (OR=0.13; 95%CI: 0.02-0.81, p=0.029).
Conclusions: Adherence to the DASH diet associated with better OS and antioxidant capacities in healthy subjects.

Keywords: DASH diet; Pro-oxidant antioxidant balance; anti-oxidant; Reactive oxygen species; oxidative stress

Effects of curcumin on cognitive function scores in woman with premenstrual syndrome and dysmenorrhea: a triple -blind, placebo-controlled clinical trial

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Introduction: Dysmenorrhea and premenstrual syndrome (PMS) are common gynecological conditions. Many women suffering from PMS and dysmenorrhea also experience emotional, psychological and cognitive problems. This randomized, triple-blind, placebo-controlled trial was conducted to assess the effects of a curcumin supplementation on cognitive abilities.
Methods: Women who had both PMS and dysmenorrhea were enrolled, and were randomly assigned to receive curcumin (n = 62), or placebo (n = 62). Each subject received either a capsule containing 500 mg of curcuminoid, or a placebo daily, for 10 days (7 days before and until 3 days after the onset of menstrual bleeding) over 3 menstrual cycles. The Cognitive Abilities Questionnaire was used to measures cognitive functions in seven specific areas.
Result: At baseline, there were no significant differences between the placebo and the curcumin groups, with respect to age, cardio-metabolic variables, cognitive abilities task scores and dietary intake (p>0.05). Significant increments were found in scores of memory (3.5±3.1 vs. 0.40±3.8 in the curcuminoids and placebo groups, respectively; p=0.035), inhibitory control and selective attention (3.03±3.7 vs. 0.43±3.7; p= 0.027) and total cognitive abilities (8.3±12.3 vs. 2.2±12.4; p=0.025) in the curcuminoid supplementation versus placebo groups.
Conclusions: Curcumin has a beneficial effect on cognitive function scores in women with PMS and dysmenorrhea, with improvements in memory, inhibitory control and selective attention.
Keywords: memory; cognition; turmeric; menstruation

Malnutrition and dysphagia progression in Parkinson disease: a systematic review

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Introduction. Parkinson disease (PD) is a neurodegenerative disorder that leads to a wide range of deficits including autonomic dysfunction, mood disorders, cognitive decline and dysphasia. Dysphagia has a negative impact on quality of life and may also lead to life-threatening complications such as aspiration, malnutrition and weight loss. However, it remains unclear how many people with PD are at risk of dysphagia. The purpose of this article is to review the literature on the prevalence of malnutrition and dysphasia in people with PD.
Methods: A systematic literature review was conducted, searching in MEDLINE, reviewing reference lists from 2000 until October 2021. Only papers that provided information on the prevalence of malnutrition and dysphagia in people with PD were included. The collection of reviewed articles included 235 articles, and finally, 26 original studies met the inclusion criteria and were included in this review.
Results: According to present results, the prevalence of dysphagia in the PD population has been reported to be up to 95% on objective testing and can be asymptomatic. Significant swallowing deficiencies already occurred in early disease. The use of modified barium swallow studies, videofluoroscopy, and esophageal manometry in PD patients has identified abnormalities in all 3 phases of swallowing (oral, pharyngeal, and esophageal), including delayed swallowing reflex, pyriform sinus residues, and a peristalsis impairment.
Conclusions: These results suggest that dysphagia is a frequent problem in patients with PD and is an important risk factor for infections, malnutrition, hospitalization, and premature mortality.
Key words: Parkinson disease, Dysphagia, Malnutrition

Association between serum glycemic parameters, anthropometric indices and nutrients intake with gallstone disease: A case-control study

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Background and Aims: Gallstone disease (GD) is a common health problem associated with gastrointestinal tract. Due to importance of diet and obesity in development of GD and considering possible effect of insulin resistance in pathogenesis of GD, this study was performed to define the association between serum glycemic parameters, anthropometric indices and nutrients intake with GD among Iranian female patients.
Methods: This case-control study was conducted among women including 74 patients with GD and 75 healthy controls in Gastroenterology and Hepatology clinic of Taleghani Hospital in Tehran, Iran from October 2020 to March 2021. A validated, semi quantitative food frequency questionnaire was used to evaluate the usual intake of participants. To measure glycemic parameters (FBS and fasting serum insulin), blood samples were collected from all participants after 12 hours of fasting. Insulin Resistance Index (HOMA-IR) calculated for all participant. To find the best predictors of GD, multivariate logistic regression was used.
Results: The results of analysis showed a positive significant association between HOMA-IR values (odds ratio: 3.27; 95% confidence interval: 1.16–9.19; P = 0.025) and dietary sucrose intake (odds ratio: 1.07; 95% confidence interval: 1.02–1.12; P=0.006) with GD., No significant association was observed between anthropometric indices (height, weight, BMI) with GD.
Conclusion: Present results suggested that higher HOMA-IR values and high intake of sucrose were positively associated with high risk of GD. To support these findings more studies are required.
Keywords: Anthropometric indices, Gallstone disease, Nutrients intake, Serum glycemic parameters

low fat diet and poor quality of life in adolescent girls

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Introduction: There is limited evidence about the association between quality of life and diets. The aim of this study to evaluate the association between low fat diet (LFD) with Poor quality of life in adolescent girls.
Methods: A total of 733 adolescent girls aged between 12 and 18 years old were recruited from Mashhad and Sabzevar cities in northeastern Iran. Dietary intake was assessed by a valid and reliable food frequency questionnaire. We used the percentage of energy from each macro nutrient instead of absolute intake. For fat, individuals in the highest stratum received 10 points and those in the lowest stratum received 0 points. To investigate the health-related quality of life, the SF12v2 questionnaire was used. This questionnaire is a short form of the SF-36 questionnaire and an improved version of SF-12v1. Logistic regression was used in crude and adjusted models to explore the relation between LFD and poor quality of life.
Results: No significant association was found between highest adherence to LFD and odds of poor quality of life (OR: 0.88; 95% CI: 0.62–1.27, P = 0.51) in crude model and after adjusting for potential confounders including percentile BMI, age, energy intake and physical activity (OR: 0.89; 95% CI: 0.62–1.22, P = 0.56).
Conclusions: In this study, higher adherence to LFD was not associated with poor quality of life. Fat intake was essential. Further studies are needed to clarify these findings.
Keywords: Low fat diet, Quality of life, Adolescents

The association between low fat diet and Irritable bowel syndrome in adolescent girls

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Introduction: Irritable bowel syndrome (IBS) is the most prevalent functional gastrointestinal disorder. A substantial proportion of patients with IBS associate their symptoms with the ingestion of specific foods. The aim of this paper is to investigate the association between low fat diet (LFD) with IBS in adolescent girls.
Methods: A total of 733 adolescent girls aged between 12 and 18 years old were recruited from Mashhad and Sabzevar cities in northeastern Iran. Dietary intake was assessed by a valid and reliable food frequency questionnaire. We used the percentage of energy from each macro nutrient instead of absolute intake. For fat, individuals in the highest stratum received 10 points and those in the lowest stratum received 0 points. To assess the presence of IBS, we used a version of the Rome III questionnaire translated into Persian, as a part of original questionnaire in order to assess for Functional gastrointestinal disorders. To analyze the relation between LFD and IBS, Logistic regression was used in crude and adjusted models.
Results: No significant association was found between highest adherence to LFD and odds of IBS (OR: 0.90; 95% CI: 0.55–1.48, P = 0.70) in crude model and after adjusting for potential confounders including age, energy intake, percentile BMI and physical activity (OR: 0.87; 95% CI: 0.53–1.43, P = 0.59).
Conclusions: In this study adherence to low fat diet was not associated with IBS. Probably, fat intake was important. Further studies are needed to clarify these findings.
Keywords: Low fat diet, IBS, Adolescents

The association between drinking liquids with meals and poor quality of life in adolescent girls

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Introduction: There is limited evidence regarding the relationship between dietary habit and quality of life. This study aimed to explore the association between drinking liquids with meals and quality of life.
Method: A total of 988 adolescent girls aged between 12 and 18 years old were recruited from Khorasan Razavi and Sabzevar in Iran using a random cluster sampling method. Pre-tested questionnaire was used for assessment of drinking liquids. To investigate the health-related quality of life, the SF12v2 questionnaire was used. This questionnaire is a short form of the SF-36 questionnaire and an improved version of SF-12v1. Logistic regression analysis was used in crude and adjusted models for investigate the association between drinking liquids with meals and quality of life.
Results: The subjects who drink more than 4 glass liquids with their meals had higher odds of poor quality of life compared to subjects who consumed one glass and fewer fluids with their meals (OR:3.21, CI:1.1_8.9, P=0.02).This association has remained significant after adjustment for confounding factors including age, energy intake, physical activity, and percentile BMI (OR:3.71, CI:1.00_13.75, P=0.04) .
Conclusion: There is a positive association between drinking liquids with meals and poor quality of life. Further studies, particularly longitudinal studies, are required to confirm these findings.
Keywords: dietary habit, drinking liquid, quality of life, adolescents

The Association Between Vitamin D and Autism Spectrum Disorder (ASD) in Children

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Autism Spectrum Disorder (ASD) is a developmental and neurological disorder that begins before the age of three. There is no difference in the appearance of these people compared to the others but people with ASD communicate with others in different ways. Problems with social skills, communication, and having different behavioural patterns are characteristics of people with autism. vitamin D has important functions in the brain such as antioxidant activity, anti-inflammatory effects, synthesis of neurotransmitters, and protection of neurons. In children with autism, levels of inflammatory cytokines such as Interleukin 6 (IL-6), Tumour Necrosis Factor-alpha (TNF-α), and Interferon-gamma (IFN-γ) increase. Vitamin D can reduce inflammatory cytokines and increase anti-inflammatory cytokines such as Interleukin-10 (IL-10)from beta cells. Medications to play an effective role in improving the symptoms of autism in these people, required the controlled changes of the level of neurotrophin-4 (NT4) and neurotrophin-3 (NT-3). Vitamin D can increase nerve growth factor (NGF)and glial cell line-derived neurotrophic factor (GDNF) levels. NGF can be a major mediator of the effects of vitamin D in ASD. NGF can be used to mark the progression of autism and GNDF can be used to promote cognitive-developmental deficiencies. As a result, vitamin D deficiency can act as a risk factor for autism, and it is necessary to monitor vitamin D levels regularly to provide appropriate and complementary interventions in case of deficiency or insufficiency.
Keywords: Vitamin D, Autism, Children

Dietary inflammatory index in relation to metabolic syndrome among overweight or obese children

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Background: Metabolic syndrome (MetS) is a global public health concern, especially among overweight or obese children. Additionally, metabolic syndrome stimulated by low-grade systematic inflammation, underlies many cardiovascular events. As diet is a significant moderator of systematic inflammation, literature review-based dietary inflammatory index (DII) score has been recently introduced to evaluate inflammatory properties of an individual's diet. Therefore, the aim of present study was to assess the association of priori defined index, dietary inflammatory index (DII), with metabolic syndrome, among overweight or obese children and.
Methods: In this descriptive analytical cross-sectional study, a total of 400 children, with WHO body mass index z-score > 1 SD were enrolled in this cross-sectional study. Metabolic syndrome was defined using the cook et al definition. Valid and reliable semi-quantitative 147-item food frequency questionnaire (FFQ) was used to collect dietary intakes and calculate DII score.
Results: In this study the mean ± SD age of participants was 9 ±1 years. The DII ranged from -5.50 to 4.40 with the mean of -2.80 in the first tertile of DII and 1.25 in the last tertile. Dietary inflammatory index score had no significant association with metabolic syndrome after adjusting for potential confounders (OR= 0.89, 95% CI: 0.73-1.08, P-value= 0.227).
Conclusion: In present study, we could not observe significant association between DII and metabolic syndrome. Longitudinal studies in different parts of Iran, including inflammation biomarkers, are needed to enable a more defined view of the inflammatory potential of a diet and its association with various inflammatory-based health conditions.
Keywords: Dietary inflammatory index score (DII), Metabolic syndrome (MetS), Overweight, Obesity, Children.

The association of metabolic syndrome and its components with subclinical atherosclerosis among children with overweight or obesity

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Background: Overweight and obesity in children contributes to increased prevalence of metabolic and hemodynamic complications, which may impair endothelial function and structure. Beside of childhood obesity, metabolic syndrome (MetS) is a condition that link to obesity and chronic disease and childhood MetS is related to atrial wall thickening and subclinical atherosclerosis. Therefore, the aim of present study was to assess the association of metabolic syndrome and accompanying components of this syndrome with carotid intima media thickness (cIMT), as a useful tool to assess early preclinical

stage of atherosclerosis, among overweight or obese children.

Methods: In this descriptive analytical cross-sectional study, a total of 400 children, with WHO body mass index z-score > 1 SD were enrolled in this cross-sectional study. Metabolic syndrome was defined using the cook et al definition. Valid and reliable semi-quantitative 147-item food frequency questionnaire (FFQ) was used to collect dietary intakes. Carotid intima media thickness (cIMT) was measured in common carotid artery with high-resolution ultrasonography.

Results: In this study the mean ± SD age of participants was 9±1 years. By using logistic regression, we found that individuals with metabolic syndrome had a significantly increased cIMT compared to individuals who did not meet the syndrome criteria in unadjusted model (*OR*= 2.01, 95% CI: 1.23-3.31, *P-value*= 0.006). Moreover, there was significant association between metabolic syndrome and cIMT in unadjusted and multivariate adjusted models by using linear regression (*B*= 0.019, *P-value*= 0.006 and *B*= 0.015, *P-value*= 0.043). Among metabolic syndrome components, in both unadjusted and adjusted models, low HDL-C was associated with cIMT (*OR*= 2.96, 95% CI: 1.71-5.12, *P-value* < 0.001 and *OR*= 2.33, 95% CI: 1.29-4.23, *P-value*= 0.005).

Conclusion: We concluded that, controlling metabolic syndrome and other cardiovascular risk factors can be effective for preventing atherosclerosis among children.

Keywords: Metabolic syndrome (MetS), Components of metabolic syndrome, Subclinical Atherosclerosis, Carotid intima media thickness (cIMT), children.

The association between MIND (Mediterranean-DASH Intervention for Neurodegenerative Delay) diet with depression and poor quality of life

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Introduction: Adolescents with psychiatric illness experience increased rate of impaired school performance, substance abuse, poor social functioning and suicide. Previous reports indicated diet, as a modifiable risk factor, should be considered especially in young population. Thus, the aim of our study was to investigate the correlation between MIND (Mediterranean-DASH Intervention for Neurodegenerative Delay) diet with depression and poor quality of life (QOL) in a sample of adolescent girls.

Methods: A total of 733 adolescent girls from Mashhad and Sabzevar cities in northeastern Iran were entered into this cross-sectional study. Depression and QOL were assessed utilizing the Beck Depression Inventory and SF-12v2 questionnaire, respectively. The MIND diet score has 15 dietary components including 10 brain healthy food groups and 5 unhealthy food groups which assessed by food frequency questionnaire. To explore the association between MIND with QOL and depression, logistic regression was used in crude and adjusted models.

Results: Highest adherence to MIND diet was related to lowest odds of poor QOL in crude model (OR: 0.49, 95% CI: 0.32- 0.75). This association was remained significant after adjustments for age, energy intake, body mass index and physical activity in different models. Compared with individuals who were in first quartile, those who were in last quartile had 0.57 times lower odds for depression in crude model (OR: 0.43, 95% CI: 0.26- 0.71). This association was strengthened in adjusted models.

Conclusions: Higher adherence to MIND diet were associated with lower depression and poor QOL. To confirm the possible causal relationship between MIND diet with depression and poor quality of life, longitudinal studies especially controlled-trials are needed.

Keywords: Depression, Quality of life, MIND, Diet, Adolescent

Molecular and cellular mechanisms of the effects of Propolis in inflammation, oxidative stress and glycemic control in chronic diseases

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Propolis is a sticky, resinous material gather from plants and is blended with wax and other constituents. It is reported to have anti-inflammatory, anti-oxidative and blood glucose-lowering properties.This review aims to summarise evidences for the cellular and molecular mechanism of Propolis in inflammation, oxidative stress, and glycemic control. Propolis stimulate the production and secretion of anti-inflammatory cytokines and to inhibit the production of inflammatory cytokines and due to its various antioxidant and poly-phenolic compounds may has a role in control and treating some of the chronic diseases. Most studies have shown that Propolis may affect metabolic factors including plasma insulin levels, and it has proposed that it could be used in the prevention and treatment of T2D Mellitus. In general, to demonstrate the definite effects of Propolis on chronic diseases, more studies are required using larger sample sizes and various doses of Propolis, using better characterized and standardized agents.

Keywords: Propolis, Inflammation, Oxidative stress, Chronic disease, Glycemic control

The effect of honey consumption compared with sucrose on lipid profile in young healthy subjects; a randomized double blinded control trial

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Background: Several studies have demonstrated that honey consumption has beneficial effects on cardiovascular disease indicators. The current study aimed to investigate the effect of honey consumption compared with sucrose on lipid profile among young healthy subjects.
Methods: Sixty healthy subjects, aged 18–30 years, were randomly recruited into this double blind randomized trial and assigned into two groups: honey (received 70 g honey per day) and sucrose (received 70 g sucrose per day) groups. Total cholesterol, TG, LDL and HDL were measured in the control and intervention groups at the beginning and end of study.
Results: In this trial, the baseline FBS, SBP and DBP were not different between honey and sucrose groups (P > 0.3). We found evidence indicating consumption of honey can decrease total cholesterol, TG and LDL and increase HDL in healthy young subjects, but intake of sucrose increase total cholesterol, TG and LDL and decreased HDL. In all of these analyses, confounding variable including age, physical activity and some nutrient intake were adjusted.
Conclusions: Honey consumption can improve the lipid profile such as; total cholesterol, TG and LDL and increase HDL, but consumption of sucrose increases total cholesterol, TG and LDL and decreases HDL. Further clinical trial studies are required to confirm our findings.
Keywords: Honey, Sucrose, Total cholesterol, Triacylglycerol (TG), High density lipoprotein (HDL), Low density lipoprotein (LDL)

The effect of L-arginine supplementation on body composition and performance in male athletes: a double-blinded randomized clinical trial

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background: Athletes used a lot of dietary supplements to achieve the more muscle mass and improve their athletic performance. The objective of this study was to investigate the effect of L-arginine supplementation on sport performance and body composition in male soccer players.
Methods: This double-blinded, randomized and placebo-controlled trial was conducted on 56 male soccer players, with age range of 16–35, who referred to sport clubs in Isfahan, Iran. Subjects were randomly assigned to either L-arginine or placebo groups. Athletes received daily either 2 g per day L-arginine supplement or the same amount of placebo (maltodextrin) for 45 days. Sport performance and also body mass index (BMI), body fat mass (BFM) and lean body mass (LBM) were measured at the beginning and end of the study. Also, 3-day dietary records were collected at three different time points (before, in the middle of, and at the end of the study).

Results: The mean age of subjects was 20.85±4.29 years. Sport performance (VO2 max) significantly increased in L-arginine supplementation group (4.12±6.07) compared with placebo group (1.23±3.36) (P=0.03). This increase remained significant even after adjustment of baseline values, physical activity and usual dietary intake of subjects throughout the study. No significant effect of L-arginine supplementation was found on weight, BMI, BFM and LBM.
Conclusions: L-arginine supplementation (2 g per day) could increase the sport performance in male athletes, but had no effect on anthropometric measurements, including BMI, BFM and LBM. So, further studies are needed to shed light our findings.
Keywords: Athletes, Performance, Body composition, Supplementation

Effects of pyridoxine supplementation on severity, frequency and duration of migraine attacks in migraine patients with aura: A double-blind randomized clinical trial study in Iran

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Background: Migraine is a chronic disease that affects nearly 6% of men and 18% of women worldwide. There are various drugs, which can successfully decrease migraine symptoms and frequency of migraine attacks, but these drugs usually are expensive. Hence, this study aimed to assess the effects of pyridoxine supplementation on severity, frequency and duration of migraine attacks as well as headache diary results (HDR).
Methods: This double-blind randomized clinical trial study was conducted on 66 patients with migraine with aura (MA) in Khorshid and Emam Mosa Sadr clinics of Isfahan University of Medical Sciences, Iran, in 2013. Patients were randomly allocated to receive either pyridoxine supplements (80 mg pyridoxine per day) or placebo. Severity, frequency and duration of migraine attacks and HDR were measured at baseline and at the end of the study.
Results: Mean age of patients was 34.24 ± 9.44 years old. Pyridoxine supplementation led to a significant decrease in headache severity (−2.20 ± 1.70 compared with −1 ± 1.50; P = 0.007), attacks duration (−8.30 ± 12.60 compared with −1.70 ± 9.60; P = 0.030) and HDR (−89.70 ± 134.60 compared with −6.10 ± 155.50; P = 0.040) compared with placebo, but was not effective on the frequency of migraine attacks (−2.30 ± 4 compared with −1.20 ± 7.80; P = 0.510).
Conclusion: Pyridoxine supplementation in patients with MA was effective on headache severity, attacks duration and HDR, but did not affect the frequency of migraine attacks.
Keywords: Migraine with Aura, Pyridoxine, Headache, Iran

Examining the attitudes of healthy adults towards the consumption of some unhealthy foods

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Objective: Feelings and attitudes toward foods have an important effect on people's food choices and eating habits. The aim of this study was to investigate the feelings and attitudes of healthy adults towards the consumption of some unhealthy foods and the use of various utensils for cooking and preparing foods.
Methods: The present study was performed on 50 healthy adults living in Ahvaz who were randomly selected. The data collection tool was a standard questionnaire including demographic information and determination of feelings and attitudes about unhealthy foods consumption and methods of cooking and preparing foods. Data were analyzed using SPSS software version 24 and Chi-square test.
Results: The findings showed that a higher percentage of men (62.5%) than women (37.5%) had a good feeling about sausages, although it was not statistically significant. A higher percentage of married adults (60%) compared to single adults (15%) considered fried foods to be very harmful (P = 0.003), also 65% of single versus 26.7% of married considered soft drinks almost useful (P=0.012). 43% of married adults compared to 20% of single adults considered the use of microwave ovens useful and this difference was statistically significant (P=0.029).
Conclusion: It seems that gender and marital status play an important role in people's attitudes toward the consumption of some food items. Therefore, in nutrition education, the basic

view of individuals should be considered based on their gender or marital status.
Keywords: Attitude, Unhealthy foods, Gender, Marital status

Investigating the effect of COVID-19 on food security

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Background: The Coronavirus (Covid-19) pandemic is a global health crisis caused by a newly discovered coronavirus. The world previously experienced several infectious diseases with high mortality rates, including the so-called Spanish flu, Dengue, HIV, Hantavirus, SARS, and MERS. These pandemic diseases imposed severe and tragic consequences on people's health and food security. Covid-19 is far more than an infectious disease; it affects socio-economic and health problems worldwide. This research will be helpful to the government in developing policies and strategies for the successful implementation of all the associated determinants of food security in terms of the epidemic situation. The aim of this study was to investigate the impact of COVID-19 on food security.
Recent findings: We found some factors that were significantly related to the food security during the Covid-19 pandemic; There was a significant relationship between the socio-economic factors (income, unemployment, number of household members, age, and level of education) and the food security. The correlation between unemployment and the number of household members with food security was negative. In contrast, the correlation of income, age, and level of education with food security was positive. Most studies have shown that Covid-19 Pandemic and Quarantine reduced food security. A few studies have reported no effect or increase in food security.
Conclusion: The findings of review confirm the need for adequate food assistance during the covid-19 pandemic and in future pandemics, as well as public health messages that promote healthy eating.
Keywords: COVID-19, Food security, Pandemic, Quarantine, Socio-economic

The Effects of Almond Consumption on Anthropometric Indices in Overweight and Obese Adults: A Systematic Review and Meta-analysis

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Objectives: Almonds have aroused much attention as a nutrient-dense food that may help with obesity and overweight. Existing research on almond consumption and anthropometric indices in overweight and obesity has provided conflicting results. Therefore, a systematic review and meta-analysis of randomized controlled trials (RCTs) evaluated the almond effects on anthropometric indices in overweight and obese adults.
Methods: PubMed, Scopus, Embase, and Cochrane Library were comprehensively searched up to November 2021. Randomized clinical trials (RCTs) reporting the effects of almond intake on body weight (BW), body mass index (BMI), waist circumference (WC), and fat mass (FM) were included. The random-effects or fixed-effects model was applied in the meta-analysis. Sensitivity and subgroup analyses were performed. All included studies were in the English language.
Results: The pooled results of 7 studies, including 638 participants, showed almond intake had no significant effect on anthropometric indices including BW (weighted mean difference [WMD]= -1.47; 95% CI:-3.56 to 0.61; p= 0.166; I2= 91.0%), BMI (WMD= -0.98; 95% CI:-2.13 to 0.16; p= 0.092; I2= 92.8%), WC (WMD = -3.69; 95% CI:-7.79 to 0.41; p= 0.078; I2= 93.6%) and FM (WMD= -1.19; 95% CI:-2.94 to 0.57; p= 0.185; I2= 82.6%). However almond effects were significant in improvment of BW, BMI and FM using sensitivity analysis.
Conclusions: Almond intake failed to affect anthropometric indices significantly. Almond effects on BW, BMI, and FM were significant after sensitivity analysis. Further RCTs using different almond amounts in various durations are needed to provide more reliable results.

Keywords: Prunus dulcis, Anthropometry, Meta-analysis, Systematic review

A Double-Blind, Placebo-Controlled Randomized Clinical Trial on the Effect of a Low FODMAP Diet with and without Gluten on Irritable Bowel Syndrome

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Introduction: Although the effects of low fermentable oligosaccharide, disaccharide, monosaccharide, and polyol (FODMAP) diet on amelioration of irritable bowel syndrome (IBS) symptoms have been reported previously, it has not yet been elucidated whether the gluten of wheat and barley induces the symptoms or only their fructans lead to aggravation of the symptoms. The aim of this study was to assess the effect of low FODMAPs diet with vs. without gluten on clinical symptoms in IBS patients.
Methods: In this double-blind, placebo-controlled randomized trial, forty-nine IBS patients were randomly assigned to placebo and/or intervention group. Patients in the intervention group received 5 gr/day of gluten powder with low FODMAP diet, while placebo group received 5 gr of rice flour as placebo, with low FODMAP diet. Quality of life (QoL) and IBS-SSS (symptom severity score) were measured before and after the intervention using a valid QoL questionnaire and a standard visual analog scale, respectively.
Results: Significant improvements were observed in total scores of IBS-SSS, abdominal pain intensity and frequency, abdominal distension, Interference with community function and quality of life in both gluten and placebo groups respectively (P< 0.05). a few of patients in the gluten-containing diet reported exacerbation of their symptoms.
Conclusion: Exacerbation of IBS symptoms after wheat and barley consumption is due to their fructan, and not related to their gluten content in most of the patients.
Keywords: Diet; FODMAP; Gluten; IBS; Irritable bowel syndrome

The Association of Food Quality Score and Psychological Function among Recovered COVID-19 Patients: A Cross Sectional Study

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Background: It is necessary to follow up patients after recovery from COVID, and identify Psychological health. Due to the importance of psychological function accompanied by significant effects of food quality on this regard, we are going to examine the association between food quality score and psychological function among recovered COVID-19 patients.
Method: In this cross-sectional study 120 individuals who had recovered from COVID-19, who were >30 years old were recruited. A valid and reliable food frequency questionnaire (FFQ) including 68 item was used to evaluate dietary intake Depression, anxiety and stress of participants was evaluated using DASS questionnaire. Multivariate linear regression analyses were conducted to investigate the relationship between food quality score and psychological function.
Result: To evaluate the association between quality of life factors among FQS groups, results showed that food quality score was significantly associated with a lower body pain (*P*=0.017). There is significant relationship between daily fruits intake in recovered COVID-19 patients and depression which means that a higher intake leads to lower depression score (*P*=0.040; β= -0.253). However, daily intake of whole grains (*P*=0.022, β=-0.276; *P*=0.001, β=-0.377; *P*=0.013, β=-0.300), nuts and legumes (*P*=0.045, β=-0.216; *P*=0.042, β=-0.232; *P*=0.033, β=-0.226) showed a reverse significant association with depression, anxiety, stress, respectively. Moreover, the analyses showed that higher intake of potato led to poor sleep quality (Table 4; P=.0.37; β= -0.272). Also a positive significant association had been seen between refined grains' daily intake and depression, anxiety and stress score (P= 0.021, β= 0.281; P= 0.024, β= 0.249; P= 0.013, β= 0.302, respectively) as well as insomnia in

recovered COVID-19 patients (P= 0.008; β= 0.293).
Conclusion: Our data suggested that overall food quality intake plays a noticeable role on body pain at post infection period. Also adequate daily intake of fruits, legumes, nuts, whole grains may prevent psychological impairment and sleep disorders manifestations which are common among recovered patients.
Key words: Food, COVID-19, Depression, anxiety, stress

The role of Food labelling in public Health promotion

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Introduction: Nutrition and dietary program play a major role on body health. Eating a suitable variety of foods can help supply the nutrients to body requirements as it ages. This review aims to raise the awareness of food labels information.
Methods: Electronic literature search of scientific papers related on food labelling and health was carried out from 2000-2020.
Results:
The reports WHO and FAO on diet, nutrition and chronic disease prevention suggest that food labeling is an important means of facilitating the selection and access to nutritious foods. Based on our literature review, food labeling serves three **chief functions**: 1- Most importantly it provides the basic product information which include the ingredients and net quantity, production and expiration dates, county of origin and the manufacturer, dealer or importer.
2-Providing health/safety and nutrition information including instruction for safe storage and handling, nutritional profile such as quantity of fat, protein, carbohydrates, vitamins and minerals.
3-A means of food marketing, promotion and competition including advertises and promotes product sale and trade via label vignettes, promotional information and label claims, i.e. low fat, cholesterol-free, high fiber, natural, organic, etc.
Conclusion: Food label provides the information needed to make healthy choices about the foods and drinks leading to a conscious choice of foods among various products. For body health, it is particularly important to educate the public on how to read and interpret rate and type of food ingredients.
Key Words: Food label, Public health, Dietary

Comparison of the Postprandial Effects of Animal and Plant-Based Proteins on Energy Expenditure, Glycemia, Insulinemia, and Lipemia: A Review of Controlled Clinical Trials

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Background: The effects of dietary proteins have been studied extensively in recent years and accumulating evidence shows that energy-restricted high protein diets lead to successful weight loss, maintain muscle mass, and prevent weight regain. However, regardless of the amount of dietary protein, not all protein sources seem to exhibit similar metabolic effects, due to their difference in digestibility and amino acid content. In recent years plant-based dietary patterns have been the focus of attention and a number of studies examined different metabolic effects of plant and animal-based proteins; while the findings of these studies are controversial.
Objectives: The aim of this review was to investigate the findings of controlled clinical trials comparing the postprandial differential effects of dietary protein sources (animal and plant-based proteins) on energy expenditure, lipemia, glycemia, and insulinemia.
Method: This review was conducted by searching in Web of Science, Scopus, Medline, and PubMed databases. A combination of related mesh terms and key words was used to find relevant articles. Finally we screened search results through titles and abstracts and related articles were enrolled to the review process. We tried to address all aspects of nutritional management of mechanically ventilated children.
Results: Data indicated that different protein sources may produce different postprandial effects in terms of energy expenditure, glycaemia, insulinemia and lipemia. The findings in terms of the effects of different protein sources on post prandial EE and DIT were controversial; however, majority of studies supported the finding that animal-based proteins, especially whey protein, reduce glycemic and increase insulin response compared to plant based proteins, like soy or peas. The findings on the effects of different sources of proteins on postprandial lipemia were limited and

controversial; however, some studies declared that animal-based proteins, like whey, reduced and delayed postprandial plasma triglyceride elevation in contrast to other protein sources, including cod and gluten.
Conclusion: To conclude, plant and animal-based proteins may cause different postprandial effects that may be helpful in weight control programs, as well as preventing and treatment of chronic diseases.
Key words: Animal protein, Plant protein, Energy expenditure, Lipemia, Glycemia

The comparison of dietary food groups intake in sarcopenia groups with normal population

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Introduction: Sarcopenia has been defined as a progressive skeletal muscle disorder that implicates the accelerated loss of muscle mass and proceeds. Sarcopenia is correlated with augmented adverse outcomes including falls, efficient decline, weakness, and mortality. The role of a dietary intervention without physical activity for the treatment of sarcopenia is much less clear, though some evidence shows the advantage of healthier dietary designs such as sufficient intake of meat, dairies and a healthy diet.
method: The sarcopenia was diagnosed using the European Working Group on Sarcopenia in Older People-2 (EWGSOP2) by a bioelectric impedance analyzer in 766 persons. Adjusted dietary recall and FFQ16item was used to assess the dietary intake of individuals. The frequency intake of foods categorized and the Odds ratio (OR) of having sarcopenia with foods were analyzed.
Result: having every night dinner reduced the risk of sarcopenia (sig<0.001) but the breakfast consumption and the number of meals were not significant (sig>0.05). the lower frequency dietary intake of fruits (OR=2.093), vegetables (OR=2.145), dairies (OR=1.541) and carbohydrates (OR=1.325) significantly (sig<0.01) increased the risk of sarcopenia. The frequency intake of sugar and sugar preference, dairies fat, milk intake, and meat usage were not significant. consumption of white meat in comparison with red meat potentially can reduce the risk of sarcopenia (OR=3.196, sig=0.003) while fish meat increased the risk by 40% in comparison with red meat consumption (sig=0.014).
Conclusion: having daily dinner, a higher frequency intake of fruits, vegetables, dairies, carbohydrates and replacing white meats could help reduce the risk of sarcopenia.
Keyword: Sarcopenia, Progressive skeletal muscle disorder, Nutrient, Healthy diet

Assessment of the kind of dietary amino-acids intake with the risk of sarcopenia in old adults

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Introduction: Sarcopenia is a progressive muscle disorder that defines the loss of muscle mass. Sarcopenia is correlated with increased adverse outcomes including falls, efficient decline, disability, and mortality. High protein oral nutritional extras might be more effective for certain consequences in the specific context of sarcopenia with undernourishment. The price of individual nutrients is of investigation interest, such as the essential amino acid leucine and its metabolite β-hydroxy β-methylbutyric acid, which have revealed some special effects in improving muscle mass and function.
method: in 766 individuals, sarcopenia was identified based on the European Working Group on Sarcopenia in Older People-2 (EWGSOP2). The protein intake was recorded based on the United States Department of Agriculture food composite database and adjusted dietary recall. The odds ratio (OR) with having sarcopenia was analyzed.
Result: The dietary intake of Tryptophan (OR=0.563), Threonine (OR=0.305), Isoleucine (OR=0.305), Leucine (OR=0.543), Lysine (OR=0.477), Methionine (OR=0.128), Cystine (OR=0.054), Phenylalanine (OR=0.358),

Tyrosine (OR=0.261), Valine (OR=0.409), Arginine (OR=0.435), Histidine (OR=0.165), Alanine (OR=0.385), Aspartic acid (OR=0.586), Glutamic acid (OR=0.805), Glycine (OR=0.348), Proline (OR=0.540) and Serine (OR=0.382) was significant between sarcopenia, sever-sarcopenia, pre-sarcopenia and normal people (sig<0.001). however, the intake of above amino-acids was not independent from the overall protein intake (sig>0.05).
Conclusion: the intake of all amino acids can reduce the risk of sarcopenia. However, it is a snot independent from the overall protein intake.
Keyword: Sarcopenia, Progressive skeletal muscle disorder, Nutrient, Healthy diet, protein intake

The effect of dietary nutrients on the obesity of over 55 years old adults

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Introduction: Obesity is a multifactorial disease resulting in an excessive accumulation of adipose tissue. According to guidelines higher intakes of energy, lipid and carbohydrate with lower intake of some nutrients like iron, calcium, magnesium, zinc, copper, folate and vitamins A and B_{12} can cause obesity.
Material and method: in 815 persons, obesity was assessed using BMI measured by BIA. The nutrient intake was measured based on the United States Department of Agriculture food composite database and adjusted dietary recall. The correlation (CR) for each nutrient with BMI and the odds ratio (OR) for obesity was analyzed.
Result: the higher intake of Energy (OR=1.002, CR with BMI=0.169), Protein, Lipid, Carbohydrate, Fiber, Sugars, Caffeine, Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Folate (OR=1.005, CR with BMI=0.189), Copper, Manganese, and Vitamin A and the lower intake of Vitamin B-12 (OR=0.999, CR with BMI= -0.097), and Calcium (OR=0.999, CR with BMI= -0.158) was associated with obesity without adjustment (sig<0.001). after energy adjustment, higher protein (OR=0.983), and Phosphorus (OR=0.999) intake were negatively associated with obesity (sig<0.05). No nutrient was associated with BMI or obesity independently from Energy.
Conclusion: Energy, protein and Phosphorus had the most effect on obesity. the dietary effect of nutrients on obesity entirely depends on overall energy intake. more studies to understand the effect of nutrients is required.
Keyword: Obesity, Adipose tissue, Nutrients, Protein, Phosphorus

Prevalence and correlates of body dysmorphic disorder among females doing weight training in gyms of Mashhad 2019

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Introduction: Body dysmorphic disorder (BDD) is a mental disorder in which a person is preoccupied with an imagined physical defect. Women are among vulnerable groups of society that have special features in health and care issues. This study is aimed to examine the prevalence and Correlates of body dysmorphic disorder among females that doing weight training in gyms of Mashhad (2019).
Material and method: In this cross sectional study, 156 females who do weight training from 13 gyms of Mashhad were selected by cluster random sampling method. Each cluster contains one of 13 urban regions of Mashhad and 12 samples were randomly assigned from each cluster. Participants completed a series of demographic questions as well as Yale-Brown Obsessive Compulsive Scale-Body Dysmorphic Disorder questionnaire (Y-BOCS-BDD). Analyses were conducted using SPSS version 11.5 at significant level of less than five percent.
Result: Mean score of BDMCQ was 66.27±23, prevalence of mild, moderate and severe body dysmorphic disorder was 45.3, 44.7, and 10 percent, respectively. There were significant relationship between body mass index (p <0.001), waist circumference (p=0.007) and BDD.
Conclusion: High prevalence of moderate to severe BDD in female members of MASHHAD gyms could lead to serious issues. Some awareness program is need to promote female mental health
Keywords: Body dysmorphic disorder , mental disorder , imagined physical defect, weight training,

A review of the effect of omega-3 supplementation on the frequency and severity of epilepsy

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Epilepsy (also known as "seizure disorder") is a chronic neurological disorder characterized by recurrent seizures that occurs when the messaging system becomes unbalanced and when the gamma-amino butyric acid (GABA) is not sufficient as an inhibitory neurotransmitter. Experimental and clinical studies have shown that the duration and frequency of epileptic seizures can be reduced as a result of long-term use of n-3 PUFA (polyunsaturated fatty acid) supplements. The aim of the present study was to evaluate the effectiveness of PUFA supplementation, especially omega-3 fatty acids as adjunctive therapy for intractable focal or generalized epilepsy in human studies.
Keywords: Epilepsy, Seizure, Omega 3, PUFA, DHA, EPA

Relationship between consumption of meat and fish with risk of prostate cancer in Iranian men: A case-control study

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Background: Red / processed meat is recommended to increase the risk of prostate cancer (PCa). We examined the association between consumption of unprocessed red meat, processed meat and fish with PCa risk.
Methods: In this hospital-based case-control study, a total of 50 patients with prostate cancer and 100 controls were interviewed in person. Logistic regression analysis was used to investigate the relationship between unprocessed red meat, processed meat, fish and poultry intake and PCa risk.
Results: It was observed that there is a positive and significant relationship between total meat consumption and PCa risk (above median vs. below median: OR = 4.6, 95% CI 1.7-12.5). Significant positive correlation between organ meat (above median vs. below median: OR = 3.1, 95% CI = 1.3-7.6) and processed meat (above median vs. below median: OR = 2.5, 95% CI = 1.0-6.1) and PCa risk was observed ($p < 0.05$). The positive relationship between beef and mutton consumption and PCa risk was not significant ($p = 0.762$). Consumption of fish was also negatively correlated with PCa risk (above median vs. below median: OR = 0.07, 95% CI = 0.02-0.2) ($p < 0.05$).
Conclusion: The results of the present study show that high consumption of organ meat and processed meat may be positively associated with an increased risk of PCa in Iranian men. In addition, fish consumption may be a protective factor for PCa in Iranian men.
Keywords: prostate cancer, meat, fish

The effect of L-arginine supplementation on cardiovascular risk factors in healthy men: a double-blind randomized clinical trial

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Background: The effect of L-arginine on cardiovascular risk factors (CVD) is more focused on Western countries. Since cardiovascular disease is the second leading cause of death in Iran, this study aimed to evaluate the effect of low-dose L-arginine supplementation on CVD risk factors (lipid profile, blood glucose and blood pressure) in healthy Iranian men.
Methods: We conducted a double-blind randomized controlled trial on 56 selected individuals from sports clubs of Isfahan University of Medical Sciences between November 2013 and December 2013. Healthy men received L-arginine supplement (2000 mg daily) in the intervention group and placebo (2000 mg daily maltodextrin) in the control group for 45 days. we measure at the beginning

and end of the study fasting blood sugar levels, blood pressure, and lipid profiles including triglycerides (TG), cholesterol, LDL, and HDL in individuals.
Results: In this trial, we had complete information for 52 healthy participants with a mean age of 20.85±4.29 years. At the end of the study, fasting blood sugar (P = 0.001) and lipid profile (TG (P <0.001), cholesterol (P <0.001), LDL (P = 0.04), HDL (P=0.015)) was significantly decreased in the L. Arginine group But we did not find any significant change in the placebo group. No significant changes were observed in systolic (P = 0.81) and diastolic blood pressure in the L-arginine or placebo group. (P = 0.532).
Conclusion: The use of L-arginine significantly improved the results compared to placebo.
Keywords: L-arginine, lipid profile, blood glucose, blood pressure

Dietary Factors Associated with Pediatric Hypertension: A Review

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Introduction: Hypertension is the leading cause of preventable mortality worldwide, contributing to over 9 million deaths per annum. studies demonstrated a significant association between elevated blood pressure in childhood and hypertension in adulthood; however, data on the relation between diet and lifestyle and blood pressure in this age group are sparse and controversial. In this study, we intend to evaluate origins of primary and secondary hypertension in children.
Methods: In this review study, the articles published in three English language databases Web of science, Pubmed and Scopus with the keywords Nutrition, Lifestyle, Pediatric, Hypertension, Air pollutants were evaluated. This study included comprehensive criteria that targeted studies of children with hypertension.
Results: Primary hypertension in children and adolescents occurs primarily in children older than 13 years and has no known cause but is associated with several risk factors, including higher body mass index, Long-term exposure to air pollutants such as sulfur dioxide (SO2) and ozone (O3), High sodium intake, over-processed foods and sugar-sweetened beverages (SSBs), sleep disorders, low birth weight (LBW) and family history. Secondary hypertension occurs primarily in younger children and is most commonly caused by genetic disorders, renal disease, endocrine disorders, or cardiovascular abnormalities.
Conclusions: Research continues to illuminate contributors to pediatric hypertension and demonstrates opportunities for further study on the effects of hypertension and its management in children.
Keywords: Nutrition, Lifestyle, Pediatric, Hypertension, Air pollutants

Obesity and In-Hospital Mortality of COVID-19

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Introduction: The coronavirus was first reported on December 31, 2019, and, over 5 million deaths have been reported globally. Obesity and coronavirus disease 19 (COVID-19) are both worldwide epidemics now. Obesity has been shown to be associated with adverse outcomes in viral infections such as influenza, but studies on coronavirus disease (COVID-19) had mixed results. The review aimed to evaluate the relationship between obesity and mortality of COVID-19.
Methods: In this review study of articles published from July 2020 to March 2021 in three English language databases web of science, Pubmed and Scopus with the keywords obesity, COVID-19, body mass index, hospitalization, mortality were evaluated.
Results: Our review showed that obesity lead to land in the hospital (more than twice) and more likely (over 70%) to be admitted to an Intensive care unit (ICU). Also, studies shown that obese individuals who contracted COVID-19 than people of normal weight were approximately 50% likely to die. Infection and mortality are also more likely to occur when obesity occurs at the same time as chronic illness and old age. The coronavirus infects fat cells and immune cells within body fat, causing an immune response that may contribute to severe COVID-19. The fat cells could become infected, and adipose tissue macrophages (as immune cells) developed a

robust inflammatory response in the patients. **Conclusions:** Obesity increases the risk of hospitalization, ICU admission, and risk of death among patients with COVID-19. We suggest that obese individuals should be more closely monitored when hospitalized for COVID-19.
Keywords: Obesity, COVID-19, Body mass index, Hospitalization, Mortality

Does the Low Dietary Inflammatory Index score formula reduce the clinical and inflammatory outcomes in traumatic brain injury patients? A single-blind randomized clinical trial study

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Introduction: In Traumatic brain injury (TBI) patients, a complex inflammatory cascade, is recurrently observed following trauma. Numerous dietary agents have long been found to have immune and inflammatory modulation potential with several mechanisms such as reduction of inflammatory processes, antioxidant capacity, and the microbial balance of the intestine. This pilot study designed a low inflammatory properties enteral formula based on the dietary inflammatory index (DII®) and evaluated its effect on clinical and inflammatory outcomes in TBI patients.
Methods: This Single-blind randomized controlled pilot study was conducted at the Neurosurgical ICU of Shahid Kamyab Hospital (Mashhad, Iran). A total of 20 TBI patients were randomly assigned to receive either low-DII-score or standard formula at the Intensive Care Unit (ICU). The primary outcomes of the study included clinical and inflammatory outcomes.
Results: The trial groups did not differ on baseline values. Following 14 days of intervention, there was a statistically significant decrease in the APACHE II, SAPS II, and NUTRIC scores and a significant increase in GCS score in the intervention group compared to the control group. Over two weeks, high sensitivity c-reactive protein (hs-CRP) values -2.73 (95% CI: -3.67, -1.79) mg/dL in the intervention group vs. 0.65 (95% CI: -0.29, 1.58) mg/dL in controls. Moreover, the length of hospital stay was shorter for the intervention group than for the control group.
Conclusion: Our formula was improved inflammatory factor (serum hs-CRP) and clinical outcomes, including the length of hospital stay and disease severity scores. Furthermore, our formula was enhanced GCS as an important consciousness criterion.
Keywords: dietary inflammatory index, traumatic brain injury, enteral nutrition, inflammation, formula

The effects of intermittent fasting on health, aging and disease

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Introduction: Intermittent fasting (IF) is another type of diet pattern in which long periods of time (for example, 16 to 48 hours) are spent with little or no energy intake, with intermediate periods of regular food intake. This diet is still used today to manage weight and improve metabolic health.
Methods: In this review study of articles published from July 2020 to March 2021 in three English language databases web of science, Pubmed and Scopus with the keywords Caloric restriction, alternate-day fasting, intermittent fasting, time-restricted feeding, metabolic health were evaluated.
Results: Studies show that this diet can reduce the risk of cardiovascular disease by improving weight control, high blood pressure and diabetes. Fasting exerts its effects through a number of pathways, including reducing oxidative stress, optimizing circadian rhythms, and ketogenesis, which promotes mitochondrial health, DNA repair, and autophagy, and is effective in improving the health and management of major aging diseases. In addition, recent research has shown a significant increase in the risk of disease with high frequency of meals (6 meals per day) compared to low frequency of meals (1 to 2 meals per day).
Conclusions: Fasting has a positive effect on several cardiovascular risk factors, including obesity and high blood pressure. Therefore, fasting has the potential to delay aging and help prevent and treat disease.

Keywords: Caloric restriction, alternate-day fasting, intermittent fasting, time-restricted feeding, metabolic health.

The sufficency of dietary and nutritional intakes in military

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Due to high-intensity activities and having a stressful life, the military needs a healthy diet that is appropriate to their specific circumstances, because a military must be at an optimal level of performance to be able to fight and cope. Therefore, it is necessary for all military forces to be aware of the relationship between proper diet and physical strength required for physical activity.Lack of dairy intake is more common among food pyramid groups. In addition to milk and dairy, the military does not seem to have enough access to some other nutrients and food groups, such as vegetables, fruits, protein sources, and omega-3s.Calcium deficiency in soldiers usually occurs due to insufficient dietary calcium intake and excessive loss through sweat. It is also possible to increase the need for calcium due to stress caused by strenuous activity as another cause of calcium deficiency. According to the evidence, adequate calcium intake has a positive effect on the military performance of soldiers. Heavy military activity can lead to iron loss due to sweating. That's why the RDA (Recommended Dietary) for the military is 12mg / day.
Keywords: military،Nutrition status،Nutrient deficiency،nutritional intakes

Effect of omega-3 supplementation on sepsis in Intensive Care Unit (ICU) patients

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Background: Sepsis is the body's overwhelming and life-threatening response to infection that can lead to tissue damage, organ failure, and death, particularly in critically ill patients. Because sepsis causes systemic inflammatory response syndrome (SIRS), cytokines may play an important role in disease progression. The purpose of this study was to examine the effect of omega-3 fatty acids on critically ill septic patients.
Recent findings: Some studies have indicated lower levels of IL-6 and IL-10. The role of omega-3 supplements may improve immune function and reduce inflammation. Furthermore, omega-3 supplements decrease the hospital length of stay and the ICU length of stay (ICU LOS) In some studies, the decrease was estimated to be statistically significant. Receiving Parenteral fish oil can shorten the duration of mechanical ventilation (DMV) by improving gas exchange and reducing the respiratory quotient (RQ).
Conclusion: Omega-3 supplementation could be associated with the reduction in mortality in ICU sepsis patients. In addition, administration of omega-3 fatty acids may reduce DMV and ICU LOS.
Keywords: Omega-3 fatty acids, critical illness, sepsis, intensive care unit, inflammation

Effect of vitamin D supplementation on atherogenic dyslipidemia and inflammatory markers in subjects with metabolic syndrome

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Introduction: The metabolic syndrome is a constellation of common metabolic abnormalities that is associated with cardiovascular disease. In this study was we designed to investigate the effects of vitamin D supplementation on proatherogenic dyslipidemia and inflammatory markers in subjects with metabolic syndrome.
Methods: This randomized double blind clinical trial was conducted in eighty subjects with metabolic syndrome, receiving either vitamin D (50,000 IU/week) or matching placebo for 16 weeks. Interlukin-6 (IL-6), high sensitivity C-

reactive protein (hs-CRP), vascular cell adhesion molecule-1(VCAM-1), E-selectin, and lipid profile were measured at the beginning and end of the study.
Results: After intervention, serum 25(OH)D concentration was increased by 61.93 nmol/L while parathyroid hormone levels decreased in intervention group (p < 0.001). Sixteen weeks supplementation with vitamin D reduced IL-6 in intervention group in comparison with placebo group (p = 0.027). VCAM-1 and E-selectin levels decreased in vitamin D group; there were no significant differences between two groups. In lipid profile, there was a significant change in TG concentration after 4 months (p < 0.001). No differences were observed in hs-CRP, total cholesterol, LDL-cholesterol, HDL-cholesterol at the end of the study.
Conclusions: Vitamin D supplementation improved serum triglyceride and some proatherogenic inflammatory markers in subjects with metabolic syndrome; therefore, it might be effective in reducing cardiovascular risk factors.
Key words: vitamin D, proatherogenic markers, lipid profile, inflammatory markers, metabolic syndrome

Effects of oat intake on appetite: a meta-analysis

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Background: Obesity prevalence is increasing dramatically, in recent decades. Results from interventional studies indicate the effect of oat intake on weight gain, but to our knowledge, there is not enough strong evidence to support this effect. Oat intake may influence anthropometric parameters and energy balance via effects on appetite and its hormones. Therefore, this study aimed to conduct a systematic review and meta-analysis to summarize all evidence on the effect of oat on appetite and related hormones in adults.
Method: Online databases including MIDLINE, web of sciences, Scopus, and Google Scholar were searched by using relevant keywords up to 15 December 2020. Clinical trials (CTs) and Randomized Controlled Trials (RCTs) investigating the effect of oat, compared with the control, on appetite and related hormones were included. Studies on pediatric patients, reviews, studies with no control group, animal studies, letters to the editor, protocol, studies with insufficient data, and studies that examined the effect of single treatment were excluded. Finally, a total of six articles with 287 subjects aged from 23.5 to 53.8 met the inclusion criteria. The quality of the RCT was evaluated according to Cochrane's risk of bias tool.
Result: Pooled estimates from meta-analyses are expressed as weighted mean differences (WMD) Compared with the control group, oat intake resulted in significant differences in leptin (WMD: -279.31(pg/dL); 95% CI: -438.92, -119.712; P < 0.005- I^2=). There were small, non-significant reductions in GLP-1(P = 0.608) and ghrelin (P = 0.297) with oat intake compared with the control group. All analyses showed minor or moderate heterogeneity (I^2 < 50%). Our study's main limitation was missing a considerable number of publications in that study despite meeting the inclusion criteria.
Conclusion: Our findings revealed that oat intake could not affect overall appetite but, it can reduce leptin significantly. Neither the public nor commercial sectors, nor non-profit organizations provided funding for this research.
Keywords: Oat, β-glucan, Peptide Y-Y, Appetite, GLP-1, ghrelin

Effects of Ramadan and Non-Ramadan Intermittent Fasting on Gut Microbiome.

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In recent years, intermittent fasting has gained popularity in the health and wellness world. There are numerous types of intermittent fasting (IF), all of which involve fasting periods that last longer than an overnight fast and involve limited meal time-windows, with or without calorie

restriction. The objective of this review is to summarize the current evidence for the effects of Ramadan and non-Ramadan intermittent fasting on gut microbiome. We explored Pubmed, Scopus, Web of Science and Google Scholar according to the PRISMA criteria (Preferred Reporting Items for Systematic reviews and Meta-Analysis). Most of the studies we have for the effect of intermittent fasting on the gut microbiome come from mice. These studies show several potential benefits, including increased microbial diversity, reduced inflammation, and increased production of beneficial microbial compounds known as short chain fatty acids (SCFAs). Intermittent fasting also improved cognitive function and increased levels of tryptophan (a precursor for important hormones and neurotransmitters) in the blood, suggesting the gut-brain axis may be involved in mediating the effects of fasting. Another area of interest is the influence of the microbiome on our circadian rhythm – the internal clock that helps regulate your natural sleep and feeding cycles. Also,some studies have found that after Ramadan, individuals had increased levels of beneficial gut bacteria such as Akkermansia, Faecalibacterium and Roseburia. In general, most studies have seen favorable results following fasting on the intestinal microbiome. However, because more studies have been done on animal models, more human studies are needed to prove the results.

The effect of fenugreek (Trigonella foenum-graecum) consumption on Serum blood sugar level in patients with type 2 diabetes mellitus :a systematic review

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Introduction: In recent decades, non-communicable disorders, including diabetes, have been on the rise worldwide. Diabetes mellitus (DM) is a set of metabolic disorders, which damage to the heart, blood vessels, kidneys, eyes and nervous system. Herbal medicines for a long time have been used in the management of DM, Fenugreek is an annual plant that is mostly used for cooking and as a medicine option. Recent studies have investigated the therapeutic properties of this plant in patients with DM. The purpose of this article is to review the literature on effect, safety and mechanism of fenugreek seeds on the improvement of blood glucose in DM patients.
Method: Medline/PubMed databases were searched for randomized controlled trials (RCTs) published from 2000 until October 2021. Studies were only included if provided information on effect consumption of fenugreek on Serum blood sugar. The collection of reviewed articles included 746 articles and finally 8 RCT studies met the inclusion criteria and were included in this review.
Results: According to the available evidence, most studies have shown desirable results of fenugreek consumption in patients with DM. However, fenugreek seeds improved glucose metabolism, insulin resistance, hemoglobin A1C (*HbA1c*) serum levels and may be useful in the control of diabetes risk factors in individuals with DM.
Conclusion: These results suggest that, consumption of fenugreek can be used as a secondary treatment along with anti-diabetic drugs to control blood glucose in patients with type 2 diabetes.
Keywords: *Trigonella foenum-graecum* (fenugreek)Diabetes, Blood sugar

Does academic nutrition knowledge at university affect food intake and dietary patterns? A cross-sectional study

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Introduction: Various researchers have by far figured out the significant role of nutrition in preventing most chronic diseases and generally promoting individuals' well-being. The aim of

this study is to investigate the impact of nutrition knowledge achieved by nutrition undergraduates on their dietary patterns.
Methods: In this cross-sectional study, nutrition students of the Varastegan Institute of Medical Sciences were included. They were divided into two groups: first (a control group) and last semester (a case group). The dietary patterns of students were assessed using a validated Tehran quantitative food frequency questionnaire which included 147 food items. Extraction of dietary patterns was analyzed using factor analysis. The data were analyzed with SPSS software.
Results: Two dietary patterns extracted include the "unhealthy" (high consumption of sweets and desserts, organ meat, snacks, solid oils, French fries, salt, carbonated drinks, red or processed meat) and the "healthy" (high consumption of nuts, cabbage, vegetables, fruits and fruit juice) with 39.25% and 21.64% of the whole variance, respectively. Two dietary patterns were not different significantly between the two groups (p-value: 0.11 and 0.35).
Conclusion: According to our results, adherence to healthy dietary patterns was no different between first and last-semester nutrition students, and nutritional insight did not play a role in following a healthy diet. This study suggested that diet might not be associated with academic education among Iranian nutrition students.
Keywords: Diet, Nutrition, Dietary pattern, Factor analysis.

The comparison of energy expenditure and body composition in hypothyroid subjects with low-normal or high-normal TSH levels; A systematic review and meta-analysis

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Background: Present meta-analysis was aimed to compare the resting energy expenditure (REE) and body composition in hypothyroid subjects with low-normal or high-normal Thyroid-Stimulating Hormone (TSH) levels.
Methods: Three databases (PubMed, Scopus and google scholar) were searched to identify eligible studies that evaluated the association between TSH levels within reference ranges with REE and body composition up to August 2021 with no limitation in time. The methodological quality of included studies was assessed using Newcastle-Ottawa scale. Weighted mean differences (WMDs) of REE and body composition were calculated using a random-effects model.
Results: Four studies fulfilled inclusion criteria for meta-analysis, yielding a total of 353 people (212 low-normal and 141 high-normal subjects). The pooled effect size failed to find any significant association between Body Mass Index (BMI) [WMD: −0.88 kg/m2; 95% CI: −2.65, 0.89; P=0.33], REE [WMD: −3.98 kcal/day; 95% CI: −53.14, 45.17; P=0.87], REE/FFM [WMD: −0.01 kcal/kg/day; 95% CI: −0.64, 0.61; P=0.96], Lean Body Mass (LBM) [WMD: −0.35 kg; 95% CI: −2.38, 1.68; P=0.73], Fat Mass (FM) [WMD: −0.49 kg; 95% CI: −4.27, 3.29; P=0.80] and Percentage of FM [WMD: −0.13 percentage; 95% CI: −1.62, 1.37; P=0.86] with TSH levels.
Conclusion: Despite recent trends toward keeping TSH levels in low-normal range to achieve better clinical outcomes, higher REE and change in body composition, the results of this meta-analysis showed no substantial clinical evidence based on maintaining TSH levels in a low-normal range. The protocol has been registered with PROSPERO (registration number CRD42021279512)
Keywords: Resting Metabolic Rate, TSH, Hypothyroidism, Meta-analysis

The Distribution of Anthropometrics indices and Prevalence of Nutritional Problems among Children and Adolescents with Autism Disorder

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Background: Autism spectrum disorder (ASD) is a neurodevelopmental disorder characterized by difficulties with social interaction and communication, and by restricted and repetitive behavior. Children with ASD are at risk of nutritional problems that could impact growth

and anthropometric indices over both the short and long term.
Aim: the aim of present study was to determine prevalence of wasting and stunting among children and adolescent.
Methods: To assess the prevalence of malnutrition indicators among preschool children with ASD, a cross-sectional study was conducted among 81 children and adolescents who referred to subspecialized and specialized Autism Akbar Children 's Hospital, Mashhad University of Medical Sciences, Mashhad, Iran. Weigh and height measurements was assessed based on standard protocols. The z-score of anthropometric indices was determine for all participants. Participants were asked about nutritional problems by interview.
Results: In present study the mean±SD of age was 10.1±3.7 years old. Among participants 3.7% were with Diarrhea, 33.3% with Constipation, 4.9% with Reflux, 3.7% with Flatulence, and 1.2% with Steatorrhea. The prevalence of both of food neophobia and food Allergy was 16%. Furthermore, 18.5% had poor appetite 23.5% had moderate and 58% had good appetite. Based on standardized z-scores, the overall prevalence of under-weight, risk of overweight, overweight, and obese was 1.2%, 22.2%, 12.3%, and 7.4, respectively. Among participants 4.9% was stunting. Moreover, the prevalence of underweight, overweight, and obesity was 7.4%, 23.5%, and 16%, respectively.
Conclusion: Based on aforementioned prevalence, improving nutritional problems and anthropometric indices among ASD children and adolescents are crucial issue.
Key words: Autism spectrum Disorder (ASD), Anthropometrics Indices, Nutritional Problems

Routes and type of nutrition intake in Imam Reza teaching hospital of Mashhad: 2021 Audit

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Introduction: This study aimed to evaluate routes and type of nutrition intake in different units of Imam Reza teaching hospital (except ICUs).
Methods: this is a cross sectional study that was conducted in different units of Imam Reza teaching hospital on Nov 7th, 2021, using standardized questionnaires. Nutrition intake was defined as a) Oral nutrition including: Regular hospital food, Fortified/enriched hospital food, Protein/energy supplement (e.g. ONS drinks) and Special diet b) Enteral nutrition, c) Parenteral nutrition and d) NPO.
Results: 228 inpatients (121 M: 107 F; mean age of 48.42±10 years) evaluated in this study. 83.4% of all hospitalized patients had oral, 1.8% had enteral and 1.87% had parenteral nutrition. 8.9% of patients were NPO. 56% of patients consumed regular hospital food, 33.23% had special diet, 4.14% received ONS drinks and 3.8% had fortified hospital food. The highest percentage of ONS intake was in female burning unit (25%). Only patients in Internal Medicine/ General unit received enteral nutrition (4.5%). Parenteral nutrition was prescribed in Internal Medicine/General (5.3%), Surgery/General (4.2%), and oncology (16.7%) units. Among the patients with parenteral nutrition 3.3% in Surgery/General unit had Central venous with nutrition related lines complications since admission.
Conclusions: this study showed that most of hospitalized patients in different units of Imam Reza hospital had oral nutrition (90.9%) and only 0.7% and 1% of patients had enteral and parenteral nutrition respectively.
Key Words: Routes, Nutrition Intake, ONS, Enteral, Parenteral

19-Evaluation of serum selenium levels and its relationship with mortality in patients with covid

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SARS-CoV-2 infections predispose to the current coronavirus (COVID-19) and cause high mortality, especially among the elderly and those with comorbidities. COVID-19 is a rapidly emerging disease that began in December 2019 and now affects millions of people worldwide, killing hundreds of thousands. The entry of SARS-CoV-2 virus into lung cells can initiate cellular oxidative stress. Thus, in COVID-19, the imbalance in the oxidation state of the cell is accompanied by excessive free radicals,

especially ROS production and activation of inflammatory signaling pathways. Which can cause more free radicals to cause tissue damage. Some micronutrients may act as positive modulators of the immune system, such as vitamins (A, B6, B12, C, D and E) and essential trace elements (zinc, iron, selenium, magnesium or copper) as promising. Have been discussed. Selenium (Se) is an essential trace element for human health. Selenium is very important in viral infections and can play an important role in supporting coronavirus patients (COVID-19). Pathogens show higher mutations in people with Se deficiency, and selenium deficiency can cause rapid pathogenesis of the virus. Selenium deficiency causes viral mutations, proliferation and the emergence of a more pathogenic form of RNA viruses. Selenium increases the synthesis of defense proteins and the presence of antioxidant enzymes on the surface of the mucosa. Selenium is required for the activity of phagocytic cells, of which phagocytic cells are a major component of the innate immune system. Selenium deficiency decreased T cell proliferation while selenium supplementation increased T cell activation and differentiation. Considering the patient's nutritional status as a contributing factor to the improvement or severity of disease complications, we sought to ensure a definite effect of serum selenium levels on the survival or mortality of people with COVID-19. With an advanced search in PubMed search engine based on the specified keywords mentioned below, 129 related articles were obtained and 6 of them we review in this article. There is a contradiction in the results of these studies

Key word: covid-19, Coronavirus, serum selenium

The association between a low-fat diet and insomnia in adolescent girls

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Introduction: There is limited evidence regarding the relationship between a low-fat diet and insomnia. This study aimed to investigate the association between a low-fat diet with insomnia in adolescents.
Method: A total of 733 adolescent girls aged between 12 and 18 years old were recruited from different regions of Khorasan Razavi in northeastern Iran, using a random cluster sampling method. Data were collected using a valid and reliable food frequency questionnaire. We used the percentage of energy from each macro nutrient instead of absolute intake. For fat, individuals in the highest stratum received 10 points, and those in the lowest stratum received 0 points. We used a validated Iranian version of the insomnia severity index (ISI) questionnaire to assess sleep insomnia. We applied logistic regression analysis in crude and adjusted models to investigate the association between sleep insomnia and a low-fat diet.
Results: No association was found between the highest adherence to a low-fat diet and odds of insomnia (OR:0.71 CI:0.42_1.18, P=0.19). This association was not significant after adjustment for potential confounders (OR: 0.77 CI:0.45_1.31, P=0.34). Subject in the first tertile of low-fat diet had the highest intake of Polyunsaturated fatty acids and Monounsaturated fatty acids compared to the subject in the third tertile.
Conclusion: No significant association was observed between LFD and insomnia. Further studies are needed to clarify these findings.
Keywords: Low-fat diet, Adolescence, insomnia, Diet

Nutritional Status and Quality of Life in Newly Diagnosed Patients with Esophageal Cancer

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Introduction: cancer impacts on cancer prognosis, and Quality of life of patients in different aspects. This study aims to assess the quality of life in newly diagnosed esophageal cancer patients.
Methods: This is a cross sectional study conducted among newly diagnosed esophageal cancer patients admitted for chemotherapy at the Reza Radiation Oncology Centre (RROC), a

chemo-radiation referral center in Mashhad, Iran, between February 2017 to February 2019. Anthropometric indices, a Patient-Generated Subjective Global Assessment (PG-SGA) tool, body composition, dietary intake, and quality of life according to the European Organization for Research and Treatment of Cancer QLQ-C30 questionnaire were assessed. Descriptive statistics were performed for analysis of quality-of-life parameters and nutritional status.
Results: One hundred and eighty-six patients with a mean age of 66.8 ± 11.9 years and a male to female ratio of 96 to 90 were enrolled. Ninety-six (51.6%) of patients had experienced significant weight loss and 56 (30.1%) were underweight at diagnosis. Mean PG-SGA score was 13.1±5.7 ranging 2 to 29. The mean total daily energy and protein intakes of subjects were 17.7 ± 10.4 kcal/kgw.day, and 0.57 ± 0.4 g/kgw.day, respectively. Mean emotional functioning was 65.5± 26.0; Physical functioning, 79.7±25.8; role functioning, 82.3±25.2; cognitive functioning, 88.9 ± 16.7; social functioning, 81.0± 24.1 and global functioning was ٤٨,٢ ± ٢٥,٣
Conclusion: Malnutrition and impaired quality of life are prevalent among Iranian cancer patients even at diagnosis. Thus, early nutritional screening and intervention are crucial for a better outcome.
Keywords: Quality of life, Neoplasms, Nutritional status, Esophageal cancer

Correlation between Nutritional Status and Depression, Anxiety and Stress in Newly Diagnosed Esophageal Cancer Patients

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Introduction: Malnutrition impacts on cancer prognosis, and psychological aspects of patients with cancer. This study assessed the correlation between depression, anxiety and stress with nutritional status in newly diagnosed esophageal cancer patients.
Methods: This cross-sectional study assessed newly diagnosed esophageal cancer patients between February 2017 to February 2019 admitted at a chemo-radiation referral center in Mashhad, Iran. Anthropometric indices, a Patient-Generated Subjective Global Assessment (PG-SGA) tool, body composition, dietary intake, and depression, anxiety and stress using DASS21 questionnaire were assessed.
Results: One hundred and eighty-six patients were enrolled. The mean age of participants was 66.8 ± 11.9 years with a male to female ratio of 96 to 90. Ninety-six (51.6%) of patients had experienced significant weight loss and 56 (30.1%) were underweight at diagnosis. Mean PG-SGA score was 13.1±5.7. Mean fat mass percentage was 21.98±10.8 and fat-free mass index was 16.79±2.9. Median Karnofsky score was 80 (70-90). Mean depression score was 8.5±7; anxiety score, 10.7±9 and stress score 8.7±8. There was only a correlation between Karnofsky score and depression score (p= 0.008) anxiety score (p=0.001) and stress score (p=0.001). No correlation found between DASS and PG-SGA score, fat mass percentage, fat-free mass index, handgrip strength, or energy or protein intake.
Conclusion: Malnutrition is prevalent among Iranian cancer patients even at diagnosis. As nutritional status is correlated with physical performance of cancer patients, early nutritional screening, diagnosis and intervention is of essential importance.
Keywords: Neoplasms, Nutritional status, Esophageal cancer, DASS

Comparison of Long-term Effects of Bariatric Surgery Procedures on Lipoprotein Combine Index: 12 Months Follow-up

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Background: Although bariatric surgery procedures improve dyslipidemia, but the effects

of bariatric surgery on lipoprotein combine index is unknown. This study was aimed to compare the effects of bariatric surgery procedures: 1) One Anastomosis Gastric Bypass (OAGB), 2) Roux-en-Y Gastric Bypass (RYGB), and, 3) Sleeve gastrectomy (SG) on lipoprotein combine index.
Methods: The retrospective cohort conducted among obese adults (n=485) who underwent bariatric surgery procedures (OAGB, RYGB, or SG). The serum samples were collected before surgery and 12 months after surgery. The lipid parameters including total cholesterol (TC), triglyceride (TG), low-density lipoprotein cholesterol (LDL-C) and high-density lipoprotein cholesterol (HDL-C) were evaluated. The lipoprotein combine index was calculated as the ratio of TC∗TG∗LDL to HDL-C.
Results: The lipoprotein combine index was significantly decreased at 12 months after surgery in three bariatric surgery procedures; OAGB (25.03 ± 21.31 vs 9.81 ± 7.44, p<0.001), RYGB (20.57± 15.64 vs 9.29 ± 6.86, p<0.001), and SG (22.02 ± 17.76 vs 9.13 ± 6.48, p<0.001). However, the changes of lipoprotein combine index between the three groups were not significant (p=0.20).
Conclusion: All three bariatric surgery procedures improved levels of lipoprotein combine index. Also, there is no significant difference between the three types of bariatric surgery in improving lipoprotein combine index.
Keywords: bariatric surgery, lipoprotein combine index, gastric bypass, sleeve gastrectomy

The Effects of flaxseed supplementation on circulating adipokines concentration in patients with ulcerative colitis

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Introduction: Inflammatory bowel disease (IBD) is a group of inflammatory gastrointestinal diseases of the colon and small intestine. Adipokines secreted from adipose tissue have been shown to play an important role in the pathogenesis of ulcerative colitis (UC). The aim of this study was to evaluate the effect of supplementation with your seed on the concentrations of adiponectin, resistin and visfatin in patients with UC.
Methods: This trial is an open-labeled randomized controlled trial which conducted among 70 patients with UC. Patients were randomly divided into two groups: flaxseed and control. Patients in the intervention were received 30 g/day flaxseed powder for 12 weeks. Anthropometric, nutritional and biochemical factors of patients were evaluated at the beginning and end of the intervention period.
Results: Totally, 80 patients (42 men and 38women) with mean age of 34.12 ± 9.67 included in the final analysis. There wasn't any significant difference between two groups in term of baseline weight and height (P>0.05). After the 12 weeks' intervention, flaxseed supplementation led to a significant reduction in the resistin (-5.85 ± 1.81 vs. -2.10 ± 2.20, P<0.001) and visfatin concentration (-1.03± 1.14 vs. -0.53 ± 1.50, P=0.018). Moreover, we found a significant increase in the adiponectin levels after the flaxseed supplementation (4.49 ± 1.29 vs. -0.70 ± 0.96, P<0.001).
Conclusion: It has been reported in this study that flaxseed supplementation could exert beneficial effects on adipokine levels in patients with UC.
Keywords: Adipokine, Adiponectin, clinical trial, Flaxseed, Resistin, Visfatin

How does vitamin C supplementation affect the serum lipid profile in patients with type 2 diabetes?

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It has been found that vitamin C supplementation reduces lipid profiles in type 2 diabetes mellitus (T2DM) patients. In this systematic review and meta-analysis, we evaluated the effect of vitamin C supplementation on lipid profile in patients with type 2 diabetes. We searched the PubMed, SCOPUS, and Embase databases for published studies examining the effects of vitamin C supplementation on lipid profiles in patients with T2DM. Using a random-effect model, we calculated weighted mean differences (WMD) with 95% confidence intervals (CI) for 15

studies, including 872 participants. Results from 15 studies revealed that vitamin C supplementation significantly reduced Triglyceride (WMD: − 16.48 mg/dl, 95% CI (− 31.89, − 1.08), P < 0.001) and total cholesterol (TC) (WMD: − 13.00 mg/dl, 95% CI (− 23.10, − 2.91), P < 0.001) in subjects with T2DM. Supplementation with vitamin C did not affect LDL or HDL levels. The duration of vitamin C treatment was significantly correlated with better lipid profiles in the meta-regression analysis. Supplementation with vitamin C reduced LDL significantly depending on the dosage. TG and TC were significantly reduced with vitamin C supplementation, which resulted in improved lipid profiles. Among people with diabetes, however, vitamin C did not affect LDL or HDL levels. Compared to the short-term benefits of vitamin C supplements, long-term benefits are significantly different.

The Effect of Curcumin on HDL Cholesterol Uptake Capacity in Obese Individuals: A Randomized Double Blinded Cross over Clinical Trial

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Background: The obesity prevalence has augmented in adults globally over the past 3 decades. Obesity is a common risk factor associated with cardiovascular disease (CVD) risk. Curcumin has been reported to exert positive effects on lipid metabolism, including HDL functionality. We have evaluated the effects of curcumin on HDL cholesterol uptake capacity in subjects with obesity.
Methods: This study was a randomized double blinded cross over clinical trial approved by the Mashhad University of Medical Sciences (ID: 960443). 30 obese individuals received curcumin and placebo (1 g per day for 30 days). The subjects were crossed over to the alternative regimen after a 2 week wash-out period. A modified cholesterol uptake capacity assay was applied to detect serum HDL Cholesterol Uptake Capacity.
Results: There were no significant differences in baseline features of two study groups (P-value> 0.05). As well, we did not observe any significant effect of curcumin on serum HDL cholesterol uptake capacity levels in two study groups (P-value >0.05).
Conclusion: Curcumin supplementation at a dose of 1 g per day for 30 days can not improve HDL CUC in obese individuals.
Keywords: Cholesterol Uptake Capacity, Curcumin, Metabolic Syndrome

The Effect of Grape Seed Extract Supplementation on Flow-Mediated Dilation, Heart Rate, and Systolic and Diastolic Blood Pressure: A Systematic Review and Meta-Analysis

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Introduction: We aimed to conduct a systematic review and meta-analysis of clinical trials to clarify the impact of grape seed extract (GSE) supplementation on flow-mediated dilation (FMD), heart rate (HR), systolic blood pressure (SBP), and diastolic blood pressure (DBP).
Methods: Web of Science, Scopus, Medline, Cochrane Library, and Google Scholar were searched up to May 24, 2021 using appropriate keywords without restrictions. Weighted mean difference (WMD) and 95% confidence interval (CI) were computed for each outcome using a random-effects model. Non-linear duration- and dose-response meta-analysis were also performed using fractional polynomial regression.
Results: Nineteen trials were included in this study. Supplementation with GSE significantly lowered DBP (WMD: -2.20 mmHg, 95% CI: -3.79 to -0.60, I^2 = 88.8%) and HR (WMD: -1.25 bpm, 95% CI: -2.32 to -0.19, I^2 = 59.5%) but exerted no significant impacts on FMD (WMD: 1.02%, 95% CI: -0.62 to 2.66, I^2 = 92.0%) and SBP (WMD: -3.55 mmHg, 95% CI: -7.59 to 0.49, I^2 = 97.4%). Subgroup analysis showed that the dose and duration of GSE supplementation and the

characteristics of target population could be sources of between-study heterogeneity. Duration- and dose-response meta-analysis also revealed a significant non-linear relationship between the duration of GSE administration and DBP (P = 0.044) and the dose of GSE administration and DBP (P = 0.007).
Conclusions: In conclusion, GSE supplementation may be beneficial for individuals with or at risk of cardiovascular diseases because it can be a BP- and HR-lowering agent.
Keywords: Cardiovascular system, Grape seed extract, Meta-analysis, Systematic review

Can Antioxidative Nutrients Be Beneficial for Patients with COVID-19? A Systematic Review

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Introduction: COVID-19 is a viral infection caused by SARS-CoV-2. Oxidative stress seems to be a key contributor to the pathogenicity of SARS-CoV-2. Therefore, we performed a systematic review of interventional and observational studies to assess the role of several antioxidative nutrients such as vitamins A, E, D, and C, zinc, selenium, and α-lipoic acid in the clinical outcomes of individuals suffering from COVID-19.
Methods: Medline, Scopus, Web of Science, Cochrane Library, and Google Scholar were searched from database inception to December 04, 2020 using related MeSH and non-MeSH terms without any restrictions.
Results: Thirty-six studies for vitamins D and C, zinc, and selenium were included in this comprehensive systematic review; however, no studies were included for vitamins E and A and also α-lipoic acid. The findings indicated the favorable role of vitamin C in inflammatory processes, Horowitz index, and mortality rate; vitamin D in disease symptoms, disease severity, inflammation, lung involvement, hospitalization, ventilation requirement, ICU admission, and mortality rate; selenium in cure and mortality rate; and zinc in hospitalization, ventilation requirement, ICU admission, inflammatory markers, disease complications, and biomarkers of bacterial infection.
Conclusions: In conclusion, antioxidative nutrients, particularly vitamins D and C, zinc, and selenium, may improve some clinical outcomes of COVID-19 patients. Nevertheless, further studies are required to confirm these results.
Keywords: COVID-19, Nutrients, Oxidative stress, SARS-CoV-2, Systematic review

The Effect of Capsaicin Supplementation on Fasting and Postprandial Blood Glucose and Insulin: A Systematic Review and Meta-Analysis

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Introduction: Animal studies have revealed that capsaicin administration exerts favorable effects on glucose metabolism. Nevertheless, the findings of human studies are inconsistent. Therefore, we sought to conduct a systematic review and meta-analysis of clinical trials to investigate the impact of capsaicin supplementation on fasting blood glucose (FBG), 2-hour postprandial blood glucose (PBG), fasting insulin (FI), and 2-hour postprandial insulin (PI).
Methods: Medline, Scopus, Cochrane Library, and Google Scholar were searched up to January 14, 2021 using proper keywords without restrictions. Weighted mean difference (WMD) or standardized mean difference (SMD) with 95% confidence interval (CI) was calculated for each glycemic outcome using a random-effects model.
Results: Fourteen trials were included in this study. Capsaicin supplementation did not have any significant effects on FBG (WMD: 0.03 mmol/L, 95% CI: -0.05 to 0.12, I^2 = 40.5%) and FI (SMD: 0.09, 95% CI: -0.04 to 0.22, I^2 = 0.0%).

Furthermore, supplementation with capsaicin had no significant effects on PBG (WMD: 0.06 mmol/L, 95% CI: -0.34 to 0.47, I^2 = 92.5%) and PI (WMD: 1.70 μIU/mL, 95% CI: -3.46 to 6.86, I^2 = 72.4%). Although subgroup analysis demonstrated that the dose and ingestion form of capsaicin administration could be sources of between-study heterogeneity, these non-significant results were not changed by subgroup analysis.
Conclusions: Capsaicin administration may have neither beneficial nor detrimental impacts on blood glucose and insulin concentrations.
Keywords: Capsaicin, Glycemic control, Meta-analysis, Red pepper, Systematic review

Effect of a nut-enriched low-calorie diet on body weight and selected markers of inflammation in overweight and obese stable coronary artery disease patients: a randomized, controlled study

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Background: Weight loss through a low-calorie diet (LCD) could improve low-grade inflammation evident in the obese state. Few studies have evaluated the effect of the mixed nuts consumption in the context of a LCD on inflammatory biomarkers. This study compared the effects of a nut-enriched LCD (NELCD) with a nut-free LCD (NFLCD) on body weight and inflammatory markers in overweight or obese coronary artery disease (CAD) patients.
Subjects/Method: In this randomized controlled parallel trial, patients with stable CAD of both genders were randomly allocated to 8 weeks NELCD or NFLCD. Body weight, plasma C-reactive protein (CRP), interleukin 6 (IL-6), interleukin 10 (IL-10), intercellular adhesion molecule 1 (ICAM-1), and monocyte chemoattractant protein (MCP-1) were assessed at baseline and 8 weeks.
Results: Sixty-seven patients (aged 58.8± 7.4 years; BMI 30.9 ± 3.9 kg/m2) completed the study. Participants in both groups lost weight to a comparable extent. Patients in the NELCD group showed a decrease in ICAM-1 (p=0.04) and IL-6 (p=0.02) concentrations compared to NFLCD group. No significant difference in concentrations of MCP-1, IL-10, or CRP was observed between diet groups.
Conclusions: Nuts are healthy energy-dense foods that if included in controlled amounts in a weight management program can still result in weight reduction and may improve some plasma concentration of inflammatory factors such as ICAM-1 and IL-6.

The effects of canola and olive oils consumption compared to sunflower oil, on lipid profile and hepatic steatosis in women with Polycystic Ovarian Syndrome: a randomized controlled trial

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Background: Polycystic Ovarian Syndrome (PCOS) is one of the most common endocrinopathies and metabolic disorders in women during their reproductive years. It is often associated with dyslipidemia and other risk factors of cardiovascular diseases (CVD). This study was aimed to evaluate dietary intervention effects with canola and olive oils compared to sunflower oil on lipid profile and fatty liver severity among women with PCOS.
Method: This study was a 10-week intervention including 72 women with PCOS. Patients were randomly assigned to three groups for receiving 25 g/day canola, olive, or sunflower oils for 10 weeks. The primary and secondary outcomes were to assess changes in lipid profile and in fatty liver severity, respectively.
Result: At the end of the study, 72 patients with a mean age of 29.31 were analysed. Canola oil consumption resulted in a significant reduction in serum levels of TG (P=0.002) and TC/HDL (P=0.021), LDL/HDL (P=0.047), and TG/HDL (P=0.001) ratios, however, there was no significant reduction in lipid profile following

olive oil consumption. Canola (P<0.001) and olive oils (P=0.005) could significantly reduce the fatty liver grade. Moreover, HOMA-IR in both canola (P<0.001) and olive (P=0.004) groups was significantly decreased.
Conclusion: In total, compared to olive and sunflower oils, significant improvements in lipid profile, liver function, and HOMA-IR were observed following canola oil consumption in women with PCOS.
Keywords: Polycystic ovary syndrome; Canola oil; Olive oil; Lipid profile; Fatty liver; Polyunsaturated fatty acid; Monounsaturated fatty acid; HOMA-IR; SHBG.

Cumin supplementation and anthropometric indices: A systematic review and meta-analysis of randomized controlled clinical trials

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Introduction: Growing evidence indicates that cumin has beneficial effects on weight loss and treating atherosclerosis, cardiovascular disease, and metabolic syndrome. We aimed to evaluate the effect of Cuminum Cyminum (CC) supplementation on body mass index (BMI), and waist circumference (WC) in adults.
Methods: PubMed, Scopus, Web of Science, and Embase databases were systematically searched until May 2021. The random-effect model was used to study the effect sizes. The sources of heterogeneity were assessed using subgroup analysis and meta-regression. Publication bias was studied by funnel plots. The GRADE approach was used to assess the overall quality of the evidence.
Results: The data from seven included studies indicated that CC supplementation could lower BMI (WMD = -0.88 kg/m^2; 95%CI: -1.58, -0.18; P = 0.023). Also, after adjusting for publication bias, CC was shown to be effective in improving waist circumference (WC) (WMD = -2.92 cm; 95%CI: -4.98, -0.86; P < 0.05).
Conclusion: With the promising effect of CC supplementation on BMI and WC, CC can be indicated for weight management.
Keywords: Anthropometry; Cuminum; Meta-Analysis; Systematic Review

Associations between adherence to Healthy Eating Index-2015 and Rheumatoid Arthritis Disease Activity

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Objective: Healthy Eating Index-2015 (HEI-2015) is a multidimensional criterion of diet quality utilized to evaluate how well people's dietary behaviors align with major recommendations of the 2015–2020 Dietary Guidelines for Americans. We aim to investigate the association between the diet quality and Rheumatoid arthritis (RA) activity.
Setting: This study was done on 184 patients with RA in rheumatology clinic in Kermanshah city, Iran, in 2020. RA was diagnosed according to the criteria of the 2010 American College of Rheumatology/ European League against Rheumatism. The overall quality diet was extracted from a validated 168-item food

frequency questioner (FFQ) to calculate the HEI-2015 score. RA disease activity was assessed using Disease Activity Score 28 (DAS28) scores. One-way ANOVA and ANCOVA were done to find the associations.

Results: Individuals in the highest HEI-2015 quartile had a lower mean Erythrocyte Sedimentation Rate (ESR) than those in the lowest quartiles of the HEI scores (P-value: 0.014). A linear trend towards decreasing waist circumference in patients was observed with increasing quartiles of the HEI-2015 scores (P-value= 0.005). After controlling for all potential confounders, patients in the highest HEI-2015 quartile had the lowest DAS28 scores than those in the lowest quartile of the HEI-2015 scores (Q_1= 3.65; 95% CI= 3.29 – 4.02 vs. Q_4= 2.35; 95% CI= 1.94 - 2.67; P-value<0.001).

Conclusion: Our results indicated that following a high diet quality might be one of the therapeutic strategies to control or reduce the disease activity in RA patients.

Keywords: Diet Quality, Healthy Eating Index-2015, Rheumatoid arthritis, Disease Activity Score

Effects of naringenin supplementation on cardiovascular risk factors in overweight/obese patients with non-alcoholic fatty liver disease: A pilot double-blind placebo-controlled randomized clinical trial

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Objective: Although several experimental models have suggested promising pharmacological effects of naringenin in the management of obesity and its related disorders, the effects of naringenin supplementation on cardiovascular disorders as one of the main complications of non-alcoholic fatty liver disease (NAFLD) are yet to be examined in human.

Methods: In this double-blind placebo-controlled randomized clinical trial, 44 overweight/obese patients with NAFLD were equally allocated into either naringenin or placebo group for four weeks. Cardiovascular risk factors including atherogenic factors, hematological indices, obesity-related parameters, blood pressure, and heart rate were assessed pre-and post-intervention.

Results: AIP value, serum non-HDL-C levels as well as total cholesterol/HDL-C, triglyceride/HDL-C, LDL-C/HDL-C, and non HDL-C/HDL-C ratios were significantly reduced in the intervention group, compared to the placebo group post-intervention (P<0.05). Moreover, there was a significant reduction in BMI and visceral fat level in the intervention group when compared with the placebo group (P=0.001 and P=0.039, respectively). Furthermore, naringenin supplementation could marginally reduce systolic blood pressure (P=0.055). Mean corpuscular hemoglobin (MCH) increased significantly in the naringenin group compared to the placebo group at the endpoint (P=0.023). Supplementation with naringenin also resulted in marginally significant increase in mean corpuscular hemoglobin concentration (MCHC) when compared with the placebo group (P=0.050). There were no significant between-group differences for other study outcomes, post-intervention.

Conclusion: In conclusion, these data indicate that naringenin supplementation may be a promising treatment strategy for cardiovascular complications among NAFLD patients. However, further trials are warranted.

Key words: Naringenin, cardiovascular risk factors, atherogenic lipid profile, non-alcoholic fatty liver disease

Assessment of Anorexia and Weight Loss during the Infection and Recovery Period of Patients with Coronavirus Disease 2019 (COVID-19)

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Objectives: Patients with coronavirus disease 2019 (COVID-19) can present anorexia and weight loss due to their symptoms and eating disorder which can lead to immune system weakness and increase the duration of recovery time. We aim to assess the severity and duration of anorexia and weight loss within the infection and recovery period in these patients.
Method: We retrospectively identified 233 COVID-19 patients (older than 18 years) were admitted to the Rasoul-e Akram Hospital, from August to December 2020. Their medical records were reviewed by researchers. Then, patients who had inclusion criteria were asked about duration and severity of anorexia, and also weight alternation during the infection and after the recovery period.
Result: Analyzed data were collected from 233 COVID-19 patients showed the mean duration of anorexia was 7.08 ± 10.41 days with a significant loss of appetite (- 75.55 ± 88.09, P-value < 0.001) at the period of anorexia compare to appetite improvement. Also, results demonstrated patients, especially males and severe illness subjects, significantly lost weight (P-value <0.001).
Conclusion: anorexia and weight loss occur in people infected with the coronavirus and may affect the recovery process of these patients by reducing their food intake. The underlying mechanisms of SARS-CoV-2 related to interaction to the gastrointestinal tract and development of anorexia in these patients need to clarify in future studies.
Key words: SARS-CoV-2, COVID-19, anorexia, weight loss

Effect of selenium supplementation on lipid profile levels: An updated Systematic review and meta-analysis of randomized controlled clinical trials

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Introduction: The aims of this meta-analysis were to assess the effects of selenium supplementation on lipid profile levels in clinical trial studies.
Methods: A systematic search of literature was carried out in PubMed, Scopus, ISI web of science, Ovid and Cochrane library up to January 19, 2019. Of 2318 relevant articles identified at the first step of search, 19 trials with 31, 21, 29 and 22 effect sizes were used for the meta-analysis assessing the effects of selenium supplementation on blood levels of HDL-C, LDL-C, TC and TG, respectively.
Results: Results of the random effect model meta-analysis showed significant effect of selenium supplementation on serum level of TC (WMD: 2.02 mg/dl; 95% CI=−3.86, −0.17; P=0.032) while it had no significant effects on serum levels of HDL-C (WMD: 0.37 mg/dl; 95% CI=−0.66, 1.34; P=0.45), TG (WMD: 2.43 mg/dl; 95% CI=−6.27, 1.40; P=0.21), and LDL-C (WMD: 0.32 mg/dl; 95% CI=−2.42, 3.06; P=0.82). Results of subgroup analysis showed that when the dosage of selenium supplementation was 200 µg/day or when the baseline level of serum TC was>200 µg/dl, selenium supplementation could decrease significantly TG and TC concentrations, respectively.
Conclusion: Results of the current meta-analysis study showed that selenium supplementation could decrease significantly serum levels of TC and TG while it had no beneficial effects on other lipid profile levels in clinical trial studies.

Omega 3 fatty acids plus vitamin E supplementation could increase the gene expressions of SIRT1, FOXO1 and UCP-2 and improve insulin resistance in CAD patients

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Introduction: This RCT was carried out to assess effects of omega 3 supplementation alone and in combination with vitamin E on the gene expressions of SIRT1, SIRT3, SIRT6, FOXO1, FOXO3 and UCP-2 and also insulin resistance in patients with coronary artery disease (CAD).
Methods: Participants of this RCT included 60 male CAD patients who permuted by block randomization into three study groups of OE receiving omega 3 fatty acids (EPA: 720 mg, DHA: 480 mg) and vitamin E (400 IU), OP receiving omega3 fatty acids (EPA: 720 mg, DHA: 480 mg) and vitamin E placebo, and PP receiving omega-3 and vitamin E placebos for two months.
Results: Serum glucose level increased significantly in OP group (P=0.004) and Serum insulin and HOMA-IR levels decreased significantly in OE group (P=0.044 and P=0.039, respectively).
The results also showed that gene expression rates of SIRT1, FOXO1 and UCP-2 were significantly different between the study groups with significant differences in gene expression of SIRT1 and UCP-2 between OE and PP groups (P = 0.037 and P = 0.035, respectively) and also significant differences in gene expression of FOXO1 between OE and PP groups (P = 0.021) and between OP and PP groups (P = 0.035).
Conclusion: The current study has shown that omega-3 fatty acids plus vitamin E supplementation could increase gene expressions of SIRT1, FOXO1 and UCP-2 and decrease significantly Serum insulin and HOMA-IR levels in CAD patients.
Keywords: omega 3, vitamin E, SIRT, FOXO, UCP-2, insulin resistance

Does soy protein supplementation affect body composition in healthy adults? A systematic review and meta-analysis of clinical trials

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Introduction: The effects of soy protein supplementation on anthropometric parameters and body composition indices of healthy adults is equivocal. The aims of this systematic review and meta-analysis were to assess the effects of soy protein supplementation on weight and body composition of healthy adults in clinical trial studies.
Methods: A systematic review of literature was carried out on clinical trial studies in PubMed, Scopus, Cochrane's library and ISI Web of Science Direct up until November 2017.
Results: From 492 studies initially retrieved, only 8 articles with 6, 5 and 4 arms included in the meta-analysis of the effects of soy protein supplementation on body weight, Fat free mass and Fat mass, respectively, with 120 participants in the intervention group and 119 participants in the control group. Results of the fixed effect model meta-analysis showed that soy protein supplementation had no significant effects on body weight (0.94 kg, 95% CI: -2.41, 4.30 kg; P=0.58), fat-free mass (0.6 kg, 95% CI: -0.21, 1.41; P=0.14) or fat mass (0.43 kg, 95% CI: -2.18, 3.03; P=0.74) in healthy exercising adults.
Conclusions: Results of this meta-analysis study does not confirm any significant beneficial effects of soy protein supplementation on weight and body composition in healthy adults.
Keywords: soy protein; weight; fat mass; fat-free mass; meta-analysis

Undiagnosed insulin resistance in non-diabetic obese women

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Introduction: Obesity has been a major public health problem in worldwide in the recent years. Obesity-induced morbidity and complications account for huge costs for affected individuals, healthcare systems, and community. It contributes to the growing prevalence of its related comorbidities, including insulin resistance. Therefore, we examined the undiagnosed insulin resistance in non-diabetic obese women in Ardabil city.
Methods: Ninety volunteer apparently healthy obese women were recruited from the nutrition clinic in their first visit. Blood sampling was taken after overnight fasting for determination of insulin resistance level. For the diagnosis of insulin resistance, HOMA–IR values were

calculated using the equation (HOMA−IR=Fasting insulin (μU/mL) * Fasting glucose (mg/dL) /405). Insulin resistance was defined as HOMA-IR≥3.8.

Results: The mean age, weight, body mass index, waist circumference, fasting insulin, and insulin resistance was 27.71±7.21 years, 85.05±11.72 (kg), 33.25±3.02 kg/m^2, 10.5.67±10.64 (cm), 13.82±6.45(μU/mL), and 3.02±1.45, respectively. 25% of women had HOMA-IR≥3.8.

Conclusions: The prevalence of undiagnosed insulin resistance was relatively high in non-diabetic obese women. These data suggest that the important primary prevention policies for obesity among women.

Keywords: Prevalence, Undiagnosed insulin resistance, Women

Meal skipping among healthy obese women

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Introduction: Meal skipping has become an increasing trend of the modern lifestyle that may lead to weight gain. On the other hand, popular trends such as breakfast or dinner skipping are advertised for weight management. This study was done to describe meal frequency among healthy obese women.

Methods: In this cross-sectional study, 232 women (mean age: 31.03±9.28 years), who received outpatient treatment, were selected in Ardabil diabetes clinic by random sampling. Anthropometric measurement was done. Participants completed questionnaires capturing self-reported meal frequency, demographic, and lifestyle information. The meals frequency assessed were breakfast, lunch, dinner and snack-in-between-meals.

Results: The mean weight and body mass index was 88.27 ± 12.94 (kg) and 4.62 ± 35.01 (kg/m^2). Most women (77.4%) reported 3 meals/daily, while the rest had “breakfast skipping”, “lunch skipping” and “dinner skipping” with the percentage occurrence of 10.8%, 1.3%, and 10.8%, respectively, and15.6 % had multiple snacks/daily.

Conclusions: Based on results, it will be critical to develop strategies to incorporate healthy eating patterns into the lifestyles of the population.

Keywords: Prevalence, Meal skipping, Women

Self-reported sleep duration among adolescents in Ardabil city

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Introduction: Sleeping problems are increasing among adolescents worldwide. The sleep recommendation for adolescents is at least 8-10 hours per night. Insufficient sleep among adolescents carries significant health risks, especially obesity. The study aimed to describe the prevalence of self-reported sleep duration.

Methods: This descriptive study used a cross-sectional study design. The questionnaire included anthropometric measurement, demographic characteristics, and self- reported sleep duration. Sleep duration was measured by the statement; I sleep on average this number of hours per night. Short sleep duration was defined as <8 hours a night, based on guidelines from the National Sleep Foundation. Statistical Package for the Social Sciences for Windows version 21 was used for data analysis. Data are presented descriptively as frequencies and percentages or mean with standard deviation.

Results: All the participants (n = 218) were 14–18 years. The mean (± SD) age, weight, body mass index, and sleep duration of the adolescents was 16.44±1.38 (years), 61.45±19.13 (kg), 23.75±7.06 (kg/m^2), and 8.32±1.46 (hours), respectively. More adolescents (n=119, 54.6%) slept less than 8 hours a night on most nights. Only, 39.9% (n=87) of the participants slept 8-10 hours a night.

Conclusions: It seems that public health interventions should consider these results as a target of intervention to improve adolescent health. Sufficient sleep can be a cost-effective intervention for the prevention of overweight in this population. Further research on the factors that interfere with adolescents’ sleep can provide valuable knowledge.

Keywords: Sleep duration, Adolescents, Ardabil city

Comparison of enterameal formula with hospital made food on nutritional status of hospitalized patients in Shohadye Ashayer educational hospital' ICU ward

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Introduction: In most Iranian hospitals, hospital made foods is gavaged for intensive care patients. Recently some food factories have made enterameal formula for patients. The aim of this study was to compare effect of formula with hospital made food on patients of intensive care units of Shohadaye ashayer hospital of Khoramabad city.
Methods: 30 intensive care patients were included in the study. In the first two weeks of nutritional care, they fed by formula, and for the two next weeks they were fed by hospital made foods. Blood sample of them in the first day, after 2 weeks of formula and after 2 weeks of hospital made food feeding were collected. Serum albumin, Creatinine, Urea, magnesium and FBS of them were measured and compared.
Results: Fasting blood sugar and serum urea of patients were more than the normal range at the first of study and after 2 weeks intervention. Creatinine, albumin and serum magnesium of them at the first of study and 2 phase of intervention were in the normal range, but, between Creatinine through the 3 steps of study a significant relation was observed. Moreover, after 2 weeks feeding by formula, serum albumin was increased slightly and then after 2 weeks feeding with hospital made food was decreased slightly, but these changes were not significant. The change of fasting blood sugar, serum urea and magnesium during 2 phase of intervention was not significant.
Conclusion: hospital made food in compare with formula had not significant effect on laboratory indexes of patients.
Keyword: Enterameal, Hospital made food, Intensive care unit

Effect of propolis supplementation on glycemic indices and liver function in obese patients with NAFLD

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Objectives: As propolis has been reported to have several biological efficacies such as antioxidant and anti-inflammatory activities and insulin resistance is the most important hit in non-alcoholic fatty liver disease (NAFLD), the present study aimed to examine the effects of propolis supplementation on glycemic indices and liver function among obese patients with NAFLD.
Methods: This double-blinded, placebo-controlled randomized clinical trial was carried out on 44 obese patients with NAFLD who were randomly assigned into two groups; "*Propolis*" (n=23) and "*Placebo*" (n=21). The patients received either 500 mg of propolis three time a day (1500 mg) or corn starch for 8 weeks associated with individual calorie-restricted diet. Fasting blood sugar (FBS), insulin, aspartate aminotransferase (AST), alanine aminotransferase (ALT) and severity of NAFLD were measured at the beginning and end of the study and insulin resistance using HOMA-IR was estimated. The severity of hepatic steatosis was assessed using ultrasonography.
Results: FBS, insulin, HOMA-IR significantly decreased in propolis group compared with placebo group ($p < 0.05$). There were significant reduction in serum ALT levels and NAFLD severity in both groups while serum AST levels significantly decreased only in propolis group. However, between-group differences were not statistically significant.
Conclusion: our results indicate that propolis supplementation could be suggested as an adjuvant therapy in patients with NAFLD.
Keywords: Glycemia; Liver function; Non-alcoholic fatty liver disease; Propolis

Copper status and its relation to metabolic factors in Patients with NAFLD

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Objective: Non alcoholic fatty liver disease (NAFLD) characterized by excessive intrahepatic fat accumulation is increasing worldwide. This study aimed to investigate serum copper (Cu) and ceruloplasmin (Cer) levels and their relations to metabolic factors in NAFLD.
Methods: This cross-sectional study was conducted on 141 subjects with NAFLD diagnosed by abdominal ultrasonography. Personal information, anthropometric measures, glucose and lipid profile, and serum levels of liver enzymes were assessed. Fasting serum levels of Cu and Cer were determined using colorimetry and neflometry assay, respectively. Odds ratios (OR) were used to examine the associations of serum Cu and Cer levels with NAFLD risk.
Results: Results on 85 patients with NAFLD and 56 apparently healthy participants showed that all NAFLD cases and 53.6% of the healthy subjects were overweight or obese. More than half of the patients (58.8%) showed mild NAFLD. Age, weight, BMI, serum levels of lipid profile, liver enzymes, uric acid, and ferritin were higher in NAFLD patients than the healthy cases. No significant differences were found in the concentrations of Cu and Cer between the groups. Only 7.4% of the healthy subjects and 2.4% of the patients were Cu deficient (<70 µg/dl). No association was found between the risk of NAFLD and serum Cu (OR: 0.994; 95% CI: 0.981, 1.006) and Cer levels (OR: 0.414; 95% CI: 0.001, 123.604) after adjusting for the confounders.
Conclusion: Our findings revealed no association between Cu deficiency and NAFLD risk. Further human studies with larger sample sizes are required to investigate how Cu and Cer status may affect NAFLD.
Key words: Copper, Ceruloplasmin, Lipid profile, Non-alcoholic fatty liver disease (NAFLD).

The Interaction of Fat Quality Indices and Caveolin-1 rs3807992 Polymorphism on Body Adiposity Index (BAI)

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Introduction: Caveolae are small flask-shaped invaginations of the plasma membrane that contain proteins called caveolin with 3 forms. Caveolin-1 is predominantly expressed in adipose tissue, and according to such studies, caveolin can be influenced and regulated by obesity and diet Therefore, we decided to investigate the interaction of fat quality indices and caveolin-1 rs3807992 polymorphism on body adiposity index (BAI).
Methods: We concluded 386 obese or overweight without any of the following: alcohol consumption, smoking, Cardiovascular disease (CVD), kidney failure, stroke, thyroid disease, liver disease, cancer, inflammatory illnesses, therapeutic medications, weight loss supplements, and supplements that affect weight. The caveolin-1 genotypes were measured by PCR-RFLP method. Anthropometric measurements, body composition, and biochemical parameters were assessed by standard approaches. A standard food frequency questionnaire (FFQ) was used to estimate the food intakes and fat quality indices (including cholesterol-saturated fat index (CSI) and W6/W3 ratio).
Results: We had 3 genotypes of caveolin-1 in this study with prevalence of 50% (193), 23.3% (103), and 25.5% (103) for AA, AG, and AA respectively. We saw a marginal significant positive association between two risk allele genotype group (AA) with BAI (β= 0.94, 95%CI= 0.006,4.33, P=0.06) after adjusted with cofounders. The interaction between two risk allele genotype group (AA) with W6/W3 ratio on BAI after adjusted with potential cofounders

(age, physical activity, energy intake, education) was marginally positive (β= 14.08, 95%CI= -18.65,46.81, P= 0.07). The interaction between two risk allele group (AG) with W6/W3 ratio on BAI in comparison to reference group (GG) was negative but not significant (β= -6.45, 95%CI= -37.63,24.73, P= 0.68). the significance level was considered P ≤ 0.05 while P=0.06 were considered as marginally significant.

Conclusion: In conclusion, the relationship between caveolin-1 genotypes and W6/W3 ratio on BAI was marginally significant. In this regard, we recommend to perform further studies with bigger samples to get more significant results.

Keywords: Adiposity, Caveolin-1, Gene Polymorphism, Obesity

Relationship between Mental health and Body Mass Index

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Introduction: Depression, anxiety and stress are currently the main health problems that cause disability in people and no one in the world will be safe against these problems. As many as 450 million people suffer from a mental or behavioral disorder, and around 3.6% (264 million) of the global population suffers from anxiety.

Methods: The Depression, Anxiety, and Stress Scale - 21 Items (DASS-21) is used to evaluate the mental health of subjects. The weight of the subjects is measured and recorded using the INBODY Model 270 BIA with an accuracy of 100 g. Individuals' height is measured with an accuracy of 0.1 cm using the INBODY Model BSM370. Body mass index is calculated by dividing the weight in kg by the square of height in meters.

Results: Regarding anxiety status, 81.8% of obese people and 79.3% of people who are in normal condition according to body mass index are in a state of severe anxiety. 63% of people with obese body mass index and 47.8% of people with normal body mass index have moderate stress. Regarding depression, 63.6% of obese people and 63.1% of people with normal body mass index have a severe state of depression.

Conclusion: In conclusion, we find a direct relationship between obesity and depression, anxiety and stress, and BMI correlate positively with mental health parameters.

Keywords: Depression, Anxiety, Mental Health

Autophagy modulation by PPAR-gamma agonists in obesity

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Introduction: Autophagy pathways are involved in the pathogenesis of some obesity related health problems. We aimed to investigate the possible mechanisms of action of peroxisome proliferator-activated receptor- gamma (PPAR-gamma) on the process of autophagy in obesity through narrating the effects of PPAR- gamma on autophagy in the non-obesity conditions.

Methods: Current mechanistic systematic review aimed to explain the possible pathways through which PPAR-gamma agonists could affect autophagy in obesity. PubMed, Embase, Web of Science, and Scopus were searched up to October 2021. All clinical trials, animal and in vitro studies published in English were included.

Results: As obesity is a nutrient sufficiency condition, autophagy process can be altered in obesity through AMP activated protein kinase (AMPK) inhibition. PPAR- gamma as the main modulator of adipogenesis process can be effective in the regulation of obesity related phenotypes. As well, it has been revealed that PPAR- gamma and its agonists can regulate autophagy in different normal or cancer cells. However, their effects on autophagy modulation in obesity have been investigated in the limited number of studies. Moreover, various studies have suggested the effects of autophagy regulation on the management of obesity and its associated complications.

Conclusion: We raise the hypothesis that PPAR-gamma agonists can potentially affect autophagy pathways in obesity.

Keywords: Adipogenesis, Autophagy, Lipophagy, Obesity, PPAR gamma

Higher Adapted Food Quality Score Is Associated with Better Anthropometric Measurements among Iranian Adults with Type-2 Diabetes

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Introduction: Due to the fact that food quality index can be affected by the type of disease, the aim of this study was to use the adapted food quality index for type 2 diabetic patients to investigate the relationship between food quality and anthropometric indices in these patients.
Methods: This cross-sectional study was performed on 489 adults with type 2 diabetes (66.7% female; mean BMI 30.42 kg/m^2). Anthropometric indices including BMI, waist circumference (WC), waist to hip ratio (WHR) and waist to thigh ratio (WTR) were measured. Adapted food quality scores for type 2 diabetics was obtained from three components related to adequacy, Moderation and dietary diversity.
Results: After adjusting for the variables of age and physical activity in GLM Univariate analysis, the average anthropometric measurements in different quartiles of the adapted food quality were examined. The results showed that the lowest mean of anthropometric indices is related to the top quartile of the index. Mean BMI, WC and WHR in the highest quartile of the adapted food quality index were significantly lower than the lowest quartile. (For BMI: mean differences -1.6 kg/m^2, for WC: mean differences -5.9 cm and for WHR: mean differences -0.04; $p < 0.05$).
Conclusions: The results showed that the high scores of the adapted food quality index is associated with lower levels of anthropometric measurements in patients with type 2 diabetes.
Keywords: Anthropometric Measurements, Food Quality, Type-2 Diabetes

Changes in post-diagnostic macronutrient intake parameters of patients with breast cancer following dietary interventions: a systematic review and meta-analysis of controlled trials

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Introduction: Several studies have revealed that macronutrient intake parameters remarkably affect the survival of patients with breast cancer (BC). We conducted a systematic review and meta-analysis of controlled clinical trials to clarify the effects of dietary interventions on macronutrient intake (carbohydrate, protein, and total fat) among this valuable population.
Methods: We searched Scopus, PubMed, ISI, WOS, and Embase (through June 2021) databases. Mean differences and standard deviations for each outcome were pooled using a random-effects model. Quality of evidence was evaluated using Cochrane Collaboration RoB2 and GRADE methodology.
Results: Twenty studies (n=4608 participants) were included. Meta-analyses revealed that dietary interventions resulted in lower fat intake (17studies, *n*=4316, WMD=-7.5; 95%CI: -7.8,-7.2 %of energy; *P*<0.001; I^2=85.6%; *P*-heterogeneity<0.001) among patients with BC. We observed no significant effects of dietary interventions on protein and carbohydrate intakes. Subgroup analysis showed that fat intake was significantly reduced in studies that included patients who were before their surgical and chemotherapy/radiotherapy treatment process (3studies, n=118; WMD=-5.9; 95%CI: -8.4,-3.6%of energy; *P*<0.001; I^2=0.9 %; *P* heterogeneity=0.7). Remarkable reduction in daily fat intake were observed in studies which applied nutrition education as a dietary intervention (2studies, n=100; WMD=-5.8; 95%CI: -9.0,-2.6%of energy; *P*<0.001; I^2=0.0 %; *P*-heterogeneity=0.7). The evidence also supports that dietary carbohydrate and fat intake

improved when the dietary intervention was less than 24 weeks.
Conclusion: Following a proper dietary intervention would result in beneficial effects on the macronutrient intake of patients with BC.
Keyword: Breast Neoplasms, Cancer Survivors, Dietary Fat, Diet Therapy

Effect of Synbiotic Therapy on Sex Hormone Binding Globulin and Endogenous Sex Hormone Levels among survivors of hormone-receptor-positive breast cancer: A Randomized, Triple-Blind, Controlled Trial

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***Introduction*:** Circulating sex steroid hormones play a critical role in the pathogenesis of breast cancer (BC) and may increase the risk of BC recurrence and mortality among breast cancer survivors (BCSs). This investigation was designed to evaluate the effects of synbiotic therapy on sex hormone binding globulin and sex hormone levels in overweight and obese postmenopausal BCSs who had hormone-receptor-positive breast cancer.
Methods: This randomized, triple-blind, placebo-controlled trial was conducted on 76 overweight and obese BCSs aged 57.43 (5.82) years. All participants were given a specified low calorie diet and were randomly assigned into two groups to intake 10^9 CFU/day of synbiotic supplement (n = 38) or placebo (n = 38) for 8 weeks. Sex hormone binding globulin (SHBG), estradiol, testosterone and dehydroepiandrosterone sulfate (DHEA-S) were measured at baseline and after 8 weeks.
Results: We did not observe any significant changes in the levels of estradiol (P = 0.52), DHEA-S (P = 0.19) and SHBG (P = 0.44) in the synbiotic group compared with the placebo. Baseline serum concentrations of testosterone were significantly different between the two groups (P = 0.04). When we controlled the analysis for baseline levels of biochemical variables and baseline BMI, the difference in changes in testosterone between the two groups became non-significant (P = 0.11).
Conclusions: Overall, as the 8-week synbiotic consumption compared with placebo had insignificant-reducing effects on sex hormones among postmenopausal hormone-receptor-positive BCSs, controlling the level of sex hormones via synbiotic might be a critical approach in reducing the risk of recurrence.
Keywords: Breast neoplasms, Cancer survivors, Gonadal steroid hormones, Probiotic

Protective effects of garlic against hepatic steatosis and cardiometabolic risk factors in nonalcoholic fatty liver disease patients: A Randomized Clinical Trial

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Background: Emerging evidence suggests that garlic (Allium sativum L.) and its bioactive components can mitigate hepatic steatosis by the modulation of hepatic lipid metabolism. We aimed to assess the efficacy of the garlic administration on hepatic steatosis in patients with NAFLD.
Methods: This clinical trial was conducted on adult patients with ultrasound-diagnosed NAFLD. Eligible participants were randomly assigned, with the use of the stratified blocked procedure, to receive 800 mg garlic or placebo for 15 weeks. The primary outcome was the improvement in the hepatic steatosis diagnosed by ultrasound technique after 15 weeks of intervention.
Results: A total of 110 patients underwent randomization, 98 patients completed the trial. Twenty-four (57.5%) patients in the garlic group achieved improvement in the hepatic steatosis compared to eight (15.6%)

patients in the placebo group with the relative risk: 3.2 (95% CI, 1.6 to 6.5; P=0.001). There were significant reductions in weight and serum ALT, AST, FBS, Hb A1C, total cholesterol, LDL-cholesterol, and TG concentration with the garlic intake compared to placebo (P<0.05). The results were also significant after adjusting for weight change, energy intake, and physical activity. No serious adverse effects were observed with the garlic intake.

Conclusion: The intake of garlic powder was accompanied by a significant improvement in the hepatic steatosis and comorbidity related to this condition among subjects with NAFLD.

Keywords: Allium sativum, Garlic, Hepatic steatosis, Nonalcoholic fatty liver disease

Association of a Dietary Inflammatory Index with Liver Fibrosis among Patients with Non-Alcoholic Fatty Liver Disease

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Background: There is compelling evidence that diet plays an important role in the progression of hepatic steatosis to fibrosis. Inflammation might be one of the pathways through which diet affects it. We examined the association between the inflammatory potential of the diet and hepatic fibrosis among patients with NAFLD.

Methods: This cross-sectional study was conducted on 170 outpatients who had a newly diagnosed NAFLD. Hepatic fibrosis was measured using the transient elastography technique (FibroScan®), and the inflammatory potential of the diet was computed using the Dietary Inflammatory Index (DII).

Results: A significant association was observed between DII scores and hepatic steatosis levels (Spearman correlation coefficient: 0.215; P-value: 0.005). BMI increased across the tertiles (T) of DII scores (T1: 30.95 ±4.18; T3: 30.95 ±4.18 Kg/m^2; P-trend: >0.001). When we adjusted for energy intake, age, sex, BMI, physical activity, smoking, education, and hepatic steatosis status, the odds ratio of hepatic fibrosis significantly increased across the DII tertiles (P-trend: >0.001). Patients in the highest DII tertile had higher odds of hepatic fibrosis than those in the lowest DII tertile (Odds Ratio: 5.89; 95% CI: 2.31 – 15.04; P-value: <0.001).

Conclusion: Our results provide evidence of a positive association between the inflammatory potential of the diet and the odds of hepatic fibrosis among patients with NAFLD. Therefore, reducing inflammation through diet can be one of the therapeutic strategies to prevent the progression of hepatic steatosis to fibrosis in patients with NAFLD.

Keywords: Nonalcoholic fatty liver disease, Fibrosis, Dietary Inflammatory Index, Liver, Body mass index, Transient Elastography

Effect of 8-week Probiotic supplementation on clinical outcomes, quality of life and depression indicators among patients with plaque psoriasis: A randomized double-blind clinical trial

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Background: Psoriasis is a systemic inflammatory disease with relevant comorbidity burden. that compromise directly and/or indirectly also patients psychology. Psoriasis inflammation also affects gut and its microbiome further enhancing the gastrointestinal comorbidities and dysbiosis; in this scenario diet and fasting may play a pivotal role to re-condition the patogical modification of the gut. Interestingly, the main ideas to contrast inflammatory dysbiosis in psoriatic patients are anti-inflammatory drugs and diet, but no direct interventions, such as probiotics. Our aim in this study was to evaluate this strategy in psoriasis patients.

Methods: In this double-blind clinical trial, fifty patients with plaque psoriasis were randomly allocated to an intervention group (n=25) or control group(n=25). The intervention group received probiotic capsules (with Lactobacillus acidophilus, Bifidobacterium bifidum, Bifidobacterium lactis , Bifidobacterium langum) and the control consumed maltodextrin capsules for 8 weeks. Moreover, the Dermatology

Life Quality Index (DLQI) and Beck's questionnaire (BDI) were used to assess the quality of life and depression, respectively. The malondialdehyde (MDA), high-sensitivity C-reactive protein (hs-CRP), Interleukin 6 (IL-6), total antioxidant capacity (TAC), as well as Psoriasis Area and Severity Index (PASI) and Psoriasis Symptom Scale (PSS) were analyzed before and eight weeks after intervention. Within-group comparisons (end-point vs. baseline) was undertaken by paired samples t-test and to adjust for potential confounders, we provide analysis of covariance (ANCOVA).

Results: The analysis showed that the consumption of probiotic supplement improved BDI and DLQI scores ($p<0.05$). The PASI and PSS scores was reduced significantly in the probiotic group 8 weeks after intervention in comparison to the placebo group. In addition, the intervention group have shown increase in TAC levels and decrease in hs-CRP levels, IL-6 levels and MDA levels compared to the placebo group ($p<0.05$).

Conclusions: It seems that oral administration of probiotic supplement can improves quality of life and inflammatory biomarkers in psoriatic patients. Therefore, it may be effective in reducing the complications of psoriasis.

Are fibroblast growth factor 19 levels associated with metabolic factors in type 2 diabetes patients? A case-control study

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Background: FGF-19 is an influential factor in diabetes that has attracted researchers' attention during the past decades. FGF-19 is a type of gut-derived postprandial hormone that plays a crucial role in coordinating metabolic homeostasis. In this study, the effects of FGF-19 on metabolic risk factors of type 2 diabetic patients were investigated.

Materials and methods: In the present case-control study 80 newly diagnosed diabetic patients and 80 non-diabetic individuals were allocated in two subgroups based on body mass index (BMI): obese people (BMI≥30) and participants with normal weight (25>BMI≥18.5). Furthermore, stratified analysis by gender was also performed. All participants were evaluated for metabolic risk factors . One-way ANOVA and Chi-square tests were used for comparing anthropometric and biochemical variables between groups. In each group, the relationship between FGF-19 and the measured items was analysed using a partial correlation test.

Results: Mean serum FGF-19 concentration was 250.4 ± 80.8 pg/ml in the diabetic group and 245.5±74.1 pg/ml in the non-diabetic group. Serum FGF-19 correlated with BMI, low-density lipoprotein (LDL), total cholesterol (TC) ($p<0.01$), and LDL / high-density lipoprotein (HDL) ratio only in the non-diabetic group with normal weight. According to the gender-based classification of individuals, partial correlation analysis demonstrated a significant inverse association between serum FGF-19 and some metabolic risk factors (BMI, weight (WT), waist circumference (WC), and hip circumference (HC) ($p<0.05$)) in diabetic men . Furthermore, FGF-19 in non-diabetic women had a significant negative association with TC, LDL, and LDL/ HDL ratio ($p<0.05$).

Conclusions: The present results suggested an association between FGF-19 and WT, BMI, WC , HC in diabetic males. More studies are needed to warrant these results.

The association between nutritional intake and clinical factors in adult trauma patients: results of prospective observational study

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Background: After severe trauma, nutritional needs often escalate. Malnutrition and side effects have been observed in severely injured trauma patients. The purpose of this study was to quantify actual calorie and protein intake, and the extent to which these clinical factors could affect appropriate intake.

Materials and Methods: An observational study conducted in April 2017 and December 2018 at the Intensive Care Unit (ICU) of Tabriz University of medical science. A total of 85 adult trauma patients who stayed in an intensive care unit receiving enteral nutrition (EN) for 7 days were included in this study. The data on estimated and actual energy and protein intake, disease severity (i.e.,Acute Physiology and Chronic Health Evaluation II (APACHE II), Glasgow Coma Scale

(GCS), and nutritional status markers (i.e.,serum albumin level and body mass index)) were recorded.
Results: In this study, sixty-six patients (77%) were underfed in terms of energy and 19 patients (23%) had adequate energy intake. Logistic regression showed that only GCS possibly predict energy status. For every one-unit additional decrease in GCS scores, the odds of being underfed in terms of energy were increased by 1.32 times, after controlling for other factors (95% CI, 1.07 to 1.75, *P*-value = 0.044). No association was observed between nutritional status and clinical outcomes.
Conclusions: The definite nutritional intake did not coverage the calculated requirements during ICU stay. The current study proposed that there was an inversely proportional relationship between some clinically important factors (APACHE II score, intubation time) and mean energy intake. Nutritional support was not associated with any complications.

The prevalence of overweight and obesity and its related factors among people aged 15 to 64 years

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Introduction: One of the health problems in the world is to increase the prevalence of overweight and obesity. This study aimed to determine the prevalence of overweight/obesity and its related factors in Gonabad and Bajestan city.
Methods: This cross-sectional study was performed with the participation of 1048 people aged 15 to 64 years. Collecting information was done using a checklist. Data were analyzed by SPSS software version 16 software and data were analyzed using Chi-square, independent sample t-test, One-way ANOVA at a significant level less than 0.05.
Results: Based on the results, the overall prevalence of overweight/obesity was 43.8%. In women, 16.09% (n = 89) were obese and 32.37% (n = 179) had overweight. In men, 8.42% (n = 40) were obese and 26.73% (n = 127) had overweight. There was a significant relationship between overweight/obesity with sex, marital status, age, and occupation (P<0.05).
Conclusions: The results of this study indicate that the prevalence of overweight/obesity is high in the population of 15 to 64 years and it is essential to design and implement appropriate interventional programs to increase nutritional literacy as well as increased physical activity.
Keywords: Obesity, Overweight, Prevalence

Perceived Challenges of the national iron supplementation in Iranian high school girl students from the perspective of stakeholders: a content analysis qualitative

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Introduction: The main cause of anemia in the body is iron deficiency. Iron supplementation is one of the effective methods for reducing iron deficiency and iron-deficiency anemia in women. Accordingly, the present study aimed to determine the challenges of national iron supplementation in female students from the perspective of stakeholders.
Methods: This is a qualitative study of content analysis that was conducted in Gonabad city in 2017. Data were analyzed by semi-deep interviews and focus group discussion method. Participants in the present study included high school girl students, parents, school principals, and school health educators. The sampling in the present study was targeted and collected data continued until data saturation. Data management was done with NVivo software, version 11, but data analysis and interpretation were done manually. Also, data were analyzed using the five steps of Graneheim and Lundman.

Results: Based on the stakeholder's perspectives, 12 themes of perceived executive or management benefits, perceived individual benefits, physical disadvantages, tablets disadvantages, disadvantages of the program, disadvantages of programming, barriers of pill consumption, educational and information barriers, management and administrative barriers, reform the shape of pills, individual perception modification, and modifying the executive program were effective in the national iron supplementation.
Conclusions: Based on the results for implementation a more effective Iron supplement program, it is necessary to design and implement appropriate interventions at individual and interpersonal levels. Also, at the level of inter-organizational and intra-organizational, it is necessary to increase coordination and cooperation.
Keywords: Iron supplement, Qualitative study, adolescents

Mycotoxin contaminated foods that influence Firmicutes/Bacteroidetes Ratio in the gut

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The gut microbiota in a haelthy human is mostly composed by two dominant bacterial phyla, Firmicutes and Bacteroidetes.These bacteria represent more than 90% of the total gut microbial community. Other subdominant phyla are Actinobacteria, Proteobacteria and Verrucomicrobia.
Many studies have shown that gut microbiota dysbiosis play role in numerous non-communicable diseases. This composition might be exposed to various stress factors associated with modern lifestyles including, foods that are contaminated by microbial and chemical agents. Chlorinated water , food additives , heavy metals, pesticides, antibiotics, organic pollutants, and mycotoxins are among the important ones. These factors could cause dysbiosis, leading to deleterious effects on the host health. Mycotoxins are secondary metabolites produced by fungi. They have the ability to contaminate many materials in very different conditions. Interactions between intestinal microbiota and mycotoxins include the effects of microbiota on mycotoxins and the effects of mycotoxins on microbiota. Hydrolysis of mycotoxins into toxic compounds, influence the health benefits of the gut microbiota and this effect can vary strongly depending on the mycotoxin and the microbe concerned. to upon exposure to mycotoxin changes of gut microbiota due to the antimicrobial properties of mycotoxins on the gut epithelium and immune cells can be seen. Moreover, disruption of the gut barrier function, bacterial translocation, modulation of the toxicity of toxic compounds, such as bacterial toxins have been reported. In conclusion, identification of this chemical agents in food might be considered to adopt preventive measures to reduce dysbiosis caused by food or consumption habits.
Keywords: Bacteroidetes, Dysbiosis, Firmicutes, Microbiota, Mycotoxin

From Possible Mechanism to Controlling Sarcopenia in COVID-19 (SARS-CoV-2) patients: an important underestimated danger of during- and post-hospitalization

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Despite still a suitable effective treatment method for COVID-19 is lacking, the destructive effect of most diseases like sarcopenia, which can sever the patients' clinical condition during hospitalization, are untreated. The main concern about sarcopenia is that if it does not lead to severe conditions during hospitalization, it can lead to severe disabilities at higher ages. The close mechanism of sarcopenia and COVID-19 outcomes like the same inflammation, hormone change, hospitalization, and malnutrition pathways put these patients at a higher risk of sarcopenia than other diseases. Therefore, sarcopenia, nutritional, and depression monitoring, nutrition therapy using oral and enteral nutrition, providing daily in-Bed activities, and psychological interventions should be considered as the first line of hospital

interventions as well as medical and hormone therapy in COVID-19 patients. To control sarcopenia, providing at least 30 kcal energy and 1.2-grams protein per kilogram body weight during hospitalization for all patients is suggested. However, sarcopenia risk factors are not limited to hospitals, and because of these patients exceptional condition and sarcopenia metabolism, sarcopenia can continue developing long after discharge of COVID-19 patients. Malnutrition, depression, and low physical activities are the main factors that could develop sarcopenia in COVID-19 patients after discharge. To control sarcopenia after the discharge, interventions, and monitoring must be continued until ensuring the risk will be lifted with special concentrate on nutritional and physical activity interventions.

Keywords: Sarcopenia, COVID-19, SARS-CoV-2, Mechanism, Nutrition

Depression in Iranian healthy retirement age population: from prevalence to its relationship with the social-economical state, lifestyle and dietary nutrients intake

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Objective: Elderly population that depression is widespread in this population is on the rise. The lack of data about the prevalence of depression in this population in Mashhad and the impact of risk factors to control this syndrome in this population made us conduct this study.

Methods: Beck Depression Inventory-13 (BDI-13) was used to determine depression in this population-based cross-sectional study. Social-economic factors, martial state, income, education, and working status were gathered. Physical activity level and lifestyle quality were assessed using International Physical Activity Questionnaire and Health Survey Questionnaire 36-Item Short Form (SF-36), respectively. The nutrients intake was recorded using analyzing adjusted 1-day recall based on the United States Department of Agriculture (USDA) food composite database.

Result: 31.9% of the 766 individuals suffered from mild to severe depression. Age (OR=1.027), males (OR=1.762), inactive lifestyle, not working (OR=2.589), having unsuccessful marital status (OR=3.478), smoking (OR=4.705), living alone, higher educational level, lower economic level, unhealthy diet, and low quality of life (OR=0.967) were significantly (P.value<0.05) associated with the depression. The established relation of nutrients with depression in this study suggests a revision of depressive dietary recommendations with consideration of food processing.

Conclusion: Having an active, healthy lifestyle, mental activities, and diet with the presence of family could lower the risk of depression in the aging population.

Keywords: depression, lifestyle, nutrition, prevalence, Iran, aging

The best setting for nutritional telemedicine using applications: possible method to lower the risk of malnutrition and improve the Cancer patients' clinical outcomes

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Introduction: cancer is a systemic disease that results in approximately 18 million new cases and 18.4% of deaths each year. Malnutrition is one of the most critical outcomes of cancer that could lead to the severity of the disease and higher mortality risk. During the last few years, telemedicine proved itself as a potential method to improve the quality of care even in cancer, but no powered study has been conducted to evaluate the effect of nutritional telemedicine using apps on outcomes of cancer that made us propose settings of a proper app for this purpose.
Method: A qualitative literature of the papers was used. The nutritional intervention methods and some nutritional software were reviewed thoroughly, and the best settings for designing a proper nutritional intervention app were proposed.

Result: Telemedicine has shown the capability to be a reliable method, especially in rural patients. However, it is still in an exploratory phase. For designing a successful nutritional telemedicine program, some points needed to be considered, including the possibility to have self-monitoring, screening of patients by the specialist, and providing private consultation in addition to overall educational media through a communication route like a weblog. In addition, the app security and being user-friendly are the other requirements.
Conclusion: Unfortunately, no powered study still considers the app telemedicine for nutritional interventions in cancer patients that prevent us from assessing its effect in these patients. However, a few factors should be considered in choosing the best app to increase efficiency.
Keywords: Cancer, nutritional consultation, software, self-monitoring, malnutrition

Energy Expenditure and Weight loss After Gastric Bypass Surgery, a Longitudinal Study

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Introduction: RYGB is the validated intervention for sustained weight loss. Little is known about long-term metabolic adaptation and energy expenditure after RYGB. The aim of this study was to investigate resting energy expenditure (REE) in patients who underwent RYGB.
Methods: In this longitudinal study, REE was measured via indirect calorimetry, followed by a standardized protocol. The REE value was adjusted per kilogram of weight (REE/kg). Body composition and biochemical parameters were collected. All measurements were performed before and 30 months after the procedure.
Results: 20 patients with a mean age of 40.3 years were included. RMR/kg increased significantly from baseline by + 5 kcal/kg.day in 30 months follow-up. A significant relation between fat-free mass and RMR for the postoperative period was seen (p-value <0.001). Excess weight loss (%EWL), weight change, and fat mass change had significant correlations with post-RMR/kg (p-value < 0.001, 0.06, and 0.01, respectively). The FFM changes were negatively associated with post-RMR/kg (p-value < 0.001). The pattern of change in RMR/kg was strongly correlated with weight loss.
Conclusion: The increase in RMR/kg after RYGB is related to sufficient weight loss after surgery.
Keywords: Gastric Bypass Surgery; Bariatric Surgery; Energy expenditure; Obesity.

eHealth interventions targeting nutrition behaviours: Review of Systematic Reviews

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Introduction: There is a considerable body of evidence for electronic health (eHealth) interventions for nutrition behavior. This comprehensive review of systematic reviews aimed to evaluate the current level of evidence in this growing field.
Materials and Method: Three electronic databases (PubMed, Scopus, and web of science) were searched for systematic reviews published until July 27, 2021. Included articles must have evaluated eHealth behavioral interventions with the primary aim of nutrition.
Result: The searches resulted in a total of 322 articles. Of these, eight systematic reviews (118 studies; more than 17,561 patients) were included. The studies used various eHealth interventions, including mobile-based (n=62), web-based (n=23), telephone-based (n=22), and interventions using social media (n=11). A

beneficial impact of eHealth approaches in dietary behavior change was reported in healthy eating, chronic disease management, malnutrition, and self-efficacy; however, some studies did not show strong evidence in support of the effectiveness of mobile apps in improving health behaviors or outcomes between intervention and control groups.
Conclusion: Although this review identified an increasing volume of systematic reviews evaluating eHealth interventions, the evidence for efficacy is still controversial. In general, the methodological quality of the studies included in the systematic reviews is low. For some fields, it highlights several evidence gaps (e.g., evaluation of adverse outcomes, quality, engagement, or cost-effectiveness), guiding future research efforts in this area.
Keywords: eHealth, Telemedicine, Nutrition, Diet

Energy Balance could be related to the severity and risk of depression in the retiring age population

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Introduction: Depression is a common mental disorder in aging people. Many studies already work on the impact of nutrition and diet on depression, but the effect of energy on this disease is still unclear. In this study, we aimed to assess the impact of energy balance on the severity and risk of depression as one of the first studies in this subject.
Method: Depression was assessed using Beck Depression Inventory-13 (BDI-13). Dietary intake was evaluated using dietary recall. Basal Metabolic Rate (BMR) calculated based on Bio-Electrical Impedance Analysis (BIA) report and the Mifflin and St-Jeor formula. Total Energy Expenditure calculated as BMR×MET and the energy balance calculated according to BMR (BEB) and TEE (TEB).
Result: A total of 765 retiring age population included. The difference between depression groups for total energy intake, BMR BIA, TEE BIA, BEB BIA, TEB BIA, and TEB Mifflin, was significant (p.value<0.05). The BDI-13 was positivity associated with energy intake (CR=0.126, P.value<0.001), BEB Mifflin (CR=0.105, P.value=0.004), BEB BIA (CR=0.161, P.value<0.001), TEB Mifflin (CR=0.148, P.value <0.001) and TEB BIA (CR=0.231, P.value<0.001). After stratifying the gender, in males, only TEB BIA was significant, while in females, energy intake, BMR BIA, TEE BIA, BEB BIA, BEB Mifflin, TEBBIA, and TEB Mifflin were significantly associated with depression (p.value<0.05).
Conclusion: A positive energy balance is associated with higher depression risk based on BMR and TEE using BIA and Mifflin formula. Furthermore, females could be facing more energy changes during the depression.
Keywords: depression, energy, TEE, BMR, aging

The Effect of Nutritional Supplements and Dietary Recommendations on Weight and Height among children and adolescents with Epidermolysis Bullosa

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Introduction: Epidermolysis Bullosa (EB) is a genetic disorder that affects mainly the skin, however, all others systems are influenced. The nutritional care of children and adolescents with EB is a key treatment strategy. The aim of present study was to assess the effect of nutritional supplements and dietary recommendations on weight and height during 4 time points (baseline, first, second and third month of study) among EB patients.
Methods: Present study was conducted among 69 children and adolescents who were referred to subspecialized and specialized EB clinic, Akbar Children's Hospital, Mashhad University of Medical Sciences, Mashhad, Iran. Weight (in kg) and Height (cm), was measured to the nearest 0.1 kg and 0.5 cm based on standardized protocols. Repeated measurements of ANOVA was used to evaluate changes in weight and height during 4 time points.
Results: In present study the mean ± SD age of participants was 8.85±7.0 years old. The mean value of weigh at the baseline, first, second and

third month of study was 18.20, 19.50, 19.99, and 20.26 kg, respectively. Moreover, the mean of height at the baseline, first, second and third month of study was 108.4, 113.9, 115.5, and 116.9 cm, respectively. The trend of weight and height changes from baseline to the fourth month of the study were significantly increased based on repeated measurements of ANOVA (all of *P-value* were less than 0.001).

Conclusion: Our result demonstrated that nutritional supplements and dietary recommendations have positive effect on weight and height trend among EB patients.

Keywords: Epidermolysis Bullosa (EB), Weight, Height, Time Trend, Nutritional Supplements, Dietary Recommendations

Effect of Roux-en-Y gastric bypass (RYGB) on Cardiometabolic Risk Factors in Patients with Severe Obesity: a longitudinal Study

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Introduction: Severe obesity is one of the significant risk factors for cardiovascular disease. One of the effective long-term interventions for severe obesity is Roux-en-Y gastric bypass (RYGB). This study aims to study the impact of RYGB in severely obese patients on the cardiometabolic risk factors two years post-surgery.

Materials and Methods: Data were collected on demographics, anthropometrical parameters, lipid profile, and blood pressure before and after surgery.

Results: Fifty-four patients (mean age 40.3 years) were included. The patients experienced a significant reduction in the mean body mass index (BMI) from 45.18±6.19 to 29.55±4.48 kg/m^2 (P<0.001). There was a significant difference between preoperative and follow-up values for 10-year and lifetime ASCVD risk (p=0.021 and p=0.002, respectively), waist to hip ratio (p=0.015), MetS (p<0.001). All Cardiometabolic risk factors improve after two years post-surgery, with a significant reduction of the 10-year cardiovascular risk.

Conclusion: RYGB is resulting in cardiometabolic comorbidities improvement in severely obese patients. According to this study, improvement in metabolic profiles presented lower cardiovascular risk after surgery.

Keywords: Gastric Bypass Surgery; Bariatric Surgery; Cardiovascular disease; Risk factor

Energy Expenditure After Gastric Bypass Surgery: A Follow-up Study

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Introduction: One of the main determinants of weight loss is resting energy expenditure. There is limited knowledge regarding how gastric bypass surgery functions in energy expenditure. This study aims to study the impact of weight loss at two years follow-up after gastric bypass surgery on Resting metabolic rate (RMR).

Methods: All participants underwent the same demographics, body composition, and energy expenditure measurements via indirect calorimetry before and six months (short-term follow-up) and two years (mid-term) after surgery.

Results: Fifty-four patients (45 women) with a mean age of 40.3 years were included. A significant reduction was observed in weight, Fat percent, and FFM (p-value < 0.05). RMR reduced significantly from baseline by − 662 ± 436

kcal/day in short-term follow-up and − 256 ± 354 kcal/day in mid-term follow-up compared to baseline (p<0.001). The short-term decreases in RMR postoperatively reflected the lower body mass. But the increase in RMR after two years is a metabolic effect of gastric bypass surgery.
Conclusion: We detected a meaningful difference in RMR before and after surgery. Gastric bypass surgery had benefits on increased resting energy expenditure in the long term.
Keywords: Gastric Bypass Surgery; Bariatric Surgery; Energy expenditure; Obesity.

Role of high Nitric Oxide foods as headache triggers: Review of Persian and modern medicine's point of view

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Headache is the most common disorder of the nervous system. According to the World Health Organization, almost half of the adult population had headache attack at least once in the past year. In traditional Persian medicine, one of the most important causes of headache is "*Reeh*". "*Reeh*" refers to gaseous substances which are produced in the body, especially in the gastrointestinal tract, its useful types are involved in facilitating some physiologic processes such as natural defecation and erection, and its harmful types can involve in the pathogenesis of some disorders including headaches. Accordingly, some foods such as legumes, garlic, onion, leek and radish are considered as triggers of headache through producing *Reeh*. All of these foods are high in nitrate, which is converted to Nitric Oxide (NO) in the body. In recent years, the role of NO as a migraine stimulant has been considered in several studies and administration of its precursors (such as glycerin trinitrate) or NO activators (such as histamine) can lead to migraine-like headaches. On the other hand, reducing NO production by inhibiting NO Synthase enzyme and controlling its effective pathways such as NO-cGMP pathway is considered as a therapeutic potential in migraine headaches. Induction of vasodilation, activation of the trigeminovascular system, and influence on the supraspinal pathways are possible mechanisms for stimulating headache by NO. It seems that basic concepts in Persian medicine can pave the way for novel ideas in improving the lifestyle of patients with headaches.
Keywords: headache, migraine, Persian medicine, nitric oxide, nitrate

Association between Low Carbohydrate Diet with anthropometric indexes and Obesity Degree among overweight and obese women: A cross-sectional study

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Background: The important association between Low-Carbohydrate Diets (LCD), lipid and glycemic control, and weight loss has been well-depicted in previous researches. However, the relationship between LCD, lipid and glycemic profiles, and new anthropometric markers such as the Obesity Degree (OD) has not been established. Therefore, we aimed to investigate the relationship between LCD, lipid and glycemic profiles, with the anthropometric measurements and OD in overweight and obese women.
Methods: A cohort of 290 overweight and obese women (body mass index (BMI)>25 $kg.m^{-2}$), aged 18-48 years old, was included in this cross-sectional study. The amount of dietary intake and LCD score were established using a valid and reliable Questionnaire of Food Frequency (FFQ) containing 147 items. Body composition, anthropometrics and physical activity were also assessed.
Results: It was observed that higher adherence of LCD was significantly associated with lower OD (p = 0.041). In a linear logistic regression following of LCD score and controlled with potential confounders, a decrease of -0.77 kg, -1.043%, and -1.98 cm were observed in visceral fat (β = -0.77, 95%CI = -1.51, -0.02, p = 0.049), body fat percentage (β = -1.043, 95%CI = -2.31, -

0.22, p = 0.020), and waist circumstance (β = -1.98, 95%CI = -4.01, 0.04, p = 0.044), respectively. In addition, participants which indicated higher adherence to LCD, had a higher high-density lipoprotein (HDL) (p = 0.041) concentrations.
Conclusion: A high adherence to LCD can reduce OD, body fat (BF), visceral fat, waist circumference, and increase HDL in overweight and obese women.
Key word: body mass index, obesity degree, overweight, obesity

The association between number of meal and poor quality of life in adolescent girls

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INTRODUCTION: There is limited evidence regarding the relationship between dietary habits and quality of life. This study aimed to explore the association between the number of meals per day and quality of life.
METHODS: Data were obtained from 733 adolescent girls aged between 12 and 18 years old from different regions of Khorasan Razavi in northeastern of Iran, using a random cluster sampling method. Dietary data were gathered using a pre-tested questionnaire and the quality of life was assessed by SF-12v2 questionnaire. To investigate the association between the number of meals in a day and quality of life, we used logistic regression analysis in crude and adjusted models.
RESULTS: The subjects who consumed three meals per day had lower odds of poor quality of life compared to subjects consumed one meal per day (OR 0.38; 95% CI 0.18_0.80, P<0.01). This association was remained significant after adjusted for confounding factors including age, energy intake, physical activity, and percentile BMI (OR 0.31; 95% CI 0.13_0.73, P< 0.01). Also, girls who consumed three meals in a day had higher intake of fat, polyunsaturated fatty acid, and monounsaturated fatty acid than girls who had consumed 1 meal in a day.
CONCLUSIONS: Consuming three meals per day were associated with decreased odds of poor quality of life. Prospective studies are needed to confirm these findings.
KEYWORDS: quality of life , adolescent , meal , dietary health

The association between consumption of frying food in a week and poor quality of life in adolescent girls

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BACKGROUNDS: There is limited evidence regarding the relationship between dietary habits and quality of life. This study aimed to explore the association between consumption of frying food in a week and quality of life.
METHODS: A total of 733 adolescent girls aged between 12 and 18 years old were recruited from Khorasan Razavi and Sabzevar in Iran, using a random cluster sampling method. A pre-tested questionnaire was used for the assessment of consumption of frying food. To investigate the health-related quality of life, the SF12v2 questionnaire was used. This questionnaire is a short form of the SF-36 questionnaire and an improved version of SF-12v1. Logistic regression analysis was used in crude and adjusted models to investigate the association between consumption of frying food and quality of life.
RESULTS: The subjects who consume frying food every day of the week had higher odds of poor quality of life compared to subjects who consumed almost never frying food in a week.(OR:3.22, CI:1.19_8.70, P-value:0.02)
The association has remained significant after adjustment for confounding factors including age, energy intake, physical activity and percentile BMI(OR:2.53, CI:0.77-8.26, P-value:0.12)
Also; girls who consumed frying food every day of the week had more energy intake; also in these

cases the number of macronutrients was higher than girls who did not consume frying food in a week. But for vitamin A and B12 there was no significant difference.
CONCLUSION: There is a positive association between consumption of frying food and poor quality of life. Further studies, particularly longitudinal studies, are required to confirm these findings.
KEYWORDS: frying food, quality of life, adolescent girls, dietary habit

POTENTIAL THERAPEUTIC EFFECTS OF CURCUMIN IN COVID-19: A REVIEW

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INTRODUCTION: Coronavirus disease 2019 (COVID-19) has been causing serious complications including acute respiratory distress syndrome (ARDS), pulmonary fibrosis, and multi-organ failure as an ongoing issue all over the world. Several studies have shown that curcumin, a fat-soluble active constituent of Curcuma longa has anti-inflammatory, antioxidant, antiviral, and pulmono-protective effects and is considered as a promising treatment agent for this disease. However, the findings are conflicting and appear inconsistent.
METHODS: A search was conducted in MEDLINE (PubMed), Cochrane Library, and ClinicalTrials.gov databases up to November 2021. Randomized clinical trials (RCTs) reporting gene expression and secretion level of inflammatory cytokines, the lymphocyte count, and symptomatic recovery were included. Finally, from 43 related studies, we chose five clinical trials which met our inclusion criteria.
RESULTS: All five studies showed faster recovery, fewer deaths, and better clinical outcomes. Two of them demonstrated a decrease in interleukin 6 (IL-6), IL-1B, IL-17, interferon-gamma (IFN-γ), the c-reactive protein (CRP) level, and thromboxane (TBX21) and forkhead box P3 (FOXP3) gene expression and also an increase in lymphocyte count. One of them showed an increase in IL-4 and transforming growth factor-beta (TGF-β) secretion and SaO2. Moreover, mRNA expression and secretion of IL-18 and tumor necrosis factor-alfa (TNFα) didn't change significantly.
CONCLUSION: Our results suggest that oral nano-formulation of curcumin can play a multifaceted role in the treatment of COVID-19. Further studies with a larger sample size are recommended.
KEYWORDS: COVID-19, Curcumin, Nano-curcumin

Dietary patterns interact with ADIPOQ gene polymorphism rs1501299 on the cardiovascular diseases risk factors in adult living in Yazd, Iran: A cross-sectional study

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Introduction: Genome wide association studies (GWAS) showed that risk alleles of *ADIPOQ* Gene are related to cardiovascular diseases (CVDs) risk factors. No study has been performed to evaluate the interaction between these polymorphisms and dietary patterns (DP) on CVDs Risk factors.
Materials and methods: This cross-sectional study conducted on 383 adults (20 to 70 years old) living in Yazd, Iran. Individuals selected from the participants of the Yazd Health Study (YaHS) which is a prospective cohort conducted since 2014. In the present study, rotated principle component analysis (PCA) was used to identify the DPs. The polymerase chain reaction-restricted fragment length polymorphism (PCR-RFLP) method was used to identify rs1501299 polymorphism. General linear model (GLM) and

regression models have been used to investigate the interactions between the rs151299 and DPs.
Results: Three DPs were extracted: Healthy DP (HDP), western DP (WDP) and traditional DP (TDP). TT genotype compared to GG had greater odds for hyperglycemia after controlling confounders (OR=2.37; 95%CI: 1.02–5.51, P= 0.045). Significant interactions were observed between WDP and rs1501299 on FBG (*P* = 0.035*)*, diastolic blood pressure (*P* = 0.049), odds of LDL > 130 (*P*= 0.050) and central obesity (*P= 0.040).* Following this DP increased all these items in TT genotype whereas had no significant effect on GG and GT genotypes.
Conclusion: The findings indicate that there is significant association between TT genotype of rs1501299 and hyperglycemia and significant interactions between alleles of this polymorphism and major DPs on high LDL, central obesity, FBG and diastolic blood pressure.
Keywords: Adiponectin, ADIPOQ, Cardiovascular diseases, Diet, Gene–environment interaction, Nutrigenomics

Investigating the efficacy of non-invasive brain stimulation on post-stroke dysphagia: A systematic review

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Objects: Post-Stroke Dysphagia (PSD) is a common complication (approximately 37% to 78%) following stroke and more than 50% of patients have persistent dysphagia at hospital discharge. A promising therapeutic for PDS is the application of noninvasive brain stimulation (NIBS) like repetitive transcranial magnetic stimulation (rTMS) and transcranial direct current stimulation (tDCS). The NIBS approaches can promote recovery of PSD by modifying cortical excitability in neural plasticity processing. The purpose of this systematic review was to investigate the efficacy of NIBS in the neurorehabilitation of PSD.
Materials and Methods: The search engines like Pubmed, Web of Science, Scopus, Cochrane, Science Direct, Google Scholar, Springer and Proquest were searched. The reviewed of articles included 135 relevant articles and finally, 53 original studies based on the inclusion criteria and limited to the year 2000 to October 2021 were found.
Results: NIBS is an easy and safe operation, painlessness and accessible method of neuromodulation without any considerable side effects. Besides all of the advantages, the rate of efficacy remains unknown. Multifactorial such as site, density and intensity of stimulation, the length of the intervention period, select one hemisphere or both of them and demographic characterize might affect the efficacy.
Conclusions: NIBS as an augmentative treatment is promising without any adverse effects for PSD. However, cautious about the factors that impacted the results should be taken. The well-designed studies with larger sample sizes, longer follow-up periods as well as investigating the neurophysiological and neurobiological mechanisms under the effects of NIBS are highly recommended.
Keywords: Dysphagia, Neurostimulation, Transcranial magnetic stimulation, Transcranial direct current stimulation stroke

The swallowing disorder in a patient with Leigh syndrome: A case report

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Objective: Leigh syndrome (LS) is a rare neurodegenerative disorder which is rooted in the mitochondrial dysfunction. It is characterized by symmetrical lesions in the basal ganglia, thalamus, and brainstem. Due to the lack of accurate evidence of the mechanisms underlying the neuronal pathology of LS, this syndrome has remained incurable.
According to deterioration of motor functions, patients indicated difficulties in swallowing. We report a swallowing disability of a 5-year-old boy with LS.
Case presentation: A patient with autosomal recessive disorder presented with developed weakness in the whole body with hypotonia. He had poor mental status and cognitive impairment, poor eye contact, abnormal eye movement and swallowing disorder. On genetic assessment, we found a homozygous pathogenic that revealed mitochondrial complex I deficiency, nuclear type 28 (618249). Brain Magnetic Resonance Imaging (MRI) shows bilateral hyperintensity in the midbrain and basal ganglia.
Due to progressive decline in oral motor functions which led to swallowing disorder and

malnutrition, the swallowing was assessed using Oral Motor Assessment Scale (OMAS). The results of the OMAS test indicated grade 7 for him.

Conclusions: The findings showed the swallowing disorder in form of weaknesses in closing lips, controlling liquid and solid foods during deglutition, sucking from a straw and mastication. Due to the lack of definite treatment for this disease, supportive interventions for swallowing disorder should be considered in LS patients.

Future studies are needed to determine the pathophysiologic mechanisms affected during disease, and approaches for treating LS patients.

Keywords: Mitochondrial disease; Leigh syndrome; Motor disability, swallowing disorder

POSSIBLE ROLE OF QUERCETIN IN COVID-19 TREATMENT

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Introduction : CoVID-19 is an infectious disease caused by the SARS-CoV-2 virus. The first known case was identified in Wuhan, China, in December 2019 and quickly turned into a global pandemic. Most patients experience mild to moderate symptoms. However, some medications include Dexamethasone, remdesivir and Tocilizumab are prescribed for hospitalized and high-risk patients to reduce disease severity. Besides the clinical efficacy of these drugs, there have been some adverse effects reported in experimental studies. For this reason, adjuvant therapy such as consumption of antioxidant-rich foods, food supplementation and following a healthy diet can be used together with medicines. Quercetin is one of the most important compounds in the group of flavonoids that has wide range of antioxidant, anti-inflammatory and immunomodulatory effects. In this review we aimed to discuss potential effects of quercetin against covid-19.

Methods: The present review was done using PubMed (quercetin {MeSH Term s}) AND (covid-19 {MeSH Term s}) Cochrane and Google scholar search engine (quercetin and covid-19) and 184 articles were found. After exclusion of irrelevant articles 17 articles were selected. In 3 studies positive effects has been shown in treatment group versus control group.

Results: Viral load, mortality rate, need and length of hospitalization and inflammation biomarkers reduced in treatment group.

Conclusion: Studies have demonstrated that quercetin as an anti-inflammatory and antioxidant compound can be potential treatment for sever inflammation in Covid-19. However, further studies on larger population are warranted.

Keywords: antioxidant, Covid-19, quercetin

The Mini Nutrition Assessment- Short form (MNA-SF) score is associated with sever and moderate sarcopenia even in well-nourished healthy adults

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Introduction: Sarcopenia is a skeletal muscle progressive disorder described as losing muscle mass and function, commonly because of ageing. The Mini Nutrition Assessment (MNA) is a simple, high-sensitivity instrument to measure nutritional status in the elderly. In different studies, malnutrition defined by a low MNA score was independently associated with sarcopenia. However, the current study's findings made us report the findings regarding MNA score in well-nourished healthy adults.

Method: Healthy individuals without any known disease evaluated based on the European Working Group on Sarcopenia in Older People (EWGSOP) and (EWGSOP-2) criteria using a bioelectric impedance analyzer (BIA). Mini Nutrition Assessment-Short form (MNA-SF) score of more than 12 out of 14 was the inclusion criteria of the current study.

Result: seven-hundred and sixty-six individuals with a mean MNA score of 12.8±1.4 out of fourteen evaluated. MNA score was significantly associated with sarcopenia according to EWGSOP (P-value<0.001) but was not significant referring to EWGSOP-2 (P-value=0.082). However, after compression within the EWGSOP-2 groups, MNA score was significantly lower in severe-sarcopenia (P-value<0.001) and sarcopenia (P-value<0.001) groups. Though, pre-sarcopenia was not associated with the MNA-score (P-value=0.340) according to EWGSOP-2. The most common complications were dietary

intake reduction, weight last in the last three months, having psychological problems and lower BMI (P-value<0.05). the MNA-SF score was correlated with sarcopenia severity using EWGSOP-2 (correlation= -0.071, P-value<0.05) and EWGSOP (correlation= -0.223, P-value<0.01).

Conclusion: MNA-SF was associated with the risk of having sarcopenia and severe-sarcopenia even in the well-nourished healthy population. Using this tool for sarcopenia prediction could be helpful.

Keywords: Sarcopenia, MNA, Prediction, Nourished, Healthy Adults

The association between carbonated drinks intake and insomnia

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Introduction: The use of carbonated drinks has significantly increased in the world as aggressive marketing campaigns target especially among young people. This study aimed to explore association between carbonated drinks intake and insomnia.

Method: A total of 733 adolescents girls aged between 12 and 18 years old were recruited from different regions of Khorasan Razavi in northeastern of Iran, using a random cluster sampling method. Data were collected using a valid and reliable food frequency questionnaire. We used a validated Iranian version of the insomnia severity index (ISI) questionnaire to assess sleep insomnia. To investigate the correlation between sleep insomnia and carbonated drinks, we applied logistic regression analysis in crude and adjusted models.

Result: Subject in third tertile of carbonated drinks intake had a more odds of insomnia than the subject in first tertile of carbonated drinks intake (OR=2/86, CI = 0/95, CI: 1/70 - 4/79, P < 0/ 001). These findings were remained significant after adjustment for confounding variable (OR = 2/71, CI = 0/95, CI: 1/56 - 4/75, P < 0/001).

Conclusion: There was an inverse association between intake of carbonated drinks and insomnia. However, more studies are needed to confirm these findings.

Keyword: adolescents, carbonated drinks, insomnia, sleep, girls, diet

Hypocaloric, High-protein nutrition support therapy for Obese patient in the ICU: A systematic review

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Background: As such, provision of nutrition is part of the medical care of Critically ill patients. Obesity clearly adds to the complexity of nutrition therapy in the intensive care unit.The objective of this review is to identify effective Hypocaloric, High-protein nutrition support therapy for Obese patient in the ICU.

Method: This research is a systematic review study done in 2021.The keywords hypocaloric nutrition,high-Protein Nutrition,icu,Obesity searched on Pubmed,Scopus,Embase,Medline,Web of Science without time limitation. Also,the sources of articles were examined to ensure the completion of search results.

Findings: After search and analysis, finally16 full text articles selected. One randomized controlled trial indicated a trend toward decreased insulin requirements for those given a hypocaloric, high-protein regimen compared with eucaloric, high-protein feeding. Significantly improved clinical outcomes, as evidenced by decreased length of ICU stay, decreased duration of antibiotic therapy, and a trend toward decreased ventilator days(better weaning) and hospital length of stay, were suggested in a small retrospective study comparing hypocaloric, high-protein enteral nutrition (EN) therapy to eucaloric, high-protein diets in obese critically ill trauma patients. It is noteworthy that intentional hypocaloric nutrition did not increase hospital mortality and infectious complications nor decrease VFDs.

Conclusion: Based on studies result,Hypocaloric, high-protein nutrition can preferre for the hospitalized obese patient in ICU in an effort to achieve net protein anabolism or reduce catabolism and potentially avoid overfeeding-related complications in this “at-risk” population.

Key Words: hypocaloric nutrition, high-Protein Nutrition, intasive care unit, Obesity

Effects Gastric Bypass vs. Sleeve Gastrectomy on Lipid Indices in Obese Adults: A Retrospective Cohort

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Background: Comparing the effects of bariatric surgery on lipid indices is unknown. This study was aimed to compare the effects of one anastomosis gastric bypass (OAGB) and sleeve gastrectomy (SG) on Lipid Indices in obese adults.
Methods: The retrospective cohort conducted among obese individuals (n=390) who underwent OAGB (n=146) or SG (n=244). The serum samples were collected before surgery and 6 months after surgery. The weight and height evaluated. The lipid parameters including triglyceride (TG), and high-density lipoprotein cholesterol (HDL-C) were evaluated. TG/HDL index, The TyG index (Ln [TG × FPG /2]) and TyG-BMI index (TyG index × BMI) was calculated.
Results: The TG/HDL index (3.67 ± 2.34 vs 2.35 ± 1.31, p<0.001), The TyG index (9.00 ± 0.58 vs 7.97 ± 0.39, p<0.001) and TyG-BMI index (414.67 ± 64.56 vs 264.92 ± 36.39, p<0.001) were significantly decreased at 6 months after OAGB. Also, The TG/HDL index (3.43 ± 1.86 vs 2.40 ± 1.07, p<0.001), The TyG index (8.97 ± 0.57 vs 7.94 ± 0.36, p<0.001) and TyG-BMI index (403.99 ± 57.15 vs 264.76 ± 35.83, p<0.001) were significantly decreased at 6 months after SG. The changes in TG/HDL index (p=0.10) and TyG index (p=0.39) between the two groups were not significant. Reduction in the TyG-BMI index was more in OAGB than SG (p=0.006).
Conclusion: All two bariatric surgery procedures improved levels of lipid indices. But, the effects of one anastomosis gastric bypass is higher than sleeve gastrectomy.
Keywords: Gastric bypass, Sleeve gastrectomy, TyG index, TyG-BMI index

Investigating and measuring the level of aflatoxin M1 in raw milk and pasteurized milk in Mashhad

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Background: Aflatoxins are secondary metabolites that are mostly produced by *Aspergillus flavus, A. parasiticus* and *A. numius*. They have potentially carcinogenicity and malabsorption, especially with the effect on the p53 suppressor gene and potentially hazardous to human health. The purpose of this study was to investigate the contamination and measurement of aflatoxin M1 in raw and pasteurized milk in Mashhad.
Method: In the present study, 42 samples of raw milk and 42 samples of pasteurized milk during one year. Then the samples were centrifuged, their fat was removed and skimmed milk was evaluated using competitive ELISA for aflatoxin M1. Data was analyzed using SPSS version 20 software. In order to compare the quantitative variables in the two groups, the Mann-Whitney test was used and the Kruskal-Wallis test was used to compare the multi-groups. The significance level was less than 0.05.
Results: All of the samples were positive for aflatoxin M1 infection. Of the 84 samples, 14 samples (16.7%) were more than Iranian standards. The contamination level was in the raw milk (2.19-101.7 ng/l) and in the milk pasteurized (3.02-100.8 ng/l). The average concentration of aflatoxin M1 was in raw milk (26.22 ± 3.89 ng/l) and in pasteurized milk (22.67 ± 3.89 ng/l). Also, the amount of

contamination in cold and high season was higher than in warm and low rainfall season.
Conclusion: This study showed that the level of aflatoxin M1 in high milk consumption in Mashhad is high. The rate of contamination in cold and high season is more than other seasons, which can be due to the lack of fresh forage as well as the storage of forage and the lack of proper storage conditions. However, the need for complementary studies is also recommended. Control of animal feed contamination to mildew is the best way to prevent contamination of milk and its products with aflatoxin.
Keywords: Aflatoxin M_1, Raw Milk, Pasteurized Milk, Mashhad, ELISA

The Effect of Immunomodulatory Diet (Omega-3 Fatty Acid, γ-Linolenic Acid and Antioxidants) on clinical outcomes and risk of overall mortality in critically ill patients: A Systematic Review and Meta-Analysis of Randomized Clinical Trials

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Background: Enteral immunomodulatory nutrition is suggested as an adjuvant therapy for patients admitted in intensive care units, but its effectiveness remains debated. The aim of this systematic review and meta-analysis is to examine the effect of dietary immunomodulatory formula on the clinical outcomes and risk of overall mortality in critically ill patients.
Methods: PubMed, Scopus and ISI web of Knowledge databases were searched until September 2019. Randomized Controlled Trials (RCTs) that used immunomodulatory diet containing omega-3 fatty acid, γ-linolenic acid and antioxidants in intensive care unit (ICU) were included. DerSimonian and Laird random-effect models were used to compute the weighted mean differences (WMDs), Relative Risk (RR) and 95% confidence intervals (CIs). The quality of Meta-evidences was assessed by NutriGrade.
Results: Ten RCTs including 1166 participants were included in the meta-analysis. Immunomodulatory diet containing omega-3 fatty acid, γ-linolenic acid and antioxidants led to significantly reduce the duration of ICU stays (WMD: −2.97 days; 95%CI: -5.59, -0.35), duration of mechanical ventilation (WMD = -2.20 days, 95%CI: -4.29, -0.10), SOFA (sequential organ failure assessment) and MOD (multiple organ dysfunction) score (Hedge's g: -0.42 U/L; 95% CI: -0.74, -0.11). The 28 days' overall mortality was remarkably decreased following Immunomodulatory supplement in critically ill patients (RR = 0.74, 95% CI: 0.58, 0.91) and extended the ICU- free days (WMD: 4.06 days, 95%CI: 0.02, 8.09). However, immunomodulatory formula had no significant effect on length of hospital stays, ventilator- free days and level of oxygenation.
Conclusions: Immunomodulatory diet containing omega-3 fatty acid, γ-linolenic acid and antioxidants might have beneficial effects for the patient's residing in ICU; However, further well-designed RCTs with larger sample size are recommended to confirmed its effect.
The study protocol was registered in the PROSPERO international prospective register of systematic review.
Keywords: immunomodulatory diet, critical care, intensive care unit, omega-3 fatty acid, γ-linolenic acid and antioxidants

Dietary Nutrients Intake and Body Composition are Associated with Sarcopenia in over 55 Years Old Adults

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Background: Sarcopenia is a skeletal muscle disease that leads to disability at a higher age. It defines as a decrease in muscle power, performance, and mass. Although several studies tried to understand the effect of diet patterns on sarcopenia, the effect of nutrients on sarcopenia is still unclear that we aimed to assess in this study.
Material and method: A total of 766 healthy individuals without any known disease that 53% of them had pre- to severe- sarcopenia included. The sarcopenia diagnosis was based on the European Working Group on Sarcopenia in Older People-2 (EWGSOP2) using a bioelectric impedance analyzer. Adjusted dietary recall used to record the dietary intake of individuals that analyzed based on the United States Department of Agriculture food composite database. The odds ratio (OR) of having sarcopenia with all assessed factors was analyzed.
Result: sarcopenia is associated with fat free mass (FFM) (OR=0.868, P-value<0.05), Muscle free-FFM (OR=0.749, P-value<0.05), and body fat mass (BFM) (OR=1.043, P-value<0.05). A significant (P-value <0.05) relation was found between sarcopenia and dietary intake of water (OR=0.999), energy (OR=0.999), total lipid (OR=0.981), protein (OR=0.961), carbohydrate (OR=0.994), sugars (OR=0.989), caffeine (OR=0.988), cholesterol (OR=0.994), saturated fatty acid (OR=0.909), potassium (OR=0.999), calcium (OR=0.997), phosphorus (OR=0.998), iron (OR=0.961), vitamin-B12 (OR=0.973), vitamin-D (OR=0.984), and vitamin-C (OR=0.998) with and without adjustment to the energy and food weight.
Conclusion: Sarcopenia can change the overall body composition. The higher dietary intake of nearly all nutrients, especially protein and energy, could significantly reduce the risk of sarcopenia.
Keywords: Nutrition, Micronutrients, Sarcopenia, Blood Pressure, Minerals, Vitamins

Effects of ginseng on C-reactive protein level: A systematic review and meta-analysis of clinical trials

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Introduction: The aim of this meta-analysis was to assess effects of ginseng supplementation on CRP/hs-CRP levels in clinical trial studies.
Methods: A systematic literature search was carried out for clinical trials published in ISI web of Science, Scopus, PubMed and Cochrane Library databases from the beginning to February 2018. Of 83 articles found in the first step of the systematic search, seven studies with nine arms included in this meta-analysis.
Results: Results of pooled random-effect size analysis of nine trials showed non-significant decreasing effects of ginseng supplementation on CRP level (WMD: -0.01 mg/l, 95% CI; -0.12, 0.1; P = 0.83) with significant heterogeneity shown within the studies. The subgroup analysis showed that ginseng supplementation could significantly reduce CRP level by 0.44 (95% CI: -0.65, -0.22, P < 0001, test for heterogeneity: P = 0.45, I2 = 0.0%) in patients with a baseline serum CRP level of greater than 3 mg/dl. Trial duration and dose of ginseng supplementation included no significant effects on CRP level in this meta-analysis.
Conclusion: the current meta-analysis study have shown that ginseng supplementation includes no significant decreasing effects on serum CRP/hsCRP levels except for patients with serum CRP level of greater than 3 mg/dl.
Keywords: Ginseng; CRP; inflammation; meta-analysis

Effect of Cornus mas L. fruit extract on lipid accumulation product and cardiovascular indices in patients with non-alcoholic fatty liver disease: a double-blind randomized clinical trial

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Introduction: Non-alcoholic fatty liver disease (NAFLD) is associated with high risk of cardiovascular diseases. The experimental studies have suggested that Cornus mas L. (cornelian cherry) fruit can improve cardiovascular risk factors such as obesity, insulin resistance and dyslipidemia. We designed a study to investigate the effect of cornelian cherry fruit extract on cardiovascular outcomes in patients with NAFLD.
Methods: We conducted a double-blind, randomized controlled trial. Fifty patients with NAFLD were randomly assigned into the treatment and the control groups. The treatment group received 20 cc/d cornelian cherry fruit extract as liquid form and the control group received 20 cc/d placebo for 12 weeks. The primary outcomes included lipid accumulation product (LAP), atherogenic index of plasma (AIP), Castelli risk index I (CRI-I), CRI-II and atherogenic coefficient (AC).
Results: At the baseline, there was no significant difference between two groups in values of LAP, AIP, CRI-I, CRI-II and AC. After the intervention, no significant change was found in the treatment group compared to the control group in LAP (-0.64 (-6.25 to 8.29) vs. 0.0 (-8.66 to 19.01); P=0.91), AIP (0.0 ± 0.08 vs. 0.0 ± 0.1; P=0.84), CRI-I (-0.18 ± 0.63 vs. -0.31 ± 0.49; P=0.42), CRI-II (-0.23 ± 0.56 vs. -0.15 ± 0.32; P=0.52) and AC (-0.18 ± 0.63 vs. -0.31 ± 0.49; P=0.42).
Conclusion: Cornelian cherry fruit extract has no effect on cardiovascular outcomes. Further studies with longer intervention durations are needed. Trial registration: Registered on 30 September 2018 at Iranian Registry of Clinical Trials (IRCT20180419039359N1).
Keywords: Non-alcoholic fatty liver disease, Cornus mas L., Lipid accumulation product, Cardiovascular.

The association of dietary insulin index and load with resting metabolic rate (RMR) among overweight and obese women

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Introduction: Examining the association of Dietary insulin index (DII) and chronic conditions is particularly relevant for Resting metabolic rate (RMR), since insulin responses play an important role in energy expenditure and substrate utilization. The current study, therefore, was carried out to determine whether Dietary insulin index (DII) and Dietary insulin load (DIL) are related to Resting metabolic rate (RMR) in a cross-sectional study among women.
Methods: A total of 300 healthy overweight and obese women (aged 18-50 years) who were referred to community health centers of Tehran University of medical sciences were included. Data on dietary intakes were collected using a semi-quantitative food frequency questionnaire (FFQ). DII and DIL were calculated using food insulin index values published earlier. Anthropometrics measurements were done for every participant. To assess the RMR, indirect calorimetry was used.
Results: Mean age of study participants was 36.8±8.1 years. Although a significant association was seen between DII and RMR in a crude model (Pvalue=0.04); adjusting for different confounders made this significant relationship between DII and RMR disappeared. Moreover, no significant association was observed between DIL and RMR neither in crude nor adjusted models.
Conclusions: In conclusion, no significant linkage was seen between both DII or DIL and RMR, which in turn might prove that both dietary insulin indices would have no significant contribution in obesity. Further studies, especially prospective ones, are required to confirm these findings.
Keywords: Diet, Dietary insulin index, Dietary insulin load, Resting metabolic rate, RMR

The Association between Socioeconomic Status Score Category and Dietary Quality Index (DQI) Before and After COVID-19 Pandemic among Iranian Households

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Background: The coronavirus disease 2019 (COVID-19) pandemic has had a profound impact on all of human's dietary pattern worldwide. Diet quality index (DQI), as nutritional epidemiology tool, have been developed to evaluate the healthfulness of dietary patterns. The aim of present study was 1) to compare changes in DQI before and after COVID-19 based on different socioeconomic status (SES) category, and 2) to investigate the association of DQI with SES score by adjusting age, sex, living place and total energy intake of participants.
Methods: In present cross sectional study, data were collected from 38,328 and 37,557 adults in two time point, 2020 and 2021, respectively. Socioeconomic status score was calculated by literacy, job, income, and household size and then converted to 4 category (first category as a lowest SES score, and fourth category as a highest SES score). Chi-square test was performed to evaluate the differences between DQI quartile before and after COVID-19 pandemic, according to SES category. The association between SES score and DQI was assessed by using linear regression.
Results: The mean ± SD of DQI was 65.22±18.69 and 65.41±17.86 in 2020 and 2021, respectively. The significant differences observed between DQI quartile according to SES category in both 2020 and 2021 (all P-values less than 0.001). Furthermore, There was significant association between SES score and DQI in crud and multivariate-adjusted model (B=0.151, B=0.187, in 2020, and B=0.137, B=0.170 in 2021, respectively, all P-values less than 0.001).
Conclusion: The results have demonstrated the significant positive association between SES score and DQI before and after COVID_19 pandemic. Longitudinal studies should be conducted to assess cause and effect relationships between SES score and DQI in different populations.

Keywords: COVID_19, Dietary Quality Index (DQI), Socioeconomic Status (SES) Score, Iranian, Households

The association between dietary patterns and depression in adolescents: A cross-sectional study

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Introduction: So far, few studies have examined the relationship between dietary patterns and depression in adolescents . The aim of the present study was to determine this relationship in a sample of adolescent Iranian girls.
Materials and methods: 347 female high school students aged 14–17 years living in Shiraz, Iran participated in this cross-sectional study. General and physical activity questionnaires, dietary recalls, and Beck Depression Inventory-Second Edition (BDI-II) were completed for all individuals and their anthropometric characteristics were measured. The major dietary patterns were then identified using principal component factor analysis.
Findings : In total, 2 major dietary patterns were identified. After adjusting for potential confounders in multivariate linear regression analysis, the Western pattern (characterized by high consumption of French fries, hydrogenated fats, mayonnaise, sweets and desserts, high-fat dairy, refined grains, red or processed meats, pickles, organ meats, and soft drinks and low consumption of low-fat dairy) was positively (standardized β coefficient: 0.510, P < 0.001) and the healthy pattern (characterized by high intake of vegetables, legumes, boiled potatoes, poultry, fish, vegetable oils, olives, fruits and fruit juices, and low-fat dairy and low intake of refined grains) was inversely associated (standardized β coefficient: −0.508, P < 0.001) with BDI-II score.
Conclusion: Overall, findings of this study indicate that certain dietary patterns are

associated with depression in adolescent Iranian girls. However, more studies are needed to further

Keywords: Diet, Factor analysis, Depression, Adolescent, Iran

The effect of Mediterranean diet on metabolic, inflammation and oxidative stress biomarkers in obese subjects: A Systematic review of randomized controlled trials

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Background & aim: Obesity is a major clinical and public health problem and closely related to inflammation, oxidative stress, glucose intolerance, metabolic and cardiovascular diseases. Thus, the effect of several lifestyle interventions, including energy restricted diets and exercise, on body weight/fat loss and obesity's comorbidities can be very important. The Mediterranean diet (MD) is a healthy dietary pattern that may have beneficial effects on metabolic factors, inflammation and oxidative stress. This systematic review investigated the impact of MD interventions on related effects.

Methods: A systematic literature search of articles published from 1990 until April 2022 was conducted in Databases, including MEDLINE, ISI Web of Science, and Scopus. We assess the effect of MD effects on metabolic, inflammation and oxidative stress markers. In this review that include the randomized controlled trial (RCT) studies (1645 articles) Finally, sixteen trials (1093 subjects) were included.

Results: The MD has beneficial changes in LDL-c, TC, Glucose, HOMA-IR, hsCRP and TAC level. In eight studies LDL-C and TC decreased whereas four studies didn't show significant change. Glucose, hsCRP and HOMA-IR decreased in seven, six and four trails respectively. Another hand TG, HDL-c, HbA1c, Insulin, IL-6, IL-8, TNF-α, MDA, GSH, SOD, ox-LDL level didn't change in sufficient studies.

Conclusion: Mediterranean diet can reduce LDL-c, TC, Glucose, HOMA-IR, hsCRP level and Increase TAC in obese subjects.

Keywords: Mediterranean diet, metabolic factors, inflammation, oxidative stress, obesity

Evaluation of the effect of treatment with probiotics and synbiotics in Patients with critical illness: A systematic review

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Background: In patients with critical illness, damage to the body's natural flora and the overgrowth of pathogenic bacteria are common. Probiotics can act as protectors of the intestinal barrier and reduce the overgrowth of pathogens. The purpose of this systematic review is the overall assessment of the effectiveness of probiotics and synbiotic mixtures to reduce the transmission and prevention of nosocomial infections.

Methods: Date bases of Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library) PubMed/MEDLINE, EMBASE, CINAHL, Google Scholar, Scopus, Web of Science, and ISI were used. All Randomized and Controlled Trials (RCT) related to clinical outcomes Probiotic therapy as a single strategy or in combination with prebiotic fiber (Synbiotics) were selected.

Results: A total of 79 related studies were identified from different databases 49 of them were removed. Finally, 30 RCTs met our inclusion criteria and a total of 2972 patients were studied. According to studies, there was a significant reduction in infections with a significant reduction in the incidence of ventilator-associated pneumonia (VAP) with probiotic therapy. No effect on mortality or diarrhea was observed in these studies.

Conclusions: The use of probiotics in reducing infections, including VAP, in patients with critical illnesses is promising. However, due to the heterogeneity of the results of clinical and hospital studies, more studies are needed to definitively express this effect.

Keywords: Critical care, Infections, Probiotics, Synbiotics, Ventilator-associated pneumonia

Explaining the barriers to dietary modification and the factors affecting it from the perspective of Tehran women

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Introduction: The high prevalence of non-communicable diseases and their rising trend in Iran, remind us of the critically of assessing their underlying factors and implementing prevention programs. Modifying nutritional patterns is a basic axial of changing lifestyle and prevention of noncommunicable diseases. Considering the lack of related studies from Iran, this study aimed to search for perceptions and experiences of women.
Methods: A qualitative study, performed using the grounded theory approach. several semi-structured focus group discussions were performed. Participants were women, the mean age was 44 years. All interviews and focus group dialogs were audio-recorded and transcribed exactly. Data gathering and analysis were performed simultaneously based on the Strauss and Corbin analysis method.
Results: According to content analysis of information, barriers to healthy nutrition are "inefficient training"," nonexistence of access", "individual flavor and favorites".
Conclusion: Findings of the current study showed the main barriers to healthy nutrition as comprehended by women; such information can be useful in planning prevention policies for families.
Keywords: Healthy nutrition, Barriers, women, Diabetes, Cardiovascular disease, chronic kidney disease.

Effect of Glutamine Supplementation in Hospitalized Children with Acute respiratory infection

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Background: We sought to investigate the effect of glutamine (Gln) supplementation on serum levels of IL-1β, Tumor Necrosis Factor-alpha (TNF-α), and high-sensitivity C-reactive protein(hs-CRP) in hospitalized children with Acute Respiratory Infection (ARI).
Methods: This clinical trial was held for 5 days to assess the efficacy of the 0.5g/kg BW Gln along with medical therapy in hospitalized children with ARI.
Results: The difference in the hs-CRP between the Gln and placebo groups after Gln supplementation was significant (tested by ANCOVA after the duration of cough and biochemical baseline values)
Conclusions: The effect of Gln supplementation on the reduction of hs-CRP in children with ARI was demonstrated in this study. Further researches are needed to determine the effect of Gln on inflammatory and stress oxidative biomarkers in children with ARI.

Effect of Folic Acid Supplementation on Homocysteine, Blood Pressure and Serum Creatinine in Men with Type 2 Diabetes under Metformin Treatment

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Introduction: Metformin reduces levels of folate and vitamin B12, thereby increasing homocysteine levels. In patients with diabetes, elevated homocysteine levels have been reported to be associated with endothelial dysfunction, insulin resistance, prothrombotic state, macroangiopathy, nephropathy, dyslipidemia, oxidative stress, and poor control of the disease.
Methods: This was a double-blind randomized controlled clinical trial. Sixty-eight men with type 2 diabetes participated with written consents. Patients were randomly divided into two groups; folic acid 5mg/day and placebo, for intake of the tablets for 8 weeks. Baseline and 8th-week plasma homocysteine, serum folate, B12 and creatinine levels, blood pressure, and BMI were measured.

Results: After folate supplementation in the folic acid group, homocysteine (15.1±3.2 to 12.1±3.1µmol/L, p<0.001) and systolic blood pressure was significantly decreased (p=0.02) and Folate and B12 levels were significantly increased (p<0.001). No significant changes occurred in the placebo group (p>0.05). Folate supplementation did not produce any statistically significant decrease in the levels of serum creatinine and diastolic blood pressure (p>0.05).
Conclusion: Pharmacological dose of folate supplementation effectively lowered plasma homocysteine and systolic blood pressure levels and improved the folate and B12 levels in patients with type 2 diabetes.

A randomized controlled trial on the coloprotective effect of coenzyme Q10 on immune-inflammatory cytokines, oxidative status, antimicrobial peptides, and microRNA-146a expression in patients with mild-to-moderate ulcerative colitis

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Background: Ulcerative colitis (UC) is a type of inflammatory bowel disease that is caused by immune and inflammatory factors and reactive oxygen species overproduction-related oxidative stress. Coenzyme Q10 (CoQ10) could act as a helpful agent for maintaining the remission of UC. Therefore, this study was performed to investigate the effect of CoQ10 supplementation on inflammatory markers, antioxidant status, disease severity, quality of life, and microRNA-146a expression rate in UC patients.
Methods: This double-blind randomized clinical trial was performed on patients with mild to moderate UC, who were referred to Hazrat Rasool Akram Hospital. Eligible patients were randomly divided into the CoQ10 (200 mg/daily) and placebo (200 mg rice flour) groups for 8 weeks. Inflammatory status, antimicrobial peptides, disease severity using SCCAI questionnaire, and IBDQ-32 scores were assessed during the intervention period.
Results: Overall, 86 patients could complete the intervention period. CoQ10 supplementation for 8 weeks significantly decreased plasma levels of IL-17, the nuclear activity of NF-κB p65, severity of disease activity over the placebo group. Also, serum levels of IL-10, cathelicidin LL-37 and the IBDQ-32 scores increased significantly in the CoQ10 group over the placebo group. While, there was not seen a significant difference between the two groups in serum Nrf2, β-defensin-2, and the relative rate of miR-146a expression.
Conclusion: our results indicated that CoQ10 supplementation along with drug therapy appears to have beneficial effects on lowering inflammation, improving quality of life, and reducing clinical activity severity of disease in patients with mild-to-moderate UC.
Key words: Clinical trial; Coenzyme Q10; Inflammatory bowel disease; Inflammatory markers; Ulcerative colitis.

Zinc Status in Attention-Deficit/Hyperactivity Disorder: a systematic review and meta-analysis of observational studies

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Previous studies regarding the zinc status in Attention-deficit/hyperactivity disorder (ADHD) yielded inconsistent results. Thus, the present meta-analysis was aimed to estimate the association between hair and serum/plasma zinc levels and ADHD. Online databases of Medline, EMBASE, and Scopus were searched up to October 2020 with no limitation in time and language. Weighted mean differences (WMDs) of

hair and serum/plasma zinc levels were calculated using a random-effects model. Overall, 22 articles with 1,280 subjects with ADHD and 1,200 controls were included. The pooled effect size indicated that serum/plasma zinc levels in subjects with ADHD were not statistically different than their controls (WMD = −1.26 μmol/L; 95% CI: −3.72, 1.20). Interestingly, the exclusion of one study from the analysis showed that people with ADHD significantly have lower circulating levels of zinc compared to their controls (WMD: -2.49 μmol/L; 95% CI: -4.29, -0.69). Also, the pooled effect size indicated that hair zinc levels in cases with ADHD were not statistically different than their controls (WMD = −24.19 μg/g; 95% CI: −61.80, 13.42). Present meta-analysis raises the possibility that subjects with ADHD are prone to have declined levels of zinc levels. Based on current findings, screening the zinc levels in subjects with ADHD could be reasonable. Further well-designed studies are needed to clarify the role of zinc in the etiology of ADHD.

The effect of green coffee extract supplementation on lipid profile: A systematic review of clinical trial and in-vivo studies

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Background: Dyslipidemia is an important and common risk factor for cardiovascular disease and increases the risk of mortality. Green coffee extract (GCE) contains bioactive polyphenols, especially Chlorogenic acid (CGA), that due to the antioxidant characteristic, have a desirable effect on metabolic factors. This review conducted to focus on the effect of GCE on lipid profiles.
Methods: PubMed, Scopus, and web of science were searched until November 2019. All clinical studies and in-vivo studies that provide sufficient information about outcomes include to this review.
Results: Out of 3270 studies obtained in our searching, only 32 articles were eligible for analysis. Five double-blind, randomized clinical trial studies, two Cross-over studies, one Quasi-experimental study, and twenty animal studies were included in this systematic review—all articles evaluated according to the checklist of aim and inclusion and exclusion criteria. Generally, the results of the included studies showed there is controversy about the effect of GCE and CGA on lipid profile improvement.
Conclusions: Although, a higher dosage of GCE and administration of CGA with longer duration leads to better results. However, investigating the effectiveness and safety dosage as a lipid-lowering agent needs further studies with differential dosage and periods.

The effect of Probiotic fermented milk on blood lipid concentrations: A systematic review and meta-analysis of Randomized Controlled Trials

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Background: Fermented milk products are suggested as a supplementary therapy to help reduce blood lipid levels. However, the results of clinical studies are conflicting. This study systematically reviewed 39 randomized controlled trials (n = 2237 participants) to investigate the effect of probiotic fermented milk products on blood lipids.
Methods: A meta-analysis was performed using random effects models, with weighted mean differences (WMDs) and 95% confidence interval (CI).
Results: Statistically significant reductions in blood low-density lipoprotein cholesterol (LDL-C) (WMD: -7.34 mg/dL, 95% CI: from -10.04 to -4.65, and P < 0.001) and total cholesterol (TC) concentrations (WMD: -8.30 mg/dL, 95% CI: from -11.42 to -5.18, and P < 0.001) were observed. No statistically significant effect of probiotic fermented milk was observed on blood high-density lipoprotein cholesterol (HDL-C) and triacylglycerol (TAG) levels. The effect on TC and LDL-C level was more pronounced in men, and a greater reduction in TAG was observed in trials with longer interventions (≥ 8 weeks) as compared to their counterparts.
Conclusions: Available evidence suggests that probiotic fermented milk products may help to reduce serum TC and LDL-C cholesterol levels, particularly in men and when they are consumed for ≥ 8 weeks.

Keywords: Cholesterol, Triacylglycerol, Fermented milk, Probiotic, Meta-analysis, Yogurt

Health literacy and its relationship with body mass index in female adolescent students

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Background: One of the significant outcomes of health education is health literacy (HL), which should be expanded to improve health promotion.The aim of this study was to assess HL and its relationship with Body Mass Index (BMI) in female adolescent students.This study was conducted on 235 female students (aged 13–15 years) which were selected with cluster sampling.
Methods: For assessing HL, the Newest Vital Sign (NVS) was used and BMI Z-score was evaluated following the World Health Organization (WHO) guidelines. Data were analyzed using SPSS version 16.
Results: Based on this study's results, 11.5%, 37% and 51.5% of adolescents had adequate HL, limited HL and inadequate HL, respectively. There was a negative correlation between adolescents HL and BMI, rs = −0.233 (p< 0.001).
Conclusion: Most of adolescents had limited HL and students with higher BMI had a worse HL score. As a matter of fact, as adequate HL has a significant role for promoting health in the society policy makers must design educational programs for adolescents especially in non-medical settings such as schools where adolescents spend most of their time.
Keywords: adolescent; education; physical health; health literacy

The effect of omega-3 versus placebo intervention on the level of inflammatory biomarkers in patients undergoing surgery: Systematic reviews of randomized controlled trials

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Background: Major Surgeries are associated with a hyperinflammatory response followed by a phase of relative immune incompetence. Previous studies have indicated the effects of fats on inflammation process. Perioperative Omega-3 fatty acids (n-3 FAs) supplements may have beneficial effects on surgery outcome such as Inflammatory markers. Therefore, this study aimed to conduct a systematic review of related effects.
Methods: We conducted a systematic literature review of articles published from 1990 until December 2021 in Databases, including MEDLINE, ISI Web of Science, and Scopus. The review included the randomized controlled trial (RCT) studies (3537 articles) that we assess the effect of preoperative Omega-3 fatty acids supplements on Inflammatory markers after surgery. Finally, ten trials (512 subjects) were included to present the study.
Results: Final studies had preoperative supplementation in patients with some surgeries such as cardiopulmonary bypass surgery, cancer surgeries, open-heart surgery, coronary artery bypass grafting, hip surgery, and Roux-en-Y gastric bypass. The dose of n-3 FAs that patients received ranged from 2 to 13.8 g/day.Four studies provided omega-3 supplementation as PN, three as EN and three as oral. Six studies showed improvement in the inflammatory factors, including hs-CRP, TNF-a, IL-6, IL-8 and IL-10 whereas Two studies didn't report significant changes in hs-CRP, TNF-a, IL-6 and IL-1beta. Overall, PN omega-3 supplementation had a better effect on inflammatory factors than EN or oral supplementation.
Conclusion: Preoperative Omega-3 fatty acids supplementation can improve outcomes and reduce postoperative inflammation.

The effect of L-carnitine on oxidative stress and clinical outcome in critically ill patients with sepsis

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Background: Sepsis is the final common pathway to death for severe infectious diseases worldwide. Cell damage occurs due to increased oxidative stress, which can lead to various

complications. This study aimed to investigate the role of antioxidant treatment with l-carnitine in oxidative stress in a critically ill patient with sepsis.
Methods: Twenty-four patients with sepsis were randomly allocated to l-carnitine, administered with a rapid infusion (0.1 g/kg) diluted in 250 ml of saline solution. It was assigned to patients with sepsis on the first, third, and seventh days. Sequential organ failure assessment (SOFA) was evaluated on days 1, 3, and7. Serum levels of total antioxidant capacity (TAC), catalase, and malondialdehyde were measured before the beginning of the intervention and on days 5 and 10.
Results: There was a significant decrease in the serum level of MDA (P=0.010) and a significant increase in the levels of TAC and CAT (P=0.032 and P=0.018 respectively), in the l-carnitine group, compared to the placebo group after seven days. L-carnitine supplementation also improved the SOFA score compared to the control group (P=0.039).
Conclusion: Supplementation with l-carnitine may be a promising treatment strategy for critically ill patients with sepsis. The findings of our study showed that short-term supplementation with l-carnitine may have decreased oxidative stress indices and increased antioxidant activity activation during sepsis. However, studies with longer-term supplementation are needed to achieve more definitive results.
Keywords: L-carnitine, sepsis, oxidative stress, clinical outcome

A Comparative Study of Investigating the Relationship between the Nutrition, Biochemical Parameters and Demographic Characteristics in Women

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Background: Gestational diabetes mellitus (GDM) is characterized by glucose intolerance during pregnancy, incidence of gestational diabetes can increase by several factors such as obesity, aging, diet, genetic factors. This study aimed to assess the role of nutrition, biochemical and demographic factors in determiner of GDM in pregnant women.
Methods: In this prospective study, pregnant women with and without gestational diabetes mellitus were divided into control and GDM women. At the onset of the study, all subjects were asked to complete a demographic questionnaire. Serum samples were obtained from each woman and the biochemical parameters were measured and then analyzed by Graph Pad Prism version 5.
Results: Our results showed a significant relationship between age and BMI with GDM. The level of triglyceride (mg/dl), HOMA Index (mmol /L×μU/mL), FBS (mg/dl), and Insulin (μU/mL) were significantly higher in GDM women compared to the control group. Serum HDL concentration was significantly higher in normal pregnant women compared to patients with GDM. Education level was also higher significantly in the control group. The number of fruits and vegetable consumption was lower in GDM compared to the control group significantly. Furthermore, the women who had consummated fruit and vegetables in their diet were less likely to develop GDM.
Conclusions: This study suggests a strong association between GDM and the consumption of high-calorie foods. Therefore, the use of low-calorie foods such as fruits and vegetables can help reduce the incidence of diabetes in pregnant women.

The Best Predictive Biochemical Markers to Evaluate the Adherence to Mediterranean or DASH Diet

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Background: A better understanding of predictors of diet adherence is necessary to improve dietary interventions and choose the best dietary pattern to achieve healthier lifestyle and lesser medical complications. This study aimed to explore the predictors of dietary adherence across blood markers.
Method: The study population comprised 120 healthy individuals older than 30 years old whose 54 % were women. Serum markers including hematological, lipid profile and liver parameters were obtained. To evaluate patients' mediterranean diet or DASH diet adherence, they

filled food frequency questionnaire as well. To identify best predictive serum marker of the adherence to mediterranean or DASH diet we divided study population into two subgroups including low or high diet adherence. For obtaining the DT we employ 4.1.1 and SAS JMP.
Result: Groups shows no significant differences among demographic variables. The decision trees with 2 and 3 layers identified the various predictive serum markers of diet adherence in this regard. Both shows that HDL level is the best predictor of adherence to mediterranean or DASH diet. First, decision tree for mediterranean diet shows that if patients' HDL levels were >= 52 mg/dl, probably, they had higher adherence to mediterranean diet (79.13%). Moreover, LDL and ALT levels caused a break in second layer of the tree. With 91.35% probability, if patients had HDL levels < 52 mg/dl as well as LDL levels > 167 mg/dl, they may had poor adherence to mediterranean diet. Also if they had HDL levels >= 52 mg/dl along with ALT levels < 62 U/L, they were 86.76 % more likely to follow these diet. Second, decision tree for DASH diet shows that people who had HDL levels >= 71 mg/dl had higher adherence to diet with 93.96 % probability. Higher adherence to DASH diet may be seen when people had HDL levels <71 mg/dl accompanied by LDL levels >= 58 mg/dl and Cholesterol levels < 119 mg/dl (95.32%).
Conclusion: serum HDL concentration is the best mediterranean or DASH diet adherence predictor among serum markers including lipid profile and liver indexes. We determined the optimum HDL cutoff point of 52 and 71 mg/dl for adherence to mediterranean or DASH diet, respectively. In second step, for mediterranean diet, LDL and ALT levels are related valuable predictors. Moreover, for DASH diet, LDL and cholesterol levels are second and third layers' predictors.
Keywords: Mediterranean, DASH, Lipid Profile, Liver Enzyme

The Evaluation of nutritional goals, prescription and delivery of Energy in a pediatric intensive care unit

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Background: Despite increasing awareness of adequate intake in patients admitted to ICU, malnutrition still occurs in hospitalized children. Recent studies show that 25% of pediatric icu patients have chronic malnutrition at the time of admission and the nutritional needs of these children during hospitalization worsens the patient's condition. In this study, the amount of energy received and prescribed, which are two important indicators in malnutrition of intensive care patients; evaluated.
Method: In this cross-sectional study, the amount of received energy and prescribed of all children who are admitted to the ICU of Akbar Hospital in Mashhad which were admitted from October to December 1400; Was evaluated and compared with the goal amount of energy level determined by age, sex, and weight based on WHO guidelines.
Result: Totally,70 critically ill patients with in the range of 1 month to 16 years participated in this study. The average amount of received energy (58.83 kcal/kg) and the average amount of prescribed energy (79.90 kcal/kg) were both compared to the average energy adequacy of patients (61.62 Kcal/kg) and there was a significant difference ($p < 0.05$) between each of them and only 74.3% of these patients achieved nutritional energy adequacy during hospitalization.
Conclusion: this study demonstrates that in Akbar Children's Hospital in Mashhad, the amount of received energy and prescribed energy were not be in the range of energy needs of these children and can be the one reasons of malnutrition.
Keyword: Malnutrition, energy, intensive care unit, pediatric

The association between vitamin C and markers of endothelial: a systematic review

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Background: Previous studies presented that ascorbic acid (AA) plays an important role in atherosclerosis conditions. Also, it neutralizes the Reactive Oxygen Species (ROS) in endothelium by reducing inflammatory biomarkers. This systematic review aims to evaluate the association between AA and vascular adhesion molecules (VCAM-1), intracellular adhesion molecules (ICAM-1), neutrophil recruitment and tumor necrosis factor-alpha (TNF-a).
Methods: A systematic search was performed on databases including Cochrane, Pubmed, Scopus, and Google Scholar from inception to 25 of December 2021. After performing screening among seven hundred twenty-five studies, 33 articles were included for reading the full text. Finally, fifteen articles were included for this study. Just two intervention study data extract for ICAM-1 plasma level in diabetic and claudicate patients.
Results: We found that the AA attenuates ox-LDL in cardiovascular diseases. Also, the plasma concentration of AA and ICAM-1 and VCAM-1 are contrariwise. Thus intravenous infusion of vitamin C in two intervention studies in dosages of 1000 up to 3000 mg reduces the plasma ICAM-1 concentration SMD (-7.46 95% confidence interval (-12.83, -2.08)in, p-value<0.006. Therefore, vitamin C protects endothelial walls agonist TNF-a apotheosis. The AA in long term improves certain echocardiographic parameters. Moreover, low AA status induces endothelial dysfunction in obese men.
Conclusion: There is an inverse relationship between AA plasma concentration and ICAM-1, VCAM-1 and TNF-a. Also, low AA status activates endothelial dysfunctions.
Keywords: ICAM-1, VCAM-1, TNF-a, Ascorbic acid

What are the effects of N-acetylcysteine supplementation on anthropometric indices? A systematic review and meta-analysis of clinical trials

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Background: N-acetyl cystatin (NAC) can potentially induce weight changes due to its antioxidant properties. we carried out a systematic review and meta-analysis of randomized clinical trials to examine if NAC consumption can result in any changes in anthropometric indices.
Methods: we searched the databases of PubMed-Medline, SCOPUS, Web of Science, Embase, and Google Scholar by using appropriate keywords and up to Nov 2019. Random-effect model was used to report weighted mean differences and sensitivity and subgroup analyses were also carried out.
Results: Seven eligible studies were included. The results showed no significant effect of NAC on BMI, weight and WC [(SMD=-0.08 Kg/m2; CI: -0.25, 0.08; P = 0.335, I2 = 0.0 %, P = 0.967), (SMD= -0.38 Kg; 95 % CI: -2.11, 2.87; P = 0.766, I2 = 0.0 %, P = 0.691) and (SMD= -0.22 Cm; 95 % CI: 0.52, 0.08; p = 0.153, I2 = 0.0 %, P = 0.826). No effect of sensitivity and subgroup analyses was observed.
Conclusion: NAC supplementation had no significant effect on obesity indices. More specific trials are suggested to assess this relationship more precisely since we assessed anthropometric factors mainly as the secondary outcomes in these studies rather than the main outcomes.
Keywords: N-acetylcysteine, Obesity, Body Mass Index, Weight, Systematic Review, Meta-analysis.

The effect of baking process on stability of fortified folic acid in the breads

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Background: Determine the effect of different procedures of bread preparation including fermentation and baking on folic acid content of most popular types of breads. Folic acid deficiency can be harmful specifically for the vulnerable population worldwide. The most reliable way to provide enough folic acid to population is adding it to the staple foods. Bread is the most important staple food for Iranian population. However, food preparation may affect folate stability.
Methods: The aim of this study was to determine the effect of food processing, including fermentation and baking on folic acid content of folic acid fortified Iranian breads such as Lavash, Taftoon and Barbari. The flour was fortified with folic acid (0.15 mg/100 g). Breads were prepared by fortified flour, sourdough, salt and water.
Results: Folic acid was extracted first and then was determined using the HPLC after the preparation procedure. The folic acid content in the all of the three types of flour (Lavash, Taftoon and Barbari) was changed significantly during the fortification. There was no significant difference in folic acid content between dough before and after the fermentation process. The folic acid content was decreased after the baking of all types of breads. This reduction was lowest in Barbari breads. This might be due to the lower baking temperature and higher thickness of Barbari.
Conclusion: Approximately 24-40 percent of the folic acid content of the three types of breads was decreased due to the baking process.
Keywords: Bread, Folic acid, Fortification, HPLC

Protein Intake and Administered Energy in Critically Ill Children: Adequacy Assessment

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Background: Critically ill children are at high risk for developing nutritional deficiencies, and hospital undernutrition is known to be a risk factor for morbidity and mortality in children. This study's aims were to examine current nutrition practices and the adequacy of protein in the pediatric intensive care unit (PICU).
Method: This cross-sectional study was carried out in Akbar Children's hospital, Mashhad, Iran. All PICU admitted children (during October-December 2021, 70 patient) with PICU length of stay> 24 hours were included in the study. The hospital documents were reviewed to extract the amounts of delivered and administered protein. The goal amount of protein level determined by age, sex, and weight based on WHO equations. The minimum needed amount for nutritional adequacy was considered as 2/3 of the targeted amount at the end of first week of hospitalization according to ASPEN guideline.
Result: The average amounts of received and prescribed protein were 1.2 gr/kg and 1.52 gr/kg, respectively. According to the results of our study, 84.3 % of the studied population had adequate protein delivery, respectively. The protein intake and administered protein had significant difference in our results (p=0.000) .
Conclusion: This study demonstrates that the amounts of received and prescribed protein were/ were not in acceptable range and the results of the present study should be considered for future decision making steps in our PICU to improve nutrition support services.
Keyword: Malnutrition, protein, intensive care unit, pediatric

A review of fasting effects on the response of cancer to chemotherapy

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Background: We review the effects of fasting, including intermittent, periodic, water-only short-term fasting, and caloric restriction on the responsiveness of tumor cells to cytotoxic drugs, their protective effect on normal cells, and possible mechanisms of action.
Methods: We could not perform a systematic review due to the wide variation in the study population, design, dependent measures, and outcomes (eg, type of cancer, treatment variation, experimental setting, etc.). However, a systematic approach to search and review literature was used. The electronic databases PubMed (MEDLINE), Scopus, and Embase were searched up to July 2020.
Results: Fasting potentially improves the response of tumor cells to chemotherapy by (1) repairing DNA damage in normal tissues (but not tumor cells); (2) upregulating autophagy flux as a protection against damage to organelles and some cancer cells; (3) altering apoptosis and increasing tumor cells' sensitivity to the apoptotic stimuli, and preventing apoptosis-mediated damage to normal cells; (4) depleting regulatory T cells and improving the stimulation of CD8 cells; and (5) accumulating unfolded proteins and protecting cancer cells from immune surveillance.
Conclusion: This review suggests the potential benefits of fasting in combination with chemotherapy to reduce tumor progression and increase the effectiveness of chemotherapy. However, with limited human trials, it is not possible to generalize the findings from animal and in vitro studies. More human studies with adequate sample size and follow-ups are required to confirm these findings.
Keywords: Caloric restriction, Cancer, Chemotherapy, Fasting

Effect of fasting-mimicking diet or continuous energy restriction on weight loss, body composition, and appetite-regulating hormones among metabolically healthy women with obesity: a randomized controlled, parallel trial

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Background: Fasting-mimicking diet (FMD) has been recently promoted to achieve similar metabolic changes of fasting. The purpose of our study was to compare the effect of FMD versus continuous energy restriction (CER) on anthropometric measurements and appetite-regulating hormones.
Methods: A randomized controlled trial (RCT) was conducted on 60 women obesity aged 18-55 years. Subjects who received either a 5-day FMD (low in energy, sugars, and proteins, but high in unsaturated fats) or a CER (an average daily energy deficit of 500 kcal) for 2 months. Anthropometric and biochemical factors were measured at baseline and the end of the study. Physical activity and dietary intakes were also recorded.
Results: There was no significant difference in weight loss between the two groups; mean weight change for CER was -2.29 (standard deviation [SD]: 1.95) kg compared to -1.13 (2.27) kg for FMD; p = 0.06). There was more reduction in the basal metabolic rate (BMR) in the CER group (p = 0.045). Favorable effects on fat mass and muscle mass were only seen in the FMD group. After controlling for potential confounders, there was a significant increase in serum levels of total ghrelin (p = 0.048) and NPY (p = 0.041) following CER; however, results for circulating leptin were not statistically significant (p = 0.48).
Conclusions: There was no significant difference in weight loss following FMD and CER. However, FMD was more effective at reducing insulin resistance and regulating appetite-regulating hormones as well as preserving muscle mass and BMR.

Keywords: appetite, continuous energy restriction, fasting-mimicking diet, weight loss

The effect of coffee consumption on serum levels of adiponectin and leptin: A systematic review and meta-analysis of randomized controlled trials

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Background: Coffee is known as an anti-obesity beverage all over the world. Previous observational studies showed a beneficial association between regular coffee consumption and serum levels of adiponectin and leptin which are the major adipokines with regulatory effects on energy intake, insulin sensitivity, and inflammation. Therefore, this meta-analysis was conducted to determine the effect of coffee supplementation on serum levels of adiponectin and leptin.
Methods: We performed a systematic search on the online databases including PubMed, Web of Science, Scopus, and Google scholar using relevant keywords until November 2021 to determine RCTs investigating the effect of coffee consumption on serum concentration of adiponectin and leptin.
Results: A total of six studies with 393 participants were included in the meta-analysis. Pooled analysis of available RCTs showed non-significant changes in plasma levels of adiponectin (n=7, WMD: 0.39 µg/mL, 95% CI: –0.24, 1.02, P=0.223, *I2* =80.4%,) and leptin (n=3, WMD: -0.23 ng/mL, 95% CI: -0.75 to 0.29, P=0.394, *I2* = 0.0 %) in coffee group compared with controls. Subgroup analysis based on participant's BMI, CGA content, and coffee type indicated no significant effect on adiponectin and leptin level following coffee consumption.
Conclusion: In conclusion, our findings showed that coffee consumption had no effect on circulating adiponectin and leptin. However, further high-quality and more consistent studies with a larger sample size are required.
Keywords: Coffee, Adipokines, Adiponectin, Leptin

The Efficacy of Ginseng Supplementation on Plasma Lipid Concentration in Adults: A Systematic Review and Meta-Analysis

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Background: We performed a meta-analysis to evaluate the efficacy of ginseng supplementation on plasma lipid concentration.
Methods: The search included PubMed, Scopus, ISI Web of Science, Cochrane library, and Google Scholar (up to April 2019) to identify randomized controlled trials (RCTs) investigating the effect of ginseng supplementation on serum lipid parameters. To estimate the overall summary effect, we used random-effects model.
Results: Twenty-seven studies comprising 35 treatment arms fulfilled the inclusion criteria. The meta-analysis results showed that consumption of ginseng did not significantly change the concentrations of TC, TG, LDL-C, and HDL-C. However, subgroup analyses showed a significant lowering effect in high dose ginseng supplementation on TC, LDL-C and TG. Also, the impact of ginseng on TC and TG was significant in long-term interventions.
Conclusion: Further RCTs with longer supplementation durations in subjects with dyslipidemia are necessitated for a more robust assessment of the lipid-modulating properties of this plant.
Keyword: Ginseng, Supplementation, Lipid profile, Systematic review, Meta-analysis

The Effects of Synbiotic Supplementation on the Serum Endotoxin Level, Inflammatory Status, and Clinical Outcomes of Critically Ill Adult Patients: A Randomized Controlled Trial

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Background: Gut microbiota dysbiosis, endotoxemia, and systemic inflammation are major contributing factors to disease pathophysiology in critically ill patients. The present study aimed to assess the effects of synbiotic supplementation on the serum endotoxin and inflammation of critically ill adult patients.
Materials: This double-blind, randomized, controlled trial was conducted at the intensive care unit (ICU) of Imam Reza Hospital in Mashhad, Iran. In the intervention group, 20 patients received synbiotic capsules (containing a combination of Lactobacillus, Bifidobacterium, Streptococcus, and fructooligosaccharides) twice per day for a maximum of 14 days. In the control group, 18 patients received placebo capsules. The serum levels of endotoxin and C-reactive protein (CRP) and the neutrophil-to-lymphocyte ratio (NLR) were measured before and after the intervention. In addition, clinical outcomes and the scores of Acute Physiology and Chronic Health Evaluation (APACHE II) and Sequential Organ Failure Assessment (SOFA) were recorded.
Results: Basic characteristics were similar in the intervention and control groups. The NLR and serum endotoxin levels significantly reduced in the synbiotic group (7.83 [4.58-12.57]-6.01 [4.25-9.38]; P= 0.04 and 11.98 [10.64-12.65]-10.58 [9.41-12.34]; P=0.03, respectively). However, no significant changes were observed in the mentioned parameters in the placebo group. The clinical outcomes were also similar in the study groups, such as the length of hospital/ICU stay and hospital/28-day mortality rate.
Conclusion: Although synbiotic supplementation (500 mg twice daily for 14 days) could reduce serum endotoxin and inflammatory markers, it had no effects on the clinical outcomes of the patients.
Keywords: Synbiotic, Critical Illness, Endotoxin, Inflammation

Association between urinary potassium excretion and blood pressure: A systematic review and meta-analysis of observational studies

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Background: The evidence base regarding the association between urinary potassium and blood pressure (BP), or risk of hypertension, is inconsistent. Therefore, we sought to conduct a qualitative and quantitative literature review on the association between potassium excretion and BP.
Method: Medline, Scopus, Web of Science, Science Direct, and Google Scholar were searched up to June 2020. All observational studies that reported BP and measured potassium excretion in overnight or 24-hour urine samples were included. Correlation coefficients, mean urinary potassium excretion, and odds ratio (ORs) of hypertension were extracted from the included studies. There were no language or publication date restrictions.
Results: Overall, twelve observational studies, including 16174 subjects, were identified for inclusion in the present meta-analysis, and 21

effect sizes were extracted. Pooled mean potassium excretion was 3.46 mmol/24h higher in normotensive individuals compared with hypertensive subjects (95% CI: 0.61, 6.31). High urinary potassium excretion was not associated with the risk of hypertension (OR: 0.95; 95% CI: 0.79, 1.13). The pooled correlation coefficient between BP and urinary potassium was not significant (ES: 0.01; 95% CI: -0.03, 0.05). However, a subgroup analysis by age indicated a significant positive correlation between urinary potassium and systolic BP in children (ES: 0.12; 95% CI: 0.04, 0.19).
conclusions: 24h urinary potassium excretion was not correlated to BP and risk of hypertension. In contrast, mean urinary potassium excretion was higher in normotensive individuals compared with hypertensive counterparts. Future studies should focus on the association between different sources of dietary potassium and BP.
Keywords: Potassium excretion, urinary potassium, blood pressure

Evaluation of nausea, vomiting and food craving during pregnancy and their related factors in pregnant women Referred to health centers in Zahedan

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Background: Nausea, vomiting, and food craving during pregnancy are one of the most common problems of women that in addition to their impact on quality of life can be risks such as insufficient weight gain during pregnancy, digestive problems, low birth weight, and in more severe cases, abortion may occur. This study was performed to evaluate nausea, vomiting, and food craving during pregnancy and their related factors in pregnant women referring to health centers in Zahedan.
Methods: This cross-sectional study was performed on 600 pregnant women referring to health centers and centers in Zahedan. The relationship between nausea, vomiting and pregnancy food craving was measured by maternal age, gestational age, fetal sex, number of children, pregnancy rank, the distance between pregnancies, maternal education level, maternal occupation, paternal occupation and dietary pattern. The necessary information was collected by a questionnaire and then analyzed using SPSS.22 software.
Results: The prevalence of pregnancy food craving in the studied women was 55.4%, and the prevalence of nausea and vomiting in pregnancy was 70.5%. There was a statistically significant relationship between nausea and vomiting during pregnancy and the mother's education (p = 0.012), as well as the number of meals consumed by the mother (p = 0.001). There was a statistically significant relationship between pregnancy food craving and pregnancy nausea and vomiting (p = 0.03). Other studied variables did not show a statistically significant relationship with varicose veins, nausea, and vomiting in pregnancy (p> 0.05).
Keywords: Pregnancy nausea and vomiting, Pregnancy food craving, Dietary pattern

Effect of Ketogenic Diet on Cancer: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

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Background: In this systematic review and meta-analysis of randomized controlled trials (RCTs) we aimed to investigate the efficacy of ketogenic diet (KD) as an adjuvant therapy in the treatment of cancer compared to a traditional non-KD
Methods: Only CCTs involving cancer patients that were assigned to either a KD or a standard diet control group were selected. Two reviewers independently extracted and one reviewer checked the data, and a meta-analysis was performed using a random effects model to estimate pooled mean differences and predictive interval in body composition, metabolite, lipid profile and liver and kidney function parameters. Results: This meta-analysis showed a significant reduction in weight (WMD= -3.45 kg; 95% CI: -5.25, -1.66; P<0.001), BMI (WMD= -1.30 kg/m2; 95% CI: -2.04, -0.56; P< 0.001) and fat mass (WMD= -1.82 kg; 95% CI: -2.81, -0.84; P<0.001) by a KD. KDs significantly decreased glucose (WMD= -5.22 mg/dl; 95% CI: -9.0, -1.44; P= 0.007), IGF-1 (WMD= -17.52 ng/ml; 95% CI: -20.24, -14.8; P<0.001) and triglyceride (WMD= -24.46 mg/dl; 95% CI: -43.96, -4.95; P= 0.014) levels. Furthermore, KDs induced ketosis by increasing β-hydroxybutyrate (WMD= 0.56 mmol/l; 95% CI: 0.37, 0.75; P<0.001). There were non-significant pooled effects of KDs on improving insulin, CRP and cholesterol levels,

kidney and liver function. Emotional functioning was even increased significantly in the KD compared to the SD groups.
Conclusion: We found that KDs result in a greater reduction in glucose, IGF-1, triglycerides, body weight, BMI and fat mass in cancer patients compared to traditional non-KD and improved emotional functioning.
Keywords: ketogenic diet; randomized controlled trials; cancer

Randomized controlled trial to evaluate the effects of synbiotic supplementation on serum adiponectin and inflammatory biomarkers in postmenopausal overweight and obese breast cancer survivors

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Introduction: Adipokines and inflammatory factors levels have been associated with poor prognosis and survival amongst breast cancer survivors (BCSs). The present study aimed to investigate the impact of synbiotic supplementation along with a low-calorie diet on some recurrence-related factors such as adiponectin, tumor necrosis factor-alpha (TNF-α), and high-sensitivity C-reactive protein (hs-CRP) among obese and overweight BCSs.
Methods: This randomized, triple-blind, placebo-controlled clinical trial was conducted among overweight or obese postmenopausal survivors of hormone-receptor-positive BC. Seventy-six BCS were randomized to a 109 CFU/day synbiotic supplementation or placebo for 8 weeks. All participants were given a low-calorie diet program. The serum concentration of adiponectin and other inflammatory biomarkers was measured at baseline and after 8 weeks.
Results: Adiponectin level significantly increased among BCS who received synbiotic compared with the placebo (+13.58 (10.08, 18.17) vs. -0.42 (-2.90,1.98) μg/ml; P < 0.001). Furthermore, TNF-α (-17.09 (-32.05, -13.60) vs. 0.20 (-3.97,2.00) ng/L; P < 0.001) and hs-CRP levels (-1.14 (-1.90, -0.88 vs. -0.06 (-0.38,0.15) mg/L; P < 0.001) significantly reduced in the intervention group in compared with the placebo.
Conclusions: 8-week synbiotic supplementation among overweight and obese postmenopausal BCSs had favorable impacts on adiponectin, TNF-α, and hs-CRP.
Keywords: Breast neoplasms, Cancer survivors, Adiponectin, Probiotic.

Cichorium intybus improves changes of plasma antioxidant and nitric oxide levels induced by Oxymetholone

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Background: Oxymetholone (OM) is a 17-α-alkylated anabolic-androgenic steroid used at low doses for the treatment of diseases such as anemia and osteoporosis. The present study aimed to evaluate the effect of Cichorium intybus (Chicory) extract on OM-induced changes in total antioxidant capacity (TAC) and nitric oxide (NO) levels in rats.
Methods: 42 Wistar rats were divided into 6 groups (n=7): control group (0.5 ml distilled water), OM group (5 mg/kg), C. intybus groups (100 or 200 mg/kg), and OM+C. intybus groups (5 mg/kg OM+100 or 200 mg/kg extracts). After two weeks, the animals were weighed and serum was separated to assay serum levels of TAC and NO.
Results: OM significantly decreased serum TAC and increased NO concentrations (P<0.05). Different concentrations of C. intybus extract (100 or 200 mg/kg) improved these OM-induced changes significantly (P<0.05).
Conclusion: Chicory reversed serum biochemical changes due to OM consumption.
Keywords: Liver, Cichorium intybus, Oxymetholone, Nitric oxide, Antioxidant.

Impact of arginine Supplementation in Preterm Infants in the Newborn Intensive Care Unit (NICU)

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Introduction: Preterm infants in the newborn intensive care unit (NICU) are prone to multiple inflammatory and stress that can threaten their life. Arginine plays a key role in growth, ammonia detoxification also, its a precursor for synthesizing nitric oxide which represents it can be able to manage inflammation.
Recent findings: studies investigate L-arginine as a therapeutic target of neonatal brain hypoxic-ischemic (HI), preventing necrotizing enterocolitis (NEC), and increasing neonatal lymphocyte proliferation. In some clinical trials, L-arginine could increase T-cells and the production of (SAH) from (SAM). Some studies indicate that arginine may provide neuroprotection by a brain injury pathway that represents a therapeutic target of a preterm infant's brain(HI).
Conclusion: According to our data, arginine is crucial for improving the neonatal immune system.
Keywords: Arginine, Infant, Premature, Disease, Therapeutics.

Dietary Intake in Relation to the Risk of Reflux Disease: A Systematic Review

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Gastroesophageal reflux disease (GERD) is a chronic condition which has a high global prevalence. Dietary intake is considered to be a contributing factor for GERD. However, scientific evidence about the effect of diet on the risk of GERD is controversial. This systematic review was conducted to address this issue. A comprehensive structured search was performed using the MEDLINE, Scopus, and Web of Science databases up to August 2020, in accordance with the PRISMA statement. No restrictions were set in terms of language, time of publication, or study location. Study selection and data abstraction was conducted independently by two authors, and risk of bias was assessed using a modified Quality in Prognosis Studies Tool. Eligible studies evaluating the impact of food and dietary pattern on GERD were included in qualitative data synthesis. After excluding duplicate, irrelevant, and low quality studies, 25 studies were identified for inclusion: 5 case-control studies, 14 cross-sectional studies, and 6 prospective studies. This review indicates that high-fat diets, carbonated beverages, citrus products, and spicy, salty, and fried foods are associated with risk of GERD.

Asprosin: A Novel Adipokine in Obesity

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The prevalence of obesity has increased and the most important public health problems worldwide and strongly associated with T2DM, CVD, and metabolic syndrome (MS).
Asprosin (Asp); the novel adipokine; plays a crucial role in obesity, encoded by the FBN1 gene, secreted by WAT, and, recruited by the liver, which stimulates hepatic glucose production, increases food intake and BW by activating appetite-inducing AgRP expressing neurons.
This review will summarize the possible effects of asprosin, the association between asprosin and, obesity and therapeutic effects of asprosin for obesity.
Asp levels increased in humans and mice with obesity. Serum and saliva Asp levels are elevated in obese mice, adults, and, children while reduced BW and food intake could be observed in obese mice via using an Asp-specific antibody. Waist circumference (WC) and TG, are increased via elevating Asp levels.

Asp-treatment rat, 30µg/day for 10 days, caused the BW, BMI, food intake, serum glucose level, serum insulin level, IR, liver glucose output, and TG level increased significantly. But did not change the impaired blood glucose level in diabetic mice.
Contradictory effects of Asp included, serum asprosin concentrations significantly decreased in obese children. And, whole BW of mice did not change with Asp administration. Additionally, Asp serum levels were significantly lower in obese children compared to control
Asp is a novel player in obesity, that may act as a biochemical marker for the diagnosis and a therapeutic target for treating obesity.
Keywords: Asprosin, Obesity, Adipose tissue

ATP III Criteria for Metabolically Healthy and Unhealthy Obesity among Bariatric Surgery Candidates

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Background: Patients with obesity can be metabolically healthy, according to previous studies. Despite this, we know little about the healthy or unhealthy metabolic status of bariatric surgery patients. As a result, this study attempts to determine whether potential bariatric surgery candidates are metabolically healthy (MHO) or unhealthy (MUO).
Methods: 713 candidates participated in this study (580 women and 133 men; ages: 18-69 years). The National Cholesterol Education Program-Adult Treatment Panel III (ATP III) was used to define MHO and MUO.
Results: The Mean±SD patients' age, weight, body mass index, waist, and hip circumference were 40.44±10.26 years, 127.15±22.15 kg, 164.33±8.85 cm, 46.90±5.79 kg/m2, 122.57±13.93 cm, and 140.10±12.40 cm, respectively. MHO accounted for 44.6 % of the patients, MUO accounted for 55.4% of them. Among participants older than 40 years, a higher percentage suffered from unhealthy metabolic status (61%).
Conclusion: the majority of Bariatric surgery candidates tend to be metabolically healthy. Furthermore, MHO was more prevalent in younger age groups.
Keywords: obesity, bariatric surgery, metabolic surgery.

Total and Different Dietary Fiber Sources and the Risk of All-cause, Cardiovascular, and Cancer Mortality: A Dose-Response Meta-Analysis of Prospective Cohort Studies

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Background: We aimed to present a comprehensive review of the association between dietary fiber and the risk of mortality.
Methods: A systematic search was done in PubMed, Scopus, and Web Science to December 2020 to find prospective cohort studies of the relationship between total and cereals, fruit, vegetables, legumes, soluble, and insoluble fibers and the risk of all-cause, cardiovascular (CVD), and cancer mortality in the general population. The hazard ratios (HRs) and 95%CIs were calculated using a random-effects model.
Results: A total of 25 prospective cohort studies entered into the analyses. Comparing extreme categories, the HRs of all-cause, CVD, and cancer mortality were, respectively, 0.83 (0.78, 0.89), 0.81 (0.75, 0.87), and 0.87 (0.82, 0.92) for total fiber; 0.86 (0.80, 0.92), 0.87 (0.81, 0.95), and 0.89 (0.83, 0.95) for cereal fiber; 0.91 (0.85, 0.98), 0.93 (0.89, 0.97), and 0.95 (0.92, 0.98) for vegetable fiber; 0.97 (0.88, 1.04), 0.80 (0.68, 0.95), and 0.99 (0.96, 1.02) for fruit fiber; 0.93 (0.89, 0.96), 0.88 (0.84, 0.94), and 1.00 (0.96, 1.05) for legumes fiber; 0.89 (0.84, 0.94), 0.81 (0.67, 0.97), and 1.24 (0.94, 1.63) for soluble fiber; and 0.80 (0.72, 0.88), 0.77 (0.66, 0.91), and 0.93 (0.70, 1.23) for insoluble fiber. There was an inverse monotonic association between total fiber intake and the risk of all-cause, CVD, and cancer mortality.
Conclusions: Our findings confirm current recommendations to increase the consumption of plant-based foods. Almost all subtypes of dietary fiber obtained from different plant-based foods were consistently associated with a lower risk of all-cause and CVD mortality.

Keywords: Cohort studies, dietary fiber, meta-analysis, plant-based diet.

Association between diabetes risk reduction diet score and risk of breast cancer: A case-control study

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Background: To assess the association between the diabetes risk reduction diet score (DRRD) and the odds of breast cancer (BC).
Methods: During this hospital-based case-control study we included 149 newly diagnosed cases of BC and 150 controls matched by age. All cases were patients with pathologically confirmed BC, with no history of any form of other cancers. The controls were randomly selected from visitors and families of non-cancer patients in other wards of the same hospital who had no health issues including BC. The dietary intakes were evaluated by a validated 147-item semi-quantitative FFQ. DRRD score was calculated from 9 dietary components published before, with a better score resembling a higher adherence to DRRD.
Results: A negative association was found between the chances of BC and DRRD after adjusting for potential confounders, but it was not statistically significant (OR, 0.47;95%CI, 0.11-2.08; P=0.531). Also, there were no significant associations between DRRD and therefore the odds of BC in the crude model and also in post-menopausal (OR, 0.45;95%CI, 0.10-1.99; P=0.505) and pre-menopausal women (OR, 0.52;95%CI, 0.18-1.40; P=0.097) in our study, after adjusting for potential confounders.
Conclusion: Adherence to a diet with a high DRRD score was not associated with the reduced risk of BC in Iranian adults.
Keywords: Breast Cancer, Diet, Diabetes Risk Reduction Diet, Iran, Adults

Consumption of dairy products and prevalence of depression and anxiety among adults

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Background: No earlier study has examined the association between dairy intake and prevalence of depression and anxiety in Middle Eastern population. This cross-sectional study was done to investigate the association between consumption of total dairy intake and prevalence of depression and anxiety in a large group of adult population in Isfahan, Iran.
Methods: We included 3362 participants, for them dairy intake was examined by a validated 106-item Willet-format dish-based semi-quantitative FFQ. A validated questionnaire of Hospital Anxiety and Depression Scale (HADS) was used to examine depression and anxiety. We defined scores of >8 as depressed and anxious people in this analysis. Information about covariates were collected using pre-tested questionnaires.
Results: Mean age of study population was 36.2, 58.3% of them were females. Participants in the highest quintile of dairy intake had a 40% lower chance for depression compared to those in the lowest quintile (OR=0.60; 95%CI: 0.47-0.76, Ptrend=0.001). This association remained significant after controlling for several confounders (0.57; 95%CI: 0.40-0.80 Ptrend=0.02). In addition, we observed a significant association between dairy intake and anxiety (OR: 0.63; 95%CI: 0.46-0.87, Ptrend=0.02); however, this association became marginal when we took into account potential confounders (0.63; 95%CI: 0.39-1.00).

Conclusion: We found an inverse association between consumption of dairy products and depression and anxiety. Further studies, in particular of prospective nature, are recommended to confirm our findings.

Adherence to DASH dietary pattern and polycystic ovarian syndrome: A case-control study

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Background: Polycystic Ovary Syndrome (PCOS) as one of the metabolic abnormalities is prevalent in reproductive-aged women. Aims: This study aimed to investigate the relevance between adherence to the DASH diet and PCOS.
Methods: This is an age and BMI-matched case-control study including new diagnosis PCOS women as a case group (n=108) and women without PCOS as a control group (n=108). The PCOS was diagnosed based on Rotterdam criteria. Also, the validated 168-item food frequency questionnaire was used to determine the usual dietary intake. The method of Fung et al. was used to calculate the DASH score. Moreover, logistic regression was assessed to evaluate the relationship between adherence to the DASH diet and the odds of PCOS.
Results: After adjustment for potential confounders, an increase in adherence to the DASH diet significantly reduced the odds of PCOS (OR for the highest vs. lowest quartile = 0.18; 95% CI 0.07, 0.47). There was a significant decreasing trend in the odds of PCOS across increasing quintiles of the DASH diet (p-trend <0.001). Also, high adherence to the DASH diet was associated with significantly increased intake of carbohydrate, protein, EPA, DHA, vitamin D, vitamin C, and vitamin A (p<0.05). Also, adherence to the DASH diet indicated a significant increase in the intake of chromium, iron, and potassium.
Conclusions: The results showed that adherence to the DASH diet could reduce the odds of PCOS by 82 percent. It's worth noting that more prospective studies are required to confirm the findings of the current study.

Keywords: DASH diet, polycystic ovary syndrome, Diet, Body composition, BMI

Dominant dietary patterns in healthy employees in Yazd and its relationship with anthropometric characteristics and blood pressure

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Introduction: The increased prevalence of overweight and obesity has imposed extensive financial burdens on health care organizations in recent years while some preventative policies such as diet can play an important role .
Methods: The aim of this cross-sectional study was to identify the dominant dietary patterns in the adult population and the relationship between these patterns and anthropometric indices and blood pressure on 360 healthy employees in Yazd. Factor analysis and evaluation of the correlation between dietary patterns and the studied variables by logistic regression method finally showed 3 dietary patterns (unhealthy, mixed, and traditional).
Results: The differences in BMI, waist circumference, and blood pressure were not significant in any of the quartiles. People who mostly followed the unhealthy diet had a higher chance of developing abdominal obesity (odds ratio of 3.05 and 95% confidence interval, 1.36 - 6.81). After adjusting the demographic indicators, these values increased to 2.89 times (% confidence interval, 1.26 - 6.64).
Conclusions: The results of the present study showed that high adherence to an unhealthy diet is associated with a high risk of abdominal obesity. However, regarding blood pressure and body mass index, no correlation was found between different dietary patterns in this study.
Keywords: Dietary pattern, Anthropometric indices, Blood pressure, overweight, obesity

Effect of Vitamin C Supplementation in Pediatric Hemodialysis

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Background: Vitamin C, a well-known antioxidant, improves endothelial function (ED) and reduces the risk of cardiovascular disease (CVD). Furthermore, children with end-stage renal disease (ESRD) suffer from dyslipidemia and hyper- uricemia that might CVD. The aim of this study is to investigate the effects of Vitamin C supplementation on endothelial function, uric acid, CVD, and serum lipid levels among children on hemodialysis (HD).
Recent findings: Most studies focused that vitamin C is a cofactor with iron to boost red blood cell production and improve states of anemia In some studie vitamin C improved both Systolic blood pressure and diastolic blood pressure. In addition, vitamin C helps form the basement membrane of blood vessels by Type IV collagen formation and scavenging free radical. Most studies suggested that vitamin C supplementation increased high-density lipoprotein (HDL), decreased low-density lipoprotein (LDL), triglyceride levels, Reduction of LDL/HDL ratio and serum uric acid. Children on HD. Clinical findings and surgical results suggested administering 250 mg/day of intravenous (IV) vitamin C after HD sessions three times a week for 12 weeks.
Conclusion: Based on current data, vitamin C supplementation can prevent CVD in HD children.
Keywords: Vitamin C supplementation, lipid profile, uric acid, cardiovascular disease, Pediatric, Hemodialysis.

Effects of vitamin D supplementation on omentin-1 and spexin levels, inflammatory markers and lipid profile in obese adults with vitamin D deficiency under low calorie diet

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Background: To assess the efficacy of vitamin D supplementation during a weight-loss intervention on the levels of omentin-1, spexin, inflammatory factors and lipid profile in obese participants.
Methods: This randomized, double-blinded, placebo-controlled clinical trial was carried out on 70 obese participants with vitamin D deficiency (25(OH)D ≤ 20 nmol/L) were assigned into the intervention (a daily dose of 2000 IU vitamin D + low-calorie diet (LCD)) or placebo (placebo + LCD) groups for 8 wk.
Results: Vitamin D supplementation along with LCD program was associated with a significant reduction in triglyceride (TG) (P=0.02), very-low density lipoprotein-cholesterol (VLDL-C) (P= 0.02), high sensitivity-C reactive protein (hs-CRP) (P= 0.03) and soluble intercellular adhesion molecule-1 (sICAM-1) (P= 0.01) levels. This intervention led to a significant increase in serum vitamin D level (P < 0.001) and high density lipoprotein-cholesterol (HDL-C) (P= 0.01) in the intervention group. However, no significant differences were found in serum omentin-1 and spexin concentrations between the intervention and placebo groups.
Conclusion: Overall, vitamin D supplementation along with LCD program for 8 wk had beneficial effects on the inflammatory parameters and lipid profile in obese individuals, while it did not alter serum omentin-1 and spexin concentrations.
Keywords: Vitamin-D, obesity, inflammation, lipid profile, Omentin-1, Spexin.

Does omega 3 fatty acid supplementation affect oxidative stress and inflammatory biomarkers in type 2 diabetic patients? A systematic review and meta-analysis of randomized controlled trials

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Background: Numerous studies have been performed to determine whether supplementation of omega 3 fatty acids had improving effects or not on oxidative stress and inflammatory markers in Type 2 diabetes mellitus (T2DM) patients, which have yielded mixed results. The present systematic review and meta-analysis of randomized controlled trials (RCTs) aims to clarify the anti-oxidative and anti-inflammatory potential of omega-3 fatty acids in T2DM patients.
Methods: A literature search without any restrictions was conducted on PubMed, Web of Sciences, and Scopus databases before January 2021. STATA software generated forest plots of the pooled MDs with 95% CIs for all results. Then, to promote the generalizability of results pooled analyses were done using a random-effects model.
Results: Overall, 1518 T2DM patients from twenty-three controlled trials with thirty-one intervention arms, were included in the analysis. Random-effects meta-analysis showed that omega 3 fatty acids supplementation led to a significant increase in TAC and significantly decrease in TNF-α compared with the control group. Meanwhile, the effect of the omega 3 fatty acids supplementation on C-reactive protein (CRP) concentration, Malondialdehyde (MDA) levels, superoxide dismutase (SOD), interleukin-6 (IL-6) levels, and glutathione reductase (GR) was not significant.
Conclusion: According to our findings, omega-3 fatty acids provide a potential supplemental therapy to help improve oxidative stress and inflammatory biomarkers especially TAC and TNF-α in T2DM patients.
Keywords: Omega-3; Type 2 diabetes mellitus; Systematic review; Meta-analysis

Evaluating the Effect of COVID-19 Pandemic on Lifestyle of the Iranian Population: A Google Trend Analysis

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Introduction: Coronavirus disease 2019 (COVID-19) has caused a great health burden in the world. Motion restriction to reduce disease transmission has affected the lifestyle of people. Studies reported that the prevalence of obesity has increased since the emergence of the COVID-19 pandemic. The aim of this study was to evaluate the effect of COVID-19 social distancing and movement restrictions on healthy behaviors of the Iranian population through analyzing their search trend in Google website.
methods: This trend analysis study was conducted on the trend of search in Google.com website from November 2017 till December 2021. The search terms included obesity and weight loss and the trends were limited to the Iran geographic region. The annual search trends as well as search trends from December to May were compared between before and after COVID-19 movement restriction act (March 2020). Data was analyzed using the analysis of variance (ANOVA) test in the statistical package for social sciences (SPSS) version 16.
Results: A significant time effect was observed in search index for both obesity (p=0.023) and exercise (p=0.026) search terms. Search index was significantly higher for obesity from December 2018 to May 2019 compared to the same time period in 2017-2018 (p=0.022). The search index for exercise was significantly lower from December 2019 to May 2020 (p=0.032) and December 2020 to March 2021 (p=0.006) compared to the same time period in 2017-2018 with the lowest index observed in 2020-2021 time period.
Conclusions: The findings of this study showed a significant effect of COVID-19 and its movement restriction on the health behavior of the Iranian population.
Keywords: COVID-19, Lifestyle, Iranian population.

The effects of three-nut intake on cognitive and executive function in obese girls

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Childhood obesity is a major global challenge. It is also estimated that by 2030, 254 million children aged 5 to 19 worldwide and more than 3 million children in Iran will be obese.Numerous studies have shown that obesity has adverse effects on brain function. Nuts have the right combination of macronutrients and micronutrients. The aim of this study was to investigate the effect of nuts on the cognitive function of children with obesity.This study divided 90 children with obesity aged 8-10 years into two groups. Thirty grams of nuts daily were given to the intervention group for eight weeks. The Wechsler test assessed children's cognitive function.In this study, we showed a significant improvement in total Wechsler score, short-term memory, perception, space-visual-motor skills and information processing speed in intervention group, but no improvement in visual memory and numerical reasoning. No significant change was observed between two groups.Consumption of nuts improved cognitive in obese girls. However, no significant effect was seen in some indicators related to cognitive performance.

Dietary fat intake in relation to anxiety disorders in women: a cross-sectional study

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Background: The relationship between anxiety and dietary fat quality (DFQ) has not been well studied. The aim of the present study is to investigate the association of anxiety with fatty acids' intake in women.
Methods: Participants were 300 women aged 18-49 attending in healthcare centers. The 168-item semi-quantitative food frequency questionnaire (FFQ) was used for measuring dietary exposure and the Depression, Anxiety, and Stress Scale (DASS) questionnaire for determining the status of anxiety. The relationship between fatty acids intake and odd ratio (OR) for anxiety was analyzed by simple logistic regression.
Results: The prevalence of anxiety reported 37.7%. After adjustment for covariates, an increase in the OR for anxiety was observed across the quintuples of Index of atherogenicity (IA) (OR 3.06; 95% CI 1.29-7.29; p-trend=0.008) and Index of thrombogenicity (IT) (OR 5.55; 95% CI 2.15-14.29; p-trend=0.002). In addition, higher intakes of n-3:n-6 poly unsaturated fatty acids Index (OR 0.63; 95%CI 0.21-1.04; p-trend=0.04) were found to be related with lower OR of anxiety.
Conclusion: Intake of IA and IT were positively related to anxiety disorder, whereas of n-3:n-6 poly unsaturated fatty acids Index intake were inversely related to anxiety score. For investigating the association of fat intake and anxiety disorder, DFQ may be a useful measure.
Keywords: anxiety disorder, dietary fat quality, fatty acids.

Higher dietary fat quality and the lower risk of depression score in women: a cross-sectional study

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Background: Depression is one of the most common disorders in the world. Based on evidence dietary fat quality (DFQ) is more important than total fat in disease prevention. To our knowledge, so far: the relationship between depression and DFQ has not been well studied. The aim of this study was to evaluate the association between depression disorder and fatty acids' intake in women.
Methods: This cross-sectional study included 300 women aged 18-49 attending healthcare centers. The Depression, Anxiety and Stress Scale (DASS) to determine the status of depression and a 168-item semi-quantitative food frequency questionnaire (FFQ) for measuring dietary exposure were completed. The relationship between fatty acids intake and odd ratio (OR) for depression was analyzed by simple logistic regression.
Results: The prevalence of depression reported 30.7%. After adjustment for covariates, an increase in the OR for depression was observed across the quintuples of saturated fatty acids (SFAs) (OR 4.46; 95% CI 2.34-12.26; p-trend<0.001). Moreover, the higher intakes of monounsaturated fatty acids (MUFAs) (OR 0.79 ; 95%CI 0.28-0.98; p-trend=0.04), alpha-linolenic acid (ALA) (OR 0.08 ; 95%CI 0.05-0.34; p-trend<0.001), docosahexaenoic acid (DHA) (OR 0.35 ; 95%CI 0.18-0.81; p-trend=0.002) and eicosapentaenoic acid (EPA) (OR 0.31 ; 95%CI 0.15-0.86; p-trend=0.005) were found to be related with lower OR of depression.

Conclusion: SFAs was positively related to depression disorder, while MUFAs, ALA, DHA and EPA intake were inversely related to depression score. For investigating the association of fat intake and depression disorder, DFQ may be a useful measure.
Keywords: depression disorder, dietary fat quality, fatty acids

The Interaction of Fat Quality Indices and Caveolin-1 rs3807992 Polymorphism on Body Adiposity Index (BAI)

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Background: Caveolae are small flask-shaped invaginations of the plasma membrane that contain proteins called caveolin with 3 forms. Caveolin-1 is predominantly expressed in adipose tissue, and according to such studies, caveolin can be influenced and regulated by obesity and diet Therefore, we decided to investigate the interaction of fat quality indices and caveolin-1 rs3807992 polymorphism on body adiposity index (BAI).
Methods: We concluded 386 obese or overweight without any of the following: alcohol consumption, smoking, Cardiovascular disease (CVD), kidney failure, stroke, thyroid disease, liver disease, cancer, inflammatory illnesses, therapeutic medications, weight loss supplements, and supplements that affect weight. The caveolin-1 genotypes were measured by PCR-RFLP method. Anthropometric measurements, body composition, and biochemical parameters were assessed by standard approaches. A standard food frequency questionnaire (FFQ) was used to estimate the food intakes and fat quality indices (including cholesterol-saturated fat index (CSI) and W6/W3 ratio).
Results: We had 3 genotypes of caveolin-1 in this study with prevalence of 50% (193), 23.3% (103), and 25.5% (103) for AA, AG, and AA respectively. We saw a marginal significant positive association between two risk allele genotype group (AA) with BAI (β= 0.94, 95%CI= 0.006,4.33, P=0.06) after adjusted with cofounders. The interaction between two risk allele genotype group (AA) with W6/W3 ratio on BAI after adjusted with potential cofounders (age, physical activity, energy intake, education) was marginally positive (β= 14.08, 95%CI= -18.65,46.81, P= 0.07). The interaction between two risk allele group (AG) with W6/W3 ratio on BAI in comparison to reference group (GG) was negative but not significant (β= -6.45, 95%CI= -37.63,24.73, P= 0.68). the significance level was considered P ≤ 0.05 while P=0.06 were considered as marginally significant.
Conclusion: In conclusion, the relationship between caveolin-1 genotypes and W6/W3 ratio on BAI was marginally significant. In this regard, we recommend to perform further studies with bigger samples to get more significant results.
Keywords: Adiposity, Caveolin-1, Gene Polymorphism, Obesity.

Relationship between Mental health and Body Mass Index

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Background: Depression, anxiety and stress are currently the main health problems that cause disability in people and no one in the world will be safe against these problems. As many as 450 million people suffer from a mental or behavioral disorder, and around 3.6% (264 million) of the global population suffers from anxiety.
Methods: The Depression, Anxiety, and Stress Scale - 21 Items (DASS-21) is used to evaluate the mental health of subjects. The weight of the subjects is measured and recorded using the INBODY Model 270 BIA with an accuracy of 100 g. Individuals' height is measured with an accuracy of 0.1 cm using the INBODY Model BSM370. Body mass index is calculated by dividing the weight in kg by the square of height in meters.
Results: Regarding anxiety status, 81.8% of obese people and 79.3% of people who are in normal condition according to body mass index are in a state of severe anxiety. 63% of people with obese body mass index and 47.8% of people with normal body mass index have moderate stress. Regarding depression, 63.6% of obese people and 63.1% of people with normal body mass index have a severe state of depression.

Conclusion: In conclusion, we find a direct relationship between obesity and depression, anxiety and stress, and BMI correlate positively with mental health parameters.
Keywords: Depression, Anxiety, Mental Health

The Effect of Early Enteral Nutrition Supplemented with Synbiotics On Lipid and Glucose Homeostasis in Critically Ill Patients: A Randomized Controlled Trial

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Background: The aim of the present study was to investigate the effects of gut microbiota modulation through synbiotic supplementation on lipid and glucose homeostasis in tube-fed critically-ill adult patients.
Methods: This study is placebo-controlled, parallel, single-center, double-blind clinical trial. 42 patients were randomly distributed in placebo and synbiotic groups to receive intervention for a maximum of 14 days. Serum levels of fasting glucose, total cholesterol, and triglycerides, insulin, and free fatty acid were obtained from blood sampling at baseline and the end of the study. Also, insulin resistance was determined by homeostasis model assessment of insulin resistance (HOMA-IR).
Result: Fasting glucose level (Day0=87.84±15.51, Day14=83.76±8.71 mg/dl, P=0.51), fasting insulin level (Day0=9.46±7.31, Day14=7.97±5.19 mIU/L, P=1.00), and HOMA index (Day0=1.89±1.48, Day14=1.72±1.17, P=0.75) during the study were decreasing in both groups, but the decreases were not significant. Total cholesterol, triglyceride, and free fatty acid levels at the beginning of the study were 114.18±43.43 mg/dl, 146.59±53.99 mg/dl, 0.83±0.57 mmol/L, and at the end of the study were 129.10±39.05 mg/dl, 127.40±91.88 mg/dl, 0.88±0.77 mmol/L, respectively. None of these changes were significant either (P=0.99, P=0.38, P=0.90, respectively).
Conclusions: According to our findings, synbiotics supplementation in critically ill patients has no significant effect on lipid and glucose profile.
Keywords: Critical illness, synbiotic, probiotic, Glucose homeostasis, Lipid profile homeostasis, cardiovascular markers.

Factors associated on obesity and abdominal obesity; results from Kurdish population- based study

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Introduction: Obesity is medical condition that increases the risk of non- communicable diseases. The aim of this study was to report of obesity status, abdominal obesity, and factors affecting them among participants of Ravansar non- communicable diseases (RaNCD) study.
Methods: This study was applied data from baseline phase of RaNCD cohort study on 10000 Kurdish adults. Participants based on the body mass index (BMI) were categorized in underweight, normal, overweight, and obese. Abdominal obesity was defined based on the International Diabetes Federation (IDF) criteria. To evaluate factors affecting obesity, structural equation modeling was applied by estimate standardized coefficient.

Results: Based on the BMI, 43.35% (n=4355) of the participants had overweight and 26.91% (n=2703) of them were obese. Based on the IDF criteria, 79.37% (n=7967) had abdominal obesity (61.3% of men and 95.5 % women). The direct effect of socioeconomic status (SES) on overweight and obesity was − 0.070, the indirect effect was 0.127, and the total effect was 0.057. The indirect effect through three variables such as physical activity, dietary pattern, and smoking status, on the outcome.
Conclusion: This study indicated high prevalence obesity in Kurdish population especially abdominal obesity in women. Lack of physical activity, unhealthy dietary patterns, and smoking could develop overweight and obesity. Therefore, the need for weight loss interventions and strategies to prevent chronic non-communicable diseases is seen.
Keywords: obesity; abdominal obesity; physical activity; dietary pattern

Sexual hormones, inflammatory factors, and expression of TNF- α gene improves after intervention with low calorie diet and green cardamom; a randomized clinical trial on PCOS obese women

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Background: Polycystic ovary syndrome (PCOS) is a hormonal disorder may indicate with infrequent or prolonged menstrual periods or excess male hormone (androgen) levels and low-grade inflammation. This randomized clinical trial was performed to determine effect of low-calorie diet (LCD) and green cardamom on sexual hormones, inflammatory factors, and expression of TNF- α gene in PCOS obese women.
Methods: A total 194 obese PCOS women were randomly categorized in intervention (n=99) and control groups (n=95). Both of them were undergone the LCD and intervention group was received three g/day green cardamom for 16 weeks. Sexual hormones including Luteinizing hormone (LH), follicle-stimulating hormone (FSH), thyroid stimulating hormone (TSH), testosterone, prolactin, androstenedione, and dehydroepiandrosterone (DHEA), as well as including tumor necrosis factor-a (TNF-α), Interleukin 6 (IL-6), and C- reactive protein (CRP) were assessed in fasting venous blood. TNF-α gene expression level was measured using reverse transcription-polymerase chain reaction (RT-PCR) method.
Results: After intervention with LCD and green cardamom, the serum levels of FSH, LH, androstenedione, and DHEA were significantly improved (P<0.001). We observed that TNF-α, IL-6, and CRP serum levels were significantly reduced in this group (P<0.001). Furthermore, expression levels of TNF-α gene was significantly decreased in the intervention groups (P<0.001). The serum level of testosterone and prolactin did not change in either studied group.
Conclusions: According to the results of this trial, it seems that consuming green cardamom with LCD is a suitable and effective strategy to improve androgen hormones and inflammatory status in obese PCOS women.
Keywords: Polycystic ovary syndrome; inflammation; obesity; hormones

The association between dairy products and the risk of COVID-19 in a large sample of Iranian adults

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Background: The fast spread of the coronavirus disease 2019 (COVID-19) epidemic and its high mortality were quickly noticed by the health community. Dairy products have been recognized as part of a healthy diet that helps strengthen body immunity and prevent infections. The present cross-sectional study can provide a comprehensive picture of the associations between dairy products consumption and COVID-19 incidence.

Methods: This cross-sectional study was undertaken on 8728 adults participants of Yazd Health Study (YaHS) and Taghzieh Mardom-e-Yazd (TAMIZ) study aged 20 to 70 years. Data on dietary intakes were obtained using a validated food frequency questionnaire (FFQ). Multivariable logistic regression analysis was used to assess the association between dairy consumption and COVID-19.
Results: Our finding indicated that moderate intake of total dairy (OR: 0.63, 95% CI 0.46-0.87, P-trend= 0.97) could reduce the odds of COVID-19 and higher intake of low-fat dairy products (OR: 0.51 CI: 0.37– 0.69, p- trend <001) and low-fat milk (OR:0.47 CI:0.35-0.64, p- trend <001) had a protective effect on COVID-19 after adjusting for confounders. However, higher intake of high-fat-dairy-product (OR:1.40 CI:1.09-1.92, p-trend=0.03), high-fat milk (OR:1.54 CI:1.20-1.97, p-trend 0<001), total yogurt (OR:1.40 CI:1.04-1.89, p-trend=0.01), cheese (OR:1.80 CI:1.27-2.56, p-trend =0.001), and butter (OR:1.80 CI:1.04-3.11, p- trend =0.02) were related to increase the odds of COVID-19.
Conclusion: Moderate intake of total dairy could reduce odds of COVID-19 by 37% and, a higher intake of low-fat dairy products had a protective role on COVID-19.
Keywords: Dairy, dairy products, milk, COVID-19

The association between vitamin B and the risk of COVID-19: in a large sample of Iranian adults

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Background: The outbreak of coronavirus is one of the health problems of human society that has caused many deaths around the world. Vitamin B is an essential micronutrient for the body that has antioxidant, anti-inflammatory, and immune-regulating properties. The present cross-sectional study can provide a comprehensive picture of the associations between vitamin B and COVID-19 incidence..
Methods: This cross-sectional study was undertaken on 8728 adults participants of Yazd Health Study (YaHS) and Taghzieh Mardom-e-Yazd (TAMIZ) study aged 20 to 70 years. Data on dietary intakes were obtained using a validated food frequency questionnaire (FFQ). Multivariable logistic regression analysis was used to evaluate the association between vitamin B and COVID-19.
Results: Our finding indicated that a higher intake of vitamin B5 had a protective role on COVID-19 (OR: 0. 53 CI: 0.28– 0.99, p- trend =0.02). In addition moderate intake of vitamin B12 (OR: 0.63, 95% CI 0.40-0.98, P-trend= 0.11) could reduce odds of COVID-19 after full adjustments for confounders. Our findings indicated no significant relationship between dietary intake of vitamin B1, B2, B3, B9, and B-complex and COVID-19.
Conclusion: Higher intake of vitamin B5 could reduce odds of COVID-19 and, moderate intake of vitamin B12 had a protective role on COVID-19. Although our study has promising results, stronger clinical studies are needed.
Keywords: Vitamin B, Vitamin B9, Vitamin B9, COVID-19

The association between plant-based diet index with with insomnia and poor quality of life in Iranian adolescent girls

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Background: We evaluated the association between plant base diet(PDI), Unhealthy PDI(uPDI) and healthful PDI(hPDI) with insomnia and poor quality of life in Iranian adolescent girls.
Methods: In this cross-sectional study, 733 adolescent girls were included from Mashhad and Sabzevar cities in northeastern Iran. The validated Iranian version of the Insomnia Severity Index and SF-12v2 questionnaire were used to assess insomnia and poor quality of life, respectively. A valid and reliable food frequency questionnaire was used for dietary intakes of the study participants.

Results: Our study shown that subjects in the highest quartile of hPDI had lower odds of insomnia compared to the first (OR: 0.50; 95% CI: 0.27–0.91, P = 0.02) in crude model. This *association remained significant* after adjustment for potential confounders. Subjects in the highest quartile of uPDI had higher odds of poor quality of life compared to the first (OR: 1.71; 95% CI:1.12–2.63, P = 0.01) in crude model. After adjusting for age, energy intake, physical activity and percentile BMI, this association was *remained significant*.

Conclusion: Higher intake of a plant-based diet index rich in healthier plant foods is associated with lower odds of insomnia, while a plant-based diet index that emphasizes less healthy plant foods is associated with higher odds of poor quality of life. In future, more investigations are needed in this era.

Keywords: Insomnia; Quality of life; Plant base diet, Food.

The relation between dietary phytochemical index and metabolic syndrome and its components in a large sample of Iranian adults: A population-based study

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Background: Despite the protective effects of foods being rich in phytochemicals against chronic diseases, this issue is still poorly understood. The aim of this study was to investigate the association between Dietary Phytochemical Index (DPI) and metabolic syndrome (MetS) and its components.

Methods: This cross-sectional study focused on adults aged between 20 and 70 years. The dietary intake was assessed using a validated and reliable food frequency questionnaire. DPI was calculated based on dietary energy, derived from phytochemical-rich food sources (kcal) per total daily energy intake (kcal). The odds ratio of MetS and its components were assessed across DPI quartiles by logistic regression models.

Results: After adjustment for all potential confounders, the risk of MetS (OR: 0.63, 95% CI= 0.41-0.96) and elevated blood pressure (OR: 0.62, 95% CI= 0.40-0.96) in the second category of DPI decreased significantly as compared to that in the first category. Subjects in the second and fourth quartiles of DPI with adjusting for age, sex and total energy intake revealed 30% and 25% lower risk of abdominal obesity, respectively. After full adjustment for confounders, the analysis stratified by sex showed women in the highest quartile of DPI had 59% lower risk of MetS (OR: 0.41, 95% CI= 0.22-0.76) as compared to those in the lowest quartile of DPI.

Conclusions: Greater adherence to phytochemical-rich diet could reduce odds of MetS and some components, especially in women. Further studies with intervention approaches are recommended.

Key words: Dietary Phytochemical Index, Metabolic syndrome, Phytochemical-rich foods, Triglyceride, Hypertension, Iran.

Soy, Soy Isoflavones, and Protein Intake in Relation to Mortality from All Causes, Cancers, and Cardiovascular Diseases: A Systematic Review and Dose-Response Meta-Analysis of Prospective Cohort Studies

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Background: The purpose of this dose-response meta-analysis study is to determine the

associations between intakes of soy, soy isoflavones, and soy protein and the risk of mortality from all causes, cancers, and cardiovascular diseases.
Methods: Online databases were systematically searched to identify relevant articles published earlier than May 2018. We applied restricted cubic splines using random-effects analysis to evaluate dose-response associations. Between-study heterogeneity became assessed by the I2 value and Cochrane Q test.
Results: In the study, 23 prospective studies with an overall sample size of 330,826 participants were included in the current systematic review and the meta-analysis. Soy/soy products consumption was inversely associated with deaths from cancers and cardiovascular diseases. Such significant associations were also observed for all-motive mortality in some subgroups of the included studies, particularly those with higher quality. Participants in the highest category of dietary soy isoflavones intake had a 10% lower risk of all-cause mortality compared with those in the lowest category. We also found that a 10-mg/day increase in intake of soy isoflavones was associated with a 7% and 9% decreased risk of mortality from all cancers and also breast cancer respectively. Furthermore, a 12% reduction in breast cancer death was indicated for every 5-g/day increase in intake of soy protein.
Conclusions: Soy and its isoflavones may favorably influence the risk of mortality. In addition, soy protein intake was associated with a decreased risk of breast cancer mortality.
Keywords: Soy ، Soy isoflavones ، Soy protein ، Meta-analysis ، Cancer ، Cardiovascular.

Vitamin D, antioxidant vitamins and trace element supplementation in critically ill patients: A review of recent meta-analyses

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Background: Critical illness is a major promoter of systemic inflammation and organ failure due to oxidative stress, excessive free radical production, and depletion of antioxidant defenses. The aim of this review was to provide a review of recent meta-analyses to determine the effects of vitamin D, antioxidant vitamins (E, C, and β-carotene), selenium, and zinc supplementation in critically ill patients.
Methods: Relevant studies were searched in international databases including PubMed/MEDLINE, Science Direct, Scopus, Cochrane Central Library, and Google Scholar up to November 2021. Meta-analysis studies investigating the effects of vitamin D, antioxidant vitamins, and trace elements on outcomes of clinical illness were included in this review.
Results: Overall, the results of 31 meta-analyses were reported in the study. The beneficial effects of vitamins D, C, and selenium supplementation in reducing over-all mortality, length of stay in hospital and intensive care unit, secondary infection, duration of mechanical ventilation and other adverse effects related to hospitalization were reported in a number of studies. Adverse and insignificant results were reported regarding vitamin A, vitamin E, β-carotene, and zinc supplementation in critically ill patients.
Conclusion: Timing, dosage, and duration of the supplementation still need to be clearly defined. Larger randomized trials are warranted to fully assess the effect of vitamins D, C, and selenium supplementation in the critically ill as adjuvant therapy to routine medications.
Keywords: Vitamin; Trace-element; Antioxidant; Supplementation; Critical illness; Intensive care unit.

Dietary total antioxidant capacity and mortality from all causes, cardiovascular disease and cancer: a systematic review and dose–response meta-analysis of prospective cohort studies

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Background: Current meta-analysis of prospective cohort studies was done to summarize available findings on the association between dietary total antioxidant capacity (DTAC) and risk of death from all-cause, cancer, cardiovascular diseases (CVDs).
Methods: Online databases were searched to detect relevant publications up to January 2018, using relevant keywords. To pool data, either a fixed-effects or random-effects model was used. Furthermore, linear and non-linear dose-response analyses were also done.
Results: In a follow-up period of 4.3–16.5 years, there were 38,449 deaths from all-cause, 4470 from cancer, 2841 from CVDs among 226,297 individuals. A significant inverse association was found between DTAC and all-cause mortality (combined effect size: 0.62, 95% CI 0.60–0.64). Such finding was also seen for cancer (combined effect size: 0.81, 95% CI 0.75–0.88) and CVD (combined effect size: 0.71, 95% CI 0.63–0.82) mortality. Findings from linear dose-response meta-analysis revealed that a 5 mmol/day increment in DTAC based on ferric reducing antioxidant power (FRAP) and oxygen radical absorbance capacity (ORAC) became associated with 7% and 15% lower risk of all-cause mortality, respectively. Based on findings from non-linear dose-response meta-analysis, a significant reduction in risk of all- motive mortality was seen when increasing FRAP from 2 - 12 mmol/day (P-nonlinearity = 0.002) and ORAC from 5 - 11 mmol/day (P-nonlinearity < 0.001).
Conclusions: Adherence to diet with high total antioxidant capacity was associated with decreased risk of death from all-cause, cancer, CVDs.
Keywords: Antioxidants ، Mortality ، Meta-analysis ، Cancer ، Cardiovascular.

Food safety in crisis

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Introduction: Achieving food security is an important issue worldwide. Disasters and emerging diseases have affected access to healthy food for consumers through the disruption of agricultural production. People living in developing and poor countries are most affected by changes in food prices, natural disasters, and cross-border diseases. This study aimed to discuss the principles of food safety in crises and hazards.
Methods: The keywords "food safety" and "foodborne", crisis, emergency, disaster, and outbreak were searched in the PubMed and Google Scholar databases from January 2015 to December 2021 in English. In connection with the abstract and the purpose of the articles, related articles were selected.
Results: Results of evaluating 15 Articles indicated that during or after crises such as climate change, floods, hurricanes, and tsunamis, pathogens such as Salmonella SPP., Vibrio SPP., and Campylobacter and food-related infections such as hepatitis A, typhoid fever, and diarrheal diseases such as cholera put the population at risk of illnesses.
Conclusion: The results showed that problems such as famine and foodborne infection disease occur after the crisis. Therefore, there must be three different areas, including risk assessment(RA), risk management(RM), and risk communication(RC). The RA is a method combining all technical and scientific information available, and all uncertainties and variability of the data. RM cycle has four central phases: reduction, readiness, response, and recovery. RC is needed to provide accurate and transparent information to external stakeholders and the people to propagation the RM decisions taken for increasing its acceptance.
Keywords: Food safety-crisis-Disaster-food borne

The reduction of food waste and its environmental impacts in a Campus Canteen in Iran: an intervention study

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Background: Population growth urges all stakeholders to tackle the problem of food losses and food waste, particularly in light of their cost and environmental impacts. In this study, to determine the amount of food waste in a restaurant located at the university in Iran through the interview and weighing method.
Methods: The data was obtained from 300 students attending the canteen of Shahid

Beheshti University of Medical Sciences in Tehran (Iran), where the food waste occurring at lunchtime was measured for a total of almost 26 meals. Later estimate environmental tolls of the food waste.
Results: After intervention focusing on nutrition education designed for students, a decrease in food waste was observed compared with beginning, from 60.65 to 50.73 g per person. In addition, the amount of gray water was reduce significantly by 12.5%, from 43.75 to 25.69 m3 p value=0.033).
Conclusion: Nutrition education designed for students was more effective in reducing food waste. Moreover, the research results can provide a policy-making basis and data support for reducing food waste in universities and realizing water footprint reduction in university canteens
Keywords: Food Waste, Campus Canteen, Environmental Effects, Iran

The effects of propolis supplementation on cardiometabolic parameters: A systematic review and meta-analysis of randomized controlled clinical trials

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Background: Different biological properties of propolis and its extracts have been recognized in previous investigation including the antiseptic, anti-inflammatory, antioxidant, antiviral, hepatoprotective, antitumor, antibacterial and antimycotic properties. Our aim was to summarize the effect of propolis on metabolic parameters in human adults in this systematic review and meta-analysis study.
Methods: A comprehensive systematic search was conducted in ISI Web of Science, PubMed, Scopus, and Google Scholar up to July 2020 for controlled clinical trials evaluating the effect of propolis on lipid profile and liver enzyme biomarkers. A random effects model was used to calculate the weighted mean difference (WMD) and 95% confidence interval (CI) as the difference between the mean for the intervention and control groups.
Results: The present study included six randomized controlled trials. There was significant reduction in Aspartate Aminotransferase (AST) in comparison to the control groups (WMD=-2.01; 95% CI: -3.93--0.10; p=0.039). However, a non-significant effect was observed in Triglycerides (TG), Total cholesterol (TC), low-density lipoprotein (LDL), High-density lipoprotein (HDL) (WMD=-0.05 mg/dl; 95% CI: -0.27-0.18; p=0.688; WMD=7.08 mg/dl; 95% CI: -37.31-51.46; p=0.755; WMD=-0.94 mg/dl; 95% CI: -6.64-4.77; p=0.747; WMD=3.14 mg/dl; 95% CI: -1.84-8.13; p=0.216, respectively).
Conclusion: Current study found that propolis supplementation can reduce AST; nevertheless, non-significant effect had been seen on lipid profile indices and ALT.

Protein-Energy Malnutrition in liver-transplant patients in Iran

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Background: Chronic liver disease is often associated with malnutrition, the severity of which can range from micronutrient deficiencies to protein-calorie malnutrition (defined as insufficient protein and calorie intake). Protein-Energy malnutrition is associated with increased short- and long-term mortality in patients with chronic and acute liver disease, including liver transplant patients. It is believed that preoperative malnutrition in liver transplant patients could be associated with increased length of ICU stay, a high mortality rate, and length of hospital stay. This study aimed to evaluate the prevalence of protein-energy malnutrition in patients undergoing liver transplantation.
Methods: This cross-sectional study was conducted in Montaserieh Hospital of Mashhad and Firoozgar Hospital of Tehran from May to September 2021 on liver transplant patients who

were clinically assessed before and after the transplantation. In this study, the food intake of patients was assessed by using a 3-day food record as well as the measurement of basal metabolic rate (BMR), total energy expenditure (TEE), energy balance (EB), and anthropometric indices including height, weight, and body mass index (BMI).

Results: In this study, forty-three patients underwent liver transplantation procedure, where men accounted for 58.1% of patients and the mean age and BMI were 48.4±14.2 years and 24.5±5.4 *kg*/, respectively. The mean model for end-stage liver disease (MELD) score was 16.8±5.9. Energy balance was negative in 90.7% and protein intake of less than 1.2 g/kg was observed in 69.8% of patients before liver transplantation. Calorie and protein deficiency had no significant relationship with age and MELD score(P>0.05).

Conclusion: Negative energy balance and low protein intake were prevalent in liver-transplant patients. Therefore, current study findings demonstrate the importance of patients' nutritional assessment, including their food intake. Thus, suggesting what clinical nutritional interventions could be used as the most suitable approach in these patients if needed.

Keywords: Energy balance, Food intake, Liver-transplantation, Protein-energy malnutrition.

Probiotics as an adjunct therapy in mechanically ventilated patients: An umbrella systematic review and meta-analysis

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Introduction: The literature regarding the role of probiotics in critically ill patients is unclear; therefore, this umbrella systematic review and meta-analysis was carried out to clarify the effects of probiotics on the clinical outcomes of mechanically ventilated patients.

Methods: The Scopus, Pubmed/Medline, and ISI Web of Science online databases were searched up to November 2021. All meta-analyses evaluating the impact of Pro-, Pre-, or Synbiotics in patients under mechanical ventilation were considered eligible. The Cochran Collaboration's checklist was used to evaluate studies' quality. Data were pooled using the random- and fixed-effects approach.

Results: Eighteen meta-analyses and nine clinical outcomes were re-analyzed. Probiotics significantly decreased ventilator-associated pneumonia (VAP) incidence (ES=0.72; 95% CI: 0.69, 0.76; P<0.001) ($I2$=48.4%, P=0.019)}, nosocomial infection {(ES=0.69; 95% CI: 0.62, 0.76; P<0.001) ($I2$=4.1%, P=0.405)}, intensive care units (ICU) length of stay {(ES=-0.83days; 95% CI: -1.23, -0.43; P<0.001) ($I2$=57.0%, P=0.002)}, ICU mortality {(ES=0.88; 95% CI: 0.81, 0.95; P<0.001) ($I2$=0.0%, P=0.998)}, hospital mortality {(ES=0.85; 95% CI: 0.78, 0.91; P<0.001) ($I2$=0.0%, P=0.815)}, mechanical ventilation duration {(ES=-0.18days; 95% CI: -0.35, -0.02; P=0.031) ($I2$=40.4%, P=0.079)}, antibiotic use {(ES=-1.17days; 95% CI: -2.08, -0.27; P=0.011) ($I2$=66.8%, P=0.006)}, and diarrhea {(ES=0.84; 95% CI: 0.76, 0.92; P<0.001) ($I2$=2.9%, P=0.417)}. There was no significant effect of probiotics supplementation on length of hospital stay (ES=-0.47days; 95% CI: -1.03, 0.09; P=0.103) ($I2$=0.0%, P=0.774).

Conclusion: The obtained results of the current umbrella meta-analysis indicate that probiotics administration could be considered as an adjunct therapy for critically ill patients.

Keywords: Critical illness; Mechanical ventilation; Probiotics; Systematic review; Umbrella meta-analysis.

The association between eating disorders with body image in young athletes

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Background: Adolescents have particular attention to their body weight and shape for a variety of reasons. Eating disorders are one of the most important psychological disorders, but the main cause of these disturbances is not yet well known.
Methods: This descriptive-analytic study was performed on 225 athletes aged 12 to 30 years, who were active in their sports disciplines in Tehran for more than a year. Eating disorder was confirmed by (EAT-26), The BSQ-8B, was used to measure athletes' concerns about their body shape. Data were analyzed using SPSS 25.0
Result: The percent of female athletes was 57.4% of interviewees. 6.4% of athletes had marked concern with their body shape and 49.3% expressed no concern with their body shape. There was a negative correlation between Eating disorders with Body image (r=-0.367). Athletes with eating disorder criteria were more concerned about their body shape.
Conclusion: Results suggest that improvement in body image is associated with decreases in eating disorder outbreaks.
Keywords: athletes, eating disorder, body image

The effect of green tea extract on kidney stones

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Introduction: The role of green tea in the formation of urinary stones is controversial. According to the recent studies, the effect of green tea extract on kidney stones in human has not been clarified. Therefore, this study investigated the effect of green tea extract on stone formation in patients with kidney stones.
Methods: In this double-blind randomized clinical study, 50 individuals with calcium kidney stones were randomly divided into two groups: the group receiving green tea extract supplement (225 mg twice daily) and the control group (received placebo). At the beginning and end of the study, pH, urinary oxalate and urinary citrate and the size and number of kidney stones were measured. Furthermore, demographic variables, BMI, BMR, BPF and VF of participants were measured.
Results: Our study showed that 12 weeks of intervention with green tea extract did not have a significant effect on the number and size of stones, anthropometric factors and body fat percentage in patients. As well, no significant changes were observed in excretion of oxalate and citrate.
Conclusion: Results showed that the consumption of green tea extract, did not lead to a significant reduction in risk factors for kidney stones, although the increment in the level of these variables was halted. However, further human studies are remained to be elucidated.
Keywords: Green tea extract, kidney stone, Stone size.

Educational intervention based on model and behavior control in diabetes

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Introduction: Diabetes is one of the most debilitating diseases that impose economic burden for both patients and health care system.

The use of recently invented theories and models in nutritional education of patients can play an important role on behavior changes.
Methods: This interventional study was performed on 110 elderly people recognized with type 2 diabetes in Mallard city (55 people in each intervention and control groups). The intervention group was educated based on the theory of stages of change with 2 face-to-face sessions following 3 months by telephone monitoring. Glycemic indices were collected before and after the intervention. The study tool was a valid and reliable questionnaire of change stages as well as biochemical tests before and after intervention. Data analyzed by using SPSS software version 24.
Results: After three months of intervention, FBS and HbA1c decreased significantly (p<0/001) in intervention compared to control group. As well, the total self-care score increased significantly (p<0/001).
Conclusion: Prevention always coms precedence to treatment, although, education is cost effective. This method of training can affect the behavioral and biochemical factors of diabetic patients.
Keywords: Diabetes, Intervention, Trans theoretical Model.

Relation between Spiritual Health with body composition before and after Ramadan

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Background: One of the most important socio-cultural factors related to mental health is spiritual health. In recent years, different aspects of health including spiritual health has gained great interest. This study investigated the fasting behavior on human body, soul and spirit.
Method: In this study 102 university staff participated. Spiritual health was assessed with a valid 48-item questionnaire. Body composition was measured using an Inbody J30 bioelectric impedance device, before and after Ramadan and data analyzed using SPSS software version 22.
Result: Average scores of cognitive, emotional, and behavioral components (including relationship with God and/or self and relationship with the environment), increased significantly after Ramadan (P-value<0.05). Body composition indices (Weight, Target weight, BMI, Obesity degree, WHR, Arm muscle circumference and etc.) changed significantly (P-value<0.05).
Conclusion: Fasting during the holy month of Ramadan increases the score of spiritual health. Spiritual health includes three main dimensions, insight, orientation and behavior which in general increased the total score of spiritual health after Ramadan.
Key words: Body composition, Fasting, Spiritual health.

The sufficency of dietary and nutritional intakes in military

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Due to high-intensity activities and having a stressful life, the military needs a healthy diet that is appropriate to their specific circumstances, because a military must be at an optimal level of performance to be able to fight and cope. Therefore, all military forces must be aware of the relationship between proper diet and physical strength required for physical activity. In this study, a comprehensive search was made within PubMed, Scopus Embase and Google Scholar. The result of conducted studies shows lack of dairy intake is more common among food pyramid groups. In addition to milk and dairy, the military does not seem to have enough access to some other nutrients and food groups, such as vegetables, fruits, protein sources, and omega-3s. Nevertheless, Calcium deficiency in soldiers usually occurs due to insufficient dietary calcium intake and excessive loss through sweat. It is also possible to increase the need for calcium due to stress caused by strenuous activity as another cause of calcium deficiency. According to the evidence, adequate calcium intake has a positive effect on the military performance of soldiers. . Heavy military activity can lead to iron loss due to sweating.

That's why the RDA (Recommended Dietary) for the military is 12 mg/day.

Keywords: military،Nutrition status،Nutrient deficiency،nutritional intakes

Perceived Challenges of the national iron supplementation in Iranian high school girl students from the perspective of stakeholders: a content analysis qualitative

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Background: The main cause of anemia in the body is iron deficiency. Iron supplementation is one of the effective methods for reducing iron deficiency and iron-deficiency anemia in women. Accordingly, the present study aimed to determine the challenges of national iron supplementation in female students from the perspective of stakeholders.
Methods: This is a qualitative study of content analysis that was conducted in Gonabad city in 2017. Data were analyzed by semi-deep interviews and focus group discussion method. Participants in the present study included high school girl students, parents, school principals, and school health educators. The sampling in the present study was targeted and collected data continued until data saturation. Data management was done with NVivo software, version 11, but data analysis and interpretation were done manually. Also, data were analyzed using the five steps of Graneheim and Lundman.
Results: Based on the stakeholder's perspectives, 12 themes of perceived executive or management benefits, perceived individual benefits, physical disadvantages, tablets disadvantages, disadvantages of the program, disadvantages of programming, barriers of pill consumption, educational and information barriers, management and administrative barriers, reform the shape of pills, individual perception modification, and modifying the executive program were effective in the national iron supplementation.
Conclusions: Based on the results for implementation a more effective Iron supplement program, it is necessary to design and implement appropriate interventions at individual and interpersonal levels. Also, at the level of inter-organizational and intra-organizational, it is necessary to increase coordination and cooperation.

Keywords: Iron supplement, Qualitative study, adolescents

The effects of magnesium and vitamin E co-supplementation on lipid profile in patients with metabolic disorders: A meta-analysis

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Introduction: Increasing attention has been paid to the use of a combination of magnesium and vitamin E, which may improve the metabolic profile in patients with metabolic diseases. The aim of this meta-analysis of published randomized controlled trials (RCTs) was to summarize the impact of the effects of magnesium and vitamin E co-supplementation on lipid profile in patients with metabolic disorders.
Methods: A systematic search was carried out in PubMed, Scopus, Web of Science, the Cochrane library, and Embase databases for all randomized controlled trials (RCTs) studies published before February 2020 using relevant keywords. A total of 4 studies meets the eligibility criteria.119 individuals were allocated to intervention and 118 participants were allocated to the control group. The risk of bias of each of the studies was evaluated using the Cochrane Collaboration risk of bias tool. Data were pooled using the random-effects method and were expressed as weighted

mean difference (WMD) and 95% confidence intervals (CI).
Results: Our meta-analysis indicated that the co-supplementation with magnesium and vitamin E resulted in a significant decrease in serum TG (WMD: -26.97 mg/dL, 95% CI: - 46.03, -7.90, p = 0.006), TC (WMD: -15.89 mg/dL, 95% CI: -24.39, -7.39, p < 0.001), and LDL (WMD: -11.37 mg/ dL, 95% CI: -19.32, -3.41, p = 0.005). Moreover, there was no significant heterogeneity for all of the variables except for TG (I2 = 80.7%, p= 0.006).
Conclusions: The present study indicates that the beneficial effects of magnesium and vitamin E co-supplementation on serum levels of total cholesterol, TG, LDL, and did not affect HDL in patients with type 2 diabetes.
Keywords: Vitamin E Magnesium Co-supplementation, Meta-analysis, lipid profile.

Malnutrition Prevalence among Iranian Cancer Patients: A Systematic Review

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Background: Malnutrition is common in cancer patients. In addition to malnutrition's impact on cancer prognosis, it may increase morbidity, infection, length of hospital stay, days away from work, and the burden of disease. Also, decreased treatment effectiveness may affect the quality of life and survival. This study aimed to assess the prevalence of malnutrition among cancer patients in Iran.
Methods: Database including PubMed, Scopus, Magiran, and SID were searched until September 2021. Among 390 articles, 16 met the criteria for review.
Results: the prevalence of malnutrition among different types of cancer was ranged from 44.6 to 98%. The worst nutritional status was reported in postoperative patients, reaching 98% within seven days after surgery. Malnutrition was found up to 98%, which was worst in upper gastrointestinal cancer patients. Most of the investigated patients were not referred for nutritional counseling.
Conclusion: Malnutrition is prevalent among Iranian cancer patients even at the time of diagnosis. Thus, early nutritional screening and intervention are crucial for a better outcome.
Keywords: Malnutrition, Neoplasms, Nutritional status.

Management of nutrition in pediatric dysphasia, the role of speech-language pathologists

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Introduction: Dysphagia is a common problem in the pediatric intensive care unit (PICU). Etiologies of dysphagia may involve the following categories: neurologic, respiratory disease, gastrointestinal, anatomic abnormalities, and unknown condition. Optimal management is critical for children who have feeding and swallowing problems and is done as teamwork which caregivers with clinicians work toward Improvement each child's condition to bring them to a safe and efficient nutritional status. Due to the importance of the subject, the purpose of this study is to investigate the role of speech and language pathologists in the treatment of dysphagia pediatrics.
Method: This article is a review of research published between 2010 and 2021 in Science Direct, Elsevier, and MEDLINE databases.
Result: Studies have shown that speech and language pathologists as an important member of the treatment team, typically treatment focused on dietary adjustment, posture changes, compensatory maneuvers, and interventions to improve swallowing function.
Conclusion: Incorporating speech-language pathologists in the routine management of pediatric dysphagia in the PICU, can result in faster functional improvement and better patient outcomes. Nevertheless, further and larger studies in the role of SLPs in the management of pediatric dysphagia are required to support the related interventions and strategies for more success in treatment in the future.
Keywords: speech and language pathology, PICU, Dysphagia.

Changes in post-diagnostic macronutrient intake parameters of patients with breast cancer following dietary interventions: a systematic review and meta-analysis of controlled trials

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Introduction: Several studies have revealed that macronutrient intake parameters remarkably affect the survival of patients with breast cancer (BC). We conducted a systematic review and meta-analysis of controlled clinical trials to clarify the effects of dietary interventions on macronutrient intake (carbohydrate, protein, and total fat) among this valuable population.
Methods: We searched Scopus, PubMed, ISI, WOS, and Embase (through June 2021) databases. Mean differences and standard deviations for each outcome were pooled using a random-effects model. Quality of evidence was evaluated using Cochrane Collaboration RoB2 and GRADE methodology.
Results: Twenty studies (n=4608 participants) were included. Meta-analyses revealed that dietary interventions resulted in lower fat intake (17studies, n=4316, WMD=-7.5; 95%CI: -7.8,-7.2 %of energy; P<0.001; I^2=85.6%; P-heterogeneity<0.001) among patients with BC. We observed no significant effects of dietary interventions on protein and carbohydrate intakes. Subgroup analysis showed that fat intake was significantly reduced in studies that included patients who were before their surgical and chemotherapy/radiotherapy treatment process (3studies, n=118; WMD=-5.9; 95%CI: -8.4,-3.6%of energy; P<0.001; I^2=0.9 %; P heterogeneity=0.7). Remarkable reduction in daily fat intake were observed in studies which applied nutrition education as a dietary intervention (2studies, n=100; WMD=-5.8; 95%CI: -9.0,-2.6%of energy; P<0.001; I^2=0.0 %; P-heterogeneity=0.7). The evidence also supports that dietary carbohydrate and fat intake improved when the dietary intervention was less than 24 weeks.
Conclusion: Following a proper dietary intervention would result in beneficial effects on the macronutrient intake of patients with BC.

Keyword: Breast Neoplasms, Cancer Survivors, Dietary Fat, Diet Therapy.

Frequency pf Sodium, Potassium and Acid-Base Disorders in Dialysis Patients

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Introduction: We aimed to define the frequency of sodium, potassium and acid -base disorders in dialysis population considering age, gender, dialysis modality, duration of dialysis, and used drugs.
Methods: From June to December 2020 dialysis patients of Dr.Sheikh children hospital were assessed. The frequency of sodium, potassium and acid-base disorders calculated. The mean sodium, potassium, pH and serum bicarbonate levels were compared considering gender, dialysis modality, age and duration of dialysis, and used drugs.
Results: 71 patients aged 125 ± 67 months were enrolled including 57.7% boys, 54.9% were under peritoneal dialysis (PD) and 45.1% under hemodialysis (HD). Hyponatremia , hypernatremia , hyperkalemia , hypokalemia , PH <7.31 and >7.41 , bicarbonate <23 and > 29 mmol/l were reported in 32.4% , 2.8% , 53.5% , 2.8% , 15.5% , 40.9%, 85.9 and 7.05% of patients , respectively .Frequencies of sodium , potassium and acid –base disorders were not significantly different considering age, gender and duration of dialysis (P> 0.05 for all) .However hyponatremia, hyperkalemia, PH>7.41 and bicarbonate > 29 mmol/l were significantly more frequent in HD versus PD patients (P< 0.05 for all). Furosemide significantly were used by patients with hyponatremia and PH >7.41, and Enalaprile in those with hyperkalemia (P< 0.05 for all).
Conclusion: metabolic acidosis, hyperkalemia, PH>7.41and hyponatremia were the most common disorders, respectively. Hyponatremia, hyperkalemia, PH >7.41 and bicarbonate >29 mmol/l were significantly more frequent in HD vs. PD patients. Patients used furosemide more developed hyponatremia and PH >7.41 and those used Enalaprile hyperkalemia.
Keywords: hemodialysis, peritoneal dialysis, acid-base disturbance, sodium disorders, potassium disorders.

Neighborhood Sidewalk Access and Overweight and Obesity Status in adults- a systematic review

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Background: Obesity is a major global health concern, which adversely affects the quality of life. According to the report of the World Health Organization (2016), more than 1.9 billion adults aged 18 years and more are overweight and obese. Environmental factors such as the built environment (public transportation, restaurants, supermarkets, sidewalks, and road connectivity) could be associated with obesity through the effects of inadequate physical activity and insufficient food intake. The sidewalk is the primary means of the travel and activity of pedestrians, and its safety and comfort are key to the livability of an area. previous studies reported a correlation between walkable neighborhood features and obesity-related factors. This study systematically examined the evidence on the association between sidewalk accessibility and adult obesity and overweight.
Method: Scopus, PubMed, Web of Science, and Science Direct, were searched for relevant articles (published before 3 June 2021) that reported on the association between neighborhood sidewalk access and weight-related outcomes in adults.
Result: fourteen studies conducted in seven countries were included. two studies used perceived access to sidewalks. six studies used 800 to 1600 m road-network buffers. six studies estimate the presence or existence of sidewalks. all of the studies measured adults' height, weight, and BMI. Ten studies found a statistically significant association between access to sidewalks and weight-related outcomes that were negatively associated with the odds of overweight and obesity. two studies found an indirect association between access to sidewalks and weight-related outcomes by greater access to the physical environment and two found no clear association between access to sidewalks and weight-related outcomes.
Conclusion: Neighborhood environmental factors are associated with overweight and obesity. More access to the sidewalk is associated with higher levels of PA, lower BMI, and the risks of obesity in adults. Efforts to build healthy environments, including health-promoting urban planning, can help minimize the growing obesity epidemic and promote public health.
Keywords: Overweight, Obesity, Neighborhood environment, sidewalk, adults.

The effects of hypo- and hypercaloric dietary intervention on mechanical ventilation and length of stay in ICU and hospital in critically ill patients

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Background: Nutritional therapeutic goals for critically ill patients should be considered for minimizing the potential for malnutrition and reducing the catastrophic outcomes of critical illness. A systematic review and meta-analysis was conducted in order to assess the effect of hypocaloric and hypercaloric diet on outcomes of critical illness.
Methods: PubMed-Medline, SCOPUS, Web of Science and Embase databases and Google Scholar were searched up to December 2021. Random- and fixed-effects analysis was used to perform meta-analysis. Subgroup analyses were carried out to express the results across various subgroups. Begg's test was performed to detect publication bias. Quality assessment was performed using Cochrane Collaboration's tool.
Results: A total of 12 studies were included in meta-analysis. Hyper-caloric diet had no significant effect on days of intensive care unit (ICU) (WMD = 0.95days; 95% CI: -0.41, 2.30; P= 0.172) and duration of mechanical ventilation (MV) (WMD = 0.71days; 95% CI: -1.53, 2.94; P= 0.535), but significantly enhanced hospital length of stay (HLOS) (WMD = 391 days; 95% CI: 2.18, 5.65; P<0.001). Hypo-caloric diet significantly decreased duration of MV (SMD = -1.07 days;

95% CI: -1.97, -0.17; P= 0.006) and HLOS (WMD = -2.93 days; 95% CI: -5.47, -0.40; P= 0.023). However, it had no effect on days in ICU (WMD = -0.16 days; 95% CI: -1.18, 0.86; P= 0.754). **Conclusion:** The results of the present meta-analysis indicate that hypocaloric dietary approach has beneficial impacts on the recovery of critically ill patients in comparison with iso- and hypercaloric interventions

Roll of fasting in immune system and risk of covid-19

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Ramadan Fasting (RF) is one of the Islamic rules in the religion of the Muslim people in many countries. It means avoiding drinking and eating during periods of closed time from sunrise to sunset during Ramadan (for 29 or 30 days), from 13 to 18 hours per day depending on the different seasons. According to the Previous studies Ramadan fasting is a type of diurnal intermittent fasting. On the other hand, reduced meal frequency has been shown to increase lifespan, improve insulin sensitivity, and reduce oxidative stress and inflammation, today it is clear that Ramadan Fasting by reducing daily calorie intake and Calorie restriction (CR) play an effective role in weight loss and control of chronic diseases such as diabetes, high blood pressure, and dyslipidemia and stroke. However, in the last two years with the spread of the deadly COVID-19 virus around the world and the high risk of death in weak people and susceptible to infection, some people speculate that Ramadan Fasting may increase the risk of contracting the virus and it is one of the weakening factors of the immune system. In this non-systematic and narrative study, we discuss potential mechanisms for the benefits of Ramadan fasting and also the link between fasting to the immune system and corona disease. Accordingly, we also present evidence that intermittent fasting such as Ramadan fasting can be effective and useful in improving the body's health and immunity system against infection, thereby making reduce morbidity and mortality associated with COVID19.

If Probiotics and Synbiotics Effect on Weight loss in Pre diabetic Patients?

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Background: The evidence in the last decade has been shown that the intestinal microbiota composition can be associated with the development of insulin resistance and metabolic disorders. So, it is hypothesized that the use of functional foods may have a beneficial effect on anthropometric indices in pre-diabetic patients.
Methods: In a double-blind, randomized, placebo-controlled, parallel design clinical trial, 120 prediabetic adults, participated and randomly were allocated to receive either probiotics or synbiotic or placebo supplements for 6 months. Anthropometric measurements, food record, and physical activity were assessed at baseline and repeated at 3 and 6 months and compared within and between the three groups. Stool samples were collected at baseline and after 6 months' supplementation and the numbers of Clostridium perfringens (the represent of phylum Firmicutes), Bacteroides fragilis (the representative of Bacteroidetes) and Escherichia coli (as universal bacteria) were determined by quantitative real-time polymerase chain reactions. The changes in the relative abundance of the two fecal bacteria before and after supplementation were analyzed and compared within and between the three groups.
Results: There were no statistically differences in anthropometric measures within and between groups. Firmicutes were increased (p=0.004) and bacteroidetes were decreased (p=0.006) in synbiotic group. There were no statistically differences between groups in microbial changes during the intervention period.
Conclusion: Oral intake of probiotics and synbiotics as co-adjuvants for gut microbiota regulation has been supported by the data shown in the current study. However, further studies are required for optimal recommendations in this important area.
Keywords: probiotics, synbiotics, prediabetes, obesity, gut microbiota.

Explaining Nutritional patterns of scleroderma patients: Qualitative content analysis

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Background: Scleroderma is a chronic disease with autoimmune origin. Fibrosis, severe skin changes, pain, fatigue, tension and emotional problems are very strong challenges in this disease. Therapeutic measures are primarily aimed at reducing symptoms and improving quality of life .Proper, proportionate and balanced nutrition pattern is very important and effective in the recovery process of patients.
Methods: The present study was performed to explain the educational needs of scleroderma patients qualitatively in 1400. The study environment of Hafez Teaching Hospital was affiliated to Shiraz University of Medical Sciences. Fourteen participants were included in the study by purposive sampling method. The data collection method was a semi-structured interview that was recorded with the consent of the participants and then transcribed. Qualitative content analysis approach (conventional method) was used to analyze the data.
Results: Following data analysis, five main themes were extracted. The main themes include "healthy and natural eating pattern", "food consumption based on cold and hot natures and their balance", "selection of nutritional patterns appropriate to the disease (type - volume - frequency - time)", "food abstinence (stimulants - Pickles - fast food - canned food - fried ...) "and" weight control ".
Conclusion: Identifying and modifying dietary patterns can play a key role in reducing some of the challenges of scleroderma patients.
Keywords: Scleroderma, Patient nutrition, Qualitative study.

The Association of Adipokine Asprosin Level with Inflammatory Cytokines in Patients with Type 2 Diabetes and Diabetic Nephropathy

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Background: The impaired adipokines production is observed in diabetes and related comorbidities such as diabetic nephropathy. Asprosin is a newly known adipokine involved in inflammation and is produced by white adipose tissue. In this case- control study, we intended to assess the asprosin level, plus its correlation with inflammatory cytokines, including IL-6, and TNF-α in patients with type two diabetes (T2D) and diabetic nephropathy compared to healthy subjects.
Methods: This study included 49 healthy subjects and 101 patients (50 T2D subjects and 51 diabetic nephropathy subjects) from whom referred to Shohadaie Tajrish hospital and Institute of Endocrinology and Metabolism, Tehran, Iran from Jan 2019 to Jan 2020. Diabetic patients were diagnosed in terms of the criteria of American Diabetes Association. Serum levels of asprosin, IL-6, and TNF-α were measured using ELISA kits.
Results: Asprosin level was significantly higher in the T2D (6.9±1.46) and diabetic nephropathy (7.24±1.61) patients compared to the healthy subjects (4.92±1.21) ($p<0.001$). The levels of IL-6 and TNF-α were also higher in patients compared to healthy individuals ($p<0.01$). Remarkably, asprosin showed a positive correlation with the levels of inflammatory cytokines, IL-6, and TNF-α in patients with T2D and diabetic nephropathy.
Conclusions: It seems that asprosin is positively associated with inflammatory markers in patients with T2D and diabetic nephropathy. Thus, it is tempting to speculate that asprosin plays a role in the pathogenesis of diabetes and related comorbidities such as diabetic nephropathy through mechanisms like inflammatory pathways.
Keywords: adipokines, diabetes, inflammation.

Probiotics Supplementation; a Perspective in the Treatment of COVID-19

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Background: Despite strategies based on social distancing, the coronavirus disease 2019 (COVID-19) expands globally, and so far, many attempts have been made to achieve effective treatment for patients with COVID-19. This disease infects the lower respiratory tract and may lead to severe acute respiratory syndrome coronavirus (SARS-CoV). COVID-19 also can cause gastrointestinal infections. Therefore, COVID-19 patients with gastrointestinal symptoms are more likely to be complicated by SARS-CoV. In this disease, acquired immune responses are impaired, and uncontrolled inflammatory responses result in cytokine storms, leading to acute lung injury and thrombus formation. Probiotics are living microorganisms that contribute to the health of the host if administered in appropriate doses. This study aimed to provide evidence to show the importance of gut dysbiosis in viral disease, especially COVID-19. Therefore, we have focused on the impact of probiotics consumption on preventing severe symptoms of the disease.
Methods: We have entirely searched SCOPUS, PubMed, and Google Scholar databases to collect evidence regarding the relationship between probiotics and viral infections to expand this relationship to the COVID-19.
Results: It has been shown that probiotics directly counteract SARS-CoV in the gastrointestinal and respiratory tracts. Moreover, probiotics suppress severe immune responses and prevent cytokine storms to inhibit pathologic inflammatory conditions in the body via modulation of immune responses.
Conclusion: According to available evidence based on their antiviral and respiratory activities, using probiotics might be an adjuvant therapy to reduce the burden and severity of this disease.
Keywords: Probiotics, coronavirus, coronavirus disease 2019 (COVID-19), severe acute respiratory syndrome coronavirus (SARSCoV).

Selenium Deficiency in Dialysis Patients

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Background: Trace elements deficiencies are reported in dialysis patients. We aimed to define the frequency of Selenium deficiency in dialysis patients and its correlation with age, gender, duration of dialysis, dialysis modality, and serum levels of blood urea nitrogen (BUN), albumin, total cholesterol and hemoglobin.
Methods: Patients under dialysis in dialysis sections of Dr.Sheikh hospital from April 2017 to April 2019 were enrolled the study after taking written consent from patients or their parents. Blood samples were obtained for measurement of serum Selenium levels at time of routine monthly sampling.
Results: Forty patients enrolled the study .Totally 45% were under hemodialysis and 55% peritoneal dialysis .The ages in first and second groups were 12.77±2.94 and 9.34 ±4.03 years, respectively (P= 0.04) .Serum selenium levels in hemodialysis and peritoneal dialysis patients were 91.95 ±8.43 and 94.1 ± 8.67 microgram (µgr) per liter, respectively (P= 0.374). Thirteen cases (32.5%) including 38.9% of hemodialysis and 27.3% of peritoneal dialysis patients had Selenium deficiency (P= 0.435). No correlation were found between age, gender, modality of dialysis, dialysis duration , serum levels of BUN , albumin , total cholesterol and hemoglobin with Selenium deficiency (P> 0.05 for all) .
Conclusion: Selenium deficiency is common in dialysis patients. Demographic factors , dialysis modality , dialysis duration , serum levels of BUN , albumin , total cholesterol and hemoglobin are not related with presence of Selenium deficiency .Periodic checking of serum levels of Selenium is recommended.
Keywords: child, Selenium deficiency, CKD, peritoneal dialysis, hemodialysis.

Role of selenium therapy in critically ill patients with sepsis: A systematic review

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Introduction: Sepsis is a complex disease that causes the immune system to overreact to pathogens. Adequate selenium (Se) levels are essential for the immune response but are also involved in regulating excessive immune responses and chronic inflammation. This systematic review aimed to evaluate Se therapy in sepsis patients.
Method: A systematic search was performed in PubMed, Scopus, Cochrane, and Science Direct databases until December 2021. All studies were published in English-language journals were included.
Results: Among 98 papers, 26 studies were performed on humans. Se intervention might decrease mortality and ameliorate the clinical outcome, respectively. The SE can suppress the activity of NF-κB through inhibition of IκB kinase-α (IKK-α) phosphorylation (like inhibition of IL-1), nuclear translocation, and block of the NF-κB p65 subunit. Also, Se increases the shedding of L-selectin from monocytes while decreasing soluble L-selectin, which has been reported to be associated with high mortality in patients with sepsis. Furthermore, Se activates the expression of Nrf-2, thus protecting the cells against oxidative stress damage and by regulating the genes that contain antioxidant enzymes such as heme oxygenase (HO)-1 and NAD(P)H: quinone oxidoreductase 1 (NQO1) and prevents lipid peroxidation, thereby reducing the damage caused by oxidative stress in sepsis.
Conclusion: This systematic review evaluates key mechanisms of the anti-inflammatory action of selenium and advocates Se supplementation as a modulator of inflammatory response in infectious and autoimmune diseases. Randomized, controlled studies should be conducted to provide greater confidence.

Keywords: selenium therapy, sepsis, inflammation, oxidative stress, systematic review.

Effect of Synbiotic Therapy on Sex Hormone Binding Globulin and Endogenous Sex Hormone Levels among survivors of hormone-receptor-positive breast cancer: A Randomized, Triple-Blind, Controlled Trial

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Introduction: Circulating sex steroid hormones play a major role in the pathogenesis of breast cancer (BC) and may increase the risk of BC recurrence among breast cancer survivors (BCSs). This investigation was designed to evaluate the effects of synbiotic therapy on sex hormone binding globulin (SHBG) and sex hormone levels amongst postmenopausal BCSs who had hormone-receptor-positive BC.
Methods: This randomized, triple-blind, placebo-controlled trial was conducted amongst 76 overweight and obese BCSs aged 57.4 years. All participants were given a specified low calorie diet and were randomly assigned into two groups to intake 109CFU/day of synbiotic (n = 38) or placebo (n = 38) for two months. The levels of SHBG, estradiol, testosterone and dehydroepiandrosterone sulfate (DHEA-S) were measured at baseline and after 8 weeks.
Results: 8-week synbiotic supplementation could not significantly change the levels of estradiol (P = 0.52), DHEA-S (P = 0.19), and SHBG (P = 0.44) in the synbiotic group. Baseline serum concentrations of testosterone were significantly different between the two groups (P = 0.04), However, after controlling the analysis for baseline levels of biochemical variables and baseline BMI, the difference in changes in testosterone between the two groups became non-significant (P = 0.11).
Conclusions: Synbiotic supplementation for 8-week had insignificant-reducing effects on sex hormones among hormone-receptor-positive BCSs. Reducing the level of sex hormones via

symbiotic consumption might be a major approach in reducing the risk of BC recurrence.
Keywords: Breast neoplasms, Cancer survivors, Gonadal steroid hormones, Probiotic.

The effect of Chlorella Vulgaris on body weight, lipid profile, and liver function biomarkers: a systematic review of randomized controlled trials

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Introduction: Chlorella vulgaris (CV) as a unicellular algae is a dietary supplement with beneficial nutritious content, used for decades in some countries. Positive impacts for CV supplementation on metabolic parameters has been built up in animal and human studies. Be that as it may there's a crevice for this comes about rundown for an unequivocal conclusion report. This systematic review aimed to summarize the effects of CV on body weight, lipid profile, and liver function biomarkers.
Methods: PubMed/Medline, Scopus, and Embase databases were searched systematically up to 30th December 2021. PRISMA guidelines were charted in this review. which assessed the effects of CV on body weight, lipid profile, and liver function biomarkers related symptoms in clinical trials.
Results: Out of 5316 records screened, after duplicate and irrelevant exclusion by title and abstract, 31 articles remained for full text screening. Finally a total of 16 articles met the study inclusion criteria and were assessed for study method and results.
Conclusion: It seems that C. vulgaris supplementation mainly affects AST levels rather than ALT and ALP levels, however, had controversies in anthropometric, and lipid profile. More well-designed studies are required.
Keywords: Obesity, Chlorella Vulgaris, Liver, Systematic review.

Neighborhood sidewalk access and overweight and obesity status in children and adolescences-a systematic review

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Background: Obesity is a major global health concern, which adversely affects the quality of life. According to the report of the World Health Organization (2016), more than 340 million children and adolescents are overweight and obese. Environmental factors such as the built environment (public transportation, restaurants, supermarkets, sidewalks, and road connectivity) could be associated with obesity through the effects of inadequate physical activity and insufficient food intake. Sidewalk is the primary means of the travel and activity of pedestrians, and its safety and comfort are key to the livability of an area. Studies have also demonstrated a correlation between walkable neighborhood features and obesity-related factors. This study systematically examined the evidence on the association between sidewalk accessibility and children, adolescent's obesity.
Method: Scopus, PubMed, Web of Science, and Science Direct, were searched for relevant articles (published before 3 June 2021) that reported on the association between neighborhood sidewalk access and weight-related outcomes in children and adolescent.
Result: Fourteen studies conducted in four countries were included. Five studies used perceived access to sidewalks. Six studies used 400 to 800 m road-network buffers. Three studies estimate the presence or existence of sidewalks. All of the studies measured children's height, weight, and BMI .
Eight studies found a statistically significant association between access to sidewalks and weight-related outcomes that were negatively associated with the odds of overweight and obesity. Two studies found an indirect association between access to sidewalks and weight-related outcomes by greater access to the physical environment and one found no clear association between access to sidewalks and weight-related outcomes. Three studies found a

statistically significant and undesirable association between access to sidewalks and weight-related outcomes that leads to higher odds of obesity.
Conclusion: Neighborhood environment factors are associated with being overweight and obese. Higher sidewalk accessibility is associated with higher PA levels, lower BMI, and obesity risks in children and adolescent. Efforts in building healthy environments, including health-promoting city planning, can help minimize the growing obesity epidemic and promote public health.
Keywords: Overweight, Obesity, Neighborhood environment, sidewalk, child, adolescent.

The effects of taurine on endurance exercise performance: a systematic review of randomized controlled trials

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Introduction: Nowadays, the use of supplements to improve the performance of athletes is one of the common discussions among nutritionists. Studies for taurine have reported biological functions beyond an amino acid including antioxidant and anti-inflammatory properties. This study was conducted to collect and review current studies and identify existing scientific gaps.
Methods: PubMed, Scopus, Google Scholar, and Embase databases were searched systematically until September 2021. Inclusion criteria were: 1) clinical trial studies 2) animal studies 3) studies in English. Cellular studies, reviews, and articles in the non-English language were excluded.
Results: The summary of 1141 studies were reviewed and finally, 11 studies were considered eligible to study. 4 studies reported the positive effects of taurine on fatigue-time, 3 studies reported beneficial effects on exercise capacity and 4 studies reported the positive effects of taurine on aerobic capacity. 5 studies showed that taurine supplementation reduced oxidative-stress indices and improved the function of antioxidant enzymes.
Conclusion: It seems that taurine can improve the performance of athletes by affecting exercise and aerobic capacity, time to achieve fatigue, and reducing oxidative stress. However, more studies are needed to discover the exact mechanisms of taurine's effect on muscle cell function.
Keywords: Taurine, Endurance exercise performance, Oxidative-stress

Investigation of nutritional factors affecting the prevention of cardiovascular disease with a review of research

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Cardiovascular disease is currently one of the leading causes of death. Therefore, recognizing the effective food compounds in the prevention of cardiovascular disease will play an important role in preventing the occurrence of cardiovascular disease. Over the past few years, there have been reports of beneficial effects of restricted carbohydrate diets on moderate risk factors for cardiovascular disease. Consumption of refined carbohydrates, low HDL cholesterol and hypertriglyceridemia are the most common cardiovascular risk factors in the world. Various sources have shown that replacing saturated fats with unsaturated and trans fats, increasing omega-3 intake and using fruits and vegetables play an important role in preventing and reducing cardiovascular disease. Sodium and potassium in foods also play an important role in this regard. In this study, scientific evidence on the effect of nutrients and their compounds in the prevention of heart disease is discussed.
Keywords: Cardiovascular disease, Nutrients, Hypertriglyceridemia

The Impact of Ghrelin on Cachexia among Children with Chronic Kidney Disease

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Background: Children with chronic kidney disease (CKD) often exhibit symptoms of anorexia and malnutrition that lead to cachexia and are associated with decreased quality of life and increased morbidities. Ghrelin is a growth hormone (GH) that stimulates feeding as a potent orexigenic factor. The aim of this study is to review the role of ghrelin in regulating energy balance, with a focus on cachexia among children with CKD.
Recent findings: The two primary forms of circulating ghrelin are acylated (<10%) and des-acyl ghrelin. Acylated ghrelin promotes food intake while des-acyl ghrelin induces negative energy balance. The plasma levels of des-acyl ghrelin increase in patients with CKD but not acyl ghrelin. Few study findings bolster the potential therapeutic application of ghrelin and its analogs as an appetite-stimulating and anabolic strategy in uremia-associated cachexia. Some studies showed the gherlin could increase food intake and improve lean body mass. Ghrelin regulates metabolic balance and may improve the cachectic condition through insulin-like growth factor (IGF) dependent and IGF independent pathways. Ghrelin mediates anti-inflammatory signals in cells. Some studies indicated that ghrelin administration in children with CKD could reduce the mitochondrial oxidative capacity. The effects of ghrelin on appetite and muscle mitochondria may improve muscle metabolism and nutritional alternations.
Conclusion: According to this study, ghrelin may be recommended as a choice to prevent cachexia in children with CKD. Further clinical trial in large sample size is needed to confirm this recommendation.
Keywords: Cachexia, Children, Chronic kidney disease, Ghrelin.

Effects of Garlic supplementation and its derivatives on body weight and composition in adults: an updated systematic review and meta-analysis

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Background: Garlic supplementation may be inversely contributed to body weight and composition; however, previous results have been inconsistent. This study aims to evaluate the effect of garlic supplementation on body weight and composition using a systematic review and meta-analysis.
Method: Online databases of PubMed, ISI Web of Science, Scopus and Google Scholar were searched up to January 2020. The random-effects model was used to calculate the effect sizes of the included studies. The risk of bias of included studies was assessed using the Cochrane collaboration's tool. Besides, the NutriGrade scoring system was applied to judge the credibility of the evidence.
Findings: In total, 18 studies (with 1,250 participants) were included in the meta-analysis. The pooled analysis revealed that garlic supplementation has a significant increase in body weight [weighted mean difference (WMD) = 0.31 Kg, 95% CI: 0.09, 0.53 Kg, P = 0.005, n = 12 effect sizes]. Waist circumference (WC) does remarkably reduce [WMD = −1.28 cm, 95% CI: −2.08, −0.47 cm, P = 0.002, n = 4 effect size]. However, body mass index, body fat percent and fat-free mass do not dramatically change (P > 0.05). Notably, the pooled analyses on body weight and WC were sensitive to two included studies. NutriGrade's score was rated low for this meta-analysis.
Originality/value: Although garlic supplementation could slightly increase weight and simultaneously might decrease WC, these associations were not strong enough to corroborate the findings. Also, other anthropometric indices do not significantly change. Further well-designed randomized clinical trial studies are needed to confirm the results.
Keywords: Allium sativum, body mass index, body weight, garlic, meta-analysis, systematic review.

The effect of high dose vitamin c intravenous on patient suffering from Covid-19 admitted to the intensive care unit(ICU): A systematic review

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Introduction: The main purpose of this systematic review is to evaluate the effects of high-dose intravenous vitamin C (HDIVC) intake on Covid-19 patients admitted to ICU.

Method: the scientific reports on the PubMed website from Feb10,2020 to Oct28,2021 were reviewed. These studies release information from patients treated with high-dose intravenous vitamin C (HDIVC) in the ICU.
Results: among 113 studies on COVID-19 and vitamin, 13 studies were eligible for systematic review. Finally, 5 reports of clinical evaluation of high-dose intravenous vitamin C (HDIVC) (intravenous intake of 6 to 20 g / day) in patients with Covid-19 in ICU were conducted in the study.
As a result, the duration of respiratory infection, mortality, duration of hospitalization in the ICU, and duration of connecting to Ventilator (mechanical ventilation device) were reduced. In addition, they showed rapid recovery and reduction of inflammation of the lungs.
Conclusion: According to our study, patients with Covid-19 who received high-dose intravenous vitamin C (HDIVC) showed lower mortality and duration of hospitalization in the ICU.
Keyword: Covid-19; ICU; vitamin C.

The effect of micronutrients on COVID-19 disease: A review of the available evidence

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Introduction: Coronavirus disease 2019 (COVID-19) patients are likely to experience a wide range of symptoms, ranging from mild to severe, which can lead to hospitalization or even death. Infection and poor nutrition have a two-way relationship. The immune response to an infection is associated with an increased demand for nutrients and may even exacerbate poor nutrition
Method: For information on the subject, a search was conducted between 2019 and 2021 on the PubMed and Google Scholar databases. The keywords multi vitamin, vitamin D, vitamin B, Vitamin C, vitamin E, zinc, Selenium, Micronutrients were used to search. covid-19 related searches were performed for each keyword.
Result: The findings of these papers show that patients who were deficient in vitamin D, vitamin C, Selenium, and zinc were likely to display more severe forms of COVID-19. Vitamin D seems to have the most significant impact when consumed in equal bolus before the development of COVID-19. Intravenous injection of vitamin C in COVID-19 patients admitted to the ICU at a dose of 24 grams in 24 hours was significantly associated with improved COVID-19. More studies are required on group B vitamins due to their proven immune-boosting effect.
Conclusions: there is a need to conduct clinical trials with higher power and subsequent meta-analysis studies in order to be able to make a definite statement about the effectiveness of micronutrients on the COVID-19 progression.
Keywords: COVID-19, Micronutrients, Vitamin D, Immune system.

The effect of the 5 minute Premature Infant Oral Motor Intervention (PIOMI) verus oral stimulation program to achieve breastfeeding in term infants with feeding problems: a randomized clinical trial

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Introduction: To evaluate the effect of the 5-minute premature infant oral motor intervention (PIOMI) and a 15 minute Fucile treatment on term infants with feeding problems.
Methods: Stable term infants (N = 51) born between 37 and 41 weeks gestational age with feeding problems were randomly assigned into two intervention groups and a control group. Two intervention groups received the PIOMI or Fucile treatment once daily for 7 consecutive days and the control group received routine care only. The type of feeding method was compared in three groups. All statistical analysis were

performed using R 4.0.2 and the significance level was set at 0.05 and were performed using SPSS software version 23.0.
Results: The type of feeding method changed and some infants have access to breastfeeding from pre to post treatment in all groups due to natural growth and development (p-value<0.05). However, this progress was more dominant in the Fucile group. The Fucile group had a significant number of infants have access to breastfeeding after treatment compared to both controls and PIOMI after treatment (p-value = 0.007).
Conclusions: Some of the infants in both interventions groups access to breastfeeding. However, the longer oral motor therapy can be tolerated in term infants and had a greater effect over shorter therapy in term infants.
Keywords: Feeding, sucking, premature infant oral motor intervention (PIOMI), oral stimulation program, Intensive Care Units, Neonatal

The investigation relation between obesity and food patterns in Sistan and Baluchestan University staff

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Introduction: Some studies have suggested that eating patterns and receiving nutrients can have significant effects on obesity. The data for relation obesity and food patterns in university staff is scary. This study investigates the relation between obesity and food patterns in Sistan and Baluchestan University staff.
Methods: In the current study, 300 employees were studied. The data were collected by questionnaire for calorie, fat, protein, carbohydrate, phosphorous, iron, sodium, potassium, calcium, vitamin A, folate, vitamin B12, vitamin C, and vitamin E. The data were also collected for anthropometric indices. Since data were normal, the data were analyzed by Chi-square and Mann-Whitney tests. All the data were analyzed by SPSS software (version 22).
Results: The results of the present study showed that only 35.3% of people did not have general obesity. The results also showed that the prevalence of central obesity was between 41-68% in the studied population. In addition, we found that the mean of fat, phosphorus, potassium, calcium, and Vitamin C intake in people with high BMI was higher than other studied people (P<0.05). Based on the results obtained for waist, people with central obesity consumed lower calories, protein, carbohydrates, and iron compared to other people (P<0.05). In addition, the mean of consumption vitamins A and E was significantly lower in people with central obesity (P<0.05).
Conclusion: Because the prevalence of obesity and overweight was significantly higher in the studied population, managers must consider an appropriate pattern for university staff.
Keywords: Calorie, Overweight, Protein, Staff, Vitamins.

Selenium, Zinc, Manganese and Copper deficiencies in dialysis patients and their association with depression and anxiety

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Introduction: We aimed to define the frequency of Selenium, Manganese, Zinc and Copper deficiencies in dialysis patients and their association with mood disorders including depression and anxiety.
Methods: Patients in dialysis sections of Dr.Sheikh hospital from April 2017 to April 2019 were enrolled after taking written consent from them or their parents. Blood samples were obtained for measurement of serum Selenium, Zinc, Manganese and Copper at the time of routine monthly sampling. Then cases were evaluated for frequency of mood disorders. The Child Depression Inventory (CDI) questionnaire and Depression and Anxiety Stress scale (DASS) were used to assess the prevalence of anxiety and depression states, respectively. The frequencies of depression and anxiety were compared between groups with vs. those without trace elements deficiencies.
Results: 40 patients including 18 hemodialysis (HD) (45%) and 22 peritoneal dialysis (PD) (55%) cases enrolled the study. The ages in first and second groups were 12.77±2.94 and 9.34 ±4.03 years, respectively (P= 0.04) No case of Zinc, Copper and Manganese deficiencies were

reported, however 13(32.5%) patients had Selenium deficiency. Seven of 13 case with Selenium deficiency and 10 of 27 patients with normal Selenium levels had depression (P=0.314). Additionally 9 of 13 cases with Selenium deficiency and 24 of 27 cases with normal Selenium levels had anxiety (P= 0.125).
Conclusion: Serum levels of Zinc, Manganese and Copper are within normal ranges in dialysis cases. However Selenium deficiency is common, it does not correlate with depression and anxiety states in dialysis cases.
Keywords: Selenium, Zinc, Copper, Manganese, depression, anxiety.

The effect of Enteral and parenteral nutrition enriched with omega-3 fatty acids on clinical outcomes in intensive care patients: a systematic review

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Introduction: Anti-inflammatory and immunomodulatory effects of omega-3 fatty acids have been proven. Artificial nutrition support as a primary therapeutic reduces adverse clinical outcomes in critically ill patients. We aimed to investigate the effect of enteral (EN) and parenteral (PN) nutrition enriched with omega-3 fatty acids on clinical outcomes in intensive care patients.
Method: PubMed, Scopus, and Google Scholar were searched for randomized clinical trials (RCTs) on omega-3 enriched enteral and parenteral nutrition in intensive care patients until September 2021.
Result: Finally, 36 randomized clinical trials met the inclusion criteria. From 21 publishments of enteral nutrition therapy, 20 of them revealed no significant reduction in mortality. 6 different studies showed a significant decrease in ICU length of stay (LOS) and ventilation duration. Also, between s15 remaining studies that investigated the effect of W3-contained PN in ICU patients, a significant reduction in mortality has been observed in one study. ICU LOS reduced in most of the studies in intervention group but it was just significant in three studies and ventilation duration had not a considerable reduction in any studies.
Conclusion: Despite the proven positive effects of omega-3 fatty acids, this review study shows no strong significant evidence for enhancement of clinical outcomes. However, due to the limitations identified in RCTs included in this review, further research is needed to investigate w-3 PUFAs administration in enteral and parenteral nutrition therapy.

Evaluation of production methods and formulation of bread without gluten, beneficial probiotics, and prebiotics

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Bread is a traditional food consisting primarily of wheat flour. Wheat is the key ingredient, and gluten, which is a vital structural protein, is responsible for the bread's quality. Despite its necessity, this protein has the potential to be harmful to human health. Celiac disease sufferers must avoid this chemical in their diet. Celiac disease is a prevalent autoimmune illness in which protein intake stimulates a genetically predisposed person. There is no specific treatment available to treat this disease, and people should be protected from contracting it. Gluten-containing items should be avoided at all costs. In the food sector, probiotics are defined as one or a combination of live and helpful bacterial cultures that can be injected into the intestine. Although some oligosaccharides have been reported as prebiotics, only inulin fructans, transgalactic-oligosaccharides, and lactulose have been established as prebiotics. This study aimed to review the published studies on the use of probiotics and prebiotics in gluten-free bread used by people with celiac disease.
Keywords: Probiotics, Prebiotic, Bread, Gluten-free, Celiac.

Principle of hospital medical diet from the perspective of Persian medicine

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Introduction: Improper diets, especially in sick people, are the main factor in increasing the prevalence of all forms of malnutrition and delaying the recovery of patients. Such diets were identified as the second leading cause of death and disability in the world in 2016. The purpose of this study is to use the capacity of Persian medicine teachings to improve and improve the quality of patients' treatment regimens.
Methods: This article is a review and purposeful with certain criteria by searching the valid sources of Iranian medicine and some domestic and international scientific databases such as SID Google Scholar, PubMed, with related keywords, without restrictions It was written once.
Findings: Patients' diet should consider with the patient's strengths and weaknesses, eating habits, mood and temperament, patient's age and body, type, and stage of the disease, severity, and weakness of the disease and its complications and with four nutritional approaches; Prohibition (strong patient and body attention to waste preparation), reduction (at the beginning of acute diseases in weak conditions), adjustment (use of food-drugs in a strong patient with chronic disease) and proliferation (at the beginning of chronic diseases).
Conclusion: It seems that using the capacity of Persian medicine teachings, especially its nutritional measures in patients, along with the recommendations of modern medicine, can help to improve the disease faster and also improve the health of patients.
Keywords: Persian medicine, hospital medical diet.

Examination of resting metabolic rate (RMR) and its relationship with sleep quality, duration and physical activity in adult population of PERSIAN Cohort study in Mashhad

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Background: Resting Metabolic Rate (RMR) is the largest part of total energy expenditure (60-70%). Therefore, any factor that can affect RMR such as dietary pattern, physical activity, and sleep quality is very important in terms of nutritional assessments. The aim of the present study was to examination of resting metabolic rate and its relationship with the main components of lifestyle, in adults: dietary pattern, sleep quality, and physical activity.
Method: A total of 757 subjects (aged 35-65 years, 342 males and 415 females) enrolled in the cross-sectional study. The RMR was measured with indirect calorimetry after fasting for 7 hr. Dietary consumption was evaluated using a 194-item food frequency questionnaire (FFQ). Nutrient patterns were obtained by factor analysis procedure using the principal component method. The physical activity was assessed with the metabolic equivalent (MET) questionnaire. The means of the RMR were computed for and compared between tertiles of each food pattern and physical activity scores using one-way analysis of variance and analysis of covariance, respectively. Sleep quality was assessed using the Pittsburgh Sleep Quality Index (PSQI). The association between sleep quality and RMR was tested with the independent-Sample T-Test.
Results: Three dietary patterns explaining 26.24% of the variance in dietary intake, were recognized in the current study. They didn't have a significant association with RMR (healthy (P=0.839), western (P=0.973), and mixed pattern (P=0.042)). Similarly, physical activity (P=0.181), sleep quality (P=0.639), and sleep duration (P=0.891) were not associated with RMR.
Conclusion: In the present study, there was no statistically significant relationship between food patterns, physical activity, and sleep pattern with RMR in Crude and multivariate-adjusted models; However, further longitudinal and interventional studies are required to make a clear conclusion.
Keywords: Resting metabolic rate, Dietary pattern, Physical activity, Sleep quality.

Effects of diets rich in ghee or olive oil on cardiometabolic risk factors in healthy adults: a two-period, crossover, randomized trial

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Background: The aim of this study was to investigate the effects of animal oil consumption in the daily diet on factors related to cardiovascular health.
Methods: Thirty healthy men and women were studied during a free-living outpatient regimen. The participants were instructed for the isoenergetic inclusion of ghee or olive oil in their diets for 4 weeks using a randomized crossover design. At the end of run-in (baseline), 2-week wash-out and interventions, fasting blood samples were drawn. Additionally, 2-h postprandial blood samples were collected after ingestion of a meal containing olive oil or ghee at week 4 of every dietary intervention.
Results: Compared with the olive oil, the diet with ghee increased fasting plasma apo-B (apo B) (0·09, 95% CI 0·02, 0·17 g/l, P=0·018), non-HDL-cholesterol (non-HDL-cholesterol) (0·53, 95% CI 0·01, 1·05 mmol /l, P=0·046) and LDL-cholesterol did not differ significantly between diet groups (0·29, 95% CI –0·05, 0·63 mmol /l, P=0·092), but had no significant effect on total cholesterol: HDL-cholesterol ratio (0·75,95%CI–0·24to1·74mmol/l, P=0·118). No significant difference was observed in fasting similarly as 2-h postprandial plasma TAG, glucose, insulin and plasminogen activator inhibitor-1 concentrations.
Conclusion: This study shows that ghee which is predominantly saturated fats has an increasing effect on plasma apo B and non-HDL-C, adding further evidence to the prevailing recommendations to reduce saturated fat in the diet to reduce cardiovascular disease risk.
Keywords: ghee; olive oil, SFA, apo B, LDL-C, non-HDL-C, insulin, PAI-1

Interaction between Caveolin Genotype with Dietary Insulin Index on Metabolic components in Iranian overweight and obese women: A cross-sectional study

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Introduction: Dietary insulin index (DII) is currently used for assessing changes in plasma insulin concentrations, and therefore may be utilized in controlling the risk and progression of obesity. Studies have shown that caveolin gene polymorphisms are involved in chronic diseases such as metabolic syndrome and obesity, and may exert its negative actions by altering insulin signaling. However, the possible association of caveolin gene polymorphisms with DII has not yet been evaluated.
Method: A cohort of 333 overweight and obese women, aged 18-48 years, was included in this cross-sectional study. Biochemical, anthropometric, body composition, semi-quantitative food frequency questionnaire (semiFFQ) and gene extraction were performed.
Results: An Allele carriers have shown a significant interaction with high-density lipoprotein (HDL) (p = 0.012) and CRI-I (p ≤0.001). In participants with AA genotype and more adherence to DII, the interaction was observed in body mass, systolic blood pressure (SBP) , diastolic blood pressure (DBP), cholesterol, CRI–II, fat-free mass (FFM), and skeletal muscle mass (SMM) (p ≤ 0.08).
Conclusion: In conclusion, participants with a higher score in DII ,as well as those who were at risk for the Caveolin gene allele (at least one of their alleles is A), had lower HDL and greater, FFM, SMM, , and CRI.
Keywords: Hyperinsulinemia, Dietary insulin index, Caveolin.

Intake of various food groups and risk of pancreatic cancer: A systematic review and dose-response meta-analysis of prospective cohort studies

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Introduction: Despite increasing evidence linking food-based dietary patterns to the risk of pancreatic cancer; Knowledge of the form of this relationship and meta -evidance is insufficient. Our goal was to gather and integrate the links between food groups and the risks of pancreatic cancer (pca).

Method: We performed a systematic literature search of the pubmed, scopus, web of science databases up to August 2021. We included cohort, case-cohort, nested casecontrol studies, and follow-up studies of randomized controlled trials that investigated the relationship between breast cancer risk and at least 1 of the following food groups: vegetables, fruits, meats, dairy products, nuts, tea and coffee.
Result: Summary risk ratios (rrs) and 95% cis were estimated using a random-effects model. According to High Lost analysis, nuts significantly reduced (RR=0.84, 95%CI: 0.73-0.98, P=0.02), white meat(RR=1.16, 95%CI: 1.05-1.28, P=0.004) and beef increased the risk of pca (RR= 1.21, 95%CI:1.03-1.42, P=0.02). Inverse linear association was observed with total fruits (RR per 100g/day,0.96, 95%CI: 0.93- 0.99) and direct linear correlation was observed with beef (RR per 100g/day,1.01,95% CI: 1.00-1.03) and pork(RR per 100g/day, 1.02, 95%CI: 1.02- 1.18). There is a non-linear relationship between fish (P: 0.02) with total pca.
Conclusion: High consumption of nuts, fruits and low intakes of animal meats such as pork, beef and white meat is associated with a reduced risk of pancreatic cancer. It is recommended to avoid taking high animal meats to prevent risk of pancreatic cancer
Keywords: Food groups, pancreatic cancer, cancer, meta-analysis, cohort.

The effect of 6 weeks of circular resistance training and concomitant use of L-arginine and vitamin C supplements on body fat percentage of young bodybuilders

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Introduction: Nowadays, the use of sports supplements has become common among athletes. Youth and strength athletes use the most sports supplements. The aim of this study was to investigate the effect of using L-arginine and vitamin C sports supplements on athletes' body mass index.
Method: A sample population of 40 young male bodybuilders were selected, who were randomly assigned to one of four groups: L-arginine, vitamin C, L-arginine and vitamin C, and placebo. Supplementation was performed for six weeks, and athletes performed regular strength training exercises three days a week. Before and after supplementation, the test related to body mass index was performed using In body 270 device and records were recorded.
Results: Data were analyzed using Shapiro and Wilk test, repeated measures analysis of variance, dependent t-test and ANOVA at the level of P <0.05. The results showed that taking L-arginine and vitamin C supplements, either alone or simultaneously, did not correlate with the body fat percentage of young bodybuilders and did not cause a significant change in it (p = 0.008).
Conclusion: Based on the results, it is not recommended to take L-arginine and vitamin C supplements along with strength training to reduce the body fat percentage of bodybuilders.
Keywords: L-arginine, Vitamin C, Supplement, Athletes, Body fat percentage.

Adherence to DASH dietary pattern and polycystic ovarian syndrome: A case-control study

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Background: Polycystic Ovary Syndrome (PCOS) as one of the metabolic abnormalities is prevalent in reproductive-aged women. Aims: This study aimed to investigate the relevance between adherence to the DASH diet and PCOS.
Methods: This is an age and BMI-matched case-control study including new diagnosis PCOS women as a case group (n=108) and women without PCOS as a control group (n=108). The PCOS was diagnosed based on Rotterdam criteria. Also, the validated 168-item food frequency questionnaire was used to determine the usual dietary intake. The method of Fung et al. was used to calculate the DASH score. Moreover, logistic regression was assessed to evaluate the relationship between adherence to the DASH diet and the odds of PCOS.
Results: After adjustment for potential confounders, an increase in adherence to the DASH diet significantly reduced the odds of PCOS (OR for the highest vs. lowest quartile = 0.18; 95% CI 0.07, 0.47). There was a significant decreasing trend in the odds of PCOS across

increasing quintiles of the DASH diet (p-trend <0.001). Also, high adherence to the DASH diet was associated with significantly increased intake of carbohydrate, protein, EPA, DHA, vitamin D, vitamin C, and vitamin A (p<0.05). Also, adherence to the DASH diet indicated a significant increase in the intake of chromium, iron, and potassium.

Conclusions: The results showed that adherence to the DASH diet could reduce the odds of PCOS by 82 percent. It's worth noting that more prospective studies are required to confirm the findings of the current study.

Keywords: DASH diet, polycystic ovary syndrome, Diet, Body composition, BMI.

Adherence to Mediterranean dietary pattern and polycystic ovarian syndrome: A hospital-based case-control study

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Background: Polycystic Ovary Syndrome (PCOS) is a common metabolic and endocrine abnormality in reproductive-aged women. This study aimed to investigate the relevance between adherence to the Mediterranean Diet (MD) and PCOS.

Methods: This age and BMI matched hospital-based case-control study was conducted on 108 women with newly diagnosed PCOS (response rate (92%)) and 108 women without PCOS (response rate (77%)). The PCOS women in the case group were diagnosed based on Rotterdam criteria and women without any symptoms of PCOS were selected as the control group. The validated 168-item food frequency questionnaire was used for evaluation of the usual dietary intake. Adherence to the MD was computed according to the score created by Trichopoulos et al. Total MD scores ranged from zero to eight and potential confounding factors considered. The conditional logistic regression (with adjustment for all of the potential confounders) using STATA (version 15) was used to assess the relationship between MD and PCOS.

Results: After adjustment for all of the potential confounders, an increase in adherence to MD had a significant association with reduction of the odds of PCOS (OR for the highest vs. lowest quartile = 0.05; 95% CI 0.001, 0.31; p-trend < 0.001).

Conclusion: We found that adherence to MD had a protective effect on the odds of PCOS. More prospective studies are required to confirm our findings.

Keywords: Mediterranean Diet; Polycystic Ovary Syndrome; Diet; BMI.

Novel Insights on the Role of Obesity as a Risk Factor for Hair Loss

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Introduction: Obesity has attained the status of a global pandemic, and is tightly associated with many age-associated diseases and human lifespan. However, its exact effects on organ dysfunction are largely unknown. Recent reports have highlighted obesity as the potentially important factor associated with hair loss. Therefore, the review aimed to evaluate the mechanisms of hair loss associated with obesity.
Methods: This review study was conducted by searching in the databases of Web of Sciences, Scopus, PubMed and using the keywords, such as body mass index (BMI), obesity, hair loss, cortisol, minerals and zinc. In this study, articles published between the years 2010-2021, were evaluated.

Results: Evidence showed that higher BMI was associated with greater severity hair loss and androgenetic alopecia. The findings also showed a positive correlation between BMI and cortisol levels and a negative correlation with zinc levels in serum and hair surface (as causes of hair loss). Obesity is associated with profuse sweating, thus the increase in hair cortisol levels in obese individuals could partly be the result of a higher incidence of sweating in these individuals. Recently, reported that obesity-induced stress, activated hair follicle stem cells towards epidermal keratinization by generating excess reactive oxygen species. Inflammatory signals in the stem cells led to these differences, ultimately resulting in hair thinning and loss.

Conclusions: The results of the review showed that obesity via hormonal imbalance, decreased zinc levels and destructive effects on hair follicle stem cells lead to hair loss.
Keywords: Stem cells, Body mass index, Obesity, Hair loss, Cortisol, Zinc

The MTHFR C677T polymorphism influences the efficacy of folic acid supplementation on the nerve conduction studies in diabetic polyneuropathy patients

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Introduction: Among diabetic polyneuropathy patients, the status of folic acid, homocysteine, and nerve conduction studies (NCS) variations has been associated with methylenetetrahydrofolate reductase (MTHFR) gene polymorphisms.
Methods: This study is randomized, double-blind study. Patients were allocated to intervention (1 mg of folic acid, n = 40) or placebo (n = 40) groups for four months. Blood samples were taken to determine the serum folic acid and homocysteine levels. The NCS data were collected for diabetic neuropathy assessment. Genotyping was performed for C677T polymorphism of the MTHFR gene.
Results: Four months after intervention, patients significantly observed change of serum folic acid and homocysteine levels based on C677T genotypes (P<0.05). The amplitude of sensory peroneal nerve between intervention and placebo groups with CC genotype was significantly different (P=0.043). However, peak latency and amplitude of sensory sural nerve between CC (P<0.05); and CT + TT genotypes (P<0.05) were significant. Furthermore, significant difference for variables of motor tibial nerve and motor peroneal nerve amplitude was observed in different C677T genotypes (P<0.05 for onset-latency, amplitude, velocity of tibial nerve and amplitude of peroneal nerve was observed between CC genotype and CT + TT genotype).
Conclusion: The study determined that MTHFR C677T polymorphism affects the efficacy of folic acid supplementation on serum folic acid, homocysteine levels and some NCS parameters in diabetic polyneuropathy patients.
Keywords: Diabetic polyneuropathy، folic acid، MTHFR.

Effect of folic acid supplementation on nerve conduction velocity in diabetic polyneuropathy patients

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Introduction: In diabetic polyneuropathy (DPN) patients, the effect of folic acid and homocysteine has been related to components of nerve conduction velocity (NCV). The objective of this study was to determine the effect of folic acid supplementation on NCV in DPN patients.
Methods: Patients were randomized to receive either 1 mg of folic acid (n = 40) or placebo (n= 40) for 16 weeks. Blood samples were collected to assess serum folic acid and homocysteine concentrations, and NCV was performed for assessment of diabetic neuropathy.
Results: At 16 weeks, in the supplemented group, serum levels of folic acid ($p < 0.001$) increased, homocysteine concentrations decreased ($p < 0.001$), with no change in serum vitamin B12 levels. There was a significant increase in sensory sural amplitude ($p < 0.001$), and components of motor nerves, including amplitude ($p = 0.001$) and velocity ($p < 0.001$), but decreased onset latency of peroneal ($p = 0.019$) and tibial ($p = 0.011$) motor nerves.
Conclusion: Our data suggest that supplementation with 1 mg of folic acid for 16 weeks may be useful for enhancing NCV in DPN patients.
Keywords: Folic acid، nerve conduction velocity، diabetic polyneuropathy.

Association Between BMI and Inflammation Among Diabetic Polyneuropathy Patients

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Introduction: Inflammation is defined as body tissues response to harmful stimuli. Obesity-related inflammation leads to increased risk chronic diseases including diabetic polyneuropathy (DPN). The present study was performed to determine association between body mass index (BMI) and inflammatory markers including erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) in DPN patients.
Methods: In this cross-sectional study, 200 DPN patients with a mean (SD) of age 58.76 (9.53) years were selected. All patients completed the questionnaire including demographic data and chronic disease history. In addition, anthropometric measures and clinical laboratory tests were taken. Multivariate linear regression was used to detect the association between BMI, CRP, and ESR levels.
Results: BMI was associated with increase in ESR and CRP levels (β-ESR = 4.67,P < 0.001 and β-CRP = 0.71, P < 0.001). Also, this association remained after adjustment for other different variables.
Conclusions: These findings indicate that higher BMI is related to increase inflammatory markers including CRP and ESR in DPN patients. Therapies for DPN and reducing inflammation should target the weight loss among obese patients.
Keywords: Body mass index، C-reactive protein ، diabetes، erythrocyte sedimentation rate، Polyneuropathy.

The roles and responsibilities for speech and language pathologists for management of feeding disorder in NICU

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Introduction: Preterm infants' survival rates have dramatically increased in the last 30 years. Also, due to advances in medical care, the birth and survival rates of these infants have increased. Premature infants are at serious medical and developmental risk, and due to poor neural organization, they are at risk of sucking and swallowing disorders. Since the problems of premature infants are one of the areas of interest in speech and language pathology. In this study, we decided to address the role of speech and language pathologists (SLPs) in managing the nutrition of premature infants within the Neonatal Intensive Care Unit (NICU).
Methods: This article is a review of research published between 2010 and 2021 in Science Direct, Elsevier, and MEDLINE databases.
Results: SLPs fill many different roles and a wide variety of responsibilities within the NICU. They conduct interventions and feeding and swallowing, developmental, and communication assessments. They play a critical role in parent education and counseling. SLPs play an important part in the efforts to minimize the long-term negative effects of hospitalization.
Conclusions: Studies have shown that one of the most important roles of SLPs in the NICU is to assess and manage feeding and swallowing problems. In fact, SLPs prepare premature infants for efficient feeding through the mouth by performing oral-motor interventions of premature infants and combined sensory-motor approaches. SLP's interventions prepare premature infants for better and faster weight gain so that they can be discharged as soon as possible and prevent the consequences of long-term hospitalization.
Keywords: speech and language pathology, NICU, Feeding disorder.

Nutritional Support of Critically ill Neonates in Post-Gastrointestinal Surgery State: Adequacy and Barriers

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Introduction: The optimum nutrition support of critically ill neonates is considered an essential aspect of their medical management since they are susceptible to rapid nutritional depletion, loss of fat-free mass, organ failure, delayed wound healing, and diminished immune function in the post-gastrointestinal surgery state. Providing appropriate nutritional support for these high-risk patients is a very complex and critical process accompanied by many potential errors. To the best of our knowledge, this study has been the first attempt investigating the energy and protein adequacy and probable barriers to the achievement of nutritional goals in such patients.
Methods: The present study was carried out at Akbar Children's Hospital in Mashhad, Khorasan Razavi province, Iran, during 8 months in 2019. All the gastrointestinal surgical patients admitted to the neonatal intensive care unit (NICU) for at least 72 h were eligible for enrollment in the study. The information on age, gender, primary surgical diagnosis, route of nutritional support, adequacy of received energy and protein, probable barriers to the achievement of nutritional goals, and clinical outcomes were collected in this study.
Results: Totally, 59 eligible neonates were included in the study 59.3% (n=35) of whom were male. Among different methods of nutritional support, enteral nutrition (47.5%) was the most frequently used feeding route. Energy and protein adequacy was observed in 35.5% and 79.7% of the patients, respectively. The fluid restriction was the major barrier to the provision of optimum nutritional support, affecting 38.9% of the patients. Finally, nutritional adequacy was observed to be significantly associated with decreased infection rate and length of hospital stay.
Conclusion: While 64.5% of the studied neonates did not receive adequate energy, almost 80% of them had adequate protein intake during their post-gastrointestinal surgery state. The awareness of the fluid restriction and non-availability of calorie-dense solutions as the most frequent barriers to the achievement of nutritional goals may lead to making reasonable and realistic decisions on the customized protocols of the NICU patients as well as medical management and insurance coverage of required nutritional products.

Exploration of Meteorin like peptide (Metrnl) predicators in type 2 diabetic patients: the potential role of Irisin, glycemic indices and lipid profiles

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Introduction: Meteorin-like peptide (Metrnl), the newly discovered adipokines involves in glucose and lipid metabolism and energy homeostasis. The aim of the present study was to explore the potential predictors of Metrnl with emphasizing on the Irisin, glycemic indices and lipid profile biomarkers in type 2 diabetic patients.
Methods: This cross-sectional study was carried out on 32 obese type 2 diabetic patients, 31 healthy obese, and 30 healthy normal weight people between August 2020 and March 2021. Serum Metrnl and Irisin, fasting blood glucose (FBS), fasting insulin (FI), fasting insulin (FI), triglyceride (TG), high density lipoprotein cholesterol (HDL-C), low density lipoprotein cholesterol (LDL-C), total cholesterol (TC), HbA1C and eAG levels were measured in standard manner. To assay insulin resistance and insulin sensitivity, homeostatic model assessment insulin resistance (HOMA-IR) and quantitative check index (QUICKI) model were used. Quantile regression analysis with backward elimination method was used to explore predictors. The significant level was defined as $p<0.05$.
Results: Between variables entered into model, only group item showed to be the main predictor of Metrnl in type 2 diabetic patients. Besides, the serum level of Irisin was lower in diabetic patients, and a significant difference was detected between obese diabetic patients and normal weight group ($p=0.024$).
Conclusion: Given the multi-causality of diabetes and also possible therapeutic role of Metrnl in management of type 2 diabetic patients' abnormalities, designing future studies are needed to discover other predictors of Metrnl

and the related mechanisms of Metrnl in the management of diabetes.

Keywords: Blood glucose, cholesterol, type 2 diabetes mellitus, insulin, Irisin, Metrnl protein, triglycerides.

Higher dietary fat quality and the lower risk of depression score in women: a cross-sectional study

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Background: Depression is one of the most common disorders in the world. Based on evidence dietary fat quality (DFQ) is more important than total fat in disease prevention. To our knowledge, so far: the relationship between depression and DFQ has not been well studied. This study aimed to evaluate the association between depressive disorder and fatty acids intake in women.

Methods: This cross-sectional study included 300 women aged 18-49 attending healthcare centers. The Depression, Anxiety, and Stress Scale (DASS) to determine the status of depression and a 168-item semi-quantitative food frequency questionnaire (FFQ) for measuring dietary exposure were completed. The relationship between fatty acids intake and odds ratio (OR) for depression was analyzed by simple logistic regression.

Results: The prevalence of depression reported 30.7%. After adjustment for covariates, an increase in the OR for depression was observed across the quintuples of saturated fatty acids (SFAs) (OR 4.46; 95% CI 2.34-12.26; p-trend<0.001). Moreover, the higher intakes of monounsaturated fatty acids (MUFAs) (OR 0.79 ; 95%CI 0.28-0.98; p-trend=0.04), alpha-linolenic acid (ALA) (OR 0.08 ; 95%CI 0.05-0.34; p-trend<0.001), docosahexaenoic acid (DHA) (OR 0.35 ; 95%CI 0.18-0.81; p-trend=0.002) and eicosapentaenoic acid (EPA) (OR 0.31 ; 95%CI 0.15-0.86; p-trend=0.005) were found to be related with lower OR of depression.

Conclusion: SFAs were positively related to depressive disorder, while MUFAs, ALA, DHA, and EPA intake were inversely related to depression score. For investigating the association between fat intake and depression disorder, DFQ may be a useful measure.

Keywords: depression disorder, dietary fat quality, fatty acids.

The effects of chitosan supplementation on anthropometric indicators of obesity, lipid and glycemic profiles, and appetite-regulated hormones in adolescents with overweight or obesity: A randomized, double-blind clinical trial

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Background: Chitosan is one of dietary fiber that has received great attention in improving obesity-related markers, but little is known on its effects on adolescents.

Objectives: To analyze the effects of chitosan supplementation on obesity-related cardiometabolic markers and appetite-related hormones in adolescents with overweight or obesity.

Methods: A randomized clinical trial was performed on 61 adolescents with overweight and obesity, who were randomly allocated to receive chitosan supplementation (n = 31) or placebo as control (n = 30) for 12 weeks. Anthropometric measures, lipid and glycemic profiles, and appetite-related hormones were examined.

Results: Chitosan supplementation significantly improved anthropometric indicators of obesity (body weight: -3.58±2.17 kg, waist circumference: -5.00±3.11 cm, and body mass index: -1.61±0.99 kg/m^2 and -0.28±0.19 Z-score), lipid (triglycerides: -5.67±9.24, total cholesterol: -14.12±13.34, LDL-C: -7.18±10.16, and HDL-C: 1.83±4.64 mg/dL) and glycemic markers (insulin: -5.51± 7.52 μIU/mL, fasting blood glucose: -5.77±6.93 mg/dL, and homeostasis model assessment of insulin resistance: -0.24±0.44), and appetite-related hormones (adiponectin: 1.69±2.13 ng/dL, leptin -19.40±16.89, and neuropeptide Y: -41.96±79.34 ng/dL). When compared with the placebo group, chitosan supplementation had greater improvement in body weight, body mass index

(kg/m^2 and Z-score), waist circumference, as well as insulin, adiponectin, and leptin levels. Differences were significant according to P-value <0.05.

Conclusion: Chitosan supplementation can improve cardiometabolic parameters (anthropometric indicators of obesity and lipid and glycemic markers) and appetite-related hormones (adiponectin, leptin, and NPY) in adolescents with overweight or obesity.

Keywords: chitosan; obesity; lipids; appetite; adolescents.

The association between food insulin index and odds of non-alcoholic fatty liver disease (NAFLD) in adults: a case-control study

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Aim: This research aimed to study the association of food insulin index and biochemical parameters with the odds of developing NAFLD in adult Iranians. Background: Hyperinsulinemia may play an important role in the development of non-alcoholic fatty liver disease (NAFLD) because of the relationship between insulin response and body fat accumulation. Methods: A case-control study of 169 NAFLD patients and 200 healthy adults aged 18-55 years was conducted. Dietary data was collected using a validated 168-item quantitative food frequency questionnaire (FFQ). Food insulin index (FII) was calculated by dividing the total insulin load by total energy intake (kcal/day). Total insulin load (ILoverall) was also calculated using a standard formula. Results: Mean participant age was 43.9 ± 5.9 years. Patients with NAFLD were significantly associated with higher body mass index, levels of liver enzymes, triglyceride, low density lipoprotein-cholesterol (LDL), total cholesterol, and fasting blood sugar (FBS) compared to the healthy subjects ($p < 0.05$). The highest tertiles of FII were associated with higher odds of NAFLD (OR=1.4, 95% CI: 0.88-2.48, p for trend <0.001) and obesity (OR=2.33, 95% CI: 0.97-5.75) compared to the lowest tertiles. Potential confounders for the association were controlled.

Conclusion: This study found that adherence to a diet with high FII was associated with greater odds of NAFLD and overweight or obesity. Additional studies are required to better understand this association.

Keywords: Insulin, Biochemical processes, Obesity, Chronic diseases, Non-alcoholic fatty liver disease.

Association of dietary phytochemical index and major depression disorder in Iranian females :a case-control study

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Introduction: Depression disorders are one of the most serious public health issues in both developed and developing countries. Previous evidence has shown that diet has a significant impact on the development or progression of mental illnesses. This study aimed to determine the association between dietary phytochemical index (DPI) and major depression disorder (MDD) among Iranian women.

Methods: This case-control study was performed on 87 depressed cases and 174 controls (18–65 years). Dietary intake was assessed using a valid and reliable semi-quantitative food frequency questionnaire (FFQ). DPI was estimated using the following formula: (daily energy derived from phytochemical-rich foods (kJ)/total daily energy intake (kJ)) × 100. The depression status was examined through Beck questionnaire, standardized in Iran, and logistic regression to assess the relationship between DPI tertiles and major depression

Results: The mean ±SD ages of the individuals were 36.72 ±10.21 and 36.88 ±10.29 years in the case and control groups, respectively (0.906). After adjustment for potential confounders, women in the lowest tertile of DPI had a higher risk of major depression (OR 2·61; 95% CI 1·23, 5·54) compared with those in the highest tertile. Conclusions: Our results indicate that a higher DPI score which means high consumption of fruits and vegetables is associated with a lower risk of major depression in females. However, further longitudinal studies and trials are required to support our findings in the future.

Keyword: Phytochemical; Major depressive disorder; Dietary pattern; depression; dietary phytochemical index.

The effect of Chlorella Vulgaris on body weight, lipid profile, and liver function biomarkers: a systematic review of randomized controlled trials

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Introduction: Chlorella vulgaris (CV) as a unicellular algae is a dietary supplement with beneficial nutritious content, used for decades in some countries. Positive impacts for CV supplementation on metabolic parameters has been built up in animal and human studies. Be that as it may there's a crevice for this comes about rundown for an unequivocal conclusion report. This systematic review aimed to summarize the effects of CV on body weight, lipid profile, and liver function biomarkers.
Methods: PubMed/Medline, Scopus, and Embase databases were searched systematically up to 30th December 2021. PRISMA guidelines were charted in this review. which assessed the effects of CV on body weight, lipid profile, and liver function biomarkers related symptoms in clinical trials.
Results: Out of 5316 records screened, after duplicate and irrelevant exclusion by title and abstract, 31 articles remained for full text screening. Finally a total of 16 articles met the study inclusion criteria and were assessed for study method and results.
Conclusion: It seems that C. vulgaris supplementation mainly affects AST levels rather than ALT and ALP levels, however, had controversies in anthropometric, and lipid profile. More well-designed studies are required.
Keywords: Obesity, Chlorella Vulgaris, Liver, Systematic review.

Associations between adherence to Healthy Eating Index-2015 and Rheumatoid Arthritis Disease Activity

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Background: Healthy Eating Index-2015 (HEI-2015) is a multidimensional criterion of diet quality utilized to evaluate how well people's dietary behaviors align with major recommendations of the 2015–2020 Dietary Guidelines for Americans. We aim to investigate the association between the diet quality and Rheumatoid arthritis (RA) activity.
Method: This study was done on 184 patients with RA in rheumatology clinic in Kermanshah city, Iran, in 2020. RA was diagnosed according to the criteria of the 2010 American College of Rheumatology/ European League against Rheumatism. The overall quality diet was extracted from a validated 168-item food frequency questioner (FFQ) to calculate the HEI-2015 score. RA disease activity was assessed using Disease Activity Score 28 (DAS28) scores. One-way ANOVA and ANCOVA were done to find the associations.
Results: Individuals in the highest HEI-2015 quartile had a lower mean Erythrocyte Sedimentation Rate (ESR) than those in the lowest quartiles of the HEI scores (P-value: 0.014). A linear trend towards decreasing waist circumference in patients was observed with increasing quartiles of the HEI-2015 scores (P-value= 0.005). After controlling for all potential confounders, patients in the highest HEI-2015 quartile had the lowest DAS28 scores than those in the lowest quartile of the HEI-2015 scores (Q1= 3.65; 95% CI= 3.29 – 4.02 vs. Q4= 2.35; 95% CI= 1.94 - 2.67; P-value<0.001).
Conclusion: Our results indicated that following a high diet quality might be one of the therapeutic strategies to control or reduce the disease activity in RA patients.

Keywords: Diet Quality, Healthy Eating Index-2015, Rheumatoid arthritis, Disease Activity Score

Association of breakfast quality index with obesity, lipid accumulation product, and triglyceride-glucose index in apparently healthy adults living in Tehran

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Background: Breakfast has been known as the most important meal for a healthy diet. We investigate the association of breakfast quality index (BQI) with obesity, lipid accumulation product (LAP), and triglyceride-glucose (TyG) Index in apparently healthy adults living in Tehran.
Methods: This cross-sectional study was conducted on 758 adults aged between 18–45 years old. The dietary intakes were recorded using the 24-hour recall for three non-consecutive days. Anthropometric measurements were done. BQI was calculated based on Brazilian form. Multivariate logistic regression was applied to model the risk factors associated with obesity.
Results: Of 850 participants, 92 were excluded and 758 participants remained. The most prevalent consumption of BQI components was cereal and derivatives (92.3%) and then dairy products had the second grade (89.9%). The majority of the population had a score between 4-6 points (62.4%). After adjustment, there were not a significant difference in TyG index (P-value = 0.651) and LAP index (P-value = 0.395) across categories of BQI. But there was a significant difference in HDL concentration between the lowest and the highest category of BQI (P-value = 0.005).
Conclusion: We found that adherence to a good breakfast quality might be not associated with the TyG index and LAP index. More studies should be conducted for acclaiming these findings.
Keywords: Breakfast, Insulin resistance, Lipid Accumulation Product, Metabolic Syndrome, Obesity, Obesity, Abdominal

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JOURNAL OF NUTRITION
FASTING AND HEALTH

Volume 10, Supplement, May 2022

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