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Invited oral

HACCP Implementation in The Hospital Catering

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HACCP is a management system based on hazard prevention and reduction to an acceptable level or elimination of hazards in the food production chain of the hospital catering.

HACCP principles can ensure the safe production of food in a hospital catering leading to reduce significant amount of financial cost.

New or unexpected pathogens often emerging on a worldwide scale are changing the epidemiology of foodborne diseases. These changes also may be attributed to socio-economic and demographics factors, including changes in primary production, processing, distribution and handling of food and the increasing exposure of individual, like elderly, immunocompromised patients and many hospitalized subject.

Ensuring the safety of food is a challenge in all healthcare institutions from small to large hospitals. Catering services in a hospital have lower priority compared to high-profile medical services. The food safety issues can vary between institutions, from neonatal intensive care units to geriatric wards. It should be noted that some basic requirements for effective food safety management systems are the same.

In order to improve the quality of the management services in the hospitals, collaboration between hospital administrators, public-health authorities and research centers is necessary.

Keywords: Hazard analysis and critical control point, hospital catering, food chain, pathogens

Appetite Suppressing Hormones and Diet Planning Strategies for Weight Management

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Background: Obesity is a chronic metabolic disease characterized by an increase of body fat stores. It is a gateway to ill health, and it has become one of the leading causes of disability and death, affecting not only adults but also children and adolescents worldwide.

Methods: Literature related to diet strategies regarding obesity management and appetite suppressing hormones have been evaluated and new strategies have been extracted among previous studies.

Results and Discussion: loss of approximately 10% of body weight in persons who are obese (body mass index [BMI] < 40 kg/m^2) is associated with substantial health benefits regarding obesity-related comorbidities. A reasonable goal for weight loss in the setting of a medical treatment program is approximately 1-2 lb/wk. However, it is becoming increasingly apparent that the weight-loss goal for each patient must be individualized. Conventional diets can be broadly classified into 2 categories: balanced, low-calorie diets (or reduced portion sizes) and diets with different macronutrient compositions.

Liraglutide is a glucagon-like peptide-1 receptor agonist (GLP-1 receptor agonist), Indicated as an adjunct to a reduced-calorie diet and increased physical activity for chronic weight management in adults with a body mass index (BMI) of ≥30 (obesity) or adults with a BMI of ≥27 (overweight) who have at least 1 weight-related condition (eg, hypertension, type 2 diabetes, dyslipidemia). Treatment starts with the dose of 0.6 mg and should be increased to 3.0 mg once daily in increments of 0.6 mg with at least one week intervals to improve gastro-intestinal tolerance. It should also be discontinued after 12 weeks on the 3.0 mg/day dose if patients have not lost at least 5% of their initial body weight.

Comparison of Nutrition Day Results for 2019, 2017 and 2010 in Iran: Trends and Changes

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Introduction: Nutrition support is an important part of care management in critically ill patients, not only to prevent and treat malnutrition but also it has a significant impact on recovery from illness and overall outcome**.** This study aimed to compare routes and type of nutrition in intensive care units of Ghaem hospital.

Methods: This survey was designed to compare the nutrition support practice in hospitalized patients in different intensive care units (ICU) of Ghaem hospital on Nov 7th, 2010, 2017 and 2019.

Results: Overall 77 inpatients (37 Male and 40 Female; mean age of 57±4.29 years) hospitalized in ICUs were evaluated in this study. In 2010 15% of them had oral nutrition intake, 85% were received enteral nutrition. In 2017 percentages of enteral nutrition intake were reported 76%. The highest percentages of enteral nutrition intake were reported in 2019 about 87.5%. The mean duration of enteral nutrition in 2010, 2017 and 2019 was 13, 19 and 14 days respectively.

Conclusions: The present survey reported an increased trend in usage of enteral feeding in ICU in Ghaem hospital and compared with previous surveys. However, we are still far from integrating nutrition into care management in the ICU.

Keywords: Oral nutrition, Enteral nutrition, Intensive care unit

BODY SLIMMING DEVICES: REAL OR UNREAL?

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Background: Obesity is a global public health problem, emerging epidemic with changes in dietary habits and physical activity levels in both developed and developing countries. Obesity and overweight are defined as abnormal and excessive accumulation of fat in the body, which may impair one's health status. Body fatness is evaluated by various parameters such as body mass index and waist circumference. Due to the numerous comorbidities of obesity, there are various medical therapies available, one of which is the use of slimming or body contouring devices.

Methods: A search of Pubmed, Google scholar and the Cochrane databases was done for systemic reviews, review articles, meta-analysis and randomized clinical trials up to February 2020. The keywords were subcutaneous fat, cellulite, obesity, noninvasive body contouring.

Results: Body contouring devices include: Mechanical Suction, Thermal-Mechanical Suction, Radiofrequency, Ultrasonic Waves, Cryolipolysis, Low-Level Laser and Microwave. These devices are noninvasively associated with the death of adipocytes, resulting in cellulite depletion, fat reduction, tightening and body shaping. Based on the evidence, these devices are effective for individuals with BMI <30 and localized fat and should be used accompanied with diet and physical activity to get the best results.

Conclusion: Although complications are usually short-term and a few side effects reported with using body contouring devices, however, more clinical trials are needed to support the safety issue and effectiveness in short and long-terms.

Effect of non-invasive body contouring devices on physiological function

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Subcutaneous adipose tissue, once considered a passive storage receptacle with a fixed number of cells and limited purpose, is now recognized as a complicated organ with important endocrine and metabolic functions. Both increased and decreased

adipose tissue mass as seen in obesity, anorexia and lipodystrophy, have profound effects on multiple body systems such as the immune, reproductive and hematopoietic systems.

As body contouring and selective fat removal have become a frequent goal of aesthetically-oriented procedures, there have been numerous efforts to develop a technique that is effective yet noninvasive and leads to minimal or no patient downtime. A decade ago, the only reliable methods by which to reduce fat and its appearance were invasive and included procedures such as abdominoplasty and liposuction. Fortunately, within the last decade, multiple noninvasive technologies have been developed to visibly decrease the appearance of fat and, in some cases, show a histologic decrease in subcutaneous volume and a diminution of adipocyte size and integrity.

Non-invasive treatment modalities, such as lasers, radiofrequency and high frequency ultrasound and cryolipolysis aim to subcutaneous fat reduction restore skin elasticity through stimulation of dermal fibroblasts and collagen remodeling. Minimally invasive procedures, such as dermal fillers and autologous fat transfer, aim to restore skin turgor and volume. Surgical procedures such as rhytidectomy and blepharoplasty permanently remove excess or lax skin.

A Low FODMAP Diet

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Foods have been known as the main trigger of digestive disorders. Proposing the diet low in fermentable oligosaccharides, disaccharides, monosaccharides, and polyols (FODMAPs) for reduction of gastrointestinal symptoms in irritable bowel syndrome (IBS), and inflammatory bowel disease (IBD) opened a new horizon in management of IBS. The hypothesis of psychologic problems in all IBS patients became weak after observation of symptom reductions followed by low FODMAP diet. Currently, low FODMAP diet is the first step of IBS management. Most of the patients would be symptom free after 2 weeks' adherence to low FODMAP diet, unless they suffer from a major psychological problem. After 6-8 weeks, patients can follow a diet with less

limitation, thus, this diet does not last for the long-life. FODMAP containing foods, then, can be challenged after the limitation period.

FODMAPs are found in a wide range of foods in various amounts. Some foods contain several types of FODMAPS, while some others contain only one. The main dietary sources of FODMAPS are as follow: wheat, rye, legumes, garlic, onion, and most of fruits and vegetables contain fermentable oligosaccharides, milk, and soft cheese contain fermentable disaccharides, most of the fruits, honey, and artificial sweeteners contain fermentable monosaccharides and polyols.

The mechanism of action for therapeutic effects of low FODMAP diet in amelioration of IBS symptoms is mainly explained by its effects on gut microbiota. FODMAP foods can be fermented by the intestinal bacteria producing gas, which leads to symptoms such as bloating and abdominal pain. Thus, adherence to low FODMAP diet reduces production of gas and consequently abdominal pain.

Future studies should focus on new methods of patient education, and predictors of patient's response. Moreover, the effects of this diet in other disorders, specially, other digestive disorders remained to be elucidated.

Nutrition in Cystic Fibrosis

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Cystic fibrosis is the most common life shortening autosomal recessive disease among Caucasian populations which involves different organs.

Growth failure is common in cystic fibrosis children and adolescents.

Malabsorption, maldigestion and increase nutritional need are the combination causes of growth faltering in CF patient.

Early recognition and intensive treatment of malnutrition can minimize damaging effect of it on lung disease and quality of life.

Pancreatic insufficiency is an important contributor to malnutrition in most CF patient.

Pancreatic insufficient patients should consume a high-calorie diet with unrestricted fat with PERT therapy that is appropriate to age and clinical

status. Enzyme dosing may be done either by grams of fat ingested or by weight. Dosing by grams of fat is more likely to mimic the normal pancreatic response to a meal.

Infants generally require 450-900 lipase units/g of fat, **or** 2,000-4,000 lipase units per 120 ml of formula or when breastfeeding and Older children and adults generally require 500-4,000 lipase units per gram of fat ingested **or** 500-2,500 lipase units/kg/meal, 250-1,250 lipase units/kg/snack.

Other factors such as high dose target of fat vitamins, sodium abnormality, CFRD, CFLD, inflammation and importantly, chronic and progressive pulmonary infection, can effect on growth pattern of patient.

According to this, multi-disciplinary team work management consist of pulmonologist, gastroenterologist and nutritionist is essential for the best result.

Keywords: Cystic fibrosis, Malnutrition, PERT

Evaluation The Effects of Pycnogenol (French Maritime Pine Bark Extract) Supplementation on The Inflammatory Biomarkers, Nutritional and Clinical Status in Traumatic Brain Injury Patients, in Intensive Care Unit; A Randomized Clinical Trial

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Background: Traumatic brain injury (TBI) is one of the major health and socioeconomic problems in the world. Immune-enhancing enteral formula has been proven to significantly reduce infection rate in TBI patient. One of the ingredients that can be used in immunonutrition formulas to reduce inflammation and oxidative stress is pycnogenol.

Objective: surveying the effect of pycnogenol on the clinical, nutritional and inflammatory status of TBI patients.

Methods: This is double-blind, randomized controlled trial. Block randomization used. Intervention group received pycnogenol supplementation of 150 mg for 10 days. Control group received placebo for the same duration. Inflammatory status (IL-6, IL- 1β, C-reactive protein) and oxidative stress status (Malondialdehyde, total antioxidant capacity), at the base line, at the 5th day and at the end of the study (10th day) were measured. Clinical and nutritional status were assessed three times during the intervention. SOFA (sequential organ failure assessment) questionnaire for assessment of organ failure was filled out every other day. The mortality rate was calculated within 28 days of the start of the intervention. Weight, body mass index and body composition were measured.

Results: These results were obtained by using the New way west test in Stata version 14. Supplementation with pycnogenol decreased IL-6 (27.29 pg / ml, P=0.01) in the intervention group. The CRP had a decrease of 4.11 pg / ml in the intervention group (P = 0.02). APACHE was reduced 31/3 unit (P = <0.001), SOFA was reduced 0.81 unit (P = 0.02) and Nutric was reduced 0.50 unit (P = 0.01). Anthropometric changes didn't different over the time except dry lean mass in control group reduced significantly (P=0.04). Also, pycnogenol reduced the mortality by 15% in the intervention group compared to control group**.**

Conclusion: Supplementation with pycnogenol in patients with traumatic brain injury can reduce inflammation and improve the clinical status and malnutrition score.

Trial registration: This trial is registered at clinicaltrials.gov (ref: NCT03777683) at 12/13/2018.

Keywords: Traumatic brain injury; critical care; pycnogenol; inflammation; nutrition support; French maritime pine bark extract

Intermittent Fasting and Longevity

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Fasting has been defined as a dietary intervention in lifestyle modifications, where it could improve cardiovascular risk factors and also it has been proven to be beneficial for longevity. The three

most commonly studied fasts are caloric restriction (CR), alternate-day fasting (ADF), and dietary restriction (DR).

Longevity means "a long duration of individual life". It has been previously shown that calorie restriction has beneficial effects on longevity. Ischemic heart disease and stroke are the most common cause of death worldwide. In addition to atherosclerosis which is the main cause of cardiovascular and cerebrovascular events, starting from two years with no effective therapeutic method in this regard. The prominent findings come from lifestyle modifications that have been shown to prevent the increase in arterial stiffness.

Also, Intermittent fasting including time restricted feeding has been shown to be helpful for improvement in traditional cardiovascular risk factors and 10 years Framingham risk score.

In this presentation arterial stiffness indices including pulse wave velocity and arterial age after intermittent fasting will be discussed.

The question is whether intermittent fasting could be suggested as a strategy for improvement in arterial stiffness and longevity?

Why Using Non-Invasive Body Contouring DEVICES?

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The demand for body contouring is rapidly increasing, and interest in non-invasive approaches has also grown. Non-invasive contouring devices improve the body's appearance through the removal of excess adipose tissue, particularly in areas in which fat persists despite optimal diet and exercise routine. The technology can also be used for skin tightening in patients suffering from saggy skin during or after the *weight loss* process. Today, different kinds of FDA-approved non-invasive body contouring modalities, including cryolipolysis, laser, high-intensity focused electromagnetic field, radiofrequency and high-intensity focused ultrasound are available for reducing the volume of subcutaneous adipose tissue or cellulite. Each procedure has distinct mechanisms for stimulating apoptosis or necrosis adipose tissue. These devices have emerged as a popular alternative to surgical body contouring due to their efficacy, promising safety profile, minimal recovery time and reduced cost. Using non-invasive body contouring devices are an attractive alternative for patients who do not want the risks or costs associated with surgery. When used appropriately and correctly, these devices have demonstrated good clinical efficacy and safety. However, the non-invasive device market needs further studies to evaluate these devices and identify which technology provides the most benefit in terms of outcomes for patients.

Vitamin D and health; current evidences

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Vitamin D functions in the body through both an endocrine mechanism (regulation of calcium absorption) and an autocrine mechanism (facilitation of gene expression). The former acts through circulating calcitriol, whereas the latter, which accounts for more than 80% of the metabolic utilization of the vitamin each day, produces, uses, and degrades calcitriol exclusively intracellularly. In patients with end-stage kidney disease, the endocrine mechanism is effectively disabled; however, the autocrine mechanism is able to function normally so long as the patient has adequate serum levels of 25(OH)D, on which its function is absolutely dependent. For this reason, calcitriol and its analogs do not constitute adequate replacement in managing vitamin D needs of such patients. Optimal serum 25(OH)D levels are greater than 30 ng/mL (80 nmol/L). The consequences of low 25(OH)D status include increased risk of various chronic diseases, ranging from hypertension to diabetes to cancer. The safest and most economical way to ensure adequate vitamin D status is to use oral dosing of native vitamin D. (Both daily and intermittent regimens work well.) Serum 25(OH)D can be expected to rise by about 1 ng/mL (2.5 nmol/L) for every 100 IU of additional vitamin D each day. Recent data indicate that cholecalciferol (vitamin D3) is substantially more potent than ergocalciferol (vitamin D2) and that the safe upper intake level for vitamin D3 is 10,000 IU/d. The prevalence of vitamin D

deficiency in Iranian adults using cut-off values of 20 ng/ml. According to the results of recent studies, the prevalence of vitamin D deficiency in children of Iran is estimated to be 79 - 81/3%. In other studies, the prevalence of vitamin D deficiency among adults and adolescents in Iran has been estimated to be approximately thirty percent. In Iran, the vitamin D supplementary program has been applied by the Office of Nutrition Department Society in whole of the country among different age groups since 2014. Therefore, the status of vitamin D intake was necessary to design new appropriate interventions. Because its results can help to identify the weaknesses and implementation problems of the program. Qualitative analysis showed that there are several problems to implement the program in the country such as distributing the supplement, the existed barriers to use the supplement by people and funding. The health professionals' solutions including a need to intervene a multiple strategy that contains training, financing, sufficient and regular distribution of the supplement and to apply the alternative methods such as food fortification.

Keywords: vitamin D, Fortification, Vitamin D deficiency, Health

Very low-calorie diet therapy; fast and furious!

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Obesity is a serious public health issue with massive medical, social and economic consequences. The optimal management of obesity requires a combination of diet, exercise, and behavioral modification. Besides, some patients eventually require pharmacologic therapy or even surgery interventions. Very-low-calorie diets (VLCDs) are sometimes considered for the management of obesity in clinics and commercial programmes. There is a need for long-term comparison with conventional dietary interventions to assess clinical effectiveness. VLCDs are defined as hypocaloric diets that provide between 500 to 800 kcal per day and are enriched in a protein of high biological value. They must contain the full complement of vitamins, minerals, electrolytes and fatty acids. They are usually in a liquid formulation and are intended to completely replace other food intakes in a weight loss programme for a specific time. Meal replacements are portion-controlled low-calorie foods that facilitate compliance with a VLCD by simplifying food choices and allowing a structured eating pattern. The risk of overweight to the patient should be evaluated before beginning any treatment program. The selection of treatment can then be made using a risk-benefit assessment. The choice of therapy is dependent on several factors, including the degree of overweight or obesity, comorbidities, and patient preference. In this presentation, I try to explain the indications, complications and conditions that we must follow to use this emerging effective diet in obesity treatment. I also provide the last guidelines and studies regarding this relatively new diet therapy.

Food Waste in Hospitals and Strategies for Change

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Food waste in hospitals refers to the served food that remains uneaten by patients. High levels of food waste contribute to malnutrition-related complications in hospital, and there are also financial and environmental costs. Plate waste is two to three times higher in hospitals than in other foodservice sectors, such as restaurants, cafes, schools and work place canteens. The reasons were into four broad categories: (1) clinical condition of patients (2) food, namely quality, portion sizes, and available choices (iii) service, including difficulty accessing food and complex ordering systems; and (iv) environ mental factors, such as meal times, interruptions, and surroundings. Throughout the EU27 food waste is a growing concern, mounting to 89 million tonnes per year, or 180 kg per capita. If no action is taken, the projection is that the value will increase 40% in 2020, to 126 million tonnes. All these tonnes of food transformed into waste equate to economic losses and environmental impacts. The roadmap to a Resource Efficient Europe recognizes the need for waste prevention and proposes to halve disposal of food waste by 2020. Some food waste is unavoidable, even in the most efficient of systems, but the figures presented here highlight the potential financial and environmental savings that can arise for Hospitals from tackling this problem. Strategies to minimize waste include reduced portion sizes with food

fortification, bulk meal delivery system, feeding assistance, provision of dining rooms, and protected meal times. Waste minimization would have significant environmental gains, especially in terms of reduced CO_2 emissions, resource and energy conservation and pollution prevention.

Keywords: food catering, meal delivery, waste reduction, food loss

The Role of Nutritional Supplements in Weight Loss

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According to recent studies approximately two-thirds of adults are willing to lose weight or prevent weight gain. The current protocol of weight loss has focused on use of supplements as a necessary approach in the case of related comorbidities or severe obesity.

In addition to lifestyle changes, majority of patients are recommended to take supplements in their weight loss plan. Notably, the most commonly used ingredients for weight-loss supplements are as follows: Ephedrine or Pseudoephedrine, Caffeine, Theophylline, or Theobromine, Chromium, Conjugated linoleic acid and Carnitine. Therefore, these supplements are considered as combination formulas. The suggested regulatory mechanisms of such supplements in relation to ease of weight loss may be associated with 1) energy-boosting or thermogenesis 2) Appetite suppression and early satiation 3) prevention or reduction of fuel absorption 4) fat burning induction 5) enhancement of muscle mass or power. However, the use of various weight loss supplements in children and adults may raise related concerns. Thus, the effect of these supplements are highly different and depends on related guidelines' protocols and clinical judgments of dieticians and physicians.

Dietary Management of Phenylketonuria

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Phenylketonuria (PKU) is the most prevalent inborn error of amino acid metabolism in newborns. Complete or partial enzyme deficiency causes accumulation of phenylalanine (Phe) and its metabolites in blood and if left untreated causing detrimental effects on brain development and function.

Lifelong low-Phe diet is the mainstay of treatment. Complete adherence to diet leads to blood level Phe control between 120–360 µmol/L for individuals aged 0–12 years and for maternal PKU, and 120–600 µmol/L for non-pregnant individuals older than 12 years.

Dietary treatment consists of a severe restriction of dietary Phe; replacement of non-Phe amino acids with a protein substitute commonly supplemented with essential fatty acids and other micronutrients combined with low-protein foods from fruits, some vegetables, sugars, fats and oil and special low-protein foods.

The quality and composition of the diet is scheduled according to gender, age, weight, enzyme deficiency level. For each patient energy, protein, Phe, tyrosine and water requirements should measure individually.

In infancy and early childhood, phe-free AA formula provides most of the protein, energy and nutrient needs for growth. Dietary phe requirements are met by small amounts of breast milk or infant formula in this age. As feeding skills develop, phe requirements are met through small amounts of rice cereal, fruits and vegetables. Frequent consumption of AA formula throughout the day results in stable plasma phe concentrations and higher phe tolerance as protein retention and synthesis improve in adulescence.

Nutritional, clinical, and biochemical follow-up is necessary for all patients, regardless of therapy**.**

Planning for The Supply of Nutrition Manpower Needed in Hospitals in The Country

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Introduction: Today, with advance of clinical nutrition, there is a significant need for human resource in this field in the hospitals. On the other hand, in recent years, the provision of specialized human resources in clinical nutrition and nutritional therapy has received less attention than other areas of nutrition. This has resulted in a significant gap between the manpower required and the manpower trained in these two areas in Iran, although about 50-60 percentages of nutrition human resources is occupied in these two field in some of countries. The purpose of this report is to estimate the manpower required by hospitals in 1404 to meet the needs of the community.

Method: In order to estimate the clinical nutrition human resources, need in the hospitals in Iran in 1404, the Iranian human resources indices were compared with the proposed global indices and after obtaining the selected ones, the required human resources were estimated.

Results: In 1404, we will need to 1767 dietitians with a bachelor's degree in Nutrition, 196 dietitians with a master's degree in Nutrition and 981 dietitians with a master's degree in clinical Nutrition.

Conclusion: In order to provide the required human resources, it is necessary to adapt the admission process over time and to a specific policy in such a way that the admission capacity of some postgraduate disciplines with a general orientation is reduced and new capacities are developed in order to train human resources with specialized knowledge and skills in clinical nutrition fields.

Microbial Contamination of Hospital Foods: The Forgotten Problem

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Food is not only a significant element of comfort for patients during their hospital stay but also a vital necessity. Studies in hospitals show that one of the most important factors affecting the quality of hospital services is attention to food services. The issue is that food services in hospitals should be considered an important part of the treatment process.

Food poisoning occurs when food is contaminated by pathogenic or toxic organisms. When the infection originates from pathogenic bacteria, mismanagement in the nutrition sector can spread infections and eventually lead to susceptible disease. Therefore, the impact of catering services on health is determinant, especially when the target population of food supply are vulnerable groups. The most common microorganisms involved in hospital outbreaks following consumption of contaminated food include Salmonella Spp, Staphylococcus aureus, and Clostridium perfringens. In addition, the hospital is a source of transmission of many microbial diseases from food and water to patients and other persons.

Hence, it is suggested the implementation of preventive protocols and training programs for staff on the effective sanitation of raw vegetables, in order to reduce microbiological danger.

Nutritional Status of Cancer Patients in Iran and Ways to Improve It

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Introduction: Malnutrition is prevalent in cancer patients. Nutritional status of patients affects Patients quality of life and the cancer treatments as well as disease burden. The present review discusses about the nutritional status of cancer patients in Iran**.**

Method: A complete search was performed about the nutritional status of cancer patients in electronic databases such as ISI web of science, PubMed, Scopus and google scholar as well as local databases including SID and Magiran.

Results: There were few studies and surveys investigating the nutritional status of patients with malignancy. Khodashenas et al. reported that the prevalence of malnutrition according to the PG-SGA tool was 80% out of which 53% had moderate and 27% had severe malnutrition in 1024 outpatients in referral hospitals in Mashhad and Tehran. Zarif et al. performed a longitudinal study during chemotherapy in 71 cancer patients. Surprisingly, according to the Ottery's PG-SGA questionnaire, 80% of the survived cases and 100% of the deceased patients required nutritional

intervention. They also reported patients with stage IV of the malignancy, malignancy with Unknown Origin (MUO), upper gastrointestinal (GI) and lung cancers had the worst nutritional status. Jamshidi et al confirmed that GI cancer patients had the worse nutritional status than other types of cancers. Gholami et al. investigated the nutritional status of GI cancer patients who were candidate for surgery. At the time of admission, 74.5% of the patients were malnourished according to SGA tool. The malnutrition rates increased significantly to 98%, seven days after surgery.

Conclusion: Malnutrition is prevalent in cancer patients in Iran. Thus, nutritional screening and monitoring and accordingly nutritional intervention is crucial; particularly at diagnosis and before surgery.

Oral presentation

HN-00160210_Fasting or Calorie Restriction Dramatically Increase Autophagy and Mitophagy: A Comprehensive Review of Preclinical and Clinical Studies

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Autophagy is a lysosomal degradation process and protective housekeeping mechanism to eliminate damaged organelles, long-lived misfolded proteins andinvading pathogens. Autophagy functions to recycle building blocks and energy for cellular renovation and homeostasis, allowing cells to adapt to stress. Mitophagy or mitochondrial autophagy is the selective degradation of mitochondria by autophagy. Mitophagy is keyin quality control of mitochondria and keeping the cell healthy. Modulation of autophagy and mitophagy is a potential therapeutic target for a diverse range of diseases, including metabolic conditions, neurodegenerative diseases, cancers andinfectious diseases. Conventionally, food deprivation and calorie restriction (CR) have been considered to slow aging andincrease longevity. Since autophagy or mitophagy inhibition attenuates the anti-aging effects of CR, it has been proposed that autophagy plays a substantive role in CR-mediated longevity. Among several stress stimuli inducers of autophagy, fasting and CR are the most potent non-genetic autophagy stimulators, and lack the undesirable side effects associated with alternative interventions. Generally, based on the current review, both fasting and CR have a role in the upregulation of both autophagy and mitophagy, the evidence overwhelmingly suggests that both fasting and CR have a salient role in upregulation of autophagy and mitophagy markers and autophagy activation. Modulated autophagy and mitophagy can be achieved by both fasting and CR, and plays a crucial role in normal function and hemostasis of cells, leading to an improvement in the health and function of various organs and tissues.
Keywords: autophagy, mitophagy, Fasting, Calorie restriction

HN-00480020_Medical Management of Critically Ill Obese Children: Clinical Nutrition Approaches

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Introduction: Childhood obesity is an important and serious health problem in the world. The number of critically ill obese children is rapidly increasing and nutrition support of this nutritionally high risk population during the acute phase of stress is of particular importance since optimal energy and nutrient delivery may lead to improved clinical outcomes in PICUs.
Methods: This review was conducted on the National Library of Medicine's PubMed, Scopus, Embase and Cochrane databases. A combination of relevant MeSH terms and keywords were used to provide updates on the nutritional management of obese patients in PICUs. The reference lists of the search results were also reviewed. After screening, 42 eligible relevant articles were obtained and entered the review process.
Results: Obese children are at a high risk of nutritional deprivation in PICUs, therefore nutritional assessment is considered as an essential step that may improve individualized nutrient delivery. We addressed some routinely recommended nutritional assessment indices in obese children admitted to PICUs in addition to some aspects of nutritional assessment which are conditionally indicated. Moreover, optimal isocaloric feeding with adequate macronutrients,

and micronutrients should be considered in critically ill obese children.

Conclusion: This review provides recent evidence to assist pediatric intensivists in nutritional management of critically ill obese children and consequently individualized realistic nutrition support of them.

Keywords: Pediatric Obesity; Intensive Care Units, Pediatric; Nutrition Assessment; Diet Therapy.

HN-01440126_Synbiotic Supplementation Effect on Muscle Wasting in Critically Ill Patients: A Randomized Controlled Trial

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Introduction Muscle wasting is associated with negative health outcomes such as functional disability, higher risk of infections, delayed recovery and mortality in critical care patients. The aim of this study was to evaluate the effect of gut microbiota modulation through synbiotics on muscle wasting in critically ill patients.

Methods: This was a double-blind, randomized controlled trial conducted in Mashhad, Iran. All eligible patients (20 subjects in each group) received standard hospital gavage as enteral nutrition through a nasogastric tube. In the intervention group, patients received Lactocare (ZistTakhmir) capsules 500 mg every 12h for a maximum of 14 days. Patients in the control group received a placebo capsule, similarly. Mid-arm circumference (MAC) and 24-hour urine creatinine excretion were measured before and after the treatment. Data were analyzed via SPSS statistical software version 16.

Results: A total number of 38 patients (mean age 42.82 years) completed at least four days of the intervention (mean 10.29 days). At baseline, both groups were similar regarding age, disease severity, nutritional risk and energy and protein intake. Although MAC was significantly reduced in the placebo group (26.60 ± 5.5 to 24.3 ± 5.45, $p<0.001$), there was no significant change in the synbiotic group (28.75 ± 2.60 to 28.15 ± 2.93, $p=0.16$). 24-hour urine creatinine, which is associated with body muscle mass, showed a non-significant increase in the synbiotic (348.66 ± 116.12 to 460.44 ± 153.40) and a non-significant decrease in the control group (585.60 ± 195.25 to 300.54 ± 100.18).

Conclusion: Overall, it can be concluded that synbiotic supplementation can be beneficial in muscle mass maintaining in critically ill patients.

Keywords: critical care, muscle wasting, synbiotic

HN-01530122_The Effect of Nettle (Urtica Dioica) Supplementation on The Glycemic Control of Patients with Type 2 Diabetes Mellitus: A Systematic Review and Meta-Analysis

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Introduction: Type 2 diabetes mellitus (T2DM) is a major health problem, worldwide, that is associated with increased morbidity and mortality. Several randomized controlled clinical trials (RCTs) have investigated the effect of nettle (Urtica dioica) supplementation on markers of glycemic status in patients with T2DM, with conflicting results.

Methods: comprehensive search was conducted in PubMed, Scopus, Cochrane Library, and Web of Science, from database inception up to June 2019, to identify RCTs investigating the effect of nettle supplementation on glycemic markers, including fasting blood sugar (FBS) concentrations, insulin levels, homeostasis model assessment-estimated insulin resistance index, and glycosylated hemoglobin percent-age in adults with T2DM. The Cochrane Collaboration tool was used to assess the methodological quality of the included studies.

Results: The results of the meta-analysis revealed a significant reduction in FBS concentrations (weighted mean difference [WMD]: −18.01 mg/dl, 95% confidence interval [CI]: −30.04 to −5.97, p <.001, I2= 94.6%) following nettle supplementation. However, no significant reduction was observed in insulin levels (WMD: 0.83 Hedges' g, 95% CI:−0.26 to 1.92, p=.13,I2= 89.4%), homeostasis model assessment-estimated insulin resistance index(WMD:−0.22, 95% CI:−0.83 to 0.40, p= .49,I2= 69.2%), or glycosylated hemoglobin-bin percentage (WMD:−0.77%, 95% CI:−1.77 to 0.22,p= .12, I2= 83.0%)

Conclusion: The findings of the present study suggest that nettle supplementation may be effective in controlling FBS for T2DM patients. However, further studies are needed to confirm the veracity of these results.

Keywords: glycemic markers, meta-analysis, nettle, systematic review, type 2 diabetes mellitus

HN-02120214_The Relationship between Vitamin D, Clinical Outcomes and Mortality Rate in ICU Patients: A Prospective Observational Study

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Introduction: According to the high prevalence of Vitamin D deficiency, a few studies have been conducted to clarify the relationship between 25 hydroxyvitamin D (25(OH)D) and clinical outcomes in critically ill patients. The objective of this study was to determine this probable association.

Methods: Serum 25(OH)D, C reactive protein, malnutrition measurements, and Intensive Care Unit (ICU) acquired infection from 185 patients in ICU were assessed in the first 24 h of admission and they were followed for the other outcomes.

Results: About 93.5% of patients were classified as deficient and insufficient while the others were categorized in sufficient group. 25(OH)D status was not significantly associated with mortality rate (P = 0.66), and no significant differences in ventilation time were observed (P = 0.97). Sufficient group left the ICU sooner, but the difference was not significant (P = 0.75). Besides the results of relationship between 25(OH)D concentration and nutritional status (P = 0.69) were not significant. In addition, sufficient group suffered from infection more than insufficient patients, but this relationship was not significant (P = 0.11).

Conclusion: In this study, we found that 25(OH)Dinsufficiency is common in ICU patients, but no significant association between low 25(OH)D levels and ICU outcomes were observed. Hence, because of vital roles of Vitamin D in human's body, comprehensive study should conduct to determine the decisive results.

Keywords: 25 hydroxyvitamin D, hospital acquired infection, inflammation, Intensive Care Unit, length of stay, malnutrition, mortality, ventilation time

HN-02210215_The Effect of a High Antioxidant Enteral Nutrition Formula on Inflammatory Biomarkers, Metabolic Factors and Clinical Outcomes in Critically Ill Patients in The Intensive Care Unit: A Single-Blind Randomized Controlled Trial

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Introduction: Critical illness is characterized by oxidative stress, which is recognized as an underlying cause for systemic inflammation and organ failure due to excessive production of free radicals, depletion of antioxidant defenses, or both. We hypothesized that a formula with high antioxidant agents could improve the inflammatory condition, metabolic status and clinical outcomes in critically ill patients. The aim

of this study was to assess the efficacy of this formula compared to standard nutrition in critically ill patients in intensive care unit (ICU) patients.

Methods: This single-center, prospective, randomized, single blind, controlled study was conducted on critically ill patient admitted to neurosurgical ICU. Patients were randomly assigned to receive either standard formula (n=10) or enriched formula (n=10). The primary outcomes were clinical outcomes, inflammatory biomarkers and metabolic tests including liver enzymes, blood sugar and lipid profile.

Results: Compared with the standard formula, the enriched formula resulted in lesser elevation in hs-CRP level (17.560 ± 1.7437, $p < 0.001$) compared to the control group. Hs-CRP trend was significantly different between two groups ($P = 0.007$). There was a significant difference in trends of MAC ($p<0.001$), ALP ($p<0.001$) and LDL-c ($P = 0.017$) between groups. FBS, AST and TNF-α were not significantly different between groups.

Conclusion: This study suggests that the antioxidant enriched formula maybe associated with improved inflammatory biomarkers, metabolic factors and clinical outcomes, including disease severity, in critically ill ICU patients. Further research with larger sample size and multicenter studies are needed to achieve better and reliable results.

Keywords: Inflammation, Antioxidant, Enteral Nutrition

HN-02410260_The Effect of Coenzyme Q10 Supplementation on Oxidative Stress and Clinical Outcomes in Patients with Low Levels of Coenzyme Q10 Admitted to The Intensive Care Unit

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Introduction: This study aimed to assess the efficacy of Coenzyme Q10 (CoQ10) on the oxidative stress, clinical outcomes and anthropometrical parameters in traumatic mechanical ventilated patients admitted to the intensive care unit.

Methods: Patients were randomized to receive sublingual CoQ10 (400 mg/day) or placebo for seven days. Primary and secondary outcomes were measured at baseline and end of the study.

Results: We enrolled 40 patients for this trial: 20 in the CoQ10 group and 20 in the placebo group. There wasn't any significant difference in the baseline variables ($P>0.05$). At the end of the study, CoQ10 administration caused a considerable reduction in the Malondialdehyde (MDA) and Interleukin 6 (IL-6) concentrations ($P< 0.001$), Glasgow Coma Score (GCS) ($P=0.02$), ICU and hospital length of stay and mechanical ventilation (MV) duration ($P< 0.001$). We found that CoQ10 administration could increase Fat-Free Mass ($P< 0.001$) (FFM) ($P=0.04$), Skeletal Muscle Mass (SMM) ($P=0.04$) and Body Cell Mass (BCM) percent ($P=0.03$). There wasn't any significant difference in other factors between the two groups ($P>0.05$).

Conclusions: CoQ10 administration has beneficial effects on patients with traumatic injury and has no side effects

HN-02470278_Anti-Inflammation Effects of L-Carnitine Supplementation in Critical Ill Patients

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Introduction: Critical ill patients in the intensive care unit, are usually associated with catabolic stress conditions, during which this situation show systemic inflammatory symptoms and responses. Inflammatory responses are associated with increased complications such as infectious diseases, multi-organ dysfunction. , increased length of ICU stay and mortality. Critically ill patients are usually nourished artificially by enteral or parenteral feeding, which often leads to a lack of L-Carnitine intake. L-Carnitine supplementation may play an important role in these patients by regulating inflammatory cell function, so the purpose of this study was to investigate the effect of L-Carnitine supplementation on inflammatory markers in the critically ill patient.

Methods: This randomized, double-blind, placebo-controlled trial was performed on 50 critically ill patients. The subjects were randomly assigned to the placebo group (n=26) and L-carnitine group (n=24), the intervention (3000mg/day) was administered for 7 days. The levels of inflammatory marker (CRP, IL-6, Procalctitonin) were measured. APACHE score, SOFA score, and 28-day mortality were calculated.

Results: fifty critical ill patient's completed the study. After L-Carnitine supplementation, the levels of inflammation marker were significantly reduced compared to the baseline (CRP P<0.02, IL-6 P=0.04, PCT P=0.03). In the placebo group the levels of inflammation marker were increased compared to the baseline. SOFA score were significantly reduced in carnation group compared to the placebo group (p=0.02) and APACHE score were significantly reduced in L-Carnitine group vs control group (p=0.01).

Conclusions: this study showed that L-Carnitine supplementation may improve carnitine deficiency and decreased inflammation in critically ill patients.

Keywords: L-Carnitine, Inflammation, Supplement, Critically ill patient, Intensive care units

HN-02520283_Nutritional Status of Patients with Functioning Graft and Hemodialysis Assessed by Clinical Examination, Anthropometry, and Bioimpedance

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Introduction: Kidney transplantation is an important therapeutic approach in kidney failure that can improve physical condition, health and quality of life of patients. This study determined and compared nutritional status and dietary intake of renal transplant patients before and 6 months after kidney transplantation with healthy individuals.

Methods: A total of 40 renal transplant recipients who were referred to the nephrology clinics of Montaserieh Hospital, Mashhad and Sina Hospital, Tehran in 1397 were selected through purposive non-probability sampling. Forty healthy adults were included as the control group. Biochemical tests, anthropometric indices, recurrence and dietary intakes were collected through a 3-day dietary frequency and dietary regimen were compared between groups. Statistical analysis was performed using SPSS 16 software.

Results: The intake of calories, fat, carbohydrates, proteinand micronutrients increased significantly in cases compared to controls. Income, gender, and education were the predictors of carbohydrate and fatty acid intake. Body mass index, lean tissue, adipose tissue, and waist circumference were significantly higher in cases compared to controls (p <0.05). Total body water, plasma nitrogen was significantly lower in cases compared to controls (p <0.05). Mean malnutrition index score was (A = 42.5%), (B = 52.5%) and (C = 5%) before transplantation that improved (A = 75%), (B = 20%) and (C = 5%) respectively after transplantation (p <0.05).

Conclusion: Adherence to these dietary guidelines may increase fat tissue and BMI in the long run. High intake of fat and carbohydrates, which are associated with increased kidney transplant complications, were seen among patients.

HN-02490274_Critical Review Methods for Nutritional Quality Evaluation of Enteral Formulas

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A diet well-balanced in macro- and micronutrient content is the basis for a good health state. Most enteral nutrition (EN) formulas are designed also to meet the increased micronutrient needs in patients with increased losses or requests (e.g. moderately catabolic patients). For this reason, the micronutrient content in EN formulas is usually in excess for the needs of long term EN patients metabolically stable and without organ damage. This oversupply or undersupply could be harmful in particular in patients on long-term EN. However, despite the widespread use of EN, both in hospitals and at home, studies on the micronutrient compositions in the enteral mixtures are lacking, thus an evaluation of the amount of vitamins and trace elements in the currently available products requires consideration. For these reasons, this review summarizes the current knowledge of and evaluate the methodologic approaches reported

for analyzing macronutrients (fats, proteins, and carbohydrates), water- and fat-soluble vitamins and minerals in enteral formulas. some minerals (calcium, copper, iron, magnesium, manganese, phosphorus, potassium, and zinc) have been analyzed by inductively coupled plasma pectrometry after wet-ashing. Selenium has been an analyzed by hydride generation and atomic absorption spectroscopy, and iodine content was measured by thiosulfate titration. Five vitamins (vitamins C and B-6, thiamin, riboflavin, and niacin) have been analyzed with the use of HPLC with ultraviolet detection. Two vitamins (folic acid and vitamin B-12) have been analyzed with the use of microbiological methods, and vitamin E has been measured with the use of HPLC with fluorescence detection.

HN-01830250_The Effects of Vitamin D Supplementation on Cardiac Outcomes in Patients with Coronary Artery Disease: A Systematic Review and Meta-Analysis

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Introduction: In this systematic review and meta-analysis our aim was to assess the effect of vitamin D supplementation on cardiac outcomes in patients with coronary artery disease.
Methods: The search terms were performed from January 2000 to January 2018, only randomized clinical trials in human subjects were considered, with no language restrictions. The electronic databases used in this study were: PubMed; Cochran library; Embase; and Scopus. Two independent expert reviewers carried out data extraction according to Cochrane recommendations.
Results: Only four RCTs were found in relation to the effects of vitamin D supplementation on the coronary artery disease. In these patients, vitamin D supplementation did not have a significant effect on hs-CRP mean difference (-0.04, p=0.25), Total Cholesterol (-0.46, p=0.83), TG (0.68, p=0.89), LDL (2.08, p=0.56), and HDL (-2.59, p=0.16). However, there was a significant positive effect on Diastolic Blood Pressure (-2.96, p=0.02) and Parathyroid hormone (-14.05, p<0.001).
Conclusion: Supplementation with vitamin D in coronary artery disease patients with baseline vitamin D deficiency, does improve the status of diastolic blood pressure and parathyroid hormone.

HN-01650112_Interactive Effect of Probiotics Supplementation and Weight Loss Diet on Metabolic Syndrome Features in Coronary Artery Diseases Patients: A Double-blind Placebo-controlled Randomized Clinical Trial

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Introduction: Probiotics are considered as non-drug strategies for management of coronary artery disease (CAD) and the contributing risk factors such as Obesity and metabolic disturbances. The aim of present study was to investigate the effects of probiotics-supplementation on selected anthropometric indices and futures of metabolic syndrome (MetS) in patients with CAD.
Methods: A randomized, double-blind, placebo-controlled clinical trial was performed in 44 overweight and obese CAD patients. The subjects were randomly assigned to intervention and placebo groups and received a probiotic capsule/day (containing 1.6×109 CFU freeze-dried Lactobacillus rhamnosus GG: LGG) or maltodextrin daily for 12 consecutive weeks, respectively. Anthropometric indices, fasting blood glucose (FBG), and lipid profile were assessed.
Results: Supplementation with LGG had no impact on anthropometric indices including weight, body mass index, and waist circumference. There was a significant decrease in total cholesterol (TC) (-30.7±49.83 vs. -5.9±65 mmol/L, P=0.043), and low density lipoprotein cholesterol (LDL-C) (-25.64 ±51.7 vs. -5.44+ 70.1 mg/L, P=0.049) in the intervention (probiotic) group compared to the placebo. Other MetS features indices including FBG, triglycerides (TG), high density lipoprotein cholesterol (HDL-C) and blood pressure did not differ significantly within or between groups.
Conclusion: Probiotics supplementation improved TC, and LDL, but had no effect on other lipid profile parameters and anthropometric indices. The weight loss diet along with probiotics supplementations resulted in more favorable decrease of cardiovascular risk factors compared to a weight loss program alone.

HN-01190272_Prevalence of Malnutrition among Hospitalized Patients in Imam Reza Hospital, Tabriz, Iran

Maryam Saghafi Asl

Introduction: Malnutrition is associated with harmful results and high economic costs. The prevalence of malnutrition is still unidentified. Tis study was conducted to estimate the prevalence of malnutrition among people on admission to Tabriz Imam Reza hospital.

Methods: The patient-generated subjective global assessment (PG-SGA) tool was used for malnutrition risk screening in a large hospital setting involving 11 medical wards in Tabriz, Iran. Four-hundred non- complete bed rest (CBR) patients were randomly included in the study. Clinical data, including appetite and demographic status were collected within 24 hours of admission.

Results: The mean age of participants was 47.33±16.25 years old. There were 195 males and 204 females. About 5.3 % had a 'normal' nutritional status, 20.3 % were 'mildly malnourished', 51.8 % were 'moderately malnourished' and 22.3 % were 'severely malnourished'. About 3.5 % of patients had BMI<18.4, 34.8 % had BMI between 18.5-24.9, 40.8% had BMI of 25-29.9, and 19.8% of them had BMI>30. Mid–upper arm circumference (MUAC) indicated 5.3% (21 patients) under percentile 5th and 94.7% (378 patients) over the percentile 5th.

Conclusions: Malnutrition, weight loss, and nutritional problems are common in Iranian hospitalized patients and can be identified by timely and regular evaluation using PG-SGA to identify nutritional abnormalities in hospitalized patients and utilize beneficial interventions by determining the course of treatment and follow-up as well as priorities of treatment and nutritional care. It is recommended that nutritional screening be performed using a simple procedure like PG-SGA at the time of hospital admission.

HN-01050247_Association between Arterial Stiffness Markers and Physical Activity, Anthropometry and Lipid Profiles

Mohammad Nosrati Oskuee

Introduction: Arterial stiffness (AS) results from a degenerative process, indicating the initial stage of cardiovascular disease (CVD), which may be associated with behavioral risk factors, such as physical inactivity, obesity, and chronic inflammation. Due to the controversial results of studies, we have conducted this nested cross-sectional study within PERSIAN cohort study to examine the association of AS with anthropometric parameters, lipid profiles and physical activity (PA).

Methods: Seven hundred healthy adults aged between 30-70 years were selected. Carotid-femoral pulse wave velocity (cfPWV) was used for assessment of AS markers, including cfPWV, augmentation pressure (AP), central augmentation index (cAIx), and arterial age (AA). Anthropometric parameters, PA and lipid profiles containing TGs, HDL-C and cholesterol were measured.

Results: CfPWV was positively related to TGs, cholesterol, PA, a body shape index (ABSI), and waist to hip ratio (WHR). AP was positively related with TGs, cholesterol, BMI, WHR and body fat mass (BFM). Also, Positive correlation for AA only observed with BFM, WHR and TGs. After adjustment for cofounders, cfPWV was only associated with TGs (P=0.01, β=0.13) and BFM (P=0.02, β=-2.07). AA was related to TGs (p=0.03, β= 0.1) and WHR (P=0.02, β= 2.52); However, no association was observed between AP, cAIx and any of the evaluated factors.

Conclusions: Data showed the association of cfPWV and AA with TGs, BFM and WHR. TGs were positively associated with AA and cfPWV, and BFM was inversely associated with cfPWV. Therefore, improvement in TGs and WHR could improve AS markers, which may be considered in CVD prevention.

HN-00460019_Nutrition-Focused Physical Exams: An Up- Date Review

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An astonishing 6-51% of hospitalized children are considered malnourished in the modern healthcare system. This statistic is troubling because the nutritional status of patients who do not receive proper and timely nutrition intervention will continue to decline during their hospitalization. This may often lead to worsened clinical outcomes such as infectious complications, increased length of stay, readmissions, and even

mortality. During hospitalization, these patients may be malnourished due to one of the following reasons: a lack of adequate nutrients such as proteinand fat; increased energy requirements due to certain disease states; impaired nutrient transport, absorption or metabolism.

Aims: The Nutrition Focused Physical Exam (NFPE) helps to identify the presence of any muscle wasting or fat loss in the malnourished patient. It is a cost-effective and efficient way to evaluate a patient's fat and muscle stores along with fluid gains (edema) and micronutrient deficiencies. Clinicians are trained to identify fat and muscle losses, which can then be used to help categorize patients as "No Malnutrition Identified", "Malnourished", or "Severely Malnourished."

Keywords: malnutrition, physical exam, hospital

Poster presentation

HN-00140030_Effect of Cinnamon on Anthropometry Status and Headache Disability of Migraine Patients: A Randomized Double-Blind Placebo-Controlled Trial

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Introduction: Migraine is a prevalent type of primary headaches and highly disabling disease that is possibly associated with obesity. One side effect of some drugs of migraine treatment is weight gain. Increasing the body mass index (BMI) seems to be a risk factor for migraine attacks development. Cinnamon has anti-inflammatory, neuroprotective and anti-obesity effects; however, its effect on migraine has not yet been clinically tested. Thus, the aim of this study was to assess the effect of cinnamon on anthropometry status and headache disability of migraine patients.

Methods: Fifty patients with migraine were randomized to receive either cinnamon powder (3 capsules/day each containing 600 mg of cinnamon) or 3 placebo capsules/day each contains 100 mg of corn starch (control group) for 2 months. Weight body, height, waist and hip circumference were measured at baseline and the end of the study. Also, Minimal or Infrequent Disability (MIDAS) and Headache Daily Result (HDR) Questionnaire were recorded.

Results: BMI and WC were a significant difference in the intervention group compared the control group (P<0.001). However, Waist-hip Ratio (WHR) remained unaltered in both groups. HDR and the headache disability of migraine patients were significantly decreased in the intervention versus the control group.

Conclusion: Cinnamon could be regarded as a safe supplement to reduce the headache disability and control the weight gain caused by taking some migraine's drug.

Keywords: Cinnamon; Migraine; Anthropometry; Migraine Disability Assessment

HN-00150016 _Evaluation of the effect of saffron supplementation on heat shock protein 70 antibody and spirometry in patients with mild to moderate asthma: A triple blind randomized controlled trial

Marziyeh Zilaee

Introduction: Asthma is a heterogeneous disease, which usually associated with chronic airway inflammation. The anti-heat shock protein (anti-HSP) 70 is a novel risk factor for asthma. The aim of the present study was to survey the effect of saffron supplementation on anti-HSP70, high-sensitivity C-reactive protein (hs-CRP) and spirometry test in patients with allergic asthma.

Methods: In this clinical trial, patients (N=80, 32 women and 48 men, 18–65 years old) with mild and moderate allergic asthma were randomized into two groups: a group of patients who received two capsules of saffron (100 mg/d) and a control group who received two capsules of placebo for 8 weeks. Anti-HSP70, hs-CRP and spirometry test were determined in patients before (week 0) and after (week 8) intervention. SPSS software (version 16.0; Inc, Chicago, IL) was used for data analysis.

Results: Saffron in comparison with placebo significantly reduced the hs-CRP (p < 0.001) and anti-HSP70 (p < 0.001) concentrations. In spirometry test, forced expiratory volume in first second(FEV1), forced vital capacity (FVC), FEV1/FVC ratio and forced expiratory flow 25–75%. (FEF 25–75) increased significantly in saffron in comparison to placebo group (p < 0.05).

Conclusions: Results of the present study suggested that saffron supplementation in patients with allergic asthma decreased significantly anti-HSPs 70 and hs-CRP and also improved some spirometry test factors.

HN-00160211_Effects of Nutraceuticals and Natural Compounds on Plasma ApolipoproteinB: A Review of Evidence

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Cardiovascular diseases (CVDs) are the number one cause of death globally, taking an estimated 17.9 million lives each year. Apolipoprotein B (Apo B) is the primary apolipoproteinof chylomicrons, VLDL, IDL, and LDL particles. Indeed, Apo B is the main components of all major atherogenic lipoprotein. It is proposed to measure Apo B concentration as a valid and reliable index to predict andindicate CVD risk than measurement of LDL. A growing body of evidence indicated that herbal medicine, particularly phytochemicals prevent and treat non-communicable diseases particularly CVD, diabetes mellitus, hypertension, non-alcoholic fatty liver disease (NAFLD). Although the effect of natural compound and phytochemicals on CVD, and some of its risk factors including dyslipidemia, were investigated previously, to the authors' knowledge, the effect of these natural products, including herbal medicine and functional foods on Apo B, as one the most important parameters involved in CVD has not investigated yet. Thus, in this review, we aimed to evaluate the effect of bioactive nutraceuticals and natural compounds on plasma Apo B concentrations. Results show that some of the medicinal plants and nutraceuticals including xuezhikang, berberine, olive oil, nuts and flaxseed could be used as a complementary medicine to reduce plasma Apo B. Thus, herbal medicine could be considered as safe, available and accessible andinexpensive natural products to prevent and treat CVD and its related indices.

Keywords: Apolipoprotein B, Cardiovascular diseases, Herbal medicine, Nutraceuticals

HN-00200070_Association of Proinflammatory Genes Expression with Serum Interleukin 1β and Free Fatty Acids in Metabolically Healthy and Unhealthy Abdominally Obese Individuals: A Case-Control Study

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Introduction: Proinflammatory genes are highly expressed in several metabolic disorders associated with obesity. The relationship between gene expression and downstream inflammatory markers and metabolic state is unclear. The aim of this study was to compare Toll-Like Receptor 2 (TLR2), Myeloid Differentiation Factor 88 (MyD88), and NFκB mRNA expression levels between metabolically healthy abdominally obese (MHAO) and metabolically unhealthy abdominally obese (MUAO) individuals.

Methods: In this case-control study, MUAO (n=36) and MHAO (n=34) groups were recruited. mRNA expression of the genes was assessed in freshly isolated peripheral blood mononuclear cells (PBMCs), using quantitative real-time PCR (qPCR). FFAs and IL-1β were measured by ELISA.

Results: Serum FBS, TG, HDL-C, systolicand diastolic blood pressure were significantly higher in MUAO compared to MHAO groups (p < 0.05). The odds of MUAO was significantly decreased with high HDL-C (OR = 0.22, 95%CI: 0.08–0.63) andincreased with high FBS (OR = 7.04, 95%CI: 1.42–34.69) and TG (OR = 30.55, 95%CI: 7.48–60.67). There were no significant differences in proinflammatory genes, serum FFAs and IL-1β between groups. No associations were found between the genes expression and serum markers. NFκB expression was significantly correlated with TLR2 and MyD88 (r = 0.747; p < 0.001). There was a significant correlation between TLR2 and MyD88 expression and between serum FFAs and IL-1β in each group (p < 0.001).

Conclusion: Serum IL-1β, FFAs, and mRNA expression of TLR2, MyD88, and NFκB may be due to abdominal obesity and not the presence or absence of metabolic health.

Keywords: Toll like receptor2; Myeloid Differentiation Factor88; Nuclear factor kappa B Interleukin-1beta; abdominal obesity

HN-00210010_Associated Factors Related to Malnutrition in Cardiac Patients Admitted to Heart Hospital, in Northern Iran

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Introduction: Malnutrition is consequences of numerous chronic diseases and is associated with poor prognosis among cardiac patients. In order to develop an appropriate nutritional plan, nutrition screening of patients on hospital admission is necessary. The objective was to evaluate the prevalence of malnutrition and associated factors in cardiac patients admitted to heart hospital in the north of Iran.

Methods: This cross-sectional study was done on 430 cardiac patients, who were admitted to the Dr. Heshmat hospital, the only heart hospital in Guilan province in the north of Iran. The malnutrition status was assessed based on 'Malnutrition Universal Screening Tool' (MUST). The data was analyzed using SPSS software. Multivariable logistic regression was used to identify factors associated with malnutrition.

Results: The mean age of patients was 63.5 ± 12.67 years and the mean weight was 72.6 ± 13.1 kg. The commonest cause of hospitalization was acute coronary syndrome. 31.4% patients had history of admission in the past 12 months. The prevalence of malnutrition based on MUST was 14% in our population. 7.7% and 6.3% had medium and high risk of malnutrition, respectively. Patients with history of one-time admission were 2.7 times more likely to be malnourished. The odds ratio for more than one time of hospital admission was 3.54.

Conclusions: The results of study enable us to affirm that malnutrition is likely to be present when the cardiac patients are admitted to hospital in northern Iran. Among factors, admission in the past 12 months had significant association with malnutrition.

HN-00280007_Evaluating Effect of Herbal Candy, Iranian Medicine Based Product, on Body Composition and Appetite in Obese and Overweight People

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Introduction: Obesity is the most common nutritional disorder in most countries. Considering that today, obesity treatment drugs are limited and have many side effects and there is no effective way to reduce appetite, this study is conducted to evaluate effect of herbal candy, Iranian medicine based product, on body composition and appetite in obese and overweight people.

Methods: In this randomized placebo-controlled clinical trial (RCT), participants were selected from overweight and obese people (BMI≥25). People received herbal candy (Contains a combination of Portulaca oleracea, Plantago psyllium and peanut oil) in the intervention group and placebo candy in the placebo group, for 8 weeks. Visual Analog Scale (VAS) questionnaire was completed by participants, for evaluation of appetite, three times a week. Measuring body composition was performed at first and end of the study.

Results: In the comparison between groups, mean weight of subjects and body mass index after the intervention, in herbal candy group compared to the placebo candy group had a greater reduction (P<0.001). About Indicators Related to Appetite, the mean of hunger, satiety and eating capacity indicator, at all three intervals of noon and night meal, in the herbal candy group compared to the placebo candy group showed a greater decrease, increase and decrease, respectively (P<0.05).

Conclusion: Combination of produced herbal candy at a dose of 4 grams (2 pcs), half an hour before each meal for 8 weeks, can be effective in reducing weight and appetite of obese and overweight people.

Keywords: Obesity, Overweight, Appetite, Herbal candy

HN-00280208_Malnutrition Prevalence in Imam Reza Teaching Hospital of Mashhad: 2019 Audit

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Introduction: Malnutrition is a widely spread problem in hospitals associated with illness or aging. This study aimed to describe prevalence of malnutrition 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, 2019, using standardized questionnaires. Malnutrition was objectively defined as BMI <20 (kg/m2) or unintentional weight loss >5% in the past three months.
Results: 378 inpatients (184 M: 194 F; mean age of 48.9±15.8 years) evaluated in this audit. This study showed that 7.1% of all patients were malnourished and 15.6% were at risk of malnutrition. The highest percentage of malnutrition were in post Angiography (n=3, 37.5%) and pulmonology units (n=4, 30.8%). patients in Nephrology (n=7, 53.8%), Male Burning (n=4, 44.4%) and Oncology (n=4, 44.4%) units, had the highest percentage of malnutrition at risk.
31.7% of all patients had unintentionally weight loss within the last 3 months that the highest percentages were in Gastroenterology-hepatology (n=13, 76.5%, on average 10 kg weight loss) and Pulmonology units (n=8, 61.5%, on average 7 kg weight loss).
Conclusions: The overall prevalence of malnutrition and risk of malnutrition in the hospital was 7.1% and 15.6% respectively. This was the first 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

HN-00280231_Routes and Type of Nutrition Intake in Imam Reza Teaching Hospital of Mashhad: 2019 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, 2019, 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: 378 inpatients (184 M: 194 F; mean age of 48.9±15.8 years) evaluated in this study. 90.9% of all hospitalized patients had oral, 0.7% had enteral and 1% had parenteral nutrition.7.4% of patients were NPO. 71.6% of patients consumed regular hospital food, 19.5% had special diet, 5% received ONS drinks and 1.3% had fortified hospital food. The highest percentage of ONS intake was in female burning unit (100%). Only patients in Internal Medicine/ General unit received enteral nutrition (13%). Parenteral nutrition was prescribed in Internal Medicine/General (5.3%), Surgery/General (3.3%), Pulmonology (7.7%) and Infection disease (3.4%) 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.
Keywords: Routes, Nutrition Intake, ONS, Enteral, Parenteral

HN-00290236_The Assessment of Dietary Patterns and Related Factors in Newly Diagnosed Rheumatoid Arthritis Patients

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Introduction: Evidence suggests that dietary patterns might act as environmental triggers in the development of chronic disorders. Rheumatoid Arthritis (RA) as a chronic inflammatory autoimmune disorder, can eventually result in painful joint swelling and bone erosion, as well as early onset of significant body function impairments. In this study, we aim to explore if there is a link between dietary patterns and Rheumatoid Arthritis (RA) in new case patients.

Methods: This case-control study assesses the dietary pattern of a total of 150 individuals. The case group included 50 individuals who had newly diagnosed with RA (less than 12 months) and the control group included 100 healthy individuals without any chronic diseases. For determining the pattern, we used the 103-item food frequency questionnaire for each individual and for statistical analysis we used spss version 24.

Results: There was a significantly higher energy intake in the case group. The proportion of protein, carbohydrate and lipid intake in the case group was 1.4%, 56.3% and 31.3 respectively. We considered the energy intake as a confounder factor and reanalyzed all factors.

Conclusion: This study showed that not only the dietary intake of patients group in case of red meat, added fat, canned fish, full fat diaries and sweeteners were statistically higher than the control group but also the consumption of vegetables and fruits in patients group were significantly lower than the control group. On the other hand, the special dietary pattern may have important effects on the risk of arthritis rheumatoid in eligible persons.

Keywords: dietary pattern, arthritis rheumatoid,

HN-02410262_Effect of Oral VersusIntramuscular Vitamin D Replacement on Oxidative Stress and Outcomes in Traumatic Mechanical Ventilated Patients Admitted to Intensive Care Unit

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Introduction: This study aimed to evaluate the safety and efficacy of 2 forms of vitamin D supplementation on oxidative stress and weaning from the ventilator in patients with traumatic injury and vitamin D deficiency.

Methods: Seventy-two patients were randomly divided into 3 groups: receiving 50,000 IU pearl cholecalciferol daily for 6 days, 1 intramuscular injection of 300,000 IU of cholecalciferol, or a control group that did not receive any supplement. Duration of mechanical ventilation, body composition, and biochemical biomarkers were measured before and after the intervention.

Results: At the end of the study, the mean serum 25(OH) D increased in the intervention groups compared with the control group (P < .05). The interleukin 6, erythrocyte sedimentation rate, C-reactive protein levels, Sequential Organ Failure Assessment score, duration of mechanical ventilation, and length ofintensive care unit admission significantly decreased; however, total antioxidant capacity concentration did not differ significantly between the 2 intervention groups. Among the body composition variables, extracellular water ratio changes were statically different in oral vitamin D group compared with the control group (P = .001). No side effects were reported with the supplements.

Conclusion: Vitamin D administration improved clinical signs and biochemical biomarkers in a small group of patients with traumatic injury. Well-designed multicenter clinical studies with longer intervention duration are necessary for this field.

HN-00310014_The Role of Probiotics in Cancer Cachexia Prevention and Treatment

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Introduction: Cachexia is an inflammation-related condition characterized by adipose tissue and muscle atrophy in patients with cancer, chronic obstructive pulmonary disease, and multiple sclerosis. Although the role of beneficial microbes in optimizing systemic inflammation during good health has been understood, but the interaction between microbes and host immunity in the context of cachexia needs more

study. Several studies have been done to demonstrate the effect of probiotics on cachexia, here we review the findings in this context.

Methods: A comprehensive search was conducted in electronic databases Embase, PubMed, Scopus and Web of science with the keywords "probiotics" and "cachexia" from 2008 to 2019. Original and Review articles were included in the study. Articles that didn't explain the relationship between probiotics and cachexia were excluded.

Results: Of 50 studies, 10 articles according to the including and excluding criteria were selected. Studies show that some human commensal microbes can decrease the inflammation andinhibit cachexia by reducing inflammatory cytokines. Several studies show that the beneficial effects of microbes depend on those species and strain. On the other hand, some studies investigate the effect of probiotics on the up-regulation of Transcriptional factor Forkhead Box N1, which is known as a key factor in programming normal thymos and immune system.

Conclusion: As cachexia mainly caused by inflammation, to prevent andinhibit cachexia, it is important to reduce inflammation. Probiotics with specific microbes that can reduce inflammation and amplify the immune system could play a role in the prevention and treatment of cachexia, although further studies are needed.

Keywords: cachexia, cancer, inflammation, probiotics

HN-00310079_Herbal Medicine Against Obesity: A Review of Therapeutic Effects and Mechanisms of Berberine on Obesity

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Introduction: Today obesity is a worldwide health problem, which caused by energy intake and energy expenditure imbalance. Obesity, directly andindirectly, is associated with many diseases like hypertension, coronary heart disease, type 2 diabetes, and fatty liver. Berberine is a natural ammonium alkaloid salt found in many plants like Oregon-Grape, Tree Turmeric, Barberry, etc. Some studies mentioned the beneficial effects of berberine on obesity

treatment. Here we review the therapeutic effects and mechanisms of berberine on obesity.

Methods: A comprehensive search was conducted in electronic databases Embase, Pubmed, Scopus and Web of science with the keywords "Berberine" and "Obesity" from 2010 to 2019. Original articles that mentioned berberine therapeutic effects and mechanisms on obesity were included in the study.

Results: Both in vitro and in vivo studies show that berberine can increase metabolism and energy expenditure via its effect on brown adipose tissue. Animal and in vitro studies determined that 5' adenosine monophosphate-activated protein kinase (AMPK) pathway is responsible for brown adipogenesis and thermogenesis, in detail increase in mRNA levels of brown fat markers and adipogenic genes, uncoupling protein-1 and PRDM16 levels expression upregulation andincrease in oxygen consumption rate were seen after berberine treatment in animal models.

Conclusion: Due to the effects of berberine, especially on brown adipose tissue, its consumption seems to be beneficial against obesity, although paying attention to the berberine's side effects is necessary. Further studies are needed to prove definitively the effects of berberine on the treatment of obesity.

Keywords: berberine, brown adipose tissue, obesity

HN-00350051_The Effects of ω-3 Fatty Acids and Nano-Curcumin on the COX-2/ inOS Network Gene Expression, Serum Levels and Clinical Symptoms in Migraines

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Introduction: One of the common Neuro-inflammatory disorders is Migraine. Human and experimental models of migraine studies have indicated the role played by COX-2/ inOS in migraine's Neuro-inflammatory pathogenesis. COX-2 andinOS are connected and contribute to

inflammation and neurogenic painin the central nervous system. Omega- 3 fatty acids curcuminand active polyphenol of turmeric have Neuro-protective and anti-inflammatory effects via different mechanisms, including the suppression of COX-2 andinOS gene expression, as well as their serum levels. The goal is to evaluate the nutrigenomic effects of ω-3 fatty acids, nano-curcumin, and a combination of the two, on neuro-inflammation and clinical symptoms in migraine patients.

Methods: This study indicates the results of a clinical trial over a 2-month period, considering 74 episodic migraine patients who took ω-3 fatty acids, nano-curcumin, a combination of them, or a placebo. At the beginning and end of the trial, COX-2/inOS serum levels and the expression of COX-2/inOS (in peripheral mononuclear blood cells isolated from patients) were measured, using real-time ELISA and PCR respectively. The frequency, severity and duration of pain attacks were also recorded.

Results: The findings showed that ω-3 fatty acids and nano-curcumin can affect synergistically in the down-regulation of COX-2/inOS mRNA, as well as reduce their serum levels. Moreover, the combination of ω-3 and nano-curcumin significantly reduced the frequency, severity and duration of headaches (P<0.05).

Conclusion: The current findings demonstrate that therapy with combination of ω-3 fatty acids and nano-curcumin can be considered as a new approach in migraine prevention.

Keywords: curcumin, COX-2, inOS, headache, Migraine, ω-3 fatty acids.

HN-00380133_Assessment of Eating Disorders After Two Years of Gastric Bypass Surgery

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Introduction: It has been suggested that patients who have undergone Laparoscopic Roux-en-Y Gastric Bypass (RYGB) could suffer from eating disorders such as Bulimia nervosa (BN) and Anorexia nervosa (AN), therefore further investigation is required in this regard. Since eating disorders may affect the outcome of gastric bypass surgery, in this study, we aimed to assess the association between eating disorders and weight changes following gastric bypass surgery.

Methods: In this study 36 patients completed a self-report questionnaire "Ahwaz Eating Disorder Scale" after two years of their bypass surgery. The scores of AN and BN were assessed, and data were analyzed by descriptive statistics. The student t-test was conducted to illustrate the degree of correlation. Cutoff points were considered based on population mean.

Results: 32 of the participants were women and four were men. Mean BMI kg/m2 prior to the surgery was 45.9 ± 6.2 and in the postoperative phase was 29.7 ± 4 which significantly decreased (p<0.001). Moreover, 19 patients had Ahwaz scores under 11 (53%), 22 had AN score of less than 8 (61%) and 22 had BN score of less than 3 (61%). However, preoperative BMI, postoperative BMI and percentage of weight change had no significant relationship with any of the three indices of the questionnaire (Ahwaz scores, AN and BN scores).

Conclusions: Although half of the patients in this study suffer from eating disorders, these study findings suggest that changes in the patients' weight are not related to the eating disorders after the bypass surgery.

Keywords: Gastric bypass surgery, Non-alcoholic fatty liver disease, Morbid Obesity, Eating disorders, Bulimia nervosa, Anorexia nervosa

HN-00380271_Changes in Liver Fibrosis in Patients with Non Alcoholic Fatty Liver Disease after 2 Years of Gastric Bypass Surgery

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Introduction: The overall effect of weight loss and RYGB on liver fibrosis remains unclear, especially among Middle Eastern populations. This study aimed to evaluate the influence of

weight change on the liver fibrosis after 2-years of RYGB.

Methods: We prospectively evaluated 44 morbidly obese patients aged 44.7 ± 10 years who underwent RYGB. NAFLD was confirmed in all patients with the biopsy at the time of surgery. Liver stiffness was measured by Two-dimensional shear wave Elastography (2D-SWE) before surgery and after 2 years, and the correlations between hepatic fibrosis and weight changes following gastric bypass surgery were analyzed. Anthropometric data was also assessed at baseline and at the time of the second 2D-SWE.

Results: 37 of the participants were women and seven were men. Average weight loss after 2 years was 42 ± 1.62 kg. Mean weight at baseline and after 24 months were 120.5 ± 20 kg and 78.5±13.9 kg respectively (P<0.001). After 2 years, two of the 43 patients had progressed liver fibrosis stage (4.7%), 18 recovered (41.9%) and 23 remained unchanged (53.5%). There was a significant improvement in fibrosis stage (P < 0.05). The persistence of fibrosis (F > 1) was present in three patients at the second 2D-SWE (6.9%) and two new cases of fibrosis were determined (4.6%). Patients with progressive fibrosis had more reduction in BMI kg/m2 compared to recovered patients (24.8 vs 15.8). Patients with progressive fibrosis were younger than improved patients (43.5 ± 10.4 vs 54) which was not statistically significant.

Conclusions: Through this study, we found that RYGB provides significant weight loss and resolution of liver fibrosis in most morbidly obese patients. However, some patients develop worsened aspect of NAFLD. Further studies with higher sample size and longer time are needed.

Keywords: Gastric bypass surgery, Weight, Non-alcoholic fatty liver disease, Morbid Obesity, Elasticity Imaging Techniques, Liver Diseases/diagnostic imaging

HN-00390089_Effect of Melatonin Supplementation on Body Weight, Body Mass Index, and Waist Circumference of Overweight or Class-Ⅰ Obese People: A Randomized Clinical Trial

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Introduction: Melatonin reduction is known to be a cause of increased weight. The present study aimed to investigate whether melatonin supplements can reduce body weight, body mass index, and waist circumference in overweight or class-I obese subjects.

Method: Overweight or class-I obese adults (n=38) were given a low-calorie diet plan then randomly assigned Melatonin (n=19) or control (n=19) groups. Participants in the melatonin and control group received 3-milligram Melatonin a day 2 hours before bedtime for 12 weeks and placebo, respectively. International Physical activity questionnaire (IPAQ), sleep log questionnaire and 24-hour food recall for 3 days were completed by participants. Anthropometric measurements and saliva melatonin were assessed. Paired t-test and repeated measure ANOVA were used and the p-value under 0.05 was considered as significant.

Results: Weight and BMI were significantly reduced in both groups (p=0.001) for the first 6 weeks. The same results were seen for waist circumference, but waist circumference for the melatonin group also reduced in the second six weeks (p=0.01). Body fat mass percentage in participants for the melatonin group was significantly reduced at the endpoint comparing to baseline (p=0.008). Although, between-group analyses did not show any significant differences.

Conclusion: Dosage of 3 milligrams Melatonin supplementation daily did not significantly reduce weight and BMI between groups, but significantly reduced waist circumference and body fat mass percentage. Further studies are recommended to clarify the effect of melatonin on weight and body fat.

Keyword: Melatonin; Obesity; Overweight; Body Mass Index; Waist circumference

HN-00430011_The effect of intramuscular megadose of vitamin D injections on E-selectin, CRP and biochemical parameters in vitamin D-deficient patients with type-2 diabetes mellitus: A randomized controlled trial

Farhang Mirzavandi

Introduction: Inflammatory processes has been shown to be associated with the development of type 2 diabetes mellitus (T2DM) in which vitamin D supplementation might exert beneficial outcomes. We examined the effects of vitamin D supplement on inflammatory and cell adhesion molecule in patients with T2DM.

Methods: This study consisted of 50 patients with T2DM who had vitamin D deficiency. Participants were randomized into two groups of 25 in which the intervention group received two intramuscular injections of a 200000-IU vitamin D supplement, one at week 0 and another at week 4. The concentrations of fasting blood glucose (FBG), lipid profiles, liver enzymes, E-selectin, C-reactive protein (CRP), calcium, phosphorus, serum 25-hydroxyvitamin D [25(OH)D] and anthropometric indices were obtained before and after 8 weeks.

Results: Vitamin D resulted in significant reductions in CRP(P=0.01) and gamma glutamyl transferase (GGT) levels (P=0.03) and significant increases in 25(OH)D concentrations(P=0.01) in the intervention group compared with the control. Within-group comparisons showed that FBG decreased significantly in the intervention group (P= 0.04). No significant changes were observed regarding within- and between-group comparisons of the other markers.

Conclusion: Vitamin D had beneficial effects on the levels of CRP, serum 25(OH)D and GGT among vitamin D deficient patients with T2DM. (http://www.irct.ir: IRCT2017100336539N1).

Keywords: Vitamin D, Type 2 diabetes mellitus, E-selectin, Randomized controlled trial

HN-00430013_The Effect of Intramuscular Mega dose of Vitamin D Injections on E-Selectin, CRP and Biochemical Parameters in Vitamin D-Deficient Patients with Type-2 Diabetes Mellitus: A Randomized Controlled Trial

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Introduction: Inflammatory processes has been shown to be associated with the development of type 2 diabetes mellitus (T2DM) in which vitamin D supplementation might exert beneficial outcomes. We examined the effects of vitamin D supplement on inflammatory and cell adhesion molecule in patients with T2DM.

Methods: This study consisted of 50 patients with T2DM who had vitamin D deficiency. Participants were randomized into two groups of 25 in which the intervention group received two intramuscular injections of a 200000-IU vitamin D supplement, one at week 0 and another at week 4. The concentrations of fasting blood glucose (FBG), lipid profiles, liver enzymes, E-selectin, C-reactive protein (CRP), calcium, phosphorus, serum 25-hydroxyvitamin D [25(OH)D] and anthropometric indices were obtained before and after 8 weeks.

Results: Vitamin D resulted in significant reductions in CRP(P=0.01) and gamma glutamyl transferase (GGT) levels(P=0.03) and significant increases in 25(OH)D concentrations(P=0.01) in the intervention group compared with the control. Within-group comparisons showed that FBG decreased significantly in the intervention group (P= 0.04). No significant changes were observed regarding within- and between-group comparisons of the other markers.

Conclusion: Vitamin D had beneficial effects on the levels of CRP, serum 25(OH)D and GGT among vitamin D deficient patients with T2DM. (http://www.irct.ir: IRCT2017100336539N1).

Keywords: Vitamin D, Type 2 diabetes mellitus, E-selectin, Randomized controlled trial

HN-00450063_Association of High caffeine Drinks Consumption and Body Mass Index

Zamzam Paknahad

Introduction: To assess the relation of body weight and body mass index (BMI) with green and black tea and caffeine consumption

Methods: In this cross-section study, a total of 60 females aged 19-46 years were enrolled. Green and black tea consumption was assessed using food frequency questionnaire. Caffeine intake was estimated from a 24-h recall. Anthropometric variables were measured using standard protocol. Overweight or obesity was defined as having BMI≥25 kg/m2.

Results: In age- and energy-adjusted model, participants who were green or black tea consumers had lower BMI than non-consumers (green tea: 21.2±1.0 vs. 24.2±0.6 kg/m2 (P=0.02), and black tea: 22.3±0.7 vs. 24.5±0.7 kg/m2 (P=0.04)). Similar association was observed for caffeine (20.4±0.5 vs. 26.7±0.5 kg/m2 (P<0.0001). Green tea consumers had 87% lower risk for overweight (95% CI: 0.02, 0.75; P=0.023). Consuming higher caffeine was associated with 97% lower risk (95% CI: 0.005, 0.142; P=0.028). After adjusting for confounders, black tea was not related to the risk of overweight (OR=0.30, 95% CI: 0.09, 1.06; P=0.061).

Conclusion: Green tea and caffeine are inversely associated with body weight and BMI, whilst black tea-BMI relation is affected by other factors. Future prospective studies are needed to confirm our results.

HN-00460018_Evaluation of The Effect of Nutrition Education Program on Blood Sugar of Diabetic Patients who Referred to Shadegan Health Centers During 1397-98

Hassan Albukarami*

Introduction: Diabetes mellitus is among the main contributors to treatment and control of patients. Therefore, the level of knowledge of diabetic patients in various fields, especially diet, is very important. The aim of this study was to investigate the effect of education on diet planning on blood glucose in diabetic patients referring to Shadegan city Health Centers in 1997-1398.

Methods: The present study was an interventional study. Subjects were 110 patients referring to health centers. Subjects were divided into two groups receiving 45 minutes education with 3 weeks intervals. The instruments used for data collection were standard written questionnaires. Data was collected from patients through interview.

Results: After the implementation of the educational program, awareness in both groups of intervention and scholars increased significantly, probably due to routine training programs in the centers.

Conclusion: The results of this study indicate that a proper education program for diabetic patients should be developed in Health Centers in order to increase their awareness and improved their attitude and performance.

HN-00470022_The Effect of L-carnitine Supplementation on Blood Pressure in Patients with Type 2 Diabetes: A Randomized, Double-blind, placebo-controlled Trial

Nasir Tale Nejad

Introduction: Diabetic patients with hypertension are at a high risk of cardiovascular complications. The present study determined the effect of oral L-carnitine supplementation on blood pressure in patients with type 2 diabetes mellitus (T2DM).

Methods: In this randomized, double-blind, placebo-controlled trial, 70 patients with T2DM in the age range of 41 to 75 years were randomly allocated to intervention (n = 35), who received 1000 mg/day L-carnitin and placebo (n =35) groups, who received similar dose 1000 mg/day wheat starch as placebo for 12 weeks. The systolic and diastolic blood pressures, mean arterial blood pressure and pulse pressure were examined before and after the intervention.

Results: Sixty-four participants completed the study. At the end of the study period, L-carnitine-treated diabetics, compared with the placebo group, did not show significant difference in SBP (-1/14±2/45 mmHg vs. -2/42±2/79 mmHg), DBP (-3/2±1/94 mmHg vs. -6±2/30 mmHg), MAP (-2/51±1/84 mmHg vs. -4/80±2/11 mmHg) and PP (2/05±2/23 mmHg vs. 3/57±2/73 mmHg).

Conclusion: The oral supplementation of L-carnitine 1000 mg/day does not affect blood

pressure after 12 weeks of treatment in diabetes patient.

Keywords: diabetes, L-carnitine, blood pressure, hypertension

HN-00480021_Possible beneficial effects of selenium supplementation on inflammation and oxidative stress status in critically ill pediatric patients

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Introduction: Inflammation, metabolic and hormonal alterations, and oxidative stress during acute phase response of critically illnesses may lead to development of poor clinical outcomes. Selenium is an important micronutrient which plays role in anti-oxidative defense system and many studies have reported selenium with beneficial effects on inflammation.

Methods: We conducted a review on the National Library of Medicine's PubMed, Scopus, and Cochrane databases using relevant MeSH terms and keywords to provide updates in the selenium status and functions in the acute phase response and possible beneficial effects of administration of selenium as supplement on inflammation and oxidative stress status in critically ill pediatric patients. After identification and screening for eligibility in the title and abstract of the search results, relevant articles were obtained and read thoroughly in the reviewing process.

Results: Due to high status of acute metabolic stress, the physiologic selenium dose administration would be insufficient and additional selenium intake may be required in acute phase response stage. Selenium supplementation at high doses may lead to reduction of oxidative stress and inflammation levels in critically ill children. However, we could not find any clinical trial investigating the effects of high dose selenium supplements in critically ill children.

Conclusion: Selenium supplementation at high doses may lead to reduction in the levels of inflammation and oxidative stress and consequently, improvement of clinical outcomes in critically ill children. Further clinical trials, specifically randomized clinical trials are required in this regard at PICUs.

Keywords: Selenium; Surgical Procedures, Operative; Inflammation; Oxidative Stress.

HN-00480045_Development of A Stepwise Algorithmic Protocol for Nutrition Support of Critically Ill Children

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Malnutrition is one of the major health problems in critically ill children; optimum nutrition support is considered as a therapeutic strategy to improve clinical outcomes and minimize length of Pediatric Intensive Care Unit (PICU) staying and costs. Implementation of an algorithmic protocol can result in upgrading the quality of nutrition support system in PICU. In this study we developed a stepwise algorithmic nutrition care protocol for PICU patients in two phases including a critical review of past literature and an expert discussion panel. The final structured protocol includes three steps for nutrition care process: 1) Initial nutrition screening and assessment, 2) Nutritional intervention and 3) Nutritional monitoring.

Keywords: Intensive Care Units, Pediatric; Nutrition support; Nutrition Assessment; Diet Therapy.

HN-00480046_Nutritional Adequacy of Gastrointestinal Surgical PICU Patients: Where Are We Now?

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Introduction: Malnutrition is considered as an important problem in critically ill children since at admission/ during ICU staying malnutrition may lead to fat free mass(FFM) loss, increased length of hospital/ ICU staying time, poor clinical outcomes and costs during Pediatric Intensive Care(PICU) staying. Successful nutrition support of PICU admitted patients for minimizing morbidities and growth retardation in this era is of particular importance. Auditing of current nutritional interventions in PICU is essential to improve the quality of nutrition services in pediatrics critically illnesses.

Method: This audit was carried out in gastrointestinal surgical PICU patients over a 4-week period (January 2019) at Akbar Children's Hospital in Mashhad, Iran. Patients with ICU length of stay>24 hours were enrolled. Clinical characteristics, route of nutrition support, nutrient delivery and the time to reach nutritional goals were recorded.

Results: Thirty eligible critically ill children were enrolled to the study. Median age of participants was 2.25 months and 46% (14 patients) were male. Median time of PICU length of stay was 5.5 days and median of hours from PICU admission to initiating nutrition support was 23.5 hours. Although 43.3% of patients received less than 66.6% of their target daily energy requirements, 83.3% of them reached to protein adequacy according to their calculated target.

Conclusion: Our audit showed that nutrients delivery especially energy delivery are suboptimal and improvement of nutrition services are in especial importance and need immediate interventions in gastrointestinal surgical critically ill children.

Keywords: Intensive Care Units, Pediatric; Nutrition support; Nutrition Assessment; Diet Therapy.

HN-00510035_The Effects of Taurine Supplementation on Posttraumatic Seizure in Patients with Traumatic Brain Injury

Mahsa Vahdat*

Introduction: Patients with traumatic brain injury (TBI) may suffer from seizures within the first week after injury. Evidence suggests that the use of an antiepileptic agent is beneficial in preventing early post TBI seizures. Therefore, the aim of this study was to evaluate the effect of Taurine supplementation on seizure in TBI patients.

Methods: Thirty-two patients with TBI (GCS = 6-9) were randomized into treatment and control groups. The treatment group received 30 mg/kg/day of Taurine in addition to the Standard Entera Meal, while the control group received Standard Entera Meal for 14 days. Patients were evaluated for seizures during the study period. Data was analyzed using SPSS software (version 13.0). The two-sided significance level was considered $p<0.05$.

Results: The results of this study showed that 1 patient (6.3%) in the intervention group and 5 patients (31.3%) in the control group experienced seizure during the study period. Although this difference may be clinically significant, it was not statistically significant ($p=0.172$).

Conclusion: According to the results of the present study, the incidence of post-TBI seizures was reduced by taurine supplementation. Due to safety issues, low dose of taurine was used in this study. Taurine could be considered along with other therapeutic approaches in preventing seizures in TBI patients in the future.

Keywords: taurine, TBI, Traumatic brain injury,

HN-00510037_The Effects of Taurine Supplementation on Hematological Markers in Patients with Traumatic Brain Injury

Mahsa Vahdati*

Introduction: Hematological abnormalities after traumatic brain injury (TBI) are common, and are associated with poor outcome. The aim of this study was to evaluate the hematological effects of Taurine supplementation, as an antioxidant, in patients with traumatic brain injury (TBI).

Methods: Thirty-two patients with TBI (GCS = 6-9) were randomized into treatment and control groups. The treatment group received 30 mg/kg/day of Taurine in addition to the Standard Entera Meal, while the control group received Standard Entera Meal for 14 days. Red blood cell (RBC) count, white blood cell (WBC) count, hemoglobin (Hb), hematocrit (Hct) and platelet count (Plt) were assessed at baseline and at the end of intervention. Data was analyzed using SPSS software (version 13.0). The two-sided significance level was considered $p<0.05$.

Results: Taurine increased Hct (7.2 ± 17.8 vs. -0.6 ± 5.3, p= 0.1) and prevented the increase in

WBC (0.76±4 vs. 1.5±4.7, p=0.999). Taurine supplementation also prevented further reduction in Hb (-0.31±3.2 vs. -0.6±2.04, p=0.754) and RBC (-0.06±0.94 vs. -0.16±0.75, p=0.892), but these differences were not statistically significant (p>0.05).

Conclusion: According to the results of the present study, Taurine had no effect on hematological markers.

Keywords: Hematologic, taurine, TBI, Traumatic brain injury

HN-00520025_Evaluation of The Nutritional Status of Cancer Patients Admitted to Oncology Unit of Shahid Jalil Hospital in Yasuj, 2019

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Introduction: Cancer can affect nutritional status of patients which could exacerbate the related complications and subsequently counteract the treatment efficiency. Cancer related malnutrition is one of the most common complications among these patients.

Methodology: This research aimed at evaluation of nutritional status of cancer patients by MUST questionnaire. Considering ethical issues in data collection (IR.YUMS.REC.1398.004), this work was conducted as a descriptive cross-sectional study on 71 cancer patients admitted to oncology unit of shahid jalil hospital in yasuj, by census sampling method, from April 22 to Maye 22, 2019.

Results: Among the considered patients, 38 (53.5%) were male and 33 (46.5%) were female whit the mean age of 55.181 ± 15.10. Patients category according to the malnutrition risk was as follow: 27(38%) low risk, 20(28.2%) moderate risk and 24 (33.8%) had sever risk, which indicates unfavorable nutritional status of cancer patients.

Conclusion: Assessment of the nutritional status of cancer patients at the time of diagnosis and implement early nutritional intervention as part of each person's treatment plan to improve nutritional status and control and treatment of cancer-related complications, in particular,

dietary complications, which can strongly affect patient's quality of life is crucial.

Keywords: cancer, malnutrition, nutritional status, must

HN-00530093_Mineral Deficiencies after Bariatric Surgery: A Systematic Review

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Introduction: Bariatric surgery is the leading standard management for durable weight loss as lifestyle modifications and conventional medical treatments seldom yield satisfactory long-term results in obese patients. Micronutrient deficiencies and malnutrition are common after most bariatric procedures due to reduced overall oral intake. In this review, we aimed to assess the prevalence of iron, zinc, copper, selenium and calcium deficiency after bariatric surgery.

Methods: We searched PubMed and EMBASE databases from 2016 to 2019. A group of search terms were used including ('bariatric surgery' or 'sleeve gastrectomy' or 'gastric sleeve' or 'LSG' or 'LVSG' or 'gastric bypass 'or 'RYGB' or 'gastric band' or 'LAGB' or 'adjustable gastric band') and ('trace element' or 'micronutrient', or 'minerals' or 'iron' or 'copper' or 'zinc' or 'selenium' or 'calcium') and ('deficiency' or ' 'deficient' or 'depletion' or 'insufficient') in the search protocol.

Results: We identified 556 articles out of 2 databases and 158 duplicate records were excluded. Then 351 records were excluded based on assessing the title and abstract and full text. The remaining 47 articles in addition to 1 record identified through hand searching, were assessed for eligibility. Finally, 24 articles were included in this systematic review. Results show that mineral deficiency, especially iron and zinc, is prevalent after bariatric surgery. Also, copper deficiency has been reported while selenium is not much of a concern.

Conclusion: Mineral and vitamin intake should be regarded after bariatric surgery. Further research should investigate the risk of

micronutrients deficiency with specific focus on minerals after bariatric surgery.

Keywords: mineral deficiency, bariatric surgery, micronutrients, iron, zinc

HN-00530094_Management of Obesity: Metabolic Surgical Indication for with Type 2 Diabetes

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Introduction: In obese patients with type 2 diabetes, the primary weight loss goals and intervention strategies include diet, physical activity, behavioral therapy, and pharmacological therapy. The main goals of metabolic surgery, in addition to weight loss, are metabolic control, with consequent cardiovascular risk reduction. It comes as the final treatment to achieve lasting control of metabolic risk factors and promote weight loss provided that proper control is carried out. The present study aimed to investigate the indication of metabolic surgery among patients with type 2 diabetes.

Methods: A total of 3380 volunteered employees who voluntarily attended the Center for cohort study of Employee Health, Shiraz University of Medical Sciences, were included in the study. Patients with FBS values of ≥126 and BMI≥30 were regarded as diabetic and obese. American Diabetes Association (ADA) Standards of Medical Care in Diabetes (2017) was used as the criteria for suggesting the proper treatment.

Results: Laboratory data revealed that about 4% suffered from Type 2 diabetes while 30% were unaware of their disorder. According to our results, 28% of diabetic patients were obese (BMI≥30) and were potential candidates for metabolic surgery.

Conclusions: As Type 2 diabetes is a chronic and progressive illness and in some situations is difficult to control with the best medical treatment and behavioral changes metabolic surgery is recommended especially for individuals with BMI≥30 to avoid future complications.

Keywords: obesity, metabolic surgery, type 2 diabetes, BMI

HN-00550026_Effect of Weight-Loss Diet Combined with Taurine Supplementation on Body Composition and Some Biochemical Markers in Obese Women: A Randomized Clinical Trial

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Introduction: Taurine (Tau) as an endogenous non-protein and sulfuric-amino acid is contributed in various biological pathways which are included anti-inflammatory, anti-oxidation, insulin resistance inhibition and lipid profile improvement. According to some experimental and clinical studies, insulin resistance and excess body weight are associated with reduced serum level of Tau. Therefore, this study was aimed to evaluate Tau supplementation and a diet-induced weight-loss on body composition and some biochemical indices in obese women.

Methods: Participants were divided randomly into intervention group (standard weight-loss group + Cap Tau 3 gr/day for 8 weeks, n = 20) and control group (standard weight-loss group + Cap Placebo for 8 weeks, n = 18). To achieve weight loss, all participants consumed an individualized weight loss diet (30% reduction in total energy requirements). Chi-square test was applied to compare categorical variables between two groups at baseline. Paired t-test and independent-sample t-test were used to analyze the parametric continuous data within and between two groups, respectively. Analysis of covariance (ANCOVA) test was applied for controlling the confounding variables.

Results: At the post-intervention, mean changes of TC (p = 0.04), LDL-C (p = 0.01), leptin (p = 0.005), adiponectin (P = 0.04) and hs-CRP (P = 0.02) decreased significantly in Tau group compared with the control group. No significant

results were found in mean changes of other biochemical indices between two groups.

Conclusion: Tau supplementation along with a weight loss diet may be useful in improving lipid profile and adipose tissue-derived factors in obesity. However, more RCTs are needed to achieve a strong conclusion.

Keywords: Taurine; Weight loss diet; Glycaemic indices; lipid profile; Adipokines; obesity

HN-00560029_Unhealthy Dietary Habits and Physical Inactivity Increase The Risk of Breast Cancer among Iranian Women: A Case-control Study on 1010 Pre-menopause Women

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Introduction: Diet and physical inactivity are introduced as major risk factors for several types of cancers. However, the impact of diet and physical inactivity on the risk of breast cancer (BC) is understudied and the limited findings are controversial.

Methods: This case-control study was performed from November 2014 and March 2016 on 1010 young women aged 20 to 55 years' old who were newly diagnosed with BC. Data was obtained via a validated questionnaire and the global physical activity questionnaire (GPAQ2). Also, patients' medical and histopathology reports were reviewed.

Results: The results of multiple logistic regression suggested that, compared to healthy controls, women with older marital age, history of BC, family history of BC, smoking, and being passive smoker were at a higher risk of BC. Also, eating red meat (adjusted odds ratio (aOR) 8-10 portion/week (p/w) vs. 1-2 p/w 1.15, 95%Confidence interval (CI): 1.04_1.28), eating fish (aOR 8-10 p/w vs. 1-2 p/w 1.55, 95%CI: 1.12_2.76), less fruit consumption (aOR 1-4 p/w vs. 8-10 p/w 1.96, 95%CI: 1.07_3.82), pickles consumption (aOR 8-10 p/w vs. 6-8 p/w 1.46, 95%CI: 1.31_1.70) and intensity of physical activity (aOR light vs. vigorous 1.68, 95%CI=

1.47_1.98) were directly associated with the risk of BC.

Conclusion: Our study supported the hypothesis that dietary habits and physical inactivity are risk factors of BC. We found that a healthy diet containing low fat and high fruits and vegetables with regular exercise are effective ways to reduce the risk of BC among young women.

Keywords: Breast Cancer, Diet, Physical activity, Lifestyle, Young women, Risk factor, Epidemiology

HN-00620104_Determinants of Nutritional Status and Gastrointestinal Complications in Critically Ill Patients Admitting to ICU in Iran: A Cross-Sectional Study

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Introduction: Adequate nutrition is necessary during critical illness and is closely linked with clinical outcomes. Therefore, determination of nutrition status in critically ill patients is necessary. So, this study evaluates the nutritional status and determine malnutrition markers in ICU patients receiving nutritional support in Isfahan, Iran.

Methods: This cross sectional study was performed at AL-Zahra Hospital of Isfahan University of Medical Sciences, Iran. Nutritional screening including APACHE score, NUTRIC score and nutritional assessment including laboratory dates, weight, energy and protein balance was assessed. Moreover, Occurrence of gastro-intestinal problems was evaluated.

Results: In total, 55(35 men and 20 women) patients met the inclusion criteria with median [IQR] age of 49[18-77] and median [IQR] weight of 75(55-100). Also, BMI determination showed that 11% of patients had inadequate body weight (BMI<18.5). During the inpatient period, nutrition screening showed that a median range of NUTRIC score was 3[2-5] and APACHE score was 23[18-27]. In addition, median range of weight decreased to 71 [50-96] kg. Also, median intake of energy and proteins for 7 days were 1840[750-2100] and 65 [25-94] respectively that seemed inadequate regarding target energy and protein requirement (1920[1200-2740] and 86[49-129] respectively). After gastro-intestinal

assessment, 20% of subjects had nausea and vomiting, 10% obstipation, 5% diarrhea and 20% enteral feeding intolerance.

Conclusions: Our results suggest that although nutritional adequacy is prevalent among ICU patients, but providing better evaluation about factors that effect on nutritional adequacy on hospital outcomes seems to be a necessary.

Keywords: Intensive Care Unit, Malnutrition, Nutrition assessment, gastrointestinal complication

HN-00620032_Evaluation of the nutritional status in critically ill patients admitted in intensive care units in Iran: A cross-sectional study

Nafiseh Shokri

Introduction: Adequate nutrition is closely linked with clinical outcomes during critical illness. This study was undertaken to evaluate the nutritional status and determine malnutrition markers in ICU patients receiving nutritional support in Isfahan, Iran.

Methods: This cross-sectional study was performed at AL-Zahra Hospital of Isfahan University of Medical Sciences, Iran. Adult critically ill patients receiving enteral nutrition and admitted for a minimum ICU duration of 7 days were eligible. Nutritional screening included APACHE score, NUTRIC score and nutritional assessment included laboratory dates, weight, energy and protein balance. The occurrence of gastro-intestinal problems was evaluated.

Results: In total, 55(35 men and 20 women) patients met the inclusion criteria with median [IQR] age of 49[18-77] and median [IQR] weight of 75(55-100). Eleven percent of the patients had inadequate body weight (BMI<18.5). During the inpatient period, median [IQR] for NUTRIC and APACHE scores were 3[2-5] and 23[18-27] respectively. The median [IQR] for weight decreased to 71 [50-96] kg. The median intake of energy and proteins for 7 days were 1840[750-2100] and 65 [25-94] respectively that seemed inadequate regarding target energy and protein requirements (1920[1200-2740] and 86[49-129] respectively). Twenty percent of subjects had nausea and vomiting, 10% obstipation, 5% diarrhea, and 20% enteral feeding intolerance (determining with GRV>250 mL at repeated regular (6 h) measurements).

Conclusions: Although nutritional adequacy is prevalent among ICU patients, evaluating the risk of malnutrition showed no critical findings. Better evaluation of structural factors that affect nutrition management and the effect of nutritional adequacy on hospital outcomes sounds necessary.

HN-00630065_Developed and Validated Food Frequency Questionnaires in Iran: A Systematic Literature Review

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Introduction: Food frequency questionnaires (FFQs) are cheap and easy to administer, they are practical tools for dietary assessment in epidemiological studies. Although several studies have investigated the Food Frequency Questionnaires (FFQ) in the Iranian population but the comprehensive review in this regards does not exist. The aim of study was to systematic review on studies on FFQs that developed and validated in Iranian population.

Methods: We conducted a comprehensive search in ISI Web of Knowledge, PubMed, Scopus, and Google Scholar without time limitation to find relevant English and non-English publications. Studies were included that focused on design and validation of FFQs in Iran.

Results: 1968 articles were found. According to inclusion criteria nineteen studies were selected. Validation studies were done in 14 FFQs. Validation studies in 3 FFQs were not found. Median of correlation coefficients between FFQ intakes and dietary reference method by nutrients were 0.2075 to 0.65, which showed reasonable validity. Median of correlation coefficients between two FFQs were 0.28 to 0.85, this shows appropriate reproducibility. Low validity was seen for some nutrients and food

groups such as egg, legume, iron, folate, α-tocopherol. In eight studies biomarkers were used as gold standard to compare with FFQs. Median of their correlation coefficients with FFQ were -0.0675 to 0.423.

Conclusion: Although developed FFQs in Iran are different in characteristics, they had acceptable validity and reproducibility to assess dietary intake in Iranian population. Although some food groups and nutrients had poor validity and they must be considered carefully.

Keywords: Food Frequency Questionnaires (FFQ), Validation, Reproducibility, Iranian Populations, Review

HN-00690036_The Effects of Bunium Persicum Supplementation on General and Central Obesity in Patients with Type 2 Diabetes: A Double-Blind Randomized Placebo-Controlled Clinical Trial

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Introduction: Overweight and obesity are the most common risk factors for type 2 diabetes mellitus. Our aim was to investigate the effects of bunium persicum (BP) on Waist circumference (WC), body mass index (BMI) and Nesfatin-1 among overweight or obese T2DM patients.

Methods: The place of participant recruitment was the diabetic clinic of Bo'Ali hospital in Zahedan. Based on the eligibility criteria, 60 participants were randomly divided into two groups as BP (n=30) or placebo (n=30). The supplementation was one 1000 mg capsules 2 times/day with launch and dinner for 3 months. Weight, height and waist circumference (WC) were measured. Body mass index (BMI) was also calculated.

Results: In comparison with placebo, PB significantly decreased WC and BMI (P<0.05). After adjustment for confounders, the changes were similar (P<0.05). The differences in Nesfatin-1 were not significant (P>0.05).

Conclusion: PB supplement improved body BMI and WC among overweight or obese T2DM patients; though, further trials are suggested to confirm results.

Trial Registration: Iranian Registry of Clinical Trials (IRCT) number IRCT20181207041876N1, 18/01/2019.

Keywords: Bunium persicum, Overweight, Obesity, Waist circumference, Body mass index, Nesfatin-1

HN-00710033 _Prevalence of obesity among patients with type II diabetes referring to Diabetes Clinic of Kalaleh Hospital, Golestan Provonce

Azizeh Cherabin

Introduction: At present, the diabetes is one of the most important health problems in the WORLD and the obesity is one of the most risk factor for this disease. So, this study was carried out to determine the Prevalence of obesity in the type 2 diabetes patients and determine their daily rate of energy receiving.

Methods: In this cross-sectional study, about 169 cases among type 2 diabetic patients were randomly selected. A questionnaire was formed for all patients contained of BMI and demographic information. Also, to assess the use pattern foodstuffs, a questioner of two-days 24 hours review was applied and formed twice a week. The amount of receiving daily energy was calculated using USDA dietary combination table designated in NUT4 software.

Results: In this study, 25.4% of patients were men and 74.6% women. BMI in men and women was equal to 28.6±4.2 and 29.7±5.05 respectively. The rate of overweight in men and women was 47.6% and 42.7% and the obesity rate was 35.8% and 40.3%, respectively. The fasting blood sugar level in men and women was received 221.41±86.5 and 209.76±87.9 mg/deciliter. The whole rate of receiving energy from daily consumed foodstuffs in men and women was equal to 2007.9±375.38 and 1879.76±408.5 kilo-calorie that was less than standard level (RDA).

Conclusion: On the contrary that the daily receiving energy by patients was less than

standard level, but it doesn't energy from a favorite nutritional sufficiency.

HN-00720149_Impact of a Nutritionist's Visit on Clinical Outcomes and Medical Costs

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Introduction: Stroke is a major cause of disability resulting in a large economic burden. Numerous rehabilitation interventions, including nutritional interventions have been implemented, to improve neurological functions and overcome its consequences. Nevertheless, majority of stroke patients do not meet estimated average requirements (EAR), which affects response to treatment.

Methods: This cross-sectional study carried out in the Neurology ICU ward of Imam-Reza Hospital, Tabriz, from 2016 to 2017 in two six-month periods. In the first 6month, patients were visited by nutrition consultants of food service management unit once during admission. In the next period, patients were visited continuously and uninterruptedly by a nutrition PhD at least once a week. The average length of hospitalization and the number of albumin vials consumed monthly were recorded by Hospital Statistics Center. Number of patients with bed sores and calorie intake were recorded daily.

Results: Continuous evaluation and consultation of patients in the second period, decreased the use of albumin vial about 51.1% compared to the first period (P<0.05). The average occupancy rate of hospital beds was also significantly reduced about 3.1 days per month (P<0.05). In addition, the amount of energy intake in regularly visit of patients (1725±126 kcal/day), was significantly higher than the first period (1226±236 kcal/day). Based on the results, regular visits led to a monthly decline of 20 million Rials per 10 hospital beds.

Conclusion: It seems that periodic and regular visits by nutritionists can improve ICU hospitalization and reduce hospitalization costs and can play a critical role in reducing malnutrition.

Key word: Cost, Malnutrition, Stroke.

HN-00720192_Evaluation of Malnutrition in ICU Hospitalized Stroke Patients.

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Introduction: Nutritional status assessment is the first step in treating malnutrition. Proper nutritional assessment helps to identify and treat nutritional deficiencies in the early stages, and prevent acute conditions by modifying diet, especially in stroke patients. The aim of the present study was to evaluate the nutritional status of patients admitted to intensive care unit (ICU) of Imam-Reza hospital in Tabriz.

Methods: In this cross sectional study 233 ischemic stroke patients admitted to Intensive Care unit (ICU) of neurology unit of Imam-Reza hospital, Tabriz, Iran from 2016 to 2017 were studied. Demographic information, disease history, clinical examinations and anthropometric assessments were performed. Nutrition assessment questionnaire, Nutrition Risk Screening (NRS)-2002 was completed for each patient too. Data were then analyzed using SPSS software and the linear regression method used to evaluate NRS correlation with demographic variables.

Result: According to nutritional assessments, 78% of patients were malnourished. The mean age of hospitalized patients was 72.60 ± 9.83. Also the mean BMI was 25.82±5.65 among participants. Finally, a statistically significant correlation was shown between NRS score with age, BMI, job, marital status and education (P<0.05).

Conclusion: Regard to high prevalence of malnutrition among stroke hospitalized patients in ICU, nutritional interventions should be considered to improve patients' malnutrition.

Keywords: Hospitalization, Malnutrition, Nutritional Screening.

HN-00720197_The Relationship between Malnutrition Statuses Using NRS-2002 with Clinical Stroke Indicators among Intensive Care Hospitalized Stroke Patients.

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Introduction: Stroke is one of the serious health problems with high mortality rate. Epidemiological studies show that it is the second cause of leading death in the world wide after cardio vascular diseases. Stroke related malnutrition has been associated with adverse outcome of stroke and it can worsen the condition but can be controlled by effective and timely nutritional interventions. To this end, we aimed to evaluate nutritional status of ICU inpatients with Nutritional Risk Screening (NRS)-2002, a tool specially improved for ICU patients.

Method: This cross-sectional study enrolled 233 ischemic stroke patients in Imam-Reza hospital, Tabriz, Iran from 2016 to 2017. Nutritional status was measured using the NRS. Stroke disability has been evaluated by mRS and NIHSS. The linear regression methods used to evaluate NRS scores correlation with clinical, biochemical and anthropometric variables.

Results: In accordance to results, 78% of hospitalized patients were malnourished. As albumin 3.33±0.82 and calf circumference (CC) 31.09±5.02 was lower in malnourished patients. In contrast, results exhibited that MRS (0.55±0.49) and NIHSS (16.83±12.85) values were higher in malnourished patients. Likewise, CC showed a negative correlation with malnutrition (P<0.05).

Conclusion: It is important to identify malnutrition with respect to the components of NRS and choosing appropriate nutritional intervention that may affect stroke outcomes.

Keywords: Hospitalized, Intensive care, Nutrition.

HN-00740042_Food Waste in Qaem and Imam Reza Hospitals in Mashhad, Iran

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Introduction: Poor nutritional status of hospitalized patients is associated with increased morbidity and mortality rates. An appropriate nutritional status during hospital stay plays a pivotal role in patient treatment. Food waste is a growing concern contributing to malnutrition. The aim of this study was to measure the volume of food waste in Qaem and Imam Reza Hospitals in Mashhad, Iran.

Methods: This cross-sectional study was conducted during one week in Imam Reza and Qaem Hospitals of Mashhad in 2016. Research population included 425 patients in the selected wards of the hospitals. Participants were selected non-randomly from the hospitalized patients. Rate of food waste was measured at lunchtime, using the food residual observational checklist. Data analysis was performed in SPSS version 16. Independent samples t-test was used for comparison of food waste between the main course and appetizer. Crosstab and Chi-square were applied to compare the main course and appetizer waste based on gender, hospital, and ward.

Results: Totally, 13.9% of patients left their food in the plate entirely. Food waste in the appetizer was significantly higher than the main course (P<0.001). Moreover, the number of the patients who entirely left their food was lower in Qaem Hospital compared to Imam Reza Hospital (27.84% versus 22%) (P=0.003). Food waste was significantly higher in the cardiac ward in comparison to other wards (P=0.006).

Conclusion: Food waste varied in different hospitals and wards, therefore serving meals based on wards and patient requirements could

be an effective solution to decrease food waste and malnutrition.

Keywords: Food Waste, Main Course Waste, Appetizer Waste, Hospital

HN-00740060_Practical Approaches for Nutritional Management of Mechanically Ventilated Children

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Introduction: Critically illness, particularly for patients who are mechanically ventilated, causes anorexia, increased catabolism and malnutrition. Specially, critically ill children are very susceptible to malnutrition, contributing longer duration of mechanical ventilation. Thus, nutritional therapy plays a critical role on admission and duration of mechanical ventilation in critically ill children. The aim of this study is to review the nutritional management of mechanically ventilated children.

Methods: This study was performed by searching in Scopus, Web of Science, Medline, and PubMed. A combination of relevant mesh terms and key words was used for finding relevant articles. Search result was screened through abstracts and titles and finally relevant articles were included in the review. It was tried to evaluate all aspects of nutritional management of mechanically ventilated children.

Results: Energy demand in mechanically ventilated children is controversial and the ideal method of calculating REE is indirect calorimetry, but in its absence, predictive equations may be used. Patients who receive adequate protein are more likely to be weaned from the ventilator and have a lower mortality rate. Protein demand should be determined individually and as per the latest ASPEN guidelines, a minimum protein intake of 1.5 g/kg/day is advised in these children. Also a balanced ratio of carbohydrates and lipids is advised. Moreover, individualized nutritional supplementation is one the treatment strategies in these children.

Conclusion: Nutritional therapy may play a pivotal role in mechanically ventilated children and is as essential as other treatment modalities, because both under- and over-feeding are associated with adverse outcomes.

Keywords: Critically ill children, mechanically ventilated children, Nutritional management

HN-00740061_The relationship between Peripheral lipid distribution and severity of Non Alcoholic Fatty Liver Disease

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Introduction: Non-alcoholic fatty liver disease (NAFLD) is the most common chronic liver disease which can contribute to some clinical conditions. A large number of studies have performed on relationship between central lipid distribution and NAFLD, while there are little studies on peripheral lipid distribution, so the aim of this study is to investigate the relationship between some anthropometric parameters of Peripheral lipid distribution and NAFLD.

Method: A total sample of 212 subjects over 18 years old (103 man and 109 woman) were recruited from those admitted to a gastrointestinal clinic in Mashhad, northeastern Iran. Peripheral and central anthropometric parameters were measured. Hepatic steatosis was identified by Transient Elastography (TE). Logistic regression was applied to establish the association between anthropometric parameters and hepatic steatosis. The sensitivity, specificity and AUC of all anthropometric measurements were detected by receiver operating characteristic (ROC) analysis.

Results: The mean age of participants was 39.26±14.18 years. Liver steatosis was positively correlated with neck, arm, wrist and tight circumference after adjusting for multiple factors

(p<0.0001). ROC analysis showed that from peripheral anthropometric parameters, arm circumference had the highest AUC (0.79) in predicting liver steatosis which followed by neck (AUC=0.772) and wrist circumference (AUC=0.762)

Conclusion: According to our results, in addition to central anthropometric assessments, novel anthropometric parameters of peripheral fat stores such as arm, neck and wrist circumference are strongly associated with liver steatosis and can predict it.

Keywords: Liver steatosis, peripheral lipid distribution, Neck circumference, Arm circumference, Wrist circumference, tight circumference

HN-00960105_The Effect of Dietary Glycemic Index on Inflammatory Biomarkers in Hospitalized Patients

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Background: Glycemic index indicates as increasing in blood glucose, two hours after eating carbohydrate foods. the effect of sugar on inflammatory cytokines has been proved. By relying on these findings, some references and studies classified foods with high Glycemic index as inflammatory foods. In this review, we consider to assess the effect of Glycemic index on inflammatory biomarkers.

Methods: We conduct a comprehensive search in Medline, Up-to-date and PubMed databases for trials, case-control and meta-analysis studies from 2015 till now. Total of 61 studies has been found. Forty-four of them was excluded because lack of consideration of inflammatory biomarkers and full article of total of 13 studies reviewed.

Results: Dietary pattern with high glycemic index could increase TNF-a, IL-6 and CRP but this increase was significant only in CRP. Although carbohydrates are classified as inflammatory foods, there is no evidence to support this thesis and prove that, dietary Glycemic Index have a direct effect on rise of inflammatory biomarkers. The increases in these factors in some studies can be explained by hyperglycemia, obesity, oxidative stress, and cell death during rapid

increase in insulin level specially in diabetes patients.

Conclusions: there is no direct effect of glycemic index on inflammatory biomarkers. However, by considering the effect of Glycemic index on insulin level and weight gain in long term, we have to concern about the long term effect of using high glycemic index foods on the potential of systematic inflammations in future.

Keywords: Glycemic Index, Inflammation, cytokine, inflammatory biomarker

HN-00960156_Prevalence of Sarcopenia and Related Factors in Elderly Adults in Mashhad- Iran in 2019

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Background: Sarcopenia is a syndrome characterized by progressive and generalized loss of skeletal muscle mass and strength. Sarcopenia is associated with frailty and disability among the elderly and imposes significant costs on health care system. Several studies have been done about sarcopenia in Iran which is one of the largest countries of the Middle East that faces a fast growing elderly population. But according to our knowledge there is no data about sarcopenia and its related factors in Mashhad, north east of Iran, so the aim of this study was to investigate the prevalence of sarcopenia and its association with socioeconomic status among the elderly adults of Mashhad.

Methods: This cross-sectional study was conducted on 387 elderly men and women over 55 years in Mashhad city. Sarcopenia was defined according to the European Working Group on Sarcopenia in Older People (EWGSOP) algorithm. The skeletal muscle mass was assessed using BIA (inbody270). Muscle strength and muscle performance were assessed according to hand grip strength and 4-m usual walking gait speed test. All the analysis was done by SPSS version 22 and P value <0.05 was considered significant

Results: The overall prevalence values of pre-sarcopenia, sarcopenia, and severe-sarcopenia were 7%, 7.5% and 8.2% respectively. There was the significant difference between income statute, work types, retired statute, and gender and meal intake frequency per day between sarcopenia categories (p value<0.05).

Conclusions: The prevalence of overall Sarcopenia was relatively high in this population and there was a significant difference between socioeconomic statuses in the sarcopenia categories.

Keywords: Sarcopenia, Mashhad, Prevalence, Muscle mass loss

HN-00980183_The Relationship between Obesity and Hypertension in Comprehensive Health Centers in Mashhad University of Medical Sciences during the First Half of 1398

Maryam Abrishami, Homa Kaveh, Zahra Nehbandani, Najmeh Mohajeri

Introduction: Nowadays, non-communicable diseases are one of the most important causes of increasing burden of diseases worldwide and in Iran. Non-communicable diseases account for more than 53% of the burden of diseases worldwide and more than 76% of the total burden of disease in Iran. Urbanization and industrialization phenomena associated with lifestyle changes have had a significant impact on increasing the burden of non-communicable diseases. Overweight and obesity are important risk factors for non-communicable diseases. Obesity is one of the most important factors in the prevalence of hypertension. Hypertension in obese people is 2 to 6 times higher than in overweight people. Every 10 kg weight gain increases systolic blood pressure of 2 to 3 mmHg and diastolic pressure of 1 to 3 mmHg. Central obesity means obesity centered on the abdomen. (Male obesity) is more important in causing hypertension. Overweight and obesity have a BMI of more than 25. Purpose of the research: To investigate the relationship between obesity, overweight and hypertension in clients aged 30 years and over in Mashhad University of Medical Sciences in the first half of 1398

Methods: This is a descriptive and retrospective study. The samples are 30 years old and older residents of urban and rural areas of Mashhad University of Medical Sciences who received non-communicable diseases care. Information is provided on the contents of the health record.

Results and conclusions: In this study, 1259920 patients referred to comprehensive health services over 30 years were studied, of whom 208401 were hypertensive and 116637 (55.97%) were obese. According to the Chi-square test, there was a significant relationship between hypertension and obesity at the error level of less than 5% (P <0.001) and obese individuals had higher blood pressure. Also, the results of chi-square test showed that gender and type of living area were effective (P <0.001). This means that in the urban women are more likely than men, but in the rural men are more affected than women.

Keywords: Obesity - BMI - Body mass index - Hypertension - Non communicable diseases

HN-00980184_Hypertension status in people with cardiovascular events risk assessment referred to Comprehensive Health Centers in Mashhad University of Medical Sciences in the first half of 1398

Maryam Abrishami, Homa Kaveh *, Zahra Nehbandani, Najmeh Mohajeri

Introduction: Risk assessment of cardiovascular events (ASCVD) is a suitable tool for calculating the probability of occurrence of myocardial infarction or stroke in the next ten years. By measuring the risk of myocardial infarction and the integrated care of non-communicable diseases, the limited resources of health care can be directed towards the neediest part of the population that benefits most from interventions. The aim of this study was to assess hypertension status in people with cardiovascular events risk assessment (ASCVD) referring to Comprehensive Health Centers in Mashhad University of Medical Sciences in the first half of 1398.

Methods: This study was descriptive and retrospective study. The samples were 30 years old and older residents of urban and rural areas of Mashhad University of Medical Sciences who received non-communicable diseases care. Information is provided on the contents of the health record.

Results and conclusions: From 120,223 surveyed, 52% lived in urban and 48% lived in rural areas. The prevalence of ASCVD risk ratings (less than 10%, between 10% and 20%, between 20% and 30%, and above 30%) were 68.4%, 11.9%, 6.1% and It is 13.6%. In the city, 74.4%, 11.6%, 5.1% and 8.9% and in the village 61.6%,

12.2%, 7.2% and 18.7%, respectively. History of hypertension was present in 42.4% of subjects, 48.7% had normal blood pressure and no history of hypertension. Pre-hypertensive state was detected in 6.4% of the patients and 2.5% had suspected hypertension without a history of hypertension.

Keywords: (ASCVD) risk assessment of cardiovascular events - Hypertension – non communicable diseases- obesity

HN-00980205_Evaluation of obesity status in people with cardiovascular events risk assessment referring to comprehensive health services in Mashhad University of Medical Sciences in first half of 1398

Maryam abrishami, homa kaveh*, zahra nehbandani, najmeh mohajeri

Introduction: Atherosclerosis cardiovascular events risk assessment (ASCVD) is a suitable tool for calculating the probability of occurrence of cardiovascular events ،myocardial infarction or stroke in the next ten years. The aim of this study was to evaluate obesity status in people with cardiovascular events risk assessment referring to Mashhad University of Medical Sciences in urban and rural areas in first half of 1398.

Methods: This study was a descriptive and retrospective study. The samples are 30 years old and older residents of urban and rural areas of Mashhad University of Medical Sciences who received non-communicable diseases care in comprehensive health services. Information is provided on the contents of the person's electronic healthcare.

Results: in the present study, cardiovascular events were assessed on 170508 persons, that 25% of whom were obese. 68% of the cardiovascular events risk assessments were less than 10%, of which 27% were obese. 12% of cardiovascular events were at risk of 10 to 19%, of which 27% were obese. Six percent of cardiovascular events were at risk of 20 to 29 percent, of which 22 percent were obese. 14% of cardiovascular events were at risk of over 30%, of which 15% were obese.

Keywords: risk assessment ،cardiovascular events ،obesity ،non-communicable diseases

HN-01010049_Phenylketonuria: Challenges of Food Production for PKU Patients in Iran

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Introduction: Phenylketonuria (PKU) is an inherited metabolic disorder due to lack of phenylalanine (Phe) hydroxylase enzyme (PAH), which converts Phe to tyrosine. PKU resulted in brain damage and microcephaly. Untreated patients developed serious mental disorders. The utilization of a low Phe diet could inhibited mentioned disorders. The goal of this study to assess the regulation status of food Production for PKU Patients in Iran for PKU production.

Methods: The whole regulations of food and drug administration of Iran and Institute of Standards and Industrial Research of Iran regarding PKU food production were investigated and compared with regulations in other countries.

Results: Our finding indicated there are approximately 7000 PKU patients in Iran. There is sufficient food for these patients in Iran. The most important problem for these patients is the lack of access to low Phe food. The number of PKU food produces in Iran was very low. The Food and Drug Administration does not have any specific regulations regarding the definition and production of these foods and no standards have been established in Iran for these products. Because of this, it was very worrying and the contractors would not be able to produce these products under the current conditions.

Conclusion: In general, regulation and standard establishment for low-Phe food production are inevitable. The support of the manufacturer is a necessity. By producing and access to low-Phe food, the further disorders of the disease have been reduced and patients enjoy a life similar to normal people in the community.

Keywords: Phenylketonuria, Food industry, nutrition, new strategies

HN-01050253_Sex differences in main components of lifestyle and their association with arterial stiffness

Mohammad Nosrati Oskuee

Introduction: Arterial stiffness (AS) act as a future predictor of Cardiovascular disease (CVD), which starts in the initial stage of the disease.

Lifestyle modification plays a vital role in preventing CVD; however, the exact components through the sex difference are not clear. Therefore, we have conducted this study to evaluate the association between lifestyle components and AS through the sex difference.

Methods: This study was administered on 700 healthy subjects aged between 30-70 years after meeting the inclusion criteria. The carotid-femoral pulse wave velocity (cfPWV), augmentation pressure (AP), central augmentation index (cAIx), and arterial age (AA) were assessed. Also, Smoking, physical activity (PA), energy intake, alcohol consumption and meal numbers were measured.

Results: Multivariate regression analysis showed a positive correlation between AA and smoking in both men (p=0.02, β=0.11) and women (p=<0.01, β=0.16). Energy intake related with cfPWV (p=0.004, β=0.23), cAIx (p=0.01, β= -0.18), AP (p=0.008, β= -0.19) in women, and with AA (p=0.04, β= -0.13) and cAIx (p=0.04, β= -0.15) in men. PA was only associated with cAIx (p=0.004, β= -0.15) and AP (p=0.05, β= -0.11) in men. alcohol consumption had an inverse association with AA (p=0.03, β= -0.08) in women. Interestingly, meal number was significantly associated with all of the AS markers except cfPWV in both men and women.

Conclusion: Our study indicated that an increase in PA and meal numbers alongside reduction in energy intake and smoking could act as a modifiable factor in the prevention of CVD.

HN-01050090 _The association of omentin gene expression in visceral and subcutaneous adipose tissue with plasma fatty acids profile and dietary fatty acids

Mohammad Nosrati Oskuee

Introduction: Omentin is an adipokine, which has anti-inflammatory effects and reduces insulin resistance, hence, it can play an important role in prevention of cardiovascular disease and diabetes. The present study aimed to investigate the association of plasma and dietary fatty acids with the gene expression of omentin in visceral and subcutaneous adipose tissues.

Methods: Visceral and subcutaneous adipose tissues and fasting blood were gathered from 50 obese and 47 non-obese participants, who had undergone elective abdominal surgery. Dietary intakes were assessed using a food frequency questionnaire. The relative gene expression of

omentin in visceral and subcutaneous adipose tissues was measured by Real-Time PCR and plasma fatty acids was measured using gas chromatography.

Results: Omentin gene expression was higher in non-obese participants compared to obese ones in visceral adipose tissue; however, no difference was found in subcutaneous adipose tissue. A significant direct association was observed between omentin gene expression in visceral adipose tissue with dietary monounsaturated fatty acid (MUFA) (P=0.011, β=0.394) in obese subjects and plasma omega 6: omega 3 ratio (P=0.029, β=0.385) in non-obese subjects after adjustment for confounders. No association was observed between omentin gene expression in subcutaneous adipose tissue and plasma and dietary fatty acids.

Conclusion: Dietary intake of MUFA in obese participants and plasma omega 6: omega 3 ratio in non-obese ones were directly associated with omentin gene expression in visceral adipose tissue. Therefore, higher omentin gene expression through increasing dietary MUFA may be related to improvement of obesity and its associated comorbidities.

Keywords: Omentin, Saturated fatty acids, Monounsaturated fatty acids, polyunsaturated fatty acids, omega-6: omega-3 ratio, Visceral adipose tissue, Subcutaneous adipose tissue

HN-01050092_Association of plasma fatty acids pattern and omentin gene expression in visceral and subcutaneous adipose tissue: A cross-sectional study

Mohammad Nosrati Oskuee

Introduction: omentin, as an adipokine have been reported to improve insulin resistance and inflammation may be related to fatty acids (FAs). plasma FA can be used as biomarkers of dietary FA and of endogenous FA exposure. Concentrations of FA highly correlate and may interact with each other, thus may be missed by examining individual FA. We aimed to evaluate the association between plasma FA patterns and omentin gene expression in adipose tissue (AT).

Methods: Visceral and subcutaneous AT and fasting blood were gathered from 97 adults aged 18-82 years, who had undergone elective abdominal surgery. Dietary intakes were assessed using a food frequency questionnaire. The relative omentin gene expression in visceral and subcutaneous AT was measured by Real-

Time PCR and plasma FAs was determined by gas chromatography. principal component analysis was performed to derive FAs pattern from 18 plasma individuals FAs.

Results: Three pattern were derived from plasma FAs, 1) high de novo lipogenesis FAs, 2) high trans saturated fatty acids (SFA) and docosahexaenoic acid, 3) high long-chain SFA. After adjustment for confounders, only the long-chain SFA pattern was associated with omentin gene expression in visceral AT (p = 0.03, β = 2.25). The other patterns were not associated with omentin gene expression in visceral and subcutaneous AT.

Conclusion: Our findings suggested that plasma FA pattern may be associated with omentin gene expression. Specifically, a pattern characterized by high levels of long-chain SFA was related with omentin gene expression in visceral AT.

HN-01060053_The Relationship between Dietary Intakes of Selenium, Anthropometric Profiles with Depression in Medical Female Students in Zahedan.

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Introduction: Depression is one of the most common mental health disorders Depression is the second leading cause of dysfunction near 2020, according to WHO statistics. As well known, micronutrients have always played a potential role in all physical and psychological aspects of individuals. This study was conducted to investigate the relationship between the dietary intakes of selenium, anthropometric profiles with depression in female students.

Methods: The present descriptive-analytic study investigated the dietary intake of selenium anthropometric indices in female student of Zahedan University of Medical Sciences and finally compared them with depression score. In the current study, after receiving a letter from the student Ethics Committee, referring to female students of Zahedan University of Medical Science, assessing the inclusion criteria and obtaining verbal consent from the community, the subjects were asked to complete a Beck Questioner and Depression Inventory.

Results: Overall, 200 female medical students were enrolled in this study.The mean age of the study population was (23.41±2.26) years. Mean of BMI was (23.54±4.49), the means of WHpR index and WHtR index were (0.85±0.08), (0.59±0.10) respectively.The mean depression score (31.21±10.58), mean of selenium intake was (106.52±21.69).There was a significant relationship between anthropometric indices as well as selenium intake with depression score (p<0.001).

Conclusions: The results of this current study showed a significant inversely relationship between selenium intake as well as anthropometric indices with depression score.

Keywords: selenium intake, anthropometric profiles, depression.

HN-01140067_MicroRNA: The New Ubiquitous Parameter for Children Overweight

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Introduction: DNA down-regulation occurs at the prenatal materials and develops childhood obesity. MicroRNA, as the bandmaster of genetic sector, is the regulator for the development of obesity. According to the Iranian statistical information, waist circumference of children has significantly increased recently. Childhood obesity has provoked major problems for children at present and in future as they become susceptible for chronic diseases and consequent health problems.

Methods: Articles published from 1986 up to 2018 for the subject were searched in the PubMed.

Discussion: Childhood obesity is the result of down-regulation in uterus environment and parent's microRNAs in the genetic sector. Three

microRNAs, 486, 146b, and 15 microRNAs, have been assessed more frequently in studies on children with overweight and fatness.

Conclusion: Identifying the real cause of childhood obesity seems to be related to microRNA. MicroRNAs can be a target for new treatment methods. Molecular nutrition can be a new way for dietary management to properly control and treat obesity in children.

Keywords: Child, Down-regulation, Food, Gene, MicroRNA, Obesity

HN-01150064_Nutritional Status of Patients with Active Tuberculosis in The Treatment of Shahid Shaterian Tuberculosis in Robat Karim, 96

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Introduction: Tuberculosis (TB) is directly associated with malnutrition, immunodeficiency, and inappropriate condition. TB is less probable in well-nourished and vaccinated people. Body weight is an important factor in tuberculosis contamination.

Methods: This descriptive cross-sectional study was conducted on 116 TB patients undergoing treatment in Shahid Shaterian Tuberculosis Center in Robat Karim in 1396. Diagnosis was made by positive sputum culture. Nutritional information was assessed using 24-hour feed recall questionnaire and Feed frequency. Nutrient intake was compared with the recommended values (RDA) and the food-pyramid. Body mass index (BMI) was also calculated.

Results: The mean age of women and men were 16.2-63.1 and 18.7-54.4 years old respectively. The prevalence of underweight, normal weight, overweight and obesity were 54.2%, 23.1%, 19.8% and 2.8% respectively. Percentage of RDA consumption of calories, protein, vitamins E, A, C and inorganic iron, zinc, copper, selenium were 24.2-51.4-82.3-5.8-60.5-39.9% respectively women and 48.8-49.6-23.4--164.5-98.4--77.1-50.1% respectively in men. Approximately 96 patients in unfavorable condition received supportive nutrition basket. Only 37.8% of patients consumed dairy products more than 3 times per week. Consumption of dairy, vegetable, fruits, legumes and meat were present in 71.3%, 25.8%, 35.6%, 5.9% and 21.0% of patients respectively. Egg consumption (4-5 times/week) was reported in 40.1% of the patients. The average consumption of all food groups except bread and cereal were less than RDA.

Conclusion: Energy and nutrient intake in TB patients was inadequate. There is a need for active presence of nutritionist in TB units to evaluate and consult TB patients and their families.

Keywords: tuberculosis, nutrition, tuberculosis, malnutrition

HN-01160103_The Relationship between Inflammation and Malnutrition in Hospitalized Patients

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Introduction: Malnutrition has remained one of the important and common issues in hospitals. Malnutrition can increase side effects and mortality among hospitalized patients. Inflammation is a supportive response of the body against infection, acute diseases, toxic traumas, chronic disorders, and physical stress. Inflammation can affect body metabolism, composition and nutritional status. The aim of this research was to investigate the relationship between inflammatory factors and malnutrition among hospitalized patients.

Method: This cross-sectional study assessed nutritional status of hospitalized patients in different departments using Subjective Global Assessment (SGA), Calf circumference (CC), Mid-arm circumference (MAC), Body Mass Index (BMI), and full Nutritional Assessment (FNA) tools. The inflammation condition of the patients was also evaluated by serum hsCRP level.

Results: A total of 278 patients (135 women, 143 men) with a mean age of 54.4±5.27 and mean BMI of 21.6±3.3 were studied. Depending on the applied tool, the prevalence of malnutrition varied from 29% to 57.7%. The mean level of hsCRP serum in malnourished patients was higher than well-nourished patients. Mean levels of hsCRP serum in SGA, FNA, BMI, MAC, and CC methods, among well-nourished and malnourished patients were (25.36±16.21 mg/l vs. 17.94±18.2 mg/l), (26.66±17.22 mg/l vs. 18.09±17.6 mg/l), (20.26±16.9 mg/l vs.19.25±16.67 mg/l), (26.6±17.33 mg/l vs. 23.97±19.65 mg/l), (24.65±18.99 mg/l vs. 22.74±18.6 mg/l) respectively. These differences were significant for MAC, FNA and SGA.

Conclusion: Regarding the high prevalence of malnutrition among hospitalized patients and considering the impact of inflammation on the nutrition status, the inflammatory activities have to be evaluated promptly. Inflammation-induced malnutrition does not only necessitate nutritional intervention but also requires multi-aspect inflammation control treatments.
Keywords: malnutrition, inflammation, Subjective Global Assessment, and full Nutritional Assessment, Body Mass Index

HN-01190273_Impacts of Dietary Patterns on Dietary Inflammatory Indices and Systematic Inflammation in Obese Cases.

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Introduction: The dietary inflammatory index (DII®) is a novel scoring algorithm that provides an estimate of inflammatory potential of diet based on overall inflammatory properties of dietary constituents. In general inflammation is considered a key mechanism leading to obesity. Few studies have examined the contribution of major dietary patterns to inflammatory potential of diet. The present study aimed to examine the associations of different dietary patterns with dietary inflammatory index (DII), systemic inflammation,) in the apparently healthy obese.
Methods: In this cross-sectional study, 151 abdominally obese subjects were recruited in the Northwest of Iran. Basic dietary intake, anthropometric indices, and physical activity (PA) were assessed. DII scores were calculated based on dietary intake, using a validated 168-item food frequency questionnaire (FFQ). Three dietary patterns were identified, using principal component analysis. Basal blood samples were collected to determine the biochemical parameters. Linear regression test with adjusted beta estimates was applied for data analysis.
Results: Three dietary patterns were identified as Healthy, Western, and Traditional. Body mass index (BMI) ($p<0.01$) and fat mass ($p<0.001$) were positively associated with Western dietary pattern. Conversely, serum lipopolysaccharide binding protein (LBP) (b=-0.18, $p<0.04$) was negatively associated with Healthy dietary pattern, after controlling for confounders. A dietary pattern labeled as Traditional pattern was found to be negatively related to DII (b=-0.37, $p<0.001$).
Conclusion: The results suggested that Western dietary pattern was related to higher BMI and Fat mass. Healthy pattern was associated with decreased levels of LBP. Adherence to Traditional dietary pattern was negatively related to DII.
Keywords: Dietary Inflammatory Index; abdominal obesity; adipokine; Chemerin; Omentin; endotoxin; dietary pattern.

HN-01210150_Celiac Disease and Its Effect on The Incidence of Arthritis Rheumatoid

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Introduction: Autoimmune diseases such as gluten-sensitive enteropathy (celiac) trigger the immune response by identifying native antigens as foreign agents and producing antibodies. Gluten (a protein found in wheat, barley, oats, and rye) triggers immune system to produce inflammatory cytokines in the gastrointestinal tract. It causes inflammation and destroys epithelial cells especially villi, so disrupts absorption, causes symptoms such as diarrhea, pain, and abdominal cramps.
Methods: We searched documents from PubMed-Medline, Web of Science, and Cochrane Library.
Results: In studies of patients suffering from both conditions simultaneously, gluten-free diet was recommended, and patients initially felt better in the gastrointestinal tract then in their joints. Inflammation and dryness in their hands and knees significantly decreased.
Conclusion: We indicated the important role the gut plays in the pathogenesis of autoimmune disorders including arthritis rheumatoid. The intestinal permeability exposed the patient to exogenous antigens which could have been the initial trigger of an autoimmune response in the joints in a genetically susceptible patient. However, this clinical case is very controversial among researchers.
Keywords: Arthritis Rheumatoid, Autoimmune, Celiac, Gluten.

HN-01270116_Protein and Carbohydrate Distribution among Meals: Effect on Quality of Life, Sleep Quality, Inflammation and Oxidative Stress in Patients with Type 2 Diabetes

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Introduction: Patients with diabetes have a lower quality of life and sleep quality compared with healthy individuals. Nutrition therapy may improve inflammation and quality of life in patients with diabetes. The present study aimed to evaluate the effect of high protein versus high carbohydrate intake at evening meal on inflammation, oxidative stress, and quality of life and sleep quality in subjects with type 2 diabetes.

Methods: This is a single-blinded, parallel, randomized controlled trial. 96 adult patients with type 2 diabetes, were randomly assigned into one of these three groups: Standard evening meal (ST), High carbohydrate evening meal (HC), and High protein evening meal (HP). Participants were followed for 10 weeks.

Results: Sleep quality improved significantly in all groups ($P < 0.05$). Quality of life and hs-CRP improved in all groups except for the HP group. Malondialdehyde concentration did change throughout the study.

Conclusion: A balanced diet, regardless of the pattern of macronutrient distribution among meals, may improve sleep quality in patients with type 2 diabetes. In addition, a diet with an even distribution of macronutrients among meals or with the concentration of carbohydrates at the evening, may improve quality of life and inflammation in patients with type 2 diabetes.

Keywords: Inflammation; Macronutrients; Oxidative stress; Quality of life; Sleep quality; Type 2 diabetes

HN-01290185_Evaluation the total bacterial level of tube feeding in Mashhad hospitals

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INTRODUCTION: Microbial contamination of enteral feeding can result in a risk of worsening of the clinical condition of the patients, who are already weakened and susceptible to pathogens and severe infections, especially in immune suppressed ones. The aim of this study was to evaluate the total bacterial count of handmade blenderized enteral feedings in four hospitals settings in Mashhad, Iran.

METHODS: In a cross sectional study, 24 noncommercial enteral feedings (NCED) were collected immediately after preparation and then homogenized and serially diluted on the same day. The samples were analyzed in laboratory to assess their total bacterial count.

RESULTS: The results were compared with standard limits. 50% of samples in two hospitals had a total viable count lower than 10^4 colony forming units (CFU)/g (FDA standard) and in two other hospital samples, total bacterial count was same with colony forming unit (10^4).

CONCLUSIONS: The results indicate that the sanitary quality of the enteral handmade diets is almost satisfactory, but implementation of hygienic practices and monitoring procedures during preparation and administration can be suggested.

KEYWORDS: Enteral nutrition; Enteral tube feeding; Enteral diet; Food contamination.

HN-01400083_Ketogenic Diet and Obesity: A Systematic Review

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Introduction: Obesity is a main risk factor for a number of cardiovascular and metabolic disorders such as dyslipidemia, diabetes, hypertension and also certain types of cancers (1). Different methods for reducing weight using diminished calorie and fat intake combined with exersice have lost to demonstrate sustained long-term effects (2-4). One of the most studied strategies in the recent years for weight reduction is the ketogenic diet, diet high in fat and low in carbohydrate (5). This systematic review will evaluate the recent scientific literature on the efficacy of the ketogenic diet promoting weight loss.

Methods: Pubmed, Scopus and Google scholar databases were searched using relevant keywords.

Results: The evidence reviewed in this article illustrated that a period of low carbohydrate ketogenic diet may help to control hunger and may promote fat oxidative metabolism and thus decrease body weight. In addition new kinds of ketogenic diets using meals that imitate carbohydrate rich foods could better the admission of the diet (6). Attention should be paied to renal function of patients and the transition phase from ketogenic diet to a normal diet that should be step-by-step and well controlled (7). The course of ketogenic diet may range from 2-3 weeks to 6-12 months that the first period induce the physiological ketosis and the later follow a general precautionary principle (8).

Conclusion: In summary ketogenic diet can be a helpful tool to target obesity and is safe to use for a longer period of time than previously exhibited.

Keywords: ketogenic diet; obesity; metabolism; systematic review

HN-01440123_Effect of synbiotic supplementation on energy and protein homeostasis in critically ill patients

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Introduction: Dysbiosis in critically ill patients may make them prone to energy and macronutrients homeostasis disturbance. The aim of this study was to evaluate the effect of synbiotic supplementation on energy and protein homeostasis in critically ill patients.

Methods: In this double-blind randomized controlled trial, critically ill adult patients who were starting enteral nutrition with hospital formula via nasogastric tube, were randomized to receive Lactocare (ZistTakhmir) or an identical placebo capsule two twice a day for a maximum of 14 days (20 subjects in each group). Daily, enteral feed volume, energy and protein intakes were recorded. 24-hour urine was collected to measure nitrogen balance before and after the intervention. Data were analyzed via SPSS statistical software. Statistical significance was set at $p< 0.05$.

Results: Thirty-eight patients (mean age 42.82 years) completed at least four days of intervention (mean 10.29 days). At baseline, both groups were similar regarding age, disease severity and nutritional risk. In the synbiotic group enteral feed volume, energy and protein intake significantly increased in day 4 (962.5 ± 533.82 ml, 770 ± 427.05 Kcal and 38.5 ± 21.35 gr, respectively) compared to day 1 (590 ± 321.1 ml, 472 ± 256.81 Kcal and 23.6 ± 12.84 gr respectively, P value< 0.01). Although, there was no significant change in the control group comparing day 1 with 4. At the end of the intervention, no significant difference was found in total feed volume, energy and protein intake and nitrogen balance between two groups.

Conclusion: Gut microbiota modulation through synbiotics has no statistically significant effect on energy and protein homeostasis.

Keywords: critical care, energy, gut microbiota, synbiotics

01440125_Does Synbiotic Supplementation Improve Clinical Outcomes in Critically Ill Patients?HN-

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Introduction: Critical illness is characterized by loss of commensal flora and overgrowth of potentially pathogenic bacteria. Gut microbiota modulation through synbiotics may restore balance and have positive effects on the function of immune system, gastrointestinal and other organs. The purpose of this study was to evaluate the effect of synbiotic supplementation in critically ill patients on clinical outcomes.

Methods: Critically ill patients receiving enteral nutrition therapy were included in this randomized controlled study. Patients receiving Lactocare (ZistTakhmir) capsule twice a day for a maximum of 14 days were compared with the identical placebo receiving group (20 subjects in each group). The Acute Physiology and Chronic Health (APACHE-Π) and Sequential Organ Failure Assessment (SOFA) scores were recorded on days 1, 7 and 14. Length of stay (LOS) in hospital and intensive care unit (ICU) and 28-day mortality were also recorded. Data were analyzed via SPSS statistical software. Statistical significance was set at p< 0.05.

Results: Overall, 38 patients (mean age 42.82 years) completed at least four days of intervention (mean 10.29 days). On day 7, APACHE-Π and SOFA scores were significantly lower in the synbiotic group (18.90±5.36 vs. 19.81±3.40; p= 0.02 and 7.1±2.37 vs. 8.27±2.53; p= 0.03, respectively), while on day 1 and 14 no significant difference was observed. ICU and hospital LOS, and 28-day mortality were similar in both groups.

Conclusion: Synbiotic supplementation can reduce the level of acuity and mortality risk through the first week of intervention but it has no effect on stay duration or 28-day mortality.

Keywords: critical care, length of stay, mortality, synbiotics

HN-01450097_Calorie intake and liver function in Neurosurgical Patients at the Intensive Care Unit: A randomized clinical trial

Yahya Pasdar

Introduction: Acute Liver failure in critically ill patients (ICU) is associated with high mortality. The aim of this study was to evaluate whether hypocaloric in ICU in the first 7 days of hospitalization could be improved liver function.

Methods: This randomized clinical trial was conducted on 560 patients who were admitted to trauma, stroke, and neurosurgery ICUs, and at the end 58 patients were analyzed. Patients in the full calorie group, who had started with 75% of their daily energy expenditure, reached the peak daily energy requirement of 90-100% within 48-72 hours of ICU admission. Patients in the hypocaloric group, enteral feeding started with 30% of the daily energy requirement and reached to 75% within a week. Blood samples were collected from patients at baseline and day 7 of the admission.

Results: Mean plasma AST enzyme decreased in the hypocaloric group during the first week of intervention (65.33±75.89 to 57.62±30.98, P=0.594). Mean of serum ALT enzyme levels in the full caloric group showed a significant increase (42.54±25.42 to 90.90±56.02؛ P=0.001) during the first week. No significant difference was observed in serum lipids profiles (triglycerides, total cholesterol, LDL and HDL; P>0.05) and serum electrolytes between the two groups after a week. Blood glucose was significantly decreased in the hypocaloric group in the first week of admission (161.52±47.95 to 118.57±28.01 ؛ P=0.002) but in the second of week decreased (P=0.005).

Conclusion: Nutritional support for Neurosurgical ICU with a gradual increase in energy over a 7-day period led to better liver factors.

HN-01490080_Polycystic Ovary Syndrome and Dietary Patterns in Iran: A Review Study

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Introduction: Polycystic Ovary Syndrome (PCOs) is one of the most common metabolic and endocrine abnormalities among women in reproductive age. In the case of not comprehensive treatment, PCOs can lead to hormonal, metabolic, and fertility disorders. The exact cause of PCOs is still unclear. This disease seems to have a genetic Introductioncaused by the interference of several key genes with the environmental factors such as dietary habit and food intake, which play an important role in prevention and treatment of this syndrome.

Methods: We searched Scopus, PubMed, SID, and Magiran data bases to find the studies conducted in Iran on dietary patterns, dietary intake, food intake, and PCOs published in English.

Results: The findings showed that decrease of weight and fat intake from total calorie (especially saturated fat and cholesterol), increase of physical activity and intake of dietary fibers can improve this syndrome. Furthermore, DASH diet, increase of the protein/carbohydrate ratio in the diet, the low-calorie diets, or iso-caloric diets with a low glycemic index can also be useful in this regard.

Discussion: In recent studies, the effects of some healthy diets were studied on PCOs women. A few of these studies were about finding appropriate dietary patterns for PCOs patients, but their number was limited. So, further studies are needed in this regard.

Keywords: PCOs; Dietary pattern; DASH diet; Oxidative stress; visceral adiposity.

HN-01500280_Route and Type of Nutrition in Intensive Care Units of Imam Reza Teaching Hospital of Mashhad: 2019 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 in all hospitalized patients in different intensive care units (ICU) and Coronary care units (CCU) of Imam Reza teaching hospital on Nov 7th, 2019.

Results: Overall 109 inpatients (51 M: 58 F; mean age of 57.9±14.3 years) hospitalized in ICUs or CCUs were evaluated in this study. 56.8% of them had oral nutrition intake, 24.1% were received enteral nutrition and 19.1% were NPO. The highest percentages of enteral nutrition intake were reported in surgical ICU (100%) and ICU-A (72.8%). The mean duration of enteral nutrition was 7 days and the highest duration (10 days) was reported in ICU-C. All patients in CCU-A and CCU-C had oral nutrition intake. 41.5% of oral patients received half of the hospital food portion size and 26.4% of them had all of it.

Conclusions: The overall prevalence of oral, enteral nutrition and NPO in the ICUs and CCUs of hospital was 56.8%, 24.1% and 19.1% respectively. This was the first study to evaluate hospitalized patients 'nutritional status in ICUs and CCUs of Imam Reza hospital. The results could be evidence for clinical nutrition support.

Keywords: Oral nutrition, Enteral nutrition, Coronary care unit, Intensive care unit

HN-01500281_Outcome Study in Intensive Care Units of Imam Reza Teaching Hospital of Mashhad: 2019 Audit

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Introduction: This study aimed to describe outcome and length of ICU stay in intensive care units (ICU) and coronary care units (CCU) of Imam Reza teaching hospital.

Methods: This is a cross sectional study that was conducted in all admitted patients in different ICUs and CCUs of Imam Reza teaching hospital on Nov 7th, 2019. Subjects were followed two months later for length of ICU and CCU stay, also mortality. Illness severity at ICU or CCU admission was evaluated by Sequential [Sepsis-related] Organ Failure Assessment (SOFA) score as a means of identifying sepsis among patients who are critically ill with suspected infection.

Results: Generally, 109 inpatients (51 M: 58 F; mean age of 57.9±14.3 years) hospitalized in ICUs or CCUs were evaluated in this study. The mean SOFA score at admission was reported 5.1 ± 2.2 which the highest belong to ICU-D (8 ± 3). The highest mortality rate was 72.8% in ICU-A in two months follow up study in while average of mortality rate was 28.5%. The overall length of ICU stay was longer than the CCU units (36 vs 16.5 days) and average of 20.5 days. The highest length of stay was reported in ICU-C (52 days).

Conclusions: This is the first study that evaluate outcome of hospitalized patients including length of ICU stay and mortality in all ICUs and CCUs of Imam Reza hospital. The results could be evidence for nutritional support.

Keywords: SOFA score, length of stay, Coronary care unit, Intensive care unit

HN-01500282_Patient Satisfaction with Hospital Food in Imam Reza Teaching Hospital of Mashhad: 2019 Audit

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Introduction: This study was conducted to evaluate prevalence of nutritional screening at admission and patient satisfaction with hospital food in Imam Reza teaching hospital.

Methods: this is a cross sectional study that was conducted in different units of Imam Reza teaching hospital (except ICUs) on Nov 7th, 2019, using standardized questionnaires.

Results: 378 inpatients (184 M: 194 F; mean age of 48.9±15.8 years) evaluated in this audit. This study showed that 37.02% of patients were weighed at hospital admission and 10.32% of them were evaluated nutritionally. Although 31.73% of patients were satisfied and very satisfied with hospital food, the other22.41% of them were dissatisfied and very dissatisfied with it. 9.57% of patients reported that their food intake has increased compared to pre-hospitalization, but other 55.66% of them have decreased intake. 24.93% of patients ate all hospital food portion size. 57.93% of them have reported that hospital food provides the amount of food that they need. 19.14% of patients didn't use hospital food because of the type and taste of it. 19.64% of them had lost their appetite, 2.26% had difficulty to chew and 5.28% of them suffer from nausea and vomiting. 30.98% Hospitalized patients use foods other than hospital food and 12.84% of them have reported do not use hospital food at all.

Conclusions: This was the first study to obtain data from all hospitalized patients satisfaction with hospital food in Imam Reza hospital. The valuable results could supply evidence to improve nutritional screening and patient satisfaction.

HN-01510085_The Effects of Coenzyme Q10 Supplementation on Anthropometric Indices in Adults: A Systematic Review and Meta-Analysis of Randomized Controlled Trial

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Introduction: Previous studies have led to conflicting results regarding the effect of coenzyme Q10 (CoQ10) supplementation on anthropometric indices. This study aimed to evaluate the efficacy of CoQ10 supplementation on body weight, body mass index (BMI) and waist circumference (WC) through a systematic review and meta-analysis of randomized controlled trials (RCTs).

Methods: PubMed, Scopus, Web of Science, Cochrane Library and Google scholar, as well as the reference lists of the identified relevant RCTs, were searched up to March 2019, weighted mean differences (WMDs) were pooled by using the random effects model.

Results: Twenty RCTs (976 participants) were eligible to be included in the systematic review. The meta-analysis revealed that CoQ10 supplementation had no effect on body weight (WMD= -0.04 kg; 95% confidence interval [CI]: -1.96, 1.6), BMI (WMD= -0.06 kg/m2; 95% CI: -0.54, 0.42) and WC (WMD= 0.79 cm; 95% CI: -2.83, 0.04), with no significant between-study heterogeneity.

Conclusion: CoQ10 supplementation might not improve anthropometric indices. Future well-designed trials are still needed to confirm these results

Keywords: Coenzyme Q10, Body weight, BMI, Waist circumference, Meta-analysis

HN-1530087_Effects of Pro-/Synbiotic Supplementation on Anthropometric and Metabolic Indices in Overweight or Obese Children and Adolescents: A Systematic Review and Meta-Analysis

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Introduction: Existing evidence on the possible effects of pro-/synbiotics on overweight or obese children and adolescents has not been fully established. Therefore, the present review was undertaken to evaluate the overall effects of pro-/synbiotics supplementation on anthropometric indices and metabolic indices in overweight or obese children and adolescents.
Methods: A systematic computerized literature search of PubMed, Scopus, ISI Web of science and Google Scholar databases was conducted up to November 2018. All RCTs using pro-/synbiotics supplements in overweight or obese children and adolescents included in this systematic review and meta-analysis.
Results: Overall 9 randomized trials including 410 subjects were identified for the present meta-analysis. Pooled analysis did not illustrate any significant changes in BMI z-score, waist circumference, weight, body fat, fasting blood sugar and lipid profiles (triglyceride, total cholesterol, high-density lipoprotein cholesterol, and lowdensity lipoprotein cholesterol) after supplementation with pro-/synbiotics for 4–16 weeks. However, subgroup analysis by intervention type revealed a significant reduction of BMI z-score in synbiotic subgroups.
Conclusion: Based on our findings, modulation of gut microbiota composition through pro-/synbiotic supplements did not have favorable effects to manage overweight or obese children and adolescents. Further largescale studies are warranted to confirm present findings.
Keywords: Synbiotic, Probiotic, Obesity, Children, Meta-analysis

HN-01550088_The effects of acupuncture on glutathione system in overweight and obese individuals

Farnaz Zahedi Aval

Introduction: Obesity is the fifth leading cause of death in the world. It causes oxidative stress through a variety of mechanisms, and in turn oxidative stress leads to problems such as cancer, metabolic syndrome, diabetes, and cardiovascular diseases. Among several treatment methods for obesity, acupuncture is also a popular complementary treatment widely used. In this study, we investigated the effect of acupuncture on the glutathione system, as the most abundant intracellular antioxidant, in obese and overweight patients.
Methods: This study conducted on 40 randomly selected obese or overweight cases (BMI ≥24.9). Subjects received authentic acupuncture (cases) or sham acupuncture (controls) for 6 weeks in combination with a low-calorie diet. Before and after treatment the activity of glutathione peroxidase (GPX) and glutathione reductase (GR) enzymes, as well as the concentration of reduced glutathione (GSH) and oxidized glutathione (GSSG) were measured.
Results: Data showed that after treatment Glutathione peroxidase activity is increased in both groups, this increase was significantly higher in the intervention group than the control group (P=0.005). Also, the concentration of reduced glutathione increased in each group and the rate of increase in the case group was significantly higher than control (P=0.02). The ratio of GSH/GSSG also increased in both groups, which was significantly higher in the intervention group than in the control group (P=0.02).
Conclusion: Applying acupuncture in addition to standard obesity diet may increase the antioxidant activity in overweight subjects. It may also be effective in reducing oxidative damage by increasing the concentration of reduced glutathione and regulate the ratio of GSH/GSSG.

HN-01560098_A review in role of microbial quality of enteral feeding on diarrhea prevalence in ICU patients

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Enteral tube feeding (ETF) is the ideal technique of nutrition support for patients who cannot orally meet their nutritional requests and energy. Patients in the intensive care unit (ICU), usually receive ETF during their stay, but ETF method is not without difficulties. One of the ETF problems is diarrhea, with reported prevalence between 2% to 68%. Diarrhea is defined as an increase in stool rate of at least ≥ 3 formless stools every day above baseline. Diarrhea in seriously ill patients can have upper occurrence up to 95%. ETF is increasingly used in hospitals because of its suitability, helpfulness, safety and conformity to physiological styles. Studies have revealed that enteral feeding reduces in flowing of toxins from the intestinal tract to the circulation, keeps the integrity of gastrointestinal mucosa so decreases the prevalence of organ dysfunction and sepsis caused by pathogen bacterias such as E.coli and clostridium difficile, and is related with a reduced time of stay in the hospital and reduced mortality. Diarrhea can expose menace to the life such as bacterial infection and intestinal ischemia, representing 4%–5% of the cases. Different formulations of ETF can decrease the occurrence of diarrhea. As showed by researches, the supplementation of fiber in the ETF increases epithelial cells regeneration and the absorption of electrolytes in the colon, reduces the gastric emptying rate then decreases the incidence of diarrhea. Findings suggest that diarrhea in ETF patients is associated with many risk factors and varies between seriously ill patients.
Keywords: Diarrhea, enteral nutrition, ICU, bacterial contamination

HN-01560099_Evaluation of Antibiotic Resistance of Escherichia Coli Strains Isolated from ICU Enteral Nutrition

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The widespread use of antimicrobial agents and lack of infection control procedures, is the main cause of the current antimicrobial resistance in human pathogens. The use of antimicrobials in food animal production also influences, because resistance genes can spread from animals to humans by food chain, so If the environment of hospital has been infected, hospitalized patients are at a high risk of this dangerous infection because of their weak immune system, so that is a sever risk for their health. Our aim was to explore the antibiotic resistance of Escherichia coli strains isolated from enteral feedings. 40 samples of enteral feedings were collected from Tabriz Imam Reza hospital. Samples were diluted from 10-1 to 10-6 and were cultured on MacConkey agar by pour plate method and incubated in 37 C° for 48 hours. Typical colonies randomly selected and streaked onto blood agar medium.13 samples were positive for E.coli. The minimum inhibitory concentration (MIC) test was used to find the resistance level for 4 antibiotics. Isolates were resistant to Amoxicillin 26%, Tetracycline 23%, Chloramphenicol 23% and Ceftriaxone 7%. Monitoring of antibiotic-resistance patterns and preparation of reliable strategies may lead to enhanced results for inhibition and control of E. coli infections in patients receiving enteral feeding.
Keywords: antibiotic- resistance, Escherichia coli, enteral feeding, ICU

HN-01570096_Hypocaloric versus Full Caloric Enteral Feeding in Neurosurgical Patients at the Intensive Care Unit Patients; a Randomized Controlled Trial

Zeinab Mousavian

Introduction: There are controversies regarding the optimal amount of calories for the reduction of morbidity and mortality in neurosurgical patients at the ICU. The aim of this study to compare clinical outcomes in hypocaloric vs. full caloric enteral feeding during the first week of hospitalization in neurosurgical patients at the intensive care unit.
Methods: This randomized clinical trial was conducted on 560 patients who were admitted to trauma, stroke, and neurosurgery ICUs, at the end 68 patients were randomly divided into two groups, that the full caloric group, enteral feeding started at 75% of their daily energy expenditure and the hypocaloric group with 30% of caloric goal, and reached 75% of the target calories

within seven days of the intervention. Both groups received 75%-100% of the daily energy requirement in the second week of hospitalization.

Results: The incidence of severe gastrointestinal intolerance was relatively high in the full caloric group (P<0.001). Duration of mechanical ventilation and length of hospital stay were lower in the hypocaloric group compared to the full caloric group (P=0.014 and P=0.046, respectively). No significant differences were denoted in the length of ICU admission (P=0.163), 28-day mortality (P=0.640), and pneumonia (P=0.162) between the study groups.

Conclusion: In the neurocritical care unit, hypocaloric enteral feeding may be being associated with faster recovery process, with shorter duration of ventilator dependence and length of hospital stay.

HN-01650111_Impact of Clinical Factors on Calorie and Protein Intakes During ICU Stay in Adults Trauma Patients: Results from a Prospective Observational Study

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Introduction: Nutritional requirements are often escalated following major trauma. Underfeeding and adverse outcomes were seen in critically ill trauma patients. The aim of this study was to quantify actual amount of calories and protein intakes, and extent to which those clinical factors may affect adequate intake.

Methods: An observational study carried out in a medical intensive care unit (ICU) of Tabriz University of medical science during April 2017 and December 2018. A total of 85 adult trauma patients with a 7 days ICU length of stay who received enteral nutrition (EN) were included. The estimated and actual intake of energy and protein, severity of illness (i.e., Acute Physiology and Chronic Health Evaluation II (APACHE II), The Glasgow Coma Scale (GCS) and markers of nutritional status (i.e., serum albumin level and body mass index) were recorded.

Results: Sixty-six patients (77%) were underfed in terms of energy and 19 patients (23%) had adequate energy intake. 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 inverse association between some clinically important factors (APACHE II score, intubation time) and mean energy intake. Nutritional support was not associated with any complications.

Keywords: Multiple trauma, Critical illness, Nutritional support, Caloric requirement, Protein requirement, Observational study

HN-01630108_Are blenderized formulas of enteral feeds is safe in hospitals?

Reza Abedi

Introduction: Blenderized formula is a mixture of food and liquid that using as a care of patients who are unable to eat. A potential complication of blenderized feeding is microbial contamination of the solution which can cause increases in the risk of nosocomial infections such as diarrhea, pneumonia, and septicemia. Thus, we conducted a review of the existing evidence on the amounting of contamination in blenderized formulas.

Methods: a literature search was conducted in Pubmed, Scopus, and Web of science up to October 2019 for studies that investigated the amounting of contamination in blenderized feeding. Of the 1142 retrieved articles, 12 relevant studies included. Most of the studies showed higher bacterial contamination in blenderized formulas, likely due to the use of food products such as meat, fresh fruits, vegetables, and eggs. There is highly severe methodological heterogeneity, which makes it difficult for consistent results.

Conclusion: The results of the present study indicate that the microbial safety of enteral

feeding solutions in this hospital is much lower than standard values, demonstrating that the development of protocols for clean techniques in the preparation, handling, and storage of both commercial and handmade enteral feeds is necessary.

HN-01640136_Evaluating nutrition related mobile applications

Javad Zarei

Introduction: Mobile apps play an important role in people's nutritional beliefs. The high usage of smartphones in In Iran has resulted in the development of various nutrition apps. The aim of this study was to Survey the content and features of Persian nutrition mobile apps.
Methods: This was an applied study conducted in 2019. This study surveyed and compared content, features (speed, resolution, navigation, search, updates, social media networking capabilities, cost, ability to work offline and add free) of Persian nutrition mobile apps. First, Persian nutrition apps were identified by search in Google play (store), Cafe Bazaar (Iranian Android marketplace), App Store (Apple), and other mobile app download websites. Second, each app was downloaded and installed on three smartphons. Then three experts evaluated the content, features and usability of the apps using a checklist. Data were analyzed with SPSS version 22.
Results: A total of 112 Persian nutrition apps were identified. Most apps were on Android platform (86%) and free to download (76%). Apps were categorized into nine categories based on the content; good nutrition, nutrition and diet therapy, nutrition for kids, pregnancy diet & nutrition, bodybuilding and fitness diet & nutrition, diabetes diet, nutritional recommendations for cardiovascular disease, diet and food in Iranian traditional medicine. The content of some apps, including traditional medicine diet and foods or bodybuilding supplements, were inconsistent with scientific sources. In some apps, uncredible sources were mentioned. Thirty-eight percent of apps were not updated since their first release, 99% were able to work offline and 33% had weak features including search and navigation.
Conclusions: Persian nutrition apps had some drawbacks including outdated sources. It is recommended that the Ministry of Health and Medical Education monitor the content of nutrition apps.

HN-01700119_Investigating The Relationship between Hypertension and Regular Consumption of Vitamin D

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Introduction: Hypertension (HTN) or high blood pressure is one of the deadliest and most chronic disorders in the world. Although some examinations have demonstrated an indirect relationship between 25-hydroxyvitamin D serum level and blood pressure, there have been new exchanges of views with respect to the role of low vitamin D levels in hypertension. This study aims to find out the relationship between hypertension and regular consumption of vitamin D using secondary data (SINA system).
Method and material: A case-control study was carried out on secondary data (SINA system) among people, aged 30 years old or older, registered in 2017-2018. A sample size of 1,500 patients was used comprising of 500 patients with hypertension as the case group and 1,000 people without history of hypertension as the control group. The population was selected randomly. High blood pressure diagnostic criteria were considered in accordance with the clinical guidelines of the 7th National Joint Committee. Data were analyzed using SPSS 22 software.
Results: Regular consumption of vitamin D was found out to be a protective factor for hypertension with a significant level (P value <0.05) and [OR= 0.421 (0.353- 0.505)].
Conclusion: By identifying hypertension risk factors, taking measures to prevent it would be more practical and the risk of hypertension can be reduced. A large body of epidemiological and experimental evidence suggests that vitamin D deficiency may promote hypertension. This investigation proves that vitamin D supplementation could be a simple intervention

to reduce the risk of progression of increased blood pressure due to its protective effect on blood pressure.

Keywords: hypertension, vitamin D, risk factor

HN-01700120_The Effect of Combination Therapy of Cryolipolysis and Ultrasound Cavitation as A Non-Invasive Selective Intervention on Fat Reduction

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BACKGROUND: Fat removal and body reshaping are increasingly popular in cosmetic procedures. Considering the invasive nature of liposuction and its inherent risks, there has been ongoing research for the development of non-invasive methods. The purpose of this study was to evaluate the efficacy of non-invasive combination therapy with Cryolipolysis and ultrasound on localized abdominal fat.

Methods: There were 90 female participants aged 18-65-years-old who were eligible for inculsion criteria. They enrolled in one of three groups of 30 individuals in an 8 weeks duration. These three groups comprised; first receiving diet alone (control group) (group 1), Cryolipolysis and diet (group 2), and Cryolipolysis, ultrasound cavitation and diet(group3). The variables that were measured before, during and after the interventions included: total body weight, body fat mass, fat-free mass, abdomen circumference, and body mass index.

Results: There were significant reductions within each group in all variables(P<0.01). Combination therapy improved weight, body fat mass, BMI and abdomen circumference significantly as a comparison to the control group(P<0.01).Fat-free mass was not decreased significantly in the combination therapy group in comparison to other groups(P=0.66). No significant difference was found between combination and cryo groups.

Conclusion: Treatment by diet and cryolipolysis with ultrasound cavitation combination is no more effective in improving the indices of anthropometric than Cryolipolysis and diet alone.

Keywords: Body contouring, ultrasound cavitation, ultrasonic cavitation, HIFU, high-intensity focused ultrasound, Cryolipolysis, combination therapy, Fat reduction, Adipose tissue, Body sculpting

HN-01740124_Effect of probiotics and synbiotics on selected anthropometric and biochemical measures in women with polycystic ovary syndrome: A systematic review and meta-analysis

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Introduction: This study aimed to systematically review randomized clinical trials (RCTs) to clarify the effects of pro-/synbiotic supplementation on anthropometric and biochemical measurements in women with polycystic ovary syndrome (PCOS).

Methods: PubMed, Scopus, ISI Web of Science, Cochrane Library, and Google Scholar were searched through September 2018. Eight RCTs (nine treatment arms) were included.

Results: Pro-/synbiotic supplementation significantly reduced fasting blood sugar (−2.52 mg/dl, 95% confidence interval (CI): −4.10 to −0.95), insulin (−2.27 µIU/mL, 95% CI: −3.40 to −1.14), homeostasis model assessment for insulin resistance index (−0.69, 95% CI: −0.98 to −0.40), C-reactive protein (−1.69 Hedges', 95% CI: −3.00 to −0.38), and total testosterone (−0.12 ng/mL, 95% CI: −0.17 to −0.08) in women with PCOS.

Conclusion: However, changes in the mean difference of weight and body mass index did not reach a statistically significant level. The findings suggest that pro-/synbiotic supplementation may improve glucose homeostasis parameters, hormonal, and inflammatory indices in women with PCOS.

Keywords: probiotics, meta-analysis, synbiotics, systematic review, polycystic ovary syndrome

HN-01740127_Effect of Nigella sativa (black seed) supplementation on glycemic control: A systematic review and meta-analysis

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Introduction: This study was aimed to quantify the anti-hyperglycemic effect of Nigella sativa (N. sativa).

Methods: An in-depth search to identify clinical trials investigating the impact of N. sativa on glycemic indices via MEDLINE, EMBASE, Scopus, Web of Science, Cochrane Library, and Google scholar databases were performed up to November 2018. We used a random effects model to estimate pooled effect size of fasting plasma glucose (FPG), postprandial blood glucose (PPBG), and hemoglobin A1c (HbA1c). A total of 17 randomized controlled trials investigating the effects of N. sativa on FPG, PPBG, and HbA1c were included.

Results: Meta-analysis suggested a significant association between N. sativa supplementation and reduction in FPG (weighted mean difference [WMD]: −9.93 mg/dl, 95% CI [−13.44, −6.41]), PPBG (WMD: −14.79 mg/dl, 95% CI [−24.19, −5.39]), and HbA1c (WMD: −0.57%, 95% CI [−0.77, −0.37]). Subgroup analysis revealed that N. sativa oil was more effective than N. sativa powder in reduction of FPG. To sum up, N. sativa consumption has a significant lowering effect on glycemic status.

Conclusion: Further studies with prolonged durations and powerful design are needed to specify the exact mechanism, optimal dosage, and duration of N. sativa supplementation to obtain a beneficial effect on glycemic status.

Keywords: fasting blood sugar, glycemic control, meta-analysis,Nigella sativa

HN-01750129_Nutritional Risk Assessment in Critically Ill Patients

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Introduction: Malnutrition is common in hospitalized patients specifically in critical illness and is associated with adverse clinical outcome such as prolonged length of ICU stays, decreased ventilator free days, increased morbidity and mortality. Therefore, early identification of malnutrition in these group, leads to improve clinical outcomes. This prospective observational study was conducted to identify nutritional risk in ICU patients using modified Nutric score that is the first nutritional risk assessment tool in critically ill patients.

Methods: About 46 critically ill patients enrolled within 24 hours from their admission from three ICUs of 3 tertiary Hospitals in Tehran. A nurse, a nutritionist and an intensivist obtained data from patient's medical records and calculated Nutric score. Demographic (age, sex), anthropometric data (MAC) and clinical outcome (mechanical ventilation days, enteral and parenteral days, length of ICU stay and mortality) was collected. Data analysis using SPSS version 25 software and the significance level of the test of 0.05 = α was considered.

Results: The mean age of patients was 57.7±18.7 years and 29(%63) patients were male. The prevalence of malnutrition in 3 hospitals was 43.8, 33.3 and 53.3, respectively. In general, % 43.5 of patients were at high nutritional risk. Patients with Nutric score ≥5 had longer mean ICU average length of stay (4.5 versus 2.6) and mortality (%70 versus %15.4) (P<0.05). High mNUTRIC score (≥5) predicted mortality with area under the curve of 0.82 (95% confidence interval 0.68–0.93).

Conclusion: Based on the findings, about 43.5% patients in ICUs have high nutritional risk with Nutric Score and was associated with increased ICU length of stay, mechanical ventilations and higher mortality.

Keywords: prevalence, malnutrition, Nutric Score, intensive care unit, ICU

HN-01760130_Effects of N-Acetylcysteine Supplementation on Anthropometric Assessments in Patients with Multiple Sclerosis: A Double-Blind Randomized Controlled Trial

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Introduction: The current study was designed to determine the effects of N-Acetylcysteine (NAC) supplementation on the anthropometric indices in patients with multiple sclerosis (MS).

Methods: This randomized double-blind placebo-controlled clinical trial was conducted on 54 MS patients. Participants were randomly assigned to NAC (n=27) or placebo (n=27) groups. Patients in the NAC group received a daily dose of 1200 mg NAC (two 600mg effervescent tablets a day), dissolved in a glass of water for 2 months, and the control group received placebo tablets for the same period. Body Mass Index (BMI), weight and waist circumference were recorded before and 2 months after the intervention.

Results: After 8 weeks of intervention, NAC supplementation resulted in no significant change in weight (0.38±1.51 vs. 0.33 ±1.38, P=0.9), BMI (0.18±0.56 vs. 0.13 ±0.47, P=0.7), and Waist circumference (0.14 ±0.85 vs. 0.00 ±1.09, P=0.6) compared with the placebo.

Conclusion: Overall, the results of this study indicated that NAC supplementation for 8 weeks had no effects on the anthropometric indices in patients with MS.

HN-01780137_Association of Severity of Disease and Adequate Intake of Protein and Calories in Critically Ill Patients at Imam Reza Hospital (2018), Mashhad, Iran

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Introduction: Malnutrition is a major problem in patients admitted to the intensive care unit (ICU). APACHE II score is the most acceptable scoring system of disease severity and predictor of mortality in ICU patients. The aim of this study was to find an association between severity of disease and amount of calorie and protein intake in critically ill patients.

Methods: We collected data from 70 patients. Severity of disease was calculated based on Acute Physiology and Chronic Health (APACHE) scoring system. We measured Energy and protein requirement. The required energy and protein values were compared with the provided values. Protein and caloric content of gavage solution was analyzed with Leen ion, Gerber and Kejeldal methods. Data were analyzed with paired sample t-test in SPSS version 25.

Results: Correlation of disease severity and difference between required and provided calorie was r= 0.336, P= 0.07 and with difference between required and provided protein was r=0.374, P=0.04. Discharged Patients had lower differences between received and required calorie compared to dead patients (-1100.8 212.2 vs. - 912.2± 29.5, P= 0.32). The results was somewhat similar for protein (-65.4 ±19.1 in discharged one vs. -54.5± 13 in dead patients, P= 0.54).

Conclusion: This study shows that there was a direct association between severity of disease according to APACHE II score and inadequate intake of calorie and protein.

Key words: Disease severity, Calorie, Protein, critically ill patient

HN-01790141_Dental and Dietary Considerations in Xerostomia Management

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Introduction: Xerostomia or dry mouth is usually caused by inadequate function of the salivary glands. A number of diseases such as Sjögren's syndrome and diabetes, and head and neck radiation therapy and Chemotherapy may induce dry mouth. The older people are at high risk to dry mouth, leading to high risk of dental carries, various oral infections and denture fitness complications. The present study aimed to review different aspects and control strategies of xerostomia.

Methods: Electronic literature search was carried out on xerostomia management from 2000-2018. The preventive strategies were presented.

Results: Management of dry mouth depends on its underlying cause. The doctor might either alter the dosage or prescribe another drug which is less likely to cause dry mouth, if the dry mouth is caused by a medication. Symptomatic

treatment typically includes four areas including stimulating saliva production, replacing lost secretions, controlling dental caries and some specific measures, such as treating infections. Sipping fluids (non-carbonated, sugarless), chewing xylitol-containing gum, and using a carboxymethyl-cellulose saliva substitute as a mouthwash may help to diminish the symptoms. Individuals with xerostomia should avoid sugary, spicy and excessively hot or cold foods and drinks. The patient should conduct routinely mouth examination. The patient should not wear dentures during sleep.

Conclusion: The physicians, dentists and health care personnel (HCP) should be aware of etiology, problems and various ways of managing xerostomia to reduce the symptoms and complications.

Keywords: Dry mouth, Diet, Management, Oral infection

HN-01800143_Dietary Patterns in Relation to Hepatic Fibrosis among Patients with Nonalcoholic Fatty Liver Disease

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Introduction: Nonalcoholic fatty liver disease (NAFLD) is a multifactorial disorder that can progress to fibrosis. Several dietary patterns have been associated with histological features of NAFLD. However, little is known about the association between dietary patterns and hepatic fibrosis. The current study aimed at identifying the relationship between major dietary patterns and hepatic fibrosis among patients with NAFLD.

Methods: This cross-sectional study included 170 eligible subjects with NAFLD. Diet was evaluated using three 3-day dietary records during a one-month period. Hepatic fibrosis was diagnosed using Fibroscan. Western, Iranian, and healthy dietary patterns were extracted using Factor Analysis.

Results: After adjustment for other risk factors, the high adherence to the western dietary pattern was associated with the higher odds of fibrosis (OR: 4.21; 95%CI: 1.63-8.31), whereas the high adherence to the healthy dietary pattern was associated with the lower odds of fibrosis (OR: 0.26; 95% CI: 0.10-0.49) than the lower adherence. Among main food groups, high intake of red meat, hydrogenated fats, and soft drinks had associated with the higher risk of fibrosis, whereas tea and coffee consumption had a protective role in hepatic fibrosis independent of other risk factors.

Conclusion: The adherence to a healthy dietary pattern characterized by high intake of low-fat dairies, white meat, nuts, vegetables, fruits, and vegetable oils combined with coffee and tea consumption might be helpful in the nutritional strategies against hepatic fibrosis.

HN-0180014_Protective Effects of Garlic Powder Consumption against Hepatic Steatosis among Nonalcoholic Fatty Liver Disease Patients: A Randomized Clinical Trial

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Introduction 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 (Allium sativum L.) 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, body fat mass, 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

HN-01800194_Protective Effects of Propolis Supplementation on Hepatic Steatosis and Fibrosis among Patients with Nonalcoholic Fatty Liver Disease: A Randomized Clinical Trial

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Introduction: Non-alcoholic 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. The current study aimed to evaluate the efficacy of propolis on NAFLD.

Methods: This randomized clinical trial was conducted on 54 patients with NAFLD. Patients with 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: The odds of improvement in the hepatic steatosis was significantly higher in the propolis group than the placebo group (5.84; 95% CI: 1.43 to 23.8; P=0.014), even after the adjustment for confounding factors. A significant reduction was observed on the liver stiffness in the propolis group (-0.65±0.56 kPa; P=0.001), whereas it increased in the placebo group (0.27± 0.59 kPa; P=0.037). Also, the intake of propolis significantly decreased hs-CRP levels compared with the placebo group (-0.37 mg/dL; P=0.01).

Conclusion: The intake of propolis has protective effects on hepatic steatosis and fibrosis and the risk of cardiovascular disease in patients with NAFLD.

Keywords: Non-alcoholic fatty liver disease, Steatosis, Fibrosis, Liver stiffness, Propolis

HN-01810169_Evaluation of Total Bacterial Count of Hospital Foods in One of the Educational Hospitals Mashhad, Iran

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Introduction: Infectious diseases among hospitals are a major healthcare problem in the world. Some of these infections are caused by ingestion of contaminated foods in the hospitals. Foodborne pathogens are the most important

cause of disease and death in developing countries. Food safety is essential for hospital kitchens because of the patients' sensitive condition and the large number of meals every day. The aim of this study was to evaluate the bacteriological quality of raw and cooked foods in aظ educational hospital in Mashhad.

Methods: A total of 30 samples of cooked (Soup, Mixed Rice with meat and vegetable, White Rice,Meat Kabab, Chicken Kabab, Meat Soup, Fried Fish, Fried Chicken) and raw foods(salad), collected in summer 2019 from one of the hospital catering Mashhad, Iran University of Medical Sciences, were studied to determine the microbiological quality (Total bacterial count) of these products.

Results: Of the ten food menus evaluated the highest rate of contamination in terms of total count, salads, Chicken Kabab and Fried Chicken were identified as the most contaminated foods and the least contamination is related to kebab, Mixed Rice with vegetable and white rice.

Conclusions: Therefore, for improve the microbial quality of foods served in the hospital better Manufacturing, distributing practices, level of personnel hygiene and cross-contamination precautions should be improved in the kitchen and serving units.

Keywords: Microbiological Quality, Hospital food, Total count

HN-01820142 _Canola, Sesame, and Sesame-Canola oils might improve body fat distribution in adults: A triple-blind, three-way randomized cross-over clinical trial

Fatemeh Moghtaderi

Although canola and sesame are regarded as healthy vegetable oils, limited and controversial data exist regarding their effect on body adiposity. The present study aimed to examine the effect of replacing edible oils with sesame (SO), canola (CO) and sesame-canola oils (SCO) on body weight and composition in adults. This study was designed to be a triple-blind, randomized, three-way cross-over trial. Participants without any chronic disease (n=77, ages: 47.43±1.17 year, body mass index (BMI): 28.21±0.54 kg/m2) were entered to a 4-week run-in period and then were randomized to receive SO, CO and SCO for their household use for 9 weeks. The intervention periods were separated by 4-week washout intervals. Anthropometric measurements, as well as body composition markers, were assessed at baseline,

middle and after each intervention period. In total, 73 participants completed the study and 69 attended all phases. All intervention oils reduced the waist circumference (P<0.05). Also, body adiposity index and hip circumference were significantly decreased after SCO and CO periods and the consumption of SO and SCO reduced the index of central obesity (P<0.05). However, after CO consumption, body fat percent was significantly increased (P= 0.02). The same effects were seen only in females. No difference was seen in the changes in anthropometric measures between the three intervention periods. The present clinical trial revealed that sesame and canola oils might beneficially improve body fat distribution by improving central obesity without affecting body weight, particularly in females. The study protocol is registered in the Iranian registry of clinical trials (http://en.irct.ir/trial/12622) with registration code of IRCT2016091312571N6.

Key words: Dietary oils; Sesame oil; Canola oil; Obesity; Body mass index; Body weight; Body composition.

HN-01830158_The effect of vitamin D supplementation on serum level of heat shock protein 60 in coronary heart disease patients: A randomized clinical trial

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Introduction: This study was aimed to investigate the effect of vitamin D supplementation on Heat Shock Protein-60 (HSP-60) and other inflammatory markers (IL-17, TNF-α, PAB) in patients with coronary heart disease.

Methods: In this double blind randomized clinical trial, we recruited 80 male and female patients aged 30-60 years old with coronary heart disease and 25(OH)D3 <30 ng/ml, from Rasool-e-Akram Hospital in Tehran, Iran. Serum levels of 25(OH)D3, HSP 60, IL-17, TNF-α, PAB, lipid profiles and PTH were measured both in the baseline and termination of intervention. Eligible participants were randomly assigned in placebo or intervention group to receive vitamin D supplement (50,000 IU/wk) or placebo for 8 weeks.

Results: The results demonstrated that vitamin D supplementation resulted in significant increase in serum level of 25 (OH) D3 (46.86 vs 7.28 ng/ml) comparing placebo group. Parathyroid Hormone (PTH) also decreased among intervention group after 8-week supplementation (-19.81 vs 2.92 pg/ml). Change in waist circumfrence (-0.97 vs -0.26 cm), fat percentage (-1.13 vs 0.1 %), systolic blood presure (-3.85 vs -2.11 mmHg) and dyastolic blood presure (-4 vs -1.86 mmHg) were significant in the vitamin D group (all P-values < 0.05). Other variables did not significantly change after intervention.

Conclusion: Based on our findings in this study, supplementation of vitamin D with a weekly dose of 50000 IU for 8 weeks, in patients with coronary heart disease represented dicreased systolic and diastolic blood pressure, waist circumference and fat percentage. Whereas, it had no significant effect on heat shock protein 60, inflammatory markers and lipid profiles.

Keywords: Vitamin D supplementation, Coronary heart disease, Heat shock protein 60

HN-01860146_The effect of vitamin D supplementation on inflammation in critically ill patients: a systematic review

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Vitamin D intervention may affect the immune system function and modulate the innate and adaptive responses in relation to the status of patients with critical illness. The search terms were conducted on PubMed, Cochrane Library, EMBASE, Scopus, clinical trials and gray literature databases and clinical trial studies published from 2000 to July 2019 were included in the present study. Two independent researchers selected 53 studies that examined vitamin D supplementation in critically ill patients. Three researchers assessed study designs, subjects, interventions, outcomes, and data quality according to the Cochrane scoring system. Three randomized clinical trials of critically ill patients treated with high dose of vitamin D supplements indicated consistent reductions in pro-inflammatory cytokines (interleukins 1 and 6). Five clinical trials illustrated no significant differences in C-reactive protein levels between vitamin D and placebo groups. Outcomes of secondary analyses in two trials showed no significant reduction in interleukin 6 levels (pooled effect size, IL-6, -16.32 [-40.78, 8.15]) while treated with high dose of vitamin D supplements. Moreover, vitamin D supplementation indicated no considerable effects on CRP levels in recipient group versus non-recipient group (pooled effect size -2.65 [-18.02, 12.72]). Evidence from few clinical studies suggests that high doses of vitamin D interventions may reduce pro-inflammatory cytokines, whereas it appears to have no significant effects on anti-inflammatory cytokines and C-reactive protein levels. Further well-designed research studies are required to elucidate the effect of vitamin D supplementation on immune responses in critically ill patients.

Keywords: Vitamin D, Cytokines, Inflammation, Critically ill

HN-01880261_The Effects of Quercetin on Cachexia in Patients

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Introduction: Cachexia is a complex and common syndrome in cancer patients. Increased inflammation is an underlying mechanism in almost all cases of cachexia. Cancer cachexia was estimated to occur in one million people in Europe in 2016 with about 90% of cancer patients being at risk of cachexia.

Methods: Current review article was conducted on original human studies publish after 2016 in PubMed and Scopus.

Results: Cachexia presents with anorexia due to imbalances between pro-inflammatory (TNF-α, IL-1, IL-6, interferon-gamma [IFN-γ]) and anti-inflammatory cytokines (interleukin-4 [IL-4], interleukin-12 [IL-12], interleukin-15 [IL-15]). Circulating levels of IL-6 was shown to be elevated in cachectic cancer patients and it can activate transcription3 (STAT3) signal transducer and activator. STAT3 is known to be involved in muscle wasting. Quercetin, is a flavanol commonly found in various vegetal foods, displays anti-inflammatory and anti-cancer properties and antioxidant activities, and interacts with cellular receptors and regulates signaling molecules and reduces proinflammatory mediators (LTB4, TNF-α, IL-6 and IL-1β). Several studies show that quercetin induces apoptosis in various cancers. Molecules involved in the intrinsic apoptotic pathway were altered by quercetin. Quercetin decreased

antiapoptotic molecules (Bcl-2, Bcl-xL), were decreased and increased proapoptotic molecules (caspase-3, caspase-9, Bid, Bad, Bax and cytochrome c) in PA-1 cells. Quercetin induces mitochondrial-mediated apoptotic pathway and thus inhibits the growth of cancer cells. Quercetin suppresses the production of proinflammatory cytokines at different levels, including TNF-α and IL-1β, and inhibits the activation of I-κB phosphorylation, without affecting their total content.

Conclusion: Quercetin is effective on inflammatory factors and cachexia via several mechanisms.

Keywords: cachexia, quercetin, inflammatory

HN-01900234 Association between eating frequency, energy intake and anthropometric indices with noninvasive arterial stiffness parameters in healthy adult participants in Persian Cohort study

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Introduction: Eating frequency and obesity correlate with hypertension and related target organ damage. Our study was aimed to evaluate overall and sex-specific associations between different anthropometric indices, including Body Shape Index (ABSI) and Body Roundness Index (BRI) and other general and abdominal adiposity and eating frequency with noninvasive arterial stiffness parameters in a healthy adult population of northeast Iran.

Methods: This cross-sectional descriptive study was performed on 658, 30–70-year-old PERSIAN Organizational Cohort study participants in Mashhad. Arterial stiffness was assessed using arterial age, augmentation index, augment at pressure, carotid–femoral pulse wave velocity (PWV) and central blood pressure. The association between study parameters was investigated by linear regression analysis adjusting for traditional cardiovascular risk factors.

Results: EF was positively associated with total energy intake (EI) and favorable adiposity and blood lipids profiles. Subjects with increased EF, had lower AIx, AP, Arterial Age and Central blood pressure (P <0.001) and arterial stiffness compared to Lowest EF and not significant with PWV (P=0.3). Abdominal adiposity was

significantly associated with stiffness parameters and central pressure. Aix (Beta=0.307, P<0.001), AP (Beta=0.35, P<0.001), Arterial Age (Beta=0.66, P<0.001) were significantly associated with EF.

Conclusion: Increased EF was associated with lower prevalence of subclinical atherosclerosis in the carotid arteries in apparently healthy individuals. The highest related parameters to arterial stiffness were Energy intake, WHtR, WHR and Viseral adiposity in men and age, Triglyceride, cholesterol, WHtR and WHR in women. ABSI had the weakest association with Arterial stiffness.

HN-01950152_Isolation of Enterococcus Spp. from The Hospital Food Samples in Iran

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Introduction: In health care settings, ensuring microbiological quality and safety of hospital food is essential for patients with somehow compromised immune systems. Enterococcus species, in particular Enterococcus faecium and Enterococcus faecalis, are leading agents of nosocomial infections. Enterococci also have been implicated in the spread of food-borne disease. Therefore, this study investigated the presence of Enterococcus spp. isolated from various types of raw and cooked hospital food samples from the university hospitals of the Mashhad city, Iran.

Methods: From August 2019 to January 2020, 468 hospital food samples (including cooked rice, vegetable rice, bean rice, grilled fish, roast chicken, chicken barbecue, meat barbecue, celery stew, soup and salad) were obtained from 13 different hospitals and immediately transferred to the laboratory in the cold chain. Briefly, Enterococcus spp. were isolated by using Azide dextrose broth with added 6.5% NaCl for enumeration and Kenner Fecal Agar (KF medium) for detection and selection of colonies.

Results: Fifty-five out of 468 (11.75%) hospital food samples contained Enterococcus. Salad (5.55%) and chicken barbecues (1.92%) were the most commonly contaminated specimens. Ready-to-eat food samples had the highest

prevalence of Enterococcus. Of the cooked foods, 6.19% were positive for Enterococcus.

Conclusions: Presence of enterococci in hospital food samples generally indicates fecal contamination or that the food was produced under poor sanitary conditions. Moreover, the high presence of the Enterococcus among the raw foods tested strongly emphasizes the need for a safer management of catering in the hospital. Thus, education of food handlers and regular inspections is needed.

Keywords: Enterococcus, Food safety, Hospital food, Iran

HN-01870148_The Effect of Apple Vinegar Consumption on Glycemic Indices, Blood Pressure, Oxidative Stress, and Homocysteine in Patients with Type 2 Diabetes and Dyslipidemia: A Randomized Controlled Clinical Trial

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Background: Some foods and drinks contain special ingredients, causing impressive effects on human health. The aim of the current study was to assess the health effects of apple vinegar in patients with diabetes and dyslipidemia.

Method: Seventy participants with type 2 diabetes and hyperlipidemia were randomly assigned into an intervention and control group in order to assess the effect of 20 ml apple vinegar per day using an 8-week parallel study. Fasting blood sugar (FBS), homeostasis model assessment for insulin resistance (HOMA-IR), homeostasis model assessment for b-cell function (HOMA-B), quantitative insulin sensitivity checks index (QUICKI), insulin, malondialdehyde (MDA), 2,20-Diphenyl-1-picrylhydrazyl (DPPH), homocysteine, systolic blood pressure (SBP), and diastolic blood pressure (DBP) were measured at the beginning and end of the study.

Results: The intervention with apple vinegar could significantly improve FBS (mean change: -10.16±19.48 mg/dl, p= 0.006) and DPPH (mean change: 16.58±11.56, p< 0.001) within intervention group and in comparison with control group (p< 0.001). Additionally, the significant increase of MDA in control group (p< 0.05) caused a considerable difference between

two groups. No considerable effect was observed on other glycemic indices containing insulin, HOMA-IR, HOMA-B, QUICKI, blood pressure and homocysteine between two groups.

Conclusion: This trial provided some evidences that apple vinegar consumption may cause beneficial effects on FBS and oxidative stress parameters in individuals with diabetes and dyslipidemia.

This randomized clinical trial was registered in the Iranian Registry of Clinical Trials

Keywords: Apple vinegar, Type 2 diabetes, Dyslipidemia, Oxidative stress

HN-01970155_Prevalence of Malnutrition with PG-SGA Questionnaire in Cancer Patients admitted to Omid Hospital in Mashhad

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Introduction: Cancer is a major public health concern and the third leading cause of death in Iran. Relation between cancer disease and malnutrition investigated in previous investigation but there is no exactly of prevalence of malnutrition in Mashhad city, so that this study assessed the prevalence of malnutrition and its relationship to socio-economic variables in cancer patients admitted to Omid hospital, which affiliated to Mashhad University of Medical Sciences in Mashhad.

Methods: The data of this study obtained from the Cancer Research Center of Omid hospital and a standard PG-SGA questionnaire. The data set was for 113patients admitted to the oncology ward of the hospital in Mashhad, Iran in 2017. The data analyzed using the chi-square test using SPSS 16 software.

Results: SGA scores indicated that the prevalence of moderate to severe malnutrition was 3.6 % and 96.4% in cancer patients respectively. The highest incidence of malnutrition was for gastrointestinal malignancies and the highest percentage of normal nutritional status was for lung cancer. The relationship between cancer type and weight

lost in past 6 month and patient's education level were statistically significant (p < 0.05). Xerostomia and loss of appetite were the most complaint in cancer patients.

Conclusion: The prevalence of malnutrition in cancer patients was considerable. Continuous evaluation and monitoring of nutritional statue can also be effective in preventing the development of malnutrition and effect on quality of life in patients and can play a role in related research in this field.

Key words: Cancer, PG-SGA Questionnaire, Malnutrition

HN-02020161_Nuts Effects in Chronic Disease and Relationship between Walnuts and Satiety: Review on The Available Evidence

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According to epidemiological studies overweight and obesity are increasing rapidly and an inverse relationship between nuts intake and body weight has been seen, however the results of studies have not yet confirmed these effects. The aim of the present study was to conduct a literature review in systematic format on the available evidence to assess the relationship between nuts consumption with obesity and satiety factors with emphasis on walnut consumption with review of clinical trial studies. The literatures search to find related studies were performed through four scientific databases, including Web of Knowledge, PubMed, SCOPUS, and Google Scholar. One of the possible mechanisms for the effect of nuts intake on weight control is promoting satiety. Clinical trial reports have shown that probable nuts intake is associated with weight loss and may help with weight control by reducing appetite and decreasing fat absorption. Walnut contains 18% protein and 58% fat (linoleic acid (50.58 - 66.60%), oleic acid (14.88 - 28.71%) and linolenic acid (9.16 -16.42%). It seems that appetite-suppressing effect of walnut is related to its PUFA and fiber content. Despite beneficial effects of walnut consumption on health, it appears that further long-term studies should be conducted to evaluate the satiating properties of walnut.

Keywords: Body weight, Satiety, Nut, Walnut

HN-02100189_Effect of Ramadan Fasting on Resting Metabolic Rate and Body Composition in Overweight/Obese Individuals

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Introduction: Ramadan fasting (RF) is a form of calorie restriction, known as intermittent fasting (IF), practiced extensively by a large population of Muslims. There are limited and controversial findings on physiological changes induced following 30 days of RF. The aim of this study was to evaluate the effect of RF on resting metabolic rate (RMR) and body composition in overweight/obese individuals.

Methods: A total 21 men and women aged 18-40 years old participated in this study. Anthropometric and body composition data were collected before and after Ramadan. Assessment of RMR was performed using indirect calorimetry and physical activity level was estimated using pedometer. Total dietary intake was assessed using 24 hours food recall for 4 days.

Results: Body weight decreased (77.91 ± 11.83 vs 77.01 ±11.75 kg; p<0.05) and percent body fat (34.84 ± 7.07 vs 38.48 ± 5.93 %; P<0.001) increased after 4 weeks of RF. The RMR was increased clinically while it was not statistically significant (P=0.641). The total fat free mass and visceral fat mas significantly deceased at the end of the study (P<0.001). Mean daily energy intake increased (3290 ±785.82 kcal vs 2458±535.32 p<0.05) among participants. The total carbohydrate and sugar intake increased significantly (437.04 ± 101.02 gr and 194.04 ±56.87gr per day vs 310.09 ± 87.12 gr and 60.42 ±31.57).

Conclusions: RF may be useful to improve metabolic parameters and prevent decline in basal metabolic rate if accompanied with nutritional support and healthy dietary recommendations.

Keywords: Body composition; Obesity; Ramadan fasting; Resting Metabolic Rate

HN-02100190_Effect of Alternate Day Fasting on Resting Metabolic Rate and Body Composition in Overweight/Obese Individuals

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Introduction: Alternate-day fasting (ADF) has become increasingly popular, yet, to date, there is not enough evidence regarding its effect on resting metabolic rate (RMR). The aim of this study was to compare the effect of ADF on RMR and body composition with calorie restriction (CR) diet in overweight/obese subjects.

Methods: This semi-experimental clinical trial was conducted on overweight and obese adults (18 to 45 years old; BMI 25-39 kg/m^2). Participant were randomized into 2 groups: ADF (25% of energy needs on ''fast'' days; 100% of energy needs on alternating ''feast'' days) and calorie restriction (75% of energy needs every day) for 8 weeks. Body composition and RMR were measured before and after the study. Physical activity level was estimated using pedometer.

Results: The change in body weight for ADF group was 4.92±2.59 vs 2.95±1.60 kg for CR group (P<0.001) during 8 weeks of intervention. The mean percentage body fat significantly decreased (1.39±2.20; P<0.001) among ADF group while the change was not significant among CR group. Interestingly, the mean changes of RMR increased in ADF group (211.45±191.8 kcal; P<0.001) while it decreased (170±135.42 kcal; P<0.001) among CR group.

Conclusions: ADF may produce greater improvement in body composition, fat distribution and RMR compared to daily calorie restriction. ADF may be recommended as a solution for preventing metabolic decline through the weight loss program.

HN-02120213_Determinants of Malnutrition in Critically Ill Patients Admitting to ICU in Iran: Results from A Cross-Sectional Study

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Introduction: Patients in Intensive Care Unit (ICU) face with major challenges including malnutrition, immune dysfunction, severe infections, multiple organ dysfunction and death. This study was undertaken to evaluate the nutritional status of ICU inpatients receiving nutritional support in Isfahan, Iran.

Methods: This cross sectional study was conducted among patients admitted to medical and surgical ICU wards. Nutritional status was assessed via measuring anthropometric indices, laboratory data and medical history by a registered dietitian. Biochemical indicators representing blood values, glycemic status and lipid profile, pulmonary, hepatic and renal function were measured. Malnutrition was assessed according to albumin levels and ideal body weight within 4 categories. Statistical analyses were performed using the Statistical Package for Social Sciences (SPSS, version 16).

Results: In this study, decreased level of albumin, total protein and phosphorus were related to malnutrition. Albumin and total protein levels were significantly different within 4 subcategories of patients with more than 90% of ideal body weight (p<0,001). Patients with good nutritional status had higher albumin and total protein levels than malnourished ones (p<0,001). No significant relationship was observed between body mass index (BMI), creatinine, blood urea nitrogen (BUN), potassium, magnesium and malnutrition.

Conclusions: Malnutrition, which has the detrimental impact on rehabilitation, mobilization and length of hospitalization, is prevalent among ICU patients. Nutritional status should be monitored and corrected prompty, preferably in ICU. Further studies are necessary to determine the best methods to define nutritional status of patients. Well-designed clinical trials are needed to clarify all aspects of nutritional supplementation.

Keywords: Malnutrition, intensive care unit, nutritional status, critically ill

HN-02190203_Effect of Probiotic and Conventional Yoghurt on Blood Glucose in Women with Gestational Diabetes Mellitus: A Randomized Placebo-Controlled Trial

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Introduction: GDM is a complication of pregnancy that can be associated with neonatal complications and adverse pregnancy outcomes. Recently, probiotic use has been proposed for better control of glucose in GDM patients. The aim of this study was to compare the effect of probiotic yoghurt with ordinary yoghurt on GDM women.

Methods: In this double-blind placebo-controlled clinical trial, 84 pregnant women with GDM were randomly assigned into two groups (n= 42) who received 300 grams/day of probiotic yoghurt or placebo for 8 weeks. Blood sugar, HbA1c, and pregnancy outcome were compared between groups after the intervention.

Results: The mean ± SD age of participants was 31.6±5.7 years. The mean ± SD weight, height, and body mass index were 79.2±11.5 kg, 161.8±5.1 cm and 30.7±4.5 kg/m2; respectively. The mean ± SD systolic and diastolic blood pressures were 111.4±6.6 and 71.9±5.5 mmHg; respectively. No significant differences were observed in general characteristics between the two groups (p>0.05). Both fasting and post prandial blood sugars as well as the level of HbA1C were decreased significantly in probiotic group (p<0.05), although these changes are not statistically significant in the placebo group. Neonates born of probiotic group mothers, have significantly lower weight and fewer macrosome neonates were born in this group (p<0.05). However, no difference was observed in other values of outcome.

Conclusions: Our study revealed better control of blood glucose is achieved by consumption of probiotic yoghurt in women with GDM, compared to placebo. The incidence of macrosomia may be decreased by this regimen.

Keywords: Obesity, Gestational diabetes mellitus, Diabetes, Probiotic, Yoghurt

HN-02220245_Nutritional Status of Critically Ill Children Admitted to Pediatric Intensive Care Units (PICU)

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Introduction: to estimate the prognosis and clinical outcomes of children admitted to Pediatric Intensive Care Units (PICU). Considering the nutritional status of the patients upon the admission time by the medical management teams may lead to realistic decision-making and promotion of nutrition support services.

Methods: This study was performed to investigate the at admission nutritional status of critically ill children during June-2019 at 2 PICU wards of Akbar children hospital, Mashhad, Iran. At admission weight for age, height for age and weight for height Z scores of PICU admitted children with PICU length of stay> 48 hours was recorded retrospectively.

Results: A total of 32 patients were enrolled to this study which 62.5% (20 patients) of them were male and 37.5% (12 patients) were female. Totally, 40.7% (13 patients) were surgical cases. Eighteen critically ill children had normal nutritional status upon their admission time while 5 patients (15.8%) had moderate (-3 < Z scores < -2) and 9 patients (28.1%) had severe malnutrition (Z scores < -3) upon the admission time. At admission, nutritional status was not different between patients with internal diseases and surgical patients.

Conclusion: Malnourished children are at especial importance of nutrition support during PICU staying. Early and optimum nutrition care process is at special necessity to improve prognosis of malnourished PICU patients. Our audit showed that a considerable ratio (43.9%)

of critically ill children had moderate/ severe malnutrition upon their admission time.

Keywords: Intensive Care Units, Pediatric; Nutrition support; Nutrition Assessment; Diet Therapy.

HN-02280240 _Prevalence of malnutrition among Iranian children before and after hospitalization (2015 to 2017): A multicenter study

Masoud Khorshidi

Introduction: Hospital malnutrition in children is a common nutritional problem in most part of the world. Malnutrition both weakens clinical outcomes and increases hospital costs. Therefore, the aim of this study was to develop estimates of malnutrition through a multicenter observational study at the time of admission and discharge in Iranian hospitalized children and adolescent.

Methods: this study was performed on children aged one-month to 18 years from three Iranian public tertiary pediatric hospitals located in different cities in Iran. To determine nutritional status, weight for height Z-score for patients from 1month to 5years of age and BMI for age Z-score for patients ≥5 to 18 years old were calculated using WHO growth standards. Data were analyzed using SPSS version 23.

Results: Information about 1499 patients was collected. At the time of admission, 64% had a good nutritional status, 15.5% were at risk of wasting, 8.4% were wasted, and 12.1% were severely wasted. Less than 1% of children under 5 years of age and 9.6% of children over 5 years of age were overweight or obese at the time of admission. Among 295 malnourished patients, 182 patients had improved at the time of discharge. The prevalence of moderate and severe malnutrition at discharge was about 20%.

Conclusion: more than one third of the hospitalized children had moderate or severe malnutrition or at risk of malnutrition. Although malnutrition decreased during hospitalization but there were also children who didn't have malnutrition at the time of admission and were malnourished at discharge.

Keywords: Malnutrition; Children; Adolescent; Infant; Hospital Malnutrition.

HN-02230218_Evaluation of The Accuracy of the Predictive Equations for Resting Energy Expenditure (RRE) in Healthy Adult Persian Cohort Participants.

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Introduction: The gold standard of measuring the amount of body resting metabolic rate (RMR) by indirect calorimetry (IC). But due to technical issues, including: of its rigid valuation conditions, the high expense of the gas analyzer used for its measurement, and the fact that the measurement machines are not usually transportable. For this reason, predictive equations have been used extensively in this decade. The purpose of this study was to Evaluation of the accuracy of the predictive equations for RMR.

Methods: This is a cross-sectional study conducted on 700 healthy participants. Included three groups: normal, overweight, obese. All participants, including men and women between the ages of 25 to 65 years, Five REE equations (Harris-Benedict, Mifflin, Owen, WHO) were used to evaluate the accuracy, compared the predicted equations and measured REE results.

Results: Our findings showed that the males in the 3 groups of normal weight, the Mifflin and Harris-Benedict equation with prediction accuracy were:(58.2, 57.2%). Overweight: Owen and Mifflin equation with predictive accuracy (61.3, 58.4%) and obese: Harris-Benedict and Mifflin equation with predictive accuracy (61.5, 55.8%). Women: Normal weight: Mifflin and Owen equation with predictive accuracy (37.7, 34%), Overweight: all published equations are in the same range. And in the obese: The Mifflin and WHO equation by height, with predictive accuracy (53, 50%).

Conclusions: In the present study, it was shown that the accuracy of predicting the equations at the individual and group levels varied and should be used with caution in their clinical application.

HN-02250219_Effects of berberine and barberry on anthropometric measures: A systematic review and meta-analysis of randomized controlled trials

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Introduction: Despite controversies, no earlier study has systematically summarized findings from earlier studies on the effect of berberine and barberry on anthropometric measures. Therefore, current systematic review and meta-analysis was done on the effect of berberine and barberry on body mass index (BMI), body weight (BW), waist circumference (WC) and waist-hip ratio (WHR) in adults.
Methods: Relevant studies published up to August 2019 were searched through PubMed/Medline, Scopus, ISI Web of Science, Embase and Google Scholar. All randomized clinical trials investigating the impact of berberine and barberry on any of the anthropometric measures including BMI, BW, WC or/and WHR were included.
Results: Out of 252 citations, 12 trials that enrolled 849 subjects were included. Berberine and barberry resulted in not significant in BMI (Weighted Mean Differences (WMD): -0.16 kg/m2; 95% CI: -0.43 to 0.11, P=0.247), BW (WMD: −0.11 kg; 95% CI: −0.13 to 0.91, P=0.830), and berberine resulted in not significant in WC (WMD: −0.58 cm; 95% CI: −1.89 to 0.72, P=0.379) and significant reduction in WHR (WMD: -0.03; 95% CI: −0.04 to -0.01, P<0.0001).
Conclusion: We found a significant reduction in WHR following berberine consumption in adults. Further clinical trials with high quality according to challenges mentioned seem to be helpful to use berberine and barberry as a supplement for certain health conditions, efficiently.
Keywords: berberine, barberry, anthropometric, Randomized controlled trials, Meta-analysis

HN-02250220_Effects Capsinoid and Fermented Red Pepper Paste Supplementation on Body Composition and Anthropometric Measures: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

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Introduction: Current systematic review and meta-analysis was done on the effects of Capsinoid and fermented red pepper paste supplementation on body composition and anthropometric measures.
Methods: We searched PubMed, SCOPUS, Cochrane Library and Google Scholar from inception to October 2019 using relevant keywords. Weighted mean differences (WMDs) were analyzed using a random-effects model.
Results: Overall, 14 trials were included. Pooled effect sizes suggested a significant effect of Capsinoid and fermented red pepper paste administration on body weight (BW)(WMD: -0.38 kg; 95% CI: -0.70, -0.06, P=0.02) and visceral fat area (VFA)(WMD: -3.27 cm2, 95% CI: -4.74, -1.80, P<0.001) whereas changes in body mass index (BMI)(WMD: -0.04 kg/m2, 95% CI: -0.13, 0.05, P=0.362), waist circumference (WC)(WMD: -0.20 cm, 95% CI: -1.16, 0.76, P=0.683), waist-hip ratio (WHR)(WMD: -0.05, 95% CI: -0.65, 0.55, P=0.877), fat mass (FM)(WMD: -0.17 kg, 95% CI: -0.61, 0.27, P=0.450), fat free mass (FFM)(WMD: -0.05 kg, 95% CI: -0.65, 0.55, P=0.877), total fat area (TFA)(WMD: -5.84 cm2, 95% CI: -16.52, 4.83, P=0.283), subcutaneous fat area (SFA)(WMD: -2.07 cm2, 95% CI: -11.39, 7.26, P=0.664) and percentage body fat (PBF)(WMD: 0.01 %, 95% CI: -0.59, 0.61, P=0.985) was not statistically significant. Findings from subgroup analysis revealed a significant reduction in TFA and SFA in trials using supplementation of Capsinoid, with dosage of 135≤ and age of 23<.
Conclusion: Taken together, the data suggest that Capsinoid and fermented red pepper paste supplementation has beneficial effects to reduce

BW and VFA, but not BMI, WC, WHR, FM, FFM, TFA, SFA and PBF.
Keywords: meta-analysis, obesity, Capsinoid, red pepper, weight.

HN-02270230_The Association between Physical Activity Level with Apnea Parameters in Obstructive Sleep Apnea

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Introduction: OSA is a disorder with a high prevalence characterized by instability of the upper airways during sleep, which results in markedly reduced (hypopnea) or absent (apnea) airflow at the nose/mouth. A low level of physical activity is associated with both insomnia and sleep-disordered breathing. also people with untreated OSA may engage in less physical activity due to fatigue. The purpose of this study was to investigate the relationship between physical activity level and apnea parameters among OSA patients admitted to Imam Reza hospital sleep clinic.
Methods: Ninety OSA patients were included in the study. All participants were submitted to nocturnal polysomnography and Sleep pattern was analyzed by polysomnography (PSG) and subjective sleep parameters. The level of physical activity was obtained using International Physical Activity Questionnaire (IPAQ).
 Results: In all, patients averaged 52.8±10.2 years of age, 44.7% patients were female and 55.3% were male. Among all participants, 61.2% persons had severe sleep apnea (AHI >30) and 31.7% had mild to moderate sleep apnea (AHI: 5-30) and 7.1% were normal (AHI ≤ 4). Assessment of physical activity level in patients with sleep apnea showed that 70.6% of patients with severe OSA had low activity levels and 29.4% had moderate to high activity levels, also 63% patients with mild to moderate OSA had low activity levels and 37% had moderate to high sactivity levels.
Conclusion: No differences in physical activity level were found between the mild to moderate and severe OSA groups.
Keywords: obstructive sleep apnea, IPAQ

NH-022880240_Prevalence of malnutrition among Iranian children before and after hospitalization (2015 to 2017): A multicenter study

Masoud Khorshidi

Introduction: Hospital malnutrition in children is a common nutritional problem in most part of the world. Malnutrition both weakens clinical outcomes and increases hospital costs. Therefore, the aim of this study was to develop estimates of malnutrition through a multicenter observational study at the time of admission and discharge in Iranian hospitalized children and adolescent.
Methods: this study was performed on children aged one-month to 18 years from three Iranian public tertiary pediatric hospitals located in different cities in Iran. To determine nutritional status, weight for height Z-score for patients from 1month to 5years of age and BMI for age Z-score for patients ≥5 to 18 years old were calculated using WHO growth standards. Data were analyzed using SPSS version 23.
Results: Information about 1499 patients was collected. At the time of admission, 64% had a good nutritional status, 15.5% were at risk of wasting, 8.4% were wasted, and 12.1% were severely wasted. Less than 1% of children under 5 years of age and 9.6% of children over 5 years of age were overweight or obese at the time of admission. Among 295 malnourished patients, 182 patients had improved at the time of discharge. The prevalence of moderate and severe malnutrition at discharge was about 20%.
Conclusion: more than one third of the hospitalized children had moderate or severe malnutrition or at risk of malnutrition. Although malnutrition decreased during hospitalization but there were also children who didn't have malnutrition at the time of admission and were malnourished at discharge.
Keywords: Malnutrition; Children; Adolescent; Infant; Hospital Malnutrition.

HN-02310228_ Effect of high dose vitamin D supplementation on antibody titres to heat shock protein 27 in adolescent girls

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Objective: Although vitamin D deficiency is associated with several inflammatory conditions, there have been few studies on the effects of vitamin D supplementation on markers of oxidative stress and inflammation. The aim of the current study was to evaluate the effects of high dose vitamin D supplementation on heat shock protein 27 antibody (anti-Hsp27) titres in adolescent girls.

Methods: Five hundred and fifty adolescent girls received vitamin D3 at a dose of 50,000 IU/week for 9 weeks. Demographic, clinical, biochemical markers including serum fasting blood glucose, lipid profile and anti-Hsp27 titers as well as hematological parameters including white blood cell count (WBC), and red blood cell distribution width (RDW) were determined in all the subjects at baseline and at the end of the study.

Results: Serum vitamin D increased significantly, from 6.4 (4.2-9.6) ng/mL to 35.6 (25.8-47.5) ng/mL (P <0.001) following the intervention. Furthermore, serum anti-Hsp27 titers were significantly lower after the 9-week vitamin D administration period [0.22(0.12-0.33) OD *vs.* 0.19(0.11-0.31) OD; P=0.002]. A significant correlation was found between serum anti-Hsp27 and RDW (r=0.13, p=0.037). The reduction in RDW values after intervention was particularly evident in subjects with the greatest increase in serum vitamin D levels.

Conclusions: High-dose vitamin D supplementation was found to reduce antibody titers to Hsp 27. Further randomized placebo-controlled trials are warranted to determine the long time effect of vitamin D administration on the inflammatory process especially that associated with chronic disease.

Keywords: Vitamin D supplementation; inflammation; heat shock protein; RDW

HN-02320246_The Survey ofThe Effect ofHMB (B-Hydroxy B-Methyl Butyrate) Supplementation on The Risk of Sarcopenia among Old Age Patients

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Introduction: Sarcopenia is a muscle-wasting disorder that causes negative-protein balance in the skeletal muscles by replacing lean body mass (LBM) with fat-mass (FM). Both women and men older than 65 years are vulnerable to sarcopenia. β-hydroxy β-methyl butyrate (HMB), which naturally derives from leucine in the body, is one of the essential amino acids that can have a significant effect on muscle turn-over. Regarding the HMB biological function, we evaluated the effect of HMB supplementation on the risk of sarcopenia among geriatrics.

Methods: A search on published articles from 2010 to 2020 in PubMed, Google Scholar, web of science, and Scopus was performed using the following search keywords; HMB, sarcopenia, sarcopenic obesity, treatment, prevention, and old age. Search resulted in 48 articles that 17 articles (6 originals and nine reviews) were reviewed after implementing the inclusion and exclusion criteria.

Results: HMB supplementation had a beneficial effect in preventing muscle wasting in the elderly. Both resistance exercise and HMB supplementation could prevent sarcopenia (pro: >1g/bwt) (p<0.001). HMB supplementation improved muscle wasting by increasing the myogenesis, decreasing muscle apoptosis, and refining muscle turnover. Daily administration of HMB and other amino-acids (totaling 3 g HMB, 14 g Arginine, 14 g Glutamine) during six months could increase LBM in geriatric population (P = 0.016).

Conclusion: In the standard health status, HMB supplementation, essential amino acids, and regular resistance exercise not only prevent sarcopenia but also could improve sarcopenia in the elderly.

Keywords: sarcopenia, sarcopenic obesity, old ages, HMB, amino-acid supplementation, treatment, prevention, geriatrics, and lean body mass (LBM)

HN-02330270_The Effect of Grape Seed Extract Supplementation on Biomarkers of Oxidative Stress andInflammation — A Systematic Review and Meta-Analysis of Clinical Trials

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Introduction: Several studies have shown that grape seed extract (GSE) supplementation can reduce inflammation and oxidative stress, but their results seem irreproducible. The objective of this systematic review and meta-analysis was to determine the effect of GSE supplementation on high-sensitivity C-reactive protein (hs-CRP) and white blood cell count (WBC) as inflammatory biomarkers and total antioxidant capacity (TAC), oxidized low-density lipoprotein (ox-LDL), and malondialdehyde (MDA) as biomarkers of oxidative stress.

Methods: We systematically searched PubMed, Scopus, Google Scholar, and Web of Science databases until September 2019. Two independent authors performed article selection and data extraction. The Cochrane Collaboration Risk of Bias Assessment Tool was used for quality assessment of studies. Pooled weighted mean differences with 95% confidence intervals were calculated using a random-effects model. I-squared was used to quantify the extent of heterogeneity. Subgroup analyses were conducted in case of significant statistical heterogeneity. Sensitivity analysis and publication bias were also assessed.

Results: Twenty-two clinical trials were included in the systematic review, and seventeen clinical trials were included in the meta-analysis. GSE supplementation significantly decreased blood levels of ox-LDL (-0.44; 95% CI: -0.72, -0.15) and MDA (-1.40; 95% CI: -2.24, -0.56) but did not significantly influence blood levels of TAC (0.40; 95% CI: -0.07, 0.88), hs-CRP (-0.34; 95% CI: -0.88, 0.20), and WBC (0.16; 95% CI: -0.22, 0.54).

Conclusions: GSE supplementation can reduce blood levels of lipid peroxidation biomarkers such as ox-LDL and MDA. More high-quality studies are needed to determine the effect of GSE supplementation on TAC, hs-CRP, and WBC.

HN-02350248_Food Addiction in Children: Prevalence and Associations with Demographic Indices and Obesity

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Introduction: The present study was designed to detect the frequency of "food addiction" (FA) and evaluate the relationship between FA, socio-demographic, and anthropometric indicators among children and adolescents in southwestern Iran.

Methods: A cross-sectional survey was conducted on 222 elementary school students aged 7-13 years in Ahvaz, Iran using a random sampling method. Socio-demographic and anthropometric indicators were obtained. The 25-item child version of the YFAS (YFAS-C) was applied to provide diagnosis of FA and FA symptoms including inability to cut down, much time/activity to obtain, tolerance, withdrawal, etc.). A nonparametric analysis was used to analyze data.

Results: The prevalence of FA was 17.3% with more than 50% of student with severe FA diagnosis. Also, the most common symptoms associated with FA were (1) inability to cut down, (2) withdrawal, and (3) tolerance. The students with FA diagnosis were older than undiagnosed one (p=0.04). The male and over 8 years old students showed a higher FA score than females and under 8 years old students (p<0.05). Moreover, a significant positive correlations was showed between all anthropometric indicators and FA score in entire sample as well as a similar correlation between FA score, BMI, and BMI z-score in females (p<0.01).

Conclusion: The results indicate that FA diagnosis is more prevalent in male and over 8

years old students. Female students with higher YFAS-C scores have elevated BMI z-scores suggesting that FA may be a remarkable problem in childhood and early adolescence related to a risk of overweight/obesity in Iranian students.

Keywords: Food addiction, Children, Demographic, Obesity

HN-02350259_The Prevalence of Obesity and Related Factors in Women: An Urban Survey Study

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Introduction: Obesity is a chronic and progressive disease that causes psychological problems, and also, is a major health problem that can lead to chronic illness. In this study, we aimed to determine the obesity prevalence and the factors affecting this prevalence in randomly selected volunteers from residents of the city of Ahvaz.

Methods: This randomized, multi-stage, cluster sampling cross-sectional study is conducted to evaluate the prevalence of obesity and related factors among old urban women that were invited to Health Centers of Ahvaz. Data were collected using demographic information, Food frequency Questionnaire (FFQ) and International Physical Activity Questionnaire (IPAQ). In this study obesity was considered as a body mass index (BMI) ≥ 30kg / m².

Results: The mean age of participants was 38.9± 8 years old. Totally, 73% were overweight and/or obese. There was relationship between BMI and consumption of oils and sweets (P <0.05), although in general score of food frequency questionnaire, the relations were not significant.

Conclusion: Prevention education programs for achieving higher education, changing in lifestyle including having a healthier nutritional diet, consuming the less oils and sweets, fast foods and higher fruit and vegetables are recommended.

Keywords: Obesity, Prevalence, Women.

HN-02350269_The Association between Physical Activity, Obesity and Overweight Woman: A Cross-Sectional Study

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Introduction: Obesity is associated with serious health risks. Increase in prevalence of obesity has become a worldwide major health problem in adults. In this study, we aimed to determine the obesity prevalence and the factors affecting this prevalence in randomly selected volunteers from residents of the city of Ahvaz.

Material and methods: This randomized, multi-stage, cluster sampling cross-sectional study is conducted to evaluate the prevalence of obesity and related factors among old urban women that were invited to Health Centers of Ahvaz. Data were collected using demographic information, Food Frequency Questionnaire (FFQ) and International Physical Activity Questionnaire (IPAQ). In this study overweight was considered as a body mass index (BMI) between 25 and 29.9 and also, Obesity was considered as (BMI) ≥ 30kg / m^2.

Results: The mean age of participants was 38.9± 8 years old. Totally, 73% were overweight and/or obese. There was no relationship between BMI and Physical activity levels (P >0.05). Moreover, the mean score of IPAQ was not significantly different between the three groups (Normal, Overweight, Obese) (P >0.05).

Conclusions: Various factors appear to have an effect on the lifestyles of people. Contrary to the results of various studies, the present study showed that the level of physical activity was not significantly related.

Key words: Obesity, physical activity, Women.

HN-02360249_The Effect of Vitamin D Supplementation on Inflammation and Markers of Vascular Function in Heart Failure Patients

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Introduction: Vitamin D deficiency is prevalent in heart failure (HF) and the anti-inflammatory impacts of vitamin D may affect the pathogenesis of HF. Therefore, the present study aimed to investigate the effect of vitamin D supplementation on echocardiographic and biochemical factors in vitamin D-deficient HF patients.

Methods: To this end, 39 HF patients with 25(OH) D ≤20 ng/mL participated in the current double-blind, randomized, and placebo-controlled trial, who belonged to class III, New York Heart Association classification. About 50 000 IU vitamin D3 (group D+) or placebo (group D-) were prescribed within 2 months. Then, the ejection fraction (EF %), tumor necrosis factor alpha (TNF-α), B-type natriuretic peptide (BNP), and high sensitive C-reactive protein (hs-CRP) were assessed before and after supplementation.

Results: The mean serum level of 25(OH) D increased markedly in D+ group (P< 0.001). The mean increase of EF% was 5.3±9.03% (P= 0.03) and the decrease of TNF-α (-0.09 pg/mL, P< 0.001) and BNP (-3.14 ng/mL, P= 0.04) were statistically significant in D+ group after supplementation. In addition, the blood concentration of BNP declined significantly in D+ group compared to placebo while hs-CRP and TNF-α levels failed to differ between the two groups.

Conclusions: The results revealed that vitamin D could be effective against inflammation and thus its supplementation may reduce the severity of HF by improving the serum level of BNP and EF%. However, more clinical trials are required to approve the beneficial role of vitamin D in HF patients.

Keywords: Vitamin D, Heart failure, Tumor necrosis factor-alpha, Natriuretic peptide, Brain

HN-02390255_The Role of Fasting for Treatment and Prevention of Cancer; Where Do We Stand Now?

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Introduction: In the USA, one out of every four deaths reported to be due to cancer. More than 35% of all types of cancer reported to preventable through modification of lifestyle. Several studies showed that fasting has the potential role for preventing and treating different diseases. The aim of present study was to evaluate possible role of fasting diet for treating different types of cancers.

Methods: Three different electronic database including PubMed, ISI Web of Science and Scopus and also clinical trial registration platform

searched up to February 2020 for finding related human studies which evaluate the effect of fasting in patients with different types of cancer.

Results: Although no randomized controlled trials are available which evaluate the effect of fasting in cancer prevention and treatment, other research supports the potential efficiency of fasting in cancer prevention and treatment. In a pilot study, three monthly fasting cycles decreased the percentage of mesenchymal stem and progenitor cells in the peripheral blood mono-nucleated cell population, fasting blood glucose andinsulin growth factor (IGF)-1 levels. Elevated circulating IGF-1 is associated with increased risk of developing certain cancers. Several studies reported the effect of fasting on decreasing side effects of cancer treatment. A number of trials are now trying to evaluate the effects of fasting on sensitizing cancer cells to the treatment.

Conclusion: Despite several preclinical and pilot clinical trials regarding possible beneficial role, however before confirm conclusion could be drawn randomized controlled trials with large scale design is needed.

Keywords: Cancer, Neoplasia, Fasting, Intermittent Fasting

HN-02450276_Effects of a Compact Food Bar (CFB) designed on cardiopulmonary endurance in military athletes: A single blind randomized controlled trial

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Introduction: In difficult conditions, the military needs high-energy, macronutrient and micronutrient-rich nutrition during intense physical activity to achieve optimal levels of fitness. The aim of the present study was to evaluate effects of Compact Food Bar (CFB) designed on cardiopulmonary endurance in military athletes.

Methods: Forty-five military personnel with the age range of 20-45 years old were assigned into two groups in this randomized, single blind, placebo-controlled clinical trial. The intervention group received 3 packs, 700kcal each, of CFB with Functional compounds (Caffeine and L-arginine) designed, each day for 10 days. The control group consumed regular food used in military training courses with the same calories and same duration as intervention group. Maximal oxygen uptake (Vo2Max) (a measure of

cardio-respiratory endurance) in vitro with Cardiopulmonary exercise test (CPET), anthropometric indices by body composition and Physical activity with pedometer were measured at baseline and end of the trial. Statistical analysis was performed using SPSS 16 software.

Results: Maximal oxygen uptake (Vo2max), Vo2/HR and VE/Vo2 significantly increased in CFB group compared with baseline (p<0.01). Moreover, Vo2max Vo2/HR and VE/Vo2 significantly increased in CFB group compared with control group (p<0.05), While there was no significant difference in mean VE/Vco2, exercise ventilation (VE) and respiratory rate (BF) (P>0/05). No significant effect CFB was found on weight, body mass index (BMI), lean body mass (LBM) and body fat mass (BFM) (p>0.05).

Conclusions: Consumption of Compact Food Bar (CFB) designed is more effective response to improved cardiopulmonary endurance in military athletes than the regular food group.

Keywords: Compact Food Bar, exercise performance, cardiopulmonary endurance, Maximal oxygen uptake

HN-02470279_Prevalence, Probable Causes andClinical Outcomes ofEnteral Tube Feeding Intolerance

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Introduction: Enteral tube feeding intolerance (ETFI) is the most common complication of enteral nutrition (EN) and usually can lead to an insufficient nutritional goal, increased mortality and length of ICU stay. In this study, we aimed to determine the incidence and prevalence of ETFI to assess the influence of feed intolerance on nutrition and clinical outcomes.

Methods: We conducted a cross-sectional study inintensive care units (ICU). Collected data included demographic characteristics, primary diagnosis, acute physiology and chronic health evaluation (APACHEII) Score and sequential organ failure assessment (SOFA) scores, duration of mechanical ventilation, and length of ICU stay. ETFI was determined as interruption of EN due to gastrointestinal reasons including large gastric residuals, abdominal distension, vomiting, diarrhea or subjective discomfort and was assessed by daily questionnaire for 7 days.

Results: Data from 245 critically ill patients (122 males and 123 female) were analyzed. The

highest incidence ofintolerance (91.8%) occurred in the second day and decreased in the following days. The lowest ETFI incidence occurred on the last day (38.8%). ETFI was associated with increased APACHE (p=0.04) and SOFA scores (p<0.001), and duration of mechanical ventilation (p<0.001) compared to tolerant groups. The most common cause ofintolerance in ICU patients, were gastric residual volume (GRV), large GRV, vomiting and distension, respectively.

Conclusions: EFTI is frequently in ICU patients and almost occurs in two-thirds (66%) of critically ill patients receiving EN. EFTI is commonly defined based on GRV and is associated with worse nutrition status and clinical outcome.

Keywords: critical care, enteral nutrition, Intolerance, intensive care, mortality

HN-02520284_Cryolipolysis as A Non-Invasive Method for Body Contouring and Subcutaneous Fat Reduction

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Introduction: Body-sculpting, including cryolipolysis has gained popularity for localized obesity. In cryolipolysis subcutaneous fat tissue is destroyed by controlled cooling based the hypothesis that adipocytes are more susceptible to cooling than surrounding tissues. The aim of this review was to evaluate the effect of cryolipolysis on subcutaneous fat reduction in flank, abdomen, arm, thigh, back, chin, knees and male breast and its safety, side effects, patient satisfaction and long-term results.

Methods: This review was conducted on published articles in medical databases including Medline, Scopus, Web of Science, and Google Scholar during the years 2009-2019. The keywords included Cryolipolysis, fat reduction, body contouring, subcutaneous fat, cosmetic procedure, thermal injury, body sculping, cold induced fat loss, lipid profile and liver tests.

Results: Nitenty-thre articles, 22 reviews and 6 systematic reviews were reviewed. In a report (n=42) reduction ininner thigh fat and circumferential measurements were 2.8mm and 0.9cm respectively in ultrasound assessment. Fat reduction in the flank after 2 and 6 months were 20% and 25% respectively. Another study (n=60) showed 2-5mm reduction in submental fat layer, 83% satisfaction and 80% tendency to recommend procedure to others and 77% visible fat reduction. Side effects included erythema, edema, bruising, transient neuralgia and delayed onset painin one female in a study (n=528), which resolved within 14 days after treatment.

Conclusions: Cryolipolysis is a promising noninvasive method for body contouring with a limited side effect, that resolve without intervention, and high patient satisfaction, which results in significant localized fat reduction.

HN-02690285_Adolescence Obesity: Evaluation of The Effect of Ellis Cognitive Behavioral Therapy on Adolescents' Quality of Life

Ameneh Ghartappeh

Introduction: The purpose of this study was to develop a psycho-nutritional educational package and compareits effectiveness with the Ellis Cognitive-Behavioral Therapy on the quality of life of obese girls.

Methods: The research method was qualitative-quantitative. The qualitative section of the psycho-cognitive-nutritional training package was performed using systematic review. The quantitative part of this study was quasi-experimental with pretest-posttest design and control group. The statistical population of the study consisted of obese and overweight secondary school students in Kermanshah city in 2017. Forty-four obese students were selected based on convenience sampling method. Subjects were randomly divided into two experimental and one control groups. Experimental groups received psychological-nutritional intervention and Ellis treatment in 10 sessions. Data were collected using the Pittsburgh Sleep, Cooper Smith Self-esteem, General health, Walker's Lifestyle, Littleton Body Image, World Health Organization Quality of Life and Stan Cardys and Messick Eating Questionnaires. Data were analyzed using ANOVA and ANCOVA tests.

Results: There was no significant difference in quality of life scores between subjects receiving psychological-nutritional package and Ellis cognitive behavioral therapy (p> 0.05). The psychological-nutritional package group had higher scores in quality of life than the control group (p <0.05). There was no significant difference in quality of life scores between Ellis package and the control group (p> 0.05).

Conclusion: Psychological-nutritional therapy has a positive effect on improving the quality of life of obese andoverweight students.

HN-02410266_Effect of Wheat Germ-Enriched Enteral Formula on Clinical and Anthropometric Factors in Mechanically Ventilated Patients Admitted to TheIntensive Care Unit

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Introduction: To evaluate the effect of a wheat germ-enriched formula from the first day of admission until weaning from the ventilator in patients admitted to the intensive care unit (ICU).

Methods: This randomized controlled clinical trial study conducted on 100 patients admitted to the ICU of Imam Khomeini Hospital, Iran. Patients were randomly divided into two groups to intake wheat germ-enriched formula or standard formula from the first day of admission until weaning from the ventilator. Duration of mechanical ventilation, length of ICU and hospital admission, body composition, mortality rate, Sequential Organ Failure Assessment (SOFA), and Glasgow Coma Scale (GCS) scores before and after the intervention were compared between the two groups.

Results: Wheat germ-enriched formula caused a significant reduction in the length of mechanical ventilation, ICU length of stay, and SOFA score compared to the control group (p<0.001). Also, the intervention group demonstrated a significant increase in basal metabolic rate (BMR), arm circumference, skeletal muscle mass (SMM), body cell mass (BCM), and GCS score compared to the control group (p<0.05). There was no significant difference between the two groups in terms of hospital length of stay, ICU mortality, and body fat percentage (p>0.05).

Conclusion: Results revealed that the wheat germ-enriched formula can exert beneficial effects on clinical and anthropometric variables in patients admitted to the ICU.

Keywords: Wheat germ; enteral formula; mechanical ventilation; ICU; clinical trial

HN-00740061_The Relationship between Peripheral Lipid Distribution and Severity ofNon Alcoholic Fatty Liver Disease

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Introduction: Non-alcoholic fatty liver disease (NAFLD) is the most common chronic liver disease which can contribute to some clinical conditions. A large number of studies have performed on relationship between central lipid distribution and NAFLD, while there are little studies on peripheral lipid distribution, so the aim of this study is to investigate the relationship between some anthropometric parameters of Peripheral lipid distribution and NAFLD.

Methods: A total sample of 212 subjects over 18 years old (103 man and 109 woman) were recruited from those admitted to a gastrointestinal clinic in Mashhad, northeastern Iran. Peripheral and central anthropometric parameters were measured. Hepatic steatosis was identified by Transient Elastography (TE). Logistic regression was applied to establish the association between anthropometric parameters and hepatic steatosis. The sensitivity, specificity and AUC of all anthropometric measurements were detected by receiver operating characteristic (ROC) analysis.

Results: The mean age of participants was 39.26±14.18 years. Liver steatosis was positively correlated with neck, arm, wrist and tight circumference after adjusting for multiple factors (p<0.0001). ROC analysis showed that from peripheral anthropometric parameters, arm circumference had the highest AUC (0.79) in predicting liver steatosis which followed by neck (AUC=0.772) and wrist circumference (AUC=0.762)

Conclusion: According to our results, in addition to central anthropometric assessments, novel anthropometric parameters of peripheral fat stores such as arm, neck and wrist circumference are strongly associated with liver steatosis and can predict it.

HN-01490082_Effects of Garlic Supplementation on Liver Enzymes: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

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Introduction: Current evidence on the beneficial effects of garlic on liver enzymes is contradictory. Therefore, the aim of this systematic review and meta-analysis is to evaluate the effect of garlic supplementation on human liver enzymes, such as Alanine Transaminase (ALT/SGPT) and Aspartate Transaminase (AST/SGOT).
Methods: To collect the required data, PubMed, Scopus, ISI Web of Science, and Google scholar databases were systematically searched from inception to June 2019. A meta-analysis was conducted using the random-effects model to evaluate the effects of garlic supplementation on ALT and AST levels. The Cochran's Q-test and inconsistency index (I2) were also used to evaluate heterogeneity among the studies. Among a total of 15514 identified articles, six studies (containing 301 participants) met the inclusion criteria.
Results: Results of the meta-analysis showed that garlic supplementation significantly decreased AST level (Hedges' g = -0.36, 95% CI: -0.72, -0.004, P= 0.047); whereas, it had no significant effect on ALT level (Hedges' g = -0.22, 95% CI: -0.64, 0.20, P= 0.310).
Conclusions: Results showed that garlic supplementation reduced AST levels significantly; however, had no significant effect on ALT levels. Considering the low score of NutriGrade, further studies are needed in this area.
 Keywords: garlic, liver enzyme, ALT, AST, systematic review, meta-analysis

NH-01650114_Route and type of Nutrition in Intensive Care Units of Ghaem Hospital of Mashhad: 2019 Audit

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Introduction: This study aimed to describe routes and type of nutrition in intensive care units of Ghaem Hospital.
Methods: This is a cross sectional study that was conducted in all hospitalized patients in different intensive care units (ICU) of Ghaem hospital on Nov 7th, 2019.
Results: Overall 36 inpatients (14 M: 21 F; mean age of 55.3±4.04 years) hospitalized in ICUs were evaluated in this study. 19.5% of them had oral nutrition intake, 80.55% were received enteral nutrition. The highest percentages of enteral nutrition intake were reported in Stroke ICU (87.5%) and Neurosurgery ICU (81.8%). The mean duration of enteral nutrition was 14 days and the highest duration (19 days) was reported in Neurosurgery ICU.
Conclusions: The overall prevalence of oral, enteral nutrition in the ICUs of Ghaem hospital was 19.5% and 80.5% respectively. This was the first study to evaluate hospitalized patients 'nutritional status in ICUs of Ghaem hospital. The results could be evidence for clinical nutrition support.
Keywords: Oral nutrition, Enteral nutrition, Intensive care unit

HN-01510086_The Effect of Coenzyme Q10 Supplementation on Serum Levels of Lactate, Pyruvate, Matrix Metalloproteinase 9 and Nitric Oxide in Migraineur Women. A Double Blind, Placebo, Controlled Randomized Clinical Trial.

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Introduction: The purpose of this study was to investigate the effect of coenzyme Q10 (CoQ10) supplementation on levels of lactate, pyruvate Matrix metalloproteinase 9 (MMP-9) and nitric oxide (NO) in women with migraine.

Methods: This randomized, double-blind, placebo-controlled clinical trial was performed among 46 patients diagnosed with migraine. Subjects were randomly assigned to placebo group (n=23) and/or intervention group (n=23), supplemented with 400 mg/day of CoQ10. The duration of the intervention was 12 weeks. Blood samples were collected at baseline and at the end of the intervention, in order to measure serum levels of CoQ10, lactate, pyruvate, MMP-9 and NO. Lactate/pyruvate ratio was calculated as serum lactate divided by serum pyruvate.

Results: Treatment with CoQ10 significantly reduced lactate, and pyruvate. Serum concentrations of MMP-9 and NO decreased while serum CoQ10 concentrations increased in CoQ10-treated group after 12 weeks. There was a significant reduction in LP ratio in intervention group. None of these changes had been observed in placebo treated group (p>0.05). In the other hand, the inter-group statistical analysis revealed CoQ10 significantly increase serum levels of CoQ10 and decrease MMP-9, NO, pyruvate and lactate compared with the placebo-receiving group. The study results showed CoQ10 supplementation significantly decrease frequency, severity and duration of migraine attacks compared with placebo receiving group (p<0.05).

Conclusion: In the current trial, 12 weeks of oral CoQ10 supplementation demonstrated positive effects on mitochondrial function, serum levels of NO and MMP-9 as an involvement factors in the pathophysiology of migraines.

Keywords: Coenzyme Q10, Mitochondrial dysfunction, Lactate, Pyruvate, Matrix metalloproteinase 9, Nitric oxid

HN-02020162_Effects of Saffron Supplementation on Inflammation and Metabolic Responses in Type 2 Diabetic Patients: A Randomized, Double-Blind, Placebo-Controlled Trial

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Introduction: Type 2 diabetes (T2D) is accompanied by elevated inflammation, oxidative stress, hyperlipidemia and hyperglycemia which all contribute to cardiovascular disease pathogenesis. Saffron as a complementary medicine and source of antioxidants could play a role in alleviating diabetes and its complications. The aim of this study was to determine the effects of saffron supplementation as an adjunct therapy in T2D.

Methods: This randomized controlled trial included 80 T2D patients with a mean age of 54.1 years. Participants were randomly assigned into two groups to take either saffron tablets (100 mg/day; n=40) or placebo (n=40) for 12 weeks. Fasting blood samples were obtained at the beginning and after the intervention period to quantify glycemic factors, lipid profile, and biomarkers of inflammation and oxidative stress. Anthropometric indices and dietary intakes were also measured at baseline and at study end.

Results: Compared with placebo, saffron supplementation resulted in significant decreases in waist circumference (p<0.001) and malondialdehyde (MDA) (p=0.001). There was no statistically significant difference in other indices, including anthropometric parameters, serum insulin, fasting blood glucose, HbA1c, insulin sensitivity indices, lipid profile, high-sensitivity C-reactive protein, total antioxidant capacity, and tumor necrosis factor-α between the study groups (p>0.05).

Conclusion: Overall, 12 weeks of saffron supplementation in diabetic patients had beneficial effects on waist circumference and serum MDA levels. However, saffron did not influence other evaluated cardio metabolic risk markers in diabetic patients.

Keywords: crocus sativus

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