



# Role of Naturopathic Diet and Treatment Modalities in the Successful Management of Psoriasis Vulgaris in an Adolescent Girl: A Case Report

Chidananda Murthy<sup>1</sup>, Naresh Kumar<sup>2\*</sup>, Ezhil Ratnakumari<sup>3</sup>, Dhilip V Ravi<sup>4</sup>

1. BT Chidananda Murthy (Murthy BTC), Principal MVM College of Naturopathy & Yogic Sciences, Vikas Layout, Venkata, Maruthi Nagar, Yelahanka, Bengaluru, India.

2. JSS Institute of Naturopathy and Yogic Sciences, Palakkad Highway Navakkarai, Coimbatore, India.

3. Assistant Professor Cum Senior Medical Officer, Department of Physiology, JSS Institute of Naturopathy and Yogic Sciences, Palakkad Highway Navakkarai, Coimbatore, India.

4. Principal, JSS Institute of Naturopathy and Yogic Sciences, Palakkad Highway Navakkarai, Coimbatore, India.

ARTICLE INFO	ABSTRACT
<p><i>Article type:</i> Case Report</p>	<p><b>Introduction:</b> Psoriasis Vulgaris (PV) is a chronic inflammatory dermatological disorder that affects skin, nails, and joints and has various systemic associations. The current case report is the first of its type to highlight the observations on manifestations of Psoriasis Vulgaris in an adolescent girl with Naturopathic diet, treatment, and Yoga Intervention.</p>
<p><i>Article History:</i> Received: 21 Jul 2021 Accepted: 15 Dec 2021 Published: 16 Feb 2022</p>	<p><b>Method:</b> An eighteen-year-old female who was diagnosed with Psoriasis Vulgaris at 9 years of age was administered Nature cure and Yoga for 16 weeks as an individualized diet and treatment protocol in an inpatient Nature Cure and Yoga Hospital in South India. Improvement in Psoriasis Area Severity Index (PASI) score and reduction in body mass index (BMI) were observed.</p>
<p><i>Keywords:</i> Naturopathic diet Yoga Psoriasis vulgaris Herbal application</p>	<p><b>Conclusion:</b> The changes observed are found to be consistent over 1 year. This case report also demonstrates the beneficial effects of Naturopathic diet, treatment, and Yoga as an effective treatment modality in the management of Psoriasis Vulgaris for both physical and psychological levels.</p>
<p>► Please cite this paper as: Murthy Ch, Kumar N, Ratnakumari E, Ravi Dh. Role of Naturopathic Diet and Treatment Modalities in the Successful Management of Psoriasis Vulgaris in an Adolescent Girl: A Case Report. J Nutr Fast Health. 2022; 10(1): 7-10. DOI: 10.22038/JNFH.2021.59821.1346.</p>	

## Introduction

Psoriasis (PV) is a chronic inflammatory dermatological disorder that affects skin, nails, and joints and has various systemic associations. In India, hospital-based epidemiological studies show that the prevalence of psoriasis varies from 0.8 to 2.8%, with peak onset in girls is between 11–15 years age group[1]. The etiology of psoriasis remains unknown and it is believed to be multifactorial with numerous key components including genetic susceptibility, environmental triggers in combination with skin barrier disruption, and immune dysfunction. Psoriasis confers significant physical and psychological distress and impairment usually resulting in a detrimental impact on patient quality of life and psoriasis patients are often stigmatized by the disease[2]. As the cause of psoriasis is still unknown, conventional treatment is available to control symptoms through topical and systemic therapies as well as

phototherapy. Care for patients also involves Psychosocial interventions because psoriasis patients are more likely to suffer from depression and anxiety disorders and have an increased rate of suicidal ideation[3]. The unconventional approach was also efficacious in the treatment of psoriasis which includes herbal use, dietary modification, meditation, and acupuncture[4]. Naturopathy is a rational and evidence-based system of medicine imparting treatments with natural elements based on the Theory of Vitality, Theory of Toxemia, Theory of Self-Healing Capacity of the body, and the principles of health. In India Naturopathy is combined with Yoga and with the ancient concept of Panchamahabuthas (Five great elements) for the prevention and treatment of diseases. The current case report highlights the observations on manifestations of psoriasis Vulgaris in an adolescent girl with Naturopathy treatment modalities.

\* Corresponding author: Naresh Kumar JSS Institute of Naturopathy and Yogic Sciences, Palakkad Highway Navakkarai, Coimbatore, India. Tel: +919976157398; Email: naresh2009@gmail.com.

© 2022 mums.ac.ir All rights reserved.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

### Case Presentation

An eighteen-year-old girl was admitted to a Nature Cure Hospital in South India, with Psoriasis Vulgaris with onset at 9 years of age. She presented with complaints of itching and scaling of chronic plaque-type patches on her scalp, neck, hip, and both thighs. The dermatological examination showed that it is Psoriasis Vulgaris (PV) with no family history of psoriasis. She has been managing her condition with the Indian system of Medicines (Siddha) till one year after onset and later with Homeopathy medicines for 4 years from 13 years to 17 years of age, with temporary relief with those medications.

### Clinical Findings

A detailed case history was taken when she was admitted to the hospital. On initial examination, the resting blood pressure was 110/ 70 mm Hg, the pulse rate was 72 beats per minute, height

158 cm, body weight 78.5 kgs, and body mass index (BMI) was calculated to be 31.4 kg/m<sup>2</sup>. Weight for Age Percentiles is 93.94 and z score is 1.55 which is considered as overweight. On physical examination, plaque-type patches with scaling were observed on the scalp, neck, hip, and both thighs. Since the patient had already been diagnosed with psoriasis, on initial assessment the diagnosis of psoriasis is primarily clinical. The hallmark of classic plaque psoriasis is well-demarcated, symmetric, and erythematous plaques with overlying silvery scales. The severity of psoriasis was assessed using the PASI (Psoriasis Area Severity Index) score which is recommended for the scientific evaluation of the severity of plaque psoriasis[5]. PASI scores were obtained during the day of admission (day 1) and the day of discharge (at the end of 16 weeks of treatment) and follow-up was done at 6<sup>th</sup> month and 1-year post intervention Table-1.

**Table 1.** Timeline of events

Date	Day of the event	Assessment (PASI) score	General observation		
			Blood pressure (mm. Hg)	Weight (Kgs)	BMI
08/11/2016	Before treatment	33	110/ 70	78.5	31.4
08/03/2017	After 16 weeks of treatment	3.2	110/70	63.5	25.4
08/09/2017	Follow-up after 6 months	1.6	108/66	60	24.03
08/03/2018	Follow-up after 1 year	0.8	110/68	65	26.04

**Table 2.** Details of Naturopathy and Yoga intervention:

	Intervention	Frequency
Diet	Intake of fresh fruit juice/ vegetable juice/ buttermilk/ plantain pith juice/ tender coconut water (300 ml/ serve)	Twice/ day (Breakfast & Dinner)
	Intake of Mixed fruits (1 bowl 250 gms) of and raw vegetable salad (100 gms)	Once/ day (Dinner)
	Vegetarian meal high in fiber (Vegetables & Millet based diet)	Once/ day (Lunch)
Hydrotherapy	Mud therapy:	Once/ 3 days
	1. Mud application to whole body	Daily
	2. Mud pack application to abdomen and eyes	
	Hydrotherapy:	Daily
	1. Cold hip bath	Once/ 3 days
	2. Steam bath	Once/ 3 days
	3. Colon hydrotherapy	
	Heliotherapy:	Once/ 4 days
	1. Plantain leaf bath	
	Herbal therapy:	
1. Fresh neem leaves, aloe vera and turmeric paste application over the plaques	Once/ 3 days	
2. Drained water of boiled brown rice and turmeric application		
3. Poppy seeds and turmeric application	Once/ 3 days	
4. Coconut oil application	Once/ 3 days	
Yoga	Yogic cleansing procedures:	Alternate days for initial 4 weeks
	1. Vaman dhauti	Twice/ week
	2. Yoga practices including Asanas, Meditation and Pranayama	Six days/ week (Regularly practiced after the intervention duration)

### Therapeutic Focus

Following a detailed history, initial counseling, and signed informed consent, naturopathy treatments were planned for 4 months initially. As per Naturopathic understanding the root cause of psoriasis, upon disturbance in the homeostasis of the body, due to improper

elimination of toxins leading to its accumulation leading to disturbance in the functioning of the immune system which is expressed as skin lesions and other manifestations. Hence, the holistic therapeutic focus is to detoxify the body and improve the functioning of the alimentary system, and also to improve the body-mind

stability through Yoga. Treatments were administered for 16 weeks which comprised of Naturopathic diet – juice fasting, intermittent fasting, fruit diet, followed by boiled vegetarian diet; mud therapy; hydrotherapy; heliotherapy; topical herbal applications and Yogic cleansing procedure which is presented in Table-2. She was advised to follow the satvik diet (soothing diet) consisting of boiled vegetables, fruits, and millet-based food, and strictly advised to avoid junk and fried food, to limit the consumption of non-vegetarian diet to monthly once if needed, topical herbal application.

## Results

During the process of treatment the clinically visible skin lesions were reducing and the patient reported a better quality of life. After 16 weeks of treatment, we observed a reduction in the severity of plaques and a reduction in PASI score from 33 at the beginning to 3.2 at the end of the intervention. During the follow-up visits, the PASI score was 1.6 and 0.8 at 6<sup>th</sup> month and 12<sup>th</sup> month respectively post-intervention. There was also a reduction in dryness and redness of the skin and fading off of the psoriatic patches. Other changes observed were a 15 kgs reduction in weight and BMI reduced to 25.4 kg/m<sup>2</sup> from 31.4 kg/m<sup>2</sup>. The changes observed are persistent over four years. During discharge, the patient was advised to continue with a vegetarian diet (approx. 1200-1500 Kcal/day) and practice Yoga (1 hour/ day), coconut oil application thrice a week. The patient reported having good compliance with the follow-up advice. The patient visited for follow-up at 6<sup>th</sup> and 12<sup>th</sup> months and assessment was done using PASI score (Table 1).

## Discussion

The present case is an eighteen-year-old girl, presented with symptoms of Psoriasis Vulgaris at 9 years of age. As indicated in many studies she had the appearance of psoriatic lesions during the early year of puberty, which can be related to the hormonal changes which occur at puberty, which might have triggered or worsened her condition[6]. The treatment was planned at addressing several factors observed in Psoriasis Vulgaris patients like incomplete protein digestion, bowel toxemia, excessive consumption of animal fats, which are considered to be morbid matter in Naturopathy, and impaired liver function, bile deficiency, nutritional deficiencies

and stress, which may be due to lack of vitality[7]. A low-fiber diet is associated with an increase in levels of gut-derived toxins like cyclic guanosine monophosphate (GMP) within skin cells, thereby increasing the rate of proliferation of skin cells dramatically[8]. Polyamines are shown to be higher in psoriatic individuals due to incomplete protein digestion or poor intestinal absorption of protein breakdown products [9]. Fasting encourages effective detoxification by the autophagy mechanism is adequately studied. The significant improvement in the patient's condition may have occurred due to decreased levels of gut-derived toxins and polyamines, which can be attributed to the prescribed low protein diet, raw diet intake, and light vegetarian gluten-free diet. Intake of non-vegetarian diet which is the source of Arachidonic acid is restricted to reduce the production of inflammatory leukotrienes from arachidonic acid which is many times greater than normal in the skin of psoriatic individuals. Steam bath<sup>s</sup> can act as detoxification therapy causing increased oxidation and destruction of nitrogen-containing wastes and toxins and eliminating them through the skin. Colon hydrotherapy aids in the detoxification function of the liver by removing large quantities of decomposing stuff and toxins from the intestine. A cold hip bath with friction is one of the best of all measures for the relief of constipation and to strengthen the smooth muscles of the abdominal and pelvic organs. All these above-mentioned physiological effects of hydrotherapy treatments may have brought about significant changes in the patient's condition. Along with diet and hydrotherapy, topical herbal and mud applications are known to modulate autoimmune mechanisms by reducing stress markers. Mud therapy decreases pro-inflammatory factors like interleukin I, TNF- $\alpha$ , and radical-mediated per oxidations like myeloperoxidase and glutathione peroxidase[10]. Plantain leaf bath is regarded as one of the detoxification processes by inducing profuse sweating. We observed that starch fortified turmeric baths produced a significant reduction in skin lesions, by acting as an anti-inflammatory agent[11]. Aloe vera application may exert anti-inflammatory actions by blocking the generation of inflammatory mediators and reducing neutrophil infiltration. Neem application has a role of free radical scavenging properties due to rich source of antioxidants,

nimbolide, azadirachtin, and ascorbate, and anti-inflammatory properties via regulation of proinflammatory enzyme activities including cyclooxygenase (COX), and lipoxygenase (LOX) enzymes and it suppresses the activity of nuclear factor-kappa B[12]. Stress is a major factor observed in many psoriasis patients, stress triggers the pro-inflammatory cytokines which contribute to the progression and maintenance of psoriatic lesions. Yoga in reducing stress is evident in this case[13], [14]. Vaman dhauti a yogic cleansing procedure, prescribed for the elimination of toxins from the upper gastrointestinal tract might help in aiding the detoxification process of the liver and intestine. The patient gained confidence by observing the changes in herself and that her quality of life in terms of physical and social aspects had been improved. This encouraged her to continue with the follow-up of the Naturopathic lifestyle.

**Conclusion:** Apart from physical symptoms psoriasis is also associated with a multitude of psychological impairments. From this case, Naturopathy and yoga which focuses on the whole system approach can be an effective choice of treatment for patients with Psoriasis Vulgaris focusing on both physical as well as the psychological aspect of patients. Diet modifications, topical herbal application, and yoga seem to be effective in immune modulation and its skin manifestations. We propose to further large-scale studies to generate evidence through clinical trials to assess the efficacy and effectiveness of this potential treatment protocol.

### Acknowledgment

I would like to thank JSS Institute of Naturopathy and Yogic Sciences, and JSS Management for providing the required support to write this case report.

### Funding

The author(s) received no specific funding for this work

### Conflict of Interest

We author of this study wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

### References

1. Dogra S, Mahajan R. Psoriasis: Epidemiology, clinical features, co-morbidities, and clinical scoring. *Indian Dermatol Online J.* 2016;7(6):471.
2. Hrehorów E, Salomon J, Matusiak L, Reich A, Szepietowski JC. Patients with psoriasis feel stigmatized. *Acta Derm Venereol.* 2012; 92(1).
3. World Health Organization. Global report on Psoriasis. *World Heal. Organ.* 2016.
4. Gamret AC, Price A, Fertig RM, Lev-Tov H, Nichols AJ. Complementary and alternative medicine therapies for psoriasis: a systematic review. *JAMA dermatology.* 2018; 154(11):1330-7.
5. Arnone M, Takahashi MD, Carvalho AV, Bernardo WM, Bressan AL, Ramos AM, Terena AC, Souza CD, Nunes DH, Bortoletto MC, Oliveira MD. Diagnostic and therapeutic guidelines for plaque psoriasis-Brazilian Society of Dermatology. *An Bras Dermatol.* 2019; 94: 76-107.
6. Ceovic R, Mance M, Bukvic M, Kostovic K, Stulhofer Buzina D. Psoriasis: female skin changes in various hormonal stages throughout life—puberty, pregnancy, and menopause. *Biomed Res Int.* 2013; 2013.
7. Pizzorno JE, Murray MT. *Textbook of natural medicine.* Churchill Livingstone, 2005.
8. Gyurcsovics K, Bertók L. Pathophysiology of psoriasis: coping endotoxins with bile acid therapy. *Pathophysiology.* 2003; 10(1):57-61.
9. Proctor MS, Wilkinson DI, Orenberg EK, Farber EM. Lowered cutaneous and urinary levels of polyamines with clinical improvement in treated psoriasis. *Arch Dermatol.* 1979; 115(8):945-9.
10. Bellometti S, Poletto M, Gregotti C, Richelmi P, Berte F. Mud bath therapy influences nitric oxide, myeloperoxidase and glutathione peroxidase serum levels in arthritic patients. *Int J Clin Pharmacol Res.* 2000; 20(3-4):69-80.
11. Shathirapathiy G, Nair PM, Hyndavi S. Effect of starch-fortified turmeric bath on psoriasis: a parallel randomised controlled trial. *Focus Altern Complement Ther.* 2015; 20(3-4):125-9.
12. Alzohairy MA. Therapeutics role of Azadirachta indica (Neem) and their active constituents in diseases prevention and treatment. *Evidence-Based Complement Altern Med.* 2016; 2016.
13. Basavaraj KH, Navya MA, Rashmi R. Stress and quality of life in psoriasis: an update. *Int J Dermatol.* 2011; 50(7):783-92.
14. Saeed SA, Cunningham K, Bloch RM. Depression and anxiety disorders: benefits of exercise, yoga, and meditation. *Am Fam Physician.* 2019; 99(10):620-7.