

To Evaluate the effect of Vilepi as an Ahara Dravya in the management of Karshyarog Non-Randomized Double-Arm Clinical Study

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ABSTRACT

Background: Karshya Roga, a Vata-predominant condition described in Ayurveda, is clinically comparable to undernutrition and emaciation. Impaired digestion and nutrient assimilation result in reduced body mass and functional capacity, posing a significant health burden in developing countries.

Objective: To evaluate the efficacy of Vilepi as a nutritional intervention in patients with Karshya Roga compared to routine dietary management.

Methods: A non-randomized, open-label, double-arm interventional study was conducted on 40 patients. Group A (n=20) received routine dietary management, while Group B (n=20) received Vilepi for 60 days. Subjective parameters and objective anthropometric measurements (body weight, BMI, MUAC) were assessed. Bioanalytical investigations included hemoglobin percentage (Hb%), erythrocyte sedimentation rate (ESR), and random blood sugar (RBS). Intra-group statistical analysis was performed.

Results: Group B showed highly significant improvement in subjective parameters and anthropometric indices, with a marked reduction in ESR. Changes in Hb% and RBS were not significant.

Conclusion: Vilepi demonstrated superior nutritional and bioanalytical benefits, suggesting its potential role in managing undernutrition and Emaciation.

Keywords: Undernutrition, Emaciation, Vilepi, Dietary Intervention, BMI, Bioanalytical Parameters

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INTRODUCTION

Ayurveda is one of the most ancient systems of medicine, bestowed upon mankind by the great sages of India. The fundamental objective of Ayurveda is the preservation of health in healthy individuals and the alleviation of disease in the diseased. This principle is clearly stated as “*Swasthasya swasthya rakshanam, aturasya vikara prashamanam*” According to Acharya Charaka, maintenance of health in a healthy individual and eradication of disease in a diseased person are the primary goals of Ayurvedic science. A healthy individual alone

can attain longevity and therefore Ayurveda emphasizes the adoption of a wholesome lifestyle for achieving a long and productive life.[1]

Ayurveda describes a healthy person as one who possesses balanced musculature, compact body structure, stable sense organs and proper tolerance to hunger, thirst, heat, cold and physical exertion, along with a well-functioning digestive fire and normal metabolic activity. Acharya Sushruta defines health as a state in which *Dosha, Agni, Dhatu* and *Mala* remain in equilibrium, and the soul, sense organs and mind remain in a pleasant state.

Similarly, Ayurveda emphasizes that proper appetite, easy digestion, normal excretion of waste products, lightness of the body, clarity of the senses, sound sleep, adequate strength, balanced complexion, longevity and mental well-being are the hallmarks of health. [2]

The World Health Organization (WHO) defines health as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. [3] In Ayurveda, health is considered the foundation for attaining *Dharma* (righteousness), *Artha* (wealth), *Kama* (desire) and *Moksha* (liberation), whereas disease deprives an individual of happiness, productivity and quality of life. [4]

Ayurveda recognizes *Ahara* (diet), *Nidra* (sleep) and *Brahmacharya* (regulated conduct) as the three pillars (*Trayopastambha*) of life, among which diet is considered the foremost. Improper dietary habits play a crucial role in the manifestation of various nutritional disorders. *Karshya Roga* is described in Ayurveda as an *Apatarpanajanya Vyadhi* and is included under *Rasapradoshaja Vyadhi*. Acharya Charaka has described *Ati-Krishna Purusha* as one among the eight undesirable body constitutions, highlighting the clinical importance of *Karshya*. Classical Ayurvedic texts such as Charaka Samhita, Sushruta Samhita, Ashtanga Hridaya, and other compendia have elaborately described *Karshya* and its management. [5,6]

In the modern context, *Karshya* can be correlated with emaciation or undernutrition. Inadequate intake of carbohydrates, proteins, fats, vitamins and minerals according to bodily requirements leads to malnutrition, resulting in tissue depletion and progressive weight loss. Emaciation remains a major public health concern in developing countries, including India. According to national and international data, a significant proportion of the adult population suffers from low body mass index (BMI), indicating chronic energy deficiency.

Rapid urbanization, sedentary lifestyle, irregular dietary habits, poverty and lack of nutritional awareness have contributed significantly to the increasing prevalence of undernutrition or emaciation. In India, both children and adults are affected by malnutrition, making it a major nutritional challenge. National Family Health Survey-5 (NFHS-5) data reveal a considerable prevalence of undernutrition among adults aged 15–49 years in both rural and urban populations. [7,8]

Vilepi is a classical Ayurvedic dietary preparation described in various Ayurvedic texts as a nourishing (*Brimhana*), strengthening and digestive-friendly food preparation. It is prepared by cooking cereals, particularly rice with four times the quantity of water until a semi-liquid consistency is achieved. *Vilepi* is considered easy to digest, nourishing to body tissues,

beneficial for the heart, sweet in taste and pacifying to *Pitta*. Due to its affordability, easy availability and nourishing properties, *Vilepi* may serve as an effective dietary intervention in the management of *Karshya Roga*, especially in the present era of fast-paced lifestyle. [9]

Considering the increasing burden of undernutrition and the need for cost-effective, culturally acceptable dietary interventions, the present study has been undertaken to evaluate the effect of *Vilepi* as an dietary preparation in the management of *Karshya Roga*.

MATERIALS AND METHODS

This non-randomized, open-label, double-arm interventional clinical study was conducted to evaluate the effect of a dietary intervention in patients with Karshyarog (Emaciation). The study was carried out at the Outpatient Department of Swasthavritta, Shri Khuddanadan Dungaji Government Ayurvedic College and Hospital, Raipur, India, after obtaining approval from the Institutional Ethics Committee (IEC/2024/25; dated 05 February 2024). Written informed consent was obtained from all participants.

A total of 40 patients aged 18–50 years with BMI between 15.0 and 18.5 kg/m² and classical features of *Karshyarog* were enrolled and allocated into two groups (n=20 each). Group A received Pathya Ahara Chart (dietary management Chart) alone, while Group B received as a Pathya Ahara in the form of *Raktashali Vilepi* (Food preparation) (100 g per serving, twice daily) for 60 days. The *Vilepi* was prepared from red rice (*Oryza sativa*) in a 1:4 ratio with water to semi-liquid consistency, with 1 g Trikatu Churna and Saindhava Lavana (Rock Salt) added during preparation.

Primary outcomes included body weight, BMI, MUAC, Hb, ESR, and RBS. Secondary outcomes comprised graded assessment of clinical symptoms. Data were expressed as mean ± SD, and p<0.05 was considered statistically significant.

RESULTS

A total of 40 patients were randomly allocated into Group A (n=20) and Group B (n=20). Most participants belonged to the 21–30 years age group (65%), with slight female predominance (52.5%). The majority were urban residents (75%) and from the middle socio-economic class (90%). Vata-Pittaja Sharirika Prakriti was predominant (92.5%), and all patients exhibited Vata Dosha predominance with Rasa Dhatu involvement.

In Group A, highly significant improvement (p<0.001) was observed in Daurbalya (Weakness) (59.38%), Kshudha (Hunger) (72.41%) and Vyayam Samatvam (Exercise Intolerance) (69.57%), while Nidra (Sleep) improved significantly (p<0.05). Changes in Dhamni Jala Darshana (Visible venous network) and Sthula Parva (Joints appear large and prominent) were non-significant.

Objective assessment showed significant improvement in BMI ($p=0.012$), whereas body weight and MUAC changes were non-significant.

In Group B, highly significant improvement ($p<0.001$) was noted in Daurbalya (Weakness) (93.55%), Kshudha (Hunger) (100%), Nidra (Sleep) (100%), and Vyayam Samatvam (Exercise Intolerance) (94.44%). Significant improvement was also observed in Sthula Parva (Joints appear large and prominent) and Dhamni Jala Darshana (Visible venous network). Objective parameters including body weight, BMI and MUAC showed significant to highly significant improvement ($p<0.05$ to $p<0.001$).

DISCUSSION

Karshya, described in Ayurveda as a disorder of impaired digestion and inadequate tissue nourishment, corresponds clinically to Emaciation characterized by reduced anthropometric indices and functional capacity. The present study evaluated the impact of *Raktashali Vilepi* as a structured dietary intervention in such patients. Higher prevalence among young adults, particularly students, suggests that irregular dietary habits, psychological stress and insufficient caloric intake may contribute significantly to disease manifestation.

Both groups demonstrated symptomatic improvement however, patients receiving *Raktashali Vilepi* showed statistically superior outcomes. Significant improvement in weakness, Hunger, sleep and exercise tolerance indicates enhanced nutrient utilization and improved physiological function. The semi-liquid consistency of *Vilepi* may facilitate digestion and absorption, particularly in individuals with compromised digestive capacity. The addition of *Trikatu Churna* and Saindhava Lavana (Rock Salt) may have further enhanced digestive efficiency and nutrient bioavailability.

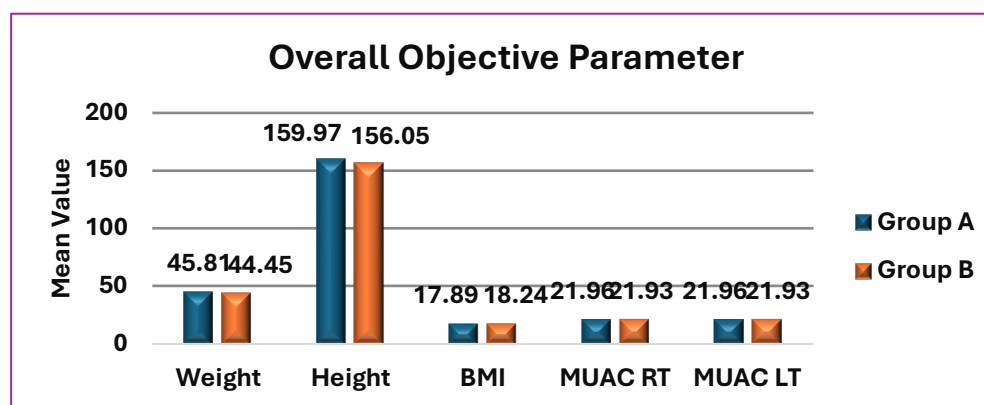
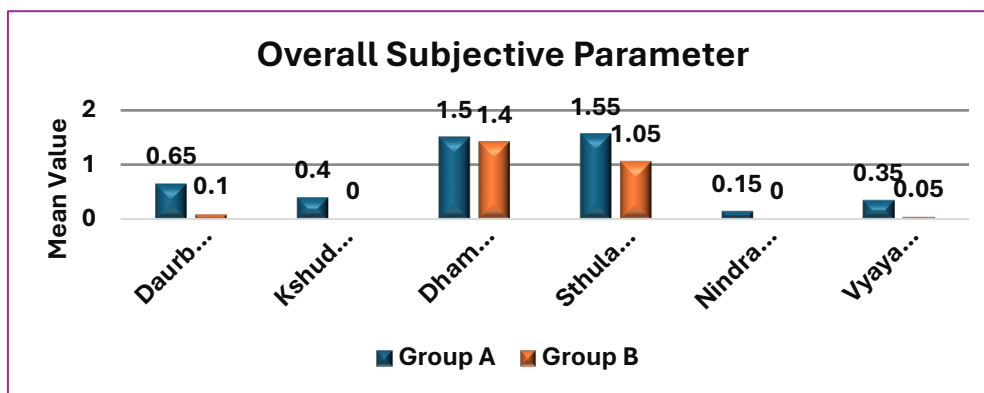
Objective parameters including body weight, BMI and MUAC improved significantly in the intervention group, reflecting better tissue nourishment and possible anabolic

response. Reduction in ESR suggests decreased inflammatory burden, while stable blood sugar levels confirm metabolic safety. Overall, *Raktashali Vilepi* appears to be a safe, economical and effective dietary adjunct in the management of Karshya, warranting further large-scale randomized studies.

CONCLUSION

Karshya represents a chronic state of undernutrition or Emaciation characterized by impaired nutrient assimilation, progressive tissue depletion and reduced functional capacity. The present clinical study evaluated the effect of *Raktashali Vilepi* as a structured dietary intervention in comparison with routine dietary management. The findings demonstrate that both interventions resulted in clinical improvement however, patients receiving *Raktashali Vilepi* showed significantly superior outcomes across key subjective and objective parameters. Statistically significant improvements were observed in measures of weakness, Hunger, sleep quality and exercise intolerance, visible venous network and joints appear large and prominent, along with significant gains in body weight, body mass index (BMI), mid-upper arm circumference (MUAC) and a marked reduction in erythrocyte sedimentation rate (ESR) in the intervention group. These results indicate that targeted, semi-liquid, nutrient-dense dietary formulations may be more effective than dietary counseling alone in reversing Emaciation. The favorable impact of *Vilepi* on anthropometric indices and inflammatory markers, without adverse metabolic effects, supports its safety and clinical applicability. In conclusion, *Raktashali Vilepi* appears to be an effective, economical and culturally acceptable dietary intervention for the management of Emaciation. Its incorporation into nutritional rehabilitation programs may offer a practical adjunct to conventional dietary strategies. Further randomized controlled trials with larger sample sizes and extended follow-up are recommended to confirm these findings and explore underlying metabolic mechanisms.

Overall Subjective and Objective Parameter of group A and group B



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