

Role of Yoga and Ayurvedic Dietary Regimen in the Management of Obesity: A Narrative Review

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Abstract

Background: Obesity is a global health concern linked to metabolic disorders, cardiovascular diseases, and reduced quality of life. Sustainable, non-pharmacological approaches such as yoga and dietary modification are gaining importance in its management. **Objective:** This review evaluates the role of yoga and dietary interventions in managing obesity, with emphasis on their effects on weight, body composition, and metabolic health. **Methods:** A narrative review was conducted using PubMed and Google Scholar for studies published between 2000 and 2025. Keywords included obesity, yoga, diet, and lifestyle intervention. Eligible studies comprised randomized controlled trials, cohort studies, and relevant reviews involving adults. Pharmacological and surgical studies were excluded. Findings were analysed and synthesized thematically. **Results:** The reviewed studies indicate that yoga, particularly when combined with dietary modification, leads to reductions in body mass index and waist circumference. Improvements in eating behaviour, mindfulness, and adherence to lifestyle changes were also reported. **Discussion:** Yoga practices such as asanas, pranayama, and meditation contribute to improved physical and behavioural outcomes. When integrated with balanced dietary approaches, they enhance weight management and metabolic health. Psychological benefits further support long-term sustainability. **Conclusion:** The combination of yoga and dietary regulation offers a feasible, cost-effective, and holistic strategy for obesity management.

Keywords: Diet, Obesity, Lifestyle Modification, Non-pharmacological Management, Weight Loss, Yoga

INTRODUCTION

Obesity has emerged as a major global and national public health problem. Globally, in 2022, more than 2.5 billion adults were overweight, of whom over 650 million were obese, and more than 37 million children under five years of age were overweight or obese. Overweight and obesity together contribute to at least 3.4 million adult deaths annually and are major risk factors for diabetes, cardiovascular diseases,

and certain cancers. In India, as per NFHS-5 (2019–21), about 24% of women and 23% of men aged 15–49 years are overweight or obese. The prevalence increases with age, is higher in urban areas and wealthier households, and shows significant inter-state variation, indicating a rising nutritional transition in the country.^[1] Obesity has become a global health concern, driven largely by sedentary lifestyles, rapid urbanization, and the increasing consumption of processed and high-calorie foods. This condition not only affects physical health but also contributes to a range of metabolic disorders, including diabetes, cardiovascular diseases, and hormonal imbalances. Effective management of obesity therefore requires a holistic approach that addresses both the physiological and psychological dimensions of health. Among the various strategies for weight management, the integration of yoga therapy and nutritional intervention has gained considerable attention. Yoga, a time-tested discipline, goes beyond physical exercise—it works on the body, internal organs, endocrine glands, brain, and the intricate Body-Mind Complex. Through asanas (postures), pranayama (breathing techniques), and meditation, yoga promotes better metabolism, regulates the digestive system, and enhances overall physiological balance. Regular yoga practice can also improve mindfulness and emotional stability, which play a vital role in sustaining healthy lifestyle changes. Dietary modifications are equally essential.^[2] A diet rich in protein, fiber, fruits, and vegetables—while reducing intake of refined carbohydrates, fats, and processed foods—not only supports weight loss but also improves body composition and metabolic health. Recent studies have shown that combining a high-protein, low-carbohydrate diet with regular physical activity results in significant reductions in body fat while preserving lean body mass. Together, Yoga and a balanced diet offer a comprehensive, sustainable approach to obesity management.^[3] This article explores how these two practices can synergistically help individuals achieve and maintain a healthy weight, improve overall well-being, and prevent obesity-related complications.

MATERIAL AND METHOD

Study Design

This study follows a narrative review design aimed at evaluating the effectiveness of yoga and dietary interventions in the management of obesity.

Search Strategy

A systematic literature search was conducted using electronic databases, including PubMed and Google Scholar, to identify relevant studies published between January 2000 and August 2025. Search terms combined keywords such as “yoga,” “obesity,” “weight loss,” “diet,” “lifestyle intervention,” “body composition,” and “metabolic syndrome” using appropriate Boolean operators. Additionally, reference lists of selected articles and review papers were manually screened to capture further relevant studies.

Inclusion Criteria

The review included studies published in English, comprising randomized controlled trials, clinical trials, cohort studies, and observational studies. Eligible studies involved adult participants aged 18 years or older who were diagnosed with overweight or obesity, defined by a body mass index of 25 kg/m² or higher. Studies were selected if they evaluated the effects of yoga, dietary interventions, or a combination of both on outcomes such as weight loss, body composition, metabolic parameters, or psychological well-being.

Exclusion Criteria

Studies were excluded if they were not published in English or if they were case reports, editorials, conference abstracts, or commentaries. Studies focusing on surgical or pharmacological interventions for obesity were also excluded. Additionally, studies in which yoga or dietary intervention was not a primary

component, as well as those with insufficient data or unclear methodology, were not considered for inclusion in the review.

Data Extraction

Data extraction was performed independently by two reviewers using a standardized data extraction form. Information collected included authorship and year of publication, study design and sample size, participant characteristics such as age, body mass index, and gender, details of the yoga intervention including type and duration, and the nature and composition of the dietary intervention. Primary and secondary outcomes assessed—such as weight loss, BMI, waist circumference, body fat percentage, and metabolic markers—along with key findings and study conclusions, were also extracted. Any discrepancies between reviewers were resolved through discussion or, when necessary, consultation with a third reviewer.

Quality Assessment

The quality of the included studies was assessed using design-specific tools: the Cochrane Risk of Bias Tool for randomized controlled trials and the Newcastle-Ottawa Scale for observational studies. Each study was graded as low, moderate, or high quality based on risk of bias, methodological rigor, and completeness of outcome reporting.

Data Synthesis

Due to heterogeneity in study designs, interventions, and outcome measures, a qualitative synthesis was performed. Results were grouped based on intervention type (yoga alone, diet alone, or combined yoga and diet) and summarized in tables and narrative form.

Table No-1': Study Interventions and Reported Outcomes

S r. n o	ARTICLE	CITATION	MATERIAL AND METHOD	OBSERVATION & RESULT	CONCLUSION
1	Therapeutic Effect Of Yoga And Restricted Diet In The Management Of Obesity ^[4]	ISSN 2455-3301 Wjpmr	An 8-week study was conducted on 25 participants (BMI 25–39.9 kg/m ²) selected from an Ayurvedic hospital in Varanasi to assess the effects of yoga and dietary control on obesity. The intervention included daily	Participants followed a restricted diet consisting of high-protein foods (pulses, beans, sprouts, fish), low carbohydrate intake (limited sugar, rice, potatoes, and wheat), and seasonal fruits excluding banana, mango, and grapes.	The study demonstrated a synergistic effect of yoga and a high-protein, low-carbohydrate diet, along with regulated lifestyle practices, leading to significant

			90-minute yoga sessions (Kapalbhati, Anuloma Viloma, Surya Namaskar, Trikonasana, Paschimottana sana, Vajrasana, Chakrasana) along with dietary regulation. Outcomes were evaluated using pre- and post-intervention BMI measurements.	Meals were limited to twice daily with a 14-hour interval, and the evening meal was taken before 7 pm.	reductions in body mass index and body weight.
2	Influence Of Yoga And Diet Control In Managing The State Of Obesity ^[5]	Kamakhya K, Seema P. Influence of Yoga and Diet control in managing the state of Obesity. J Yoga & Physiotherapy 2016; 1(1) : 555553.	A single-group study of 25 women evaluated the effects of a 6-week yoga and dietary intervention. Participants practiced yoga for 45 minutes daily and followed a low-fat, high-fiber vegetarian diet. Body weight, skinfold thickness, and cholesterol levels were	Following the 6-week Yoga and diet control program, participants showed a decrease in bodyweight, skin fold thickness and cholesterol levels of the subjects.	A 6-week yoga and diet change program decreased the bodyweight, skin fold thickness and cholesterol levels of the obese women. This suggests that a brief, intensive yoga program with a change in

			measured at baseline and post-intervention, and analysed using a t-test.		diet can pose certain risks.
3	Assessment Of The Efficacy Of Specific Yogasanas In Management Of Sthaulya ^[6]	DOI: 10.20959/wjpr202112-21931	The study included 116 clinically diagnosed patients of Sthaulya recruited from the OPD of the Department of Swasthavritta, Tarachand Hospital, Pune, Maharashtra. Patients were enrolled based on predefined inclusion and exclusion criteria, and data were recorded in a structured assessment format. Ethical clearance was obtained from the institutional ethics committee of TAMV, Pune.	A total of 116 patients with Sthaulya were studied. Most were aged 30–50 years, with slightly more females than males. The majority followed a mixed diet. Obesity was more common in service-class individuals, followed by students/housewives, and least in farmers. Most patients were married. Educational levels were fairly distributed, with graduates and postgraduates forming the majority. Statistical analysis was done using paired and unpaired t-tests for objective	Yoga combined with dietary and lifestyle modification demonstrated superior effectiveness compared to diet alone in improving obesity-related measures such as weight, BMI, and waist-hip ratio, along with associated symptoms. The findings also support better overall management of Sthaulya, a Kapha-dominant condition associated with

				data, and Wilcoxon signed-rank and Mann–Whitney U tests for subjective data.	sedentary habits and disturbed fat metabolism.
4	Outcomes From A Whole-Systems Ayurvedic Medicine And Yoga Therapy Treatment For Obesity Pilot Study ^[7]	DOI: 10.1089/acm.2018.0448	Participants met with an Ayurvedic practitioner twice monthly (six times) and followed semi standardized dietary guidelines with individual tailoring to address relevant psychophysiological imbalances obstructing weight loss and a standardized protocol of therapeutic yoga classes three times weekly with recommended home practice of two to four additional sessions	Participants lost an average of 3.5 kg during the 3-month intervention. Weight loss at 3 and 6 months post intervention increased to an average of 5.6kg and 5.9kg, respectively. Participants who lost 3% of their body weight during the 12 week intervention, lost on average an additional 3% during the follow-up period. Psychosocial outcomes also improved. No additional services were provided to participants during the follow up period.	A whole-systems Ayurvedic medicine and Yoga therapy approach provides a feasible promising non invasive low-cost alternative to traditional weight loss interventions with potential added benefits associated with sustainable holistic lifestyle modification and positive psychosocial changes.

5	Yoga Practices And Sattvic Ahar In The Management Of Overweight And Obesity: Four Case Studies ^[8]	Rajbhoj PH, Pathak SD, Bhogal RS, Pandey S. Yoga practices and sattvic ahar in the management of overweight and obesity: Four case studies. D Y Patil J Health Sci 2023;11:191-4.	A case study was conducted on four individuals from obesity classes I, II, and III. They followed a 7-day yoga program combined with a sattvic diet. Measurements of body weight, BMI, body fat percentage, muscle mass, bioelectrical impedance, and blood pressure were taken before and after the intervention. Results showed a noticeable decrease in body weight, BMI, and fat percentage, along with an increase in muscle mass and bioelectrical impedance.	Body fat was measured using bioelectrical impedance, where fat increases resistance compared to lean mass. In obesity, excess fat leads to insulin resistance, fatigue, and reduced muscle efficiency. A calorie-deficit naturopathic diet (often with vitamin C) and yoga are used for weight management. In this study, both approaches led to reduced weight and BMI, and improved body composition, indicating fat loss with better muscle preservation. Overall, yoga and diet improved metabolism, mobility, and energy levels.	The combined intervention of yoga and sattvic diet showed effectiveness in overweight and obese patients, as indicated by increased muscle mass and bioelectrical impedance along with reductions in body fat percentage, body weight, and BMI. The notable improvements observed within just 6 days suggest that longer-duration intervention may produce more significant effects. It is recommended that future studies be conducted
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					on larger sample sizes, longer durations, and with additional parameters to draw more definitive conclusions.
6	Conceptual Understanding Of Ahar And Yoga In The Management Of Obesity ^[9]	DOI: http://dx.doi.org/10.31782/IJCRR.2020.122302	This is a review-based study using Ayurvedic texts and modern literature, focusing on Ahar–Vihar, Yoga, and current lifestyle patterns such as processed food intake and sedentary habits.	Ahar–Vihar and Yoga were found effective in promoting health, maintaining balance, and helping in the management of Sthoulya. Unhealthy diet, junk food, alcohol, and inactivity contribute to rising obesity, affecting about one in five adults. Adoption of Ahar–Vihar and Yoga supports better weight control and overall wellness.	The causes of Sthoulya are evolving, with stress, unhealthy diet, and lack of awareness about Ahar and Yoga playing key roles. People with Kapha Prakruti are more susceptible and need proper diet and yoga guidance. As prevalence is increasing, early awareness is important to prevent complications.

					ns. The study emphasizes the beneficial role of Ahar and Yoga in managing Sthoulya.
7	Diet And Physical Activity Interventions To Prevent Or Treat Obesity In South Asian Children And Adults: A Systematic Review And Meta-Analysis ^[10]	ISSN 1660-4601 www.mdpi.com/journal/ijerph	A systematic literature search was carried out using electronic databases, reference lists, Google searches, and expert input. After removing duplicates, studies were screened by title/abstract and then full text based on set inclusion criteria. Selected studies were included, and the process was outlined using a PRISMA flow diagram.	The search yielded 3,788 records, but after detailed screening, only 29 studies met the inclusion criteria. This large exclusion rate reflects variability in quality and relevance, indicating limited strong evidence and the need for more robust research.	This review assessed diet and physical activity interventions among South Asians globally. Twenty-nine studies showed unclear BMI effects in children but modest weight improvement in adults, with BMI reductions of up to -0.8 kg/m^2 . Most studies reported BMI improvement from baseline, though evidence quality was limited.

					Effectiveness did not vary by location or socioeconomic status, and culturally tailored interventions—especially school-based programs—were found to be effective.
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Discussion

Obesity is an increasingly prevalent global health problem attributed to sedentary behaviour, excessive caloric intake, and modern luxurious lifestyles associated with rapid urbanization. It is a multifactorial disorder affecting physical, mental, emotional, and metabolic health.^[11] The present discussion emphasizes the integrative role of Yoga therapy and Ayurvedic principles in managing obesity by addressing the Body–Mind Complex. Yoga therapy influences the body, internal organs, endocrine glands, brain, and psychological well-being. Regular yogic practice enhances metabolism, improves digestive function, and supports hormonal balance. Physical activity through yogic asanas reduces body fat while preserving lean body mass, thereby improving body composition. Studies indicate that a diet higher in protein and lower in carbohydrates, when combined with exercise, additively improves body composition during weight loss.^[12] Daily practice of Yoga regulates digestion, assimilation, and elimination, maintaining physiological balance. Reduction of high-fat and processed foods and inclusion of high-protein, high – fiber diets rich in vegetables and fruits help prevent weight gain, obesity, and metabolic syndrome. Yoga addresses obesity holistically by integrating physical, mental, and emotional components, reducing stress and improving behavioral control.^[13] Practices such as Surya Namaskar (Sun Salutation) harmonize Prana (~ life force energy) throughout the body, revitalizing physiological systems and reducing overall body fat. Pranayama (~ yogic breathing) increases lung capacity and facilitates fat metabolism, while forward bending, twisting, and backward bending asanas (~ Pose/Posture) help reduce fat accumulation around the abdomen, hips, and other areas. Yoga exerts both stimulatory and inhibitory effects on metabolic parameters, making it a simple, non-invasive, and effective therapy for obesity.^[14] Yoga, developed in India as a lifestyle practice, is now globally used for health promotion and disease management. Asana, Pranayama, and meditation improve strength, flexibility, endurance, cardiovascular and metabolic health, stabilize the sympathetic nervous system, and enhance psychological well-being. Yoga serves as a moderate-intensity exercise suitable even for individuals with limited exercise capacity. Evidence shows

that short-term yoga interventions can significantly reduce BMI. Combined lifestyle approaches including low-fat lacto-ovo vegetarian diets, physical activity, and stress reduction further improve BMI, lipid profile, and cardiovascular risk factors.^[15] Ayurvedic management of obesity is guided by Chikitsa Siddhanta (~ Fundamental Treatment Principles), particularly Nidan Parivarjan (~ avoidance of disease causative factors) as described in classics. Charaka Samhita.^[16] In severe obesity, Guru (~ high nutrient density/viscosity) and Apatarpan (~ depletion, reduction, or catabolic therapy) diets are initially advised to gradually achieve a lean constitution. Therapeutic measures include foods that alleviate Vata, reduce Kapha and Meda (~ fat tissue), use of hot and sharp enemas, and administration of classical formulations such as Guduchi (*Tinospora cordifolia*), Devadaru (*Cedrus deodara*), Musta (*Cyperus rotundus* L.), Triphala, Takrarishta, and honey to restore metabolic balance. Recommended yogasanas in obesity include Bhujangasana (Cobra Pose), Shalabhasana (Locust Pose), Pawanmuktasana (Wind-Relieving Pose), Surya Namaskar (Sun Salutation), Dhanurasana (Bow Pose), Paschimottanasana (Seated Forward Bend), Matsyendrasana (the Lord of the Fishes pose), Sarvangasana (Shoulder Stand), Halasana (Plough Pose), Matsyasana (Fish Pose), Ushtrasana (Camel Pose), and Shavasana (Corpse Pose), which improve endocrine function, digestion, fat metabolism, and overall physiological efficiency. Surya Namaskar, though not traditionally classified as an asana, is a comprehensive yogic practice integrating asana, pranayama, and mantra (~chanting), offering rapid and holistic benefits when practiced regularly.^[17] Dietary regulation through Pathya (~suitable diet and lifestyle regimens) and Apathya (unwholesome, unsuitable or injurious) plays a vital role. Old cereals, selected pulses, vegetables, buttermilk, warm water, pungent and bitter foods, physical activity, Udvartana (~powder-massage/upward-rubbing), Langhana, sunlight exposure, and walking are beneficial, whereas heavy foods, dairy, excess fats, sugars, day sleep, cold water bathing, oil massage, and sedentary luxurious lifestyles aggravate obesity.

Conclusion

This study indicates that, Its multifaceted impact—physical, psychological, and behavioral—makes it an effective adjunct to conventional weight loss strategies. Further large-scale, long-term studies are needed to establish standardized protocols and evaluate long-term outcomes. Evidence from the included studies suggests that yoga, dietary interventions, and their combination can effectively improve weight-related outcomes, including BMI, waist circumference, and body composition, while also promoting psychological well-being through reduced stress and enhanced mindfulness.

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