

EMERGING ROLE OF AYURVEDIC REGIMENS FOR THE MANAGEMENT OF STHAULYA (OBESITY) WITH INTEGRATIVE INSIGHTS: A COMPREHENSIVE REVIEW

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ABSTRACT

BACKGROUND: Sthaulya (obesity) is a major global health concern associated with metabolic disorder. Its growing prevalence is primarily driven by sedentary lifestyle and poor dietary habits. In ayurveda Sthaulya is described as a metabolic imbalance including Kapha dosha and meda dhatu, highlighting the need for holistic management approaches.

OBJECTIVE: This review aimed to evaluate the role of ayurvedic regimens and yoga interventions in the management of sthauya.

METHOD: The Comprehensive literature search was conducted across Google scholar, PubMed, and Ayush portal for studies published between 2018 to 2026. A total of 110 articles were included in this review.

RESULTS: The review highlights that ayurvedic regimes including lifestyle modification, dietary changes, herbal medicine, panchkarma, along with yoga practices, are associated with improvements in anthropometric parameters and metabolic health. These approaches collectively contribute to the improved metabolic balance and reduction in obesity risk factors, thereby promoting overall health and well-being.

CONCLUSION: Integrative approaches including yoga and ayurveda provide effective complementary strategies for obesity management, emphasizing sustainable and holistic care.

Keywords: Sthaulya, Ayurveda, Obesity, Panchakarma, Metabolic Disorders, Yoga

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INTRODUCTION

Obesity, refers to excessive or abnormal accumulation of body fat which can adversely affect health and associated with serious health risk, has emerged as one of the most critical global public health concerns. The World Health Organization (WHO, 2024) categorizes individuals overweight and obese with a body mass index (BMI) over 25 as overweight and above 30 as obese 1. As of 2022, approximately 2.5 billion individuals representing 43% of the global adult population were overweight, with over 890 million categorized as obese. This indicates a significant increase from the 25% prevalence reported in 1990. Currently, 16% of adults worldwide are obese, with regional disparities ranging from 31% in South-East Asia and Africa and 67% in the America. Among children under five years, 37 million were found to be overweight, nearly half of whom reside in Asia. Furthermore, the prevalence of overweight in individuals aged 5-19 years rose from 8% to 20%, while obesity increased from 2% (31 million) in 1990 to 8% (160 million) in 2022 1. The health consequences of obesity are extensive, as it is a major risk factor for non-communicable diseases (NCDs) including cardiovascular disorders, type 2 diabetes, and various types of cancer. Economically, obesity contributes to increased healthcare

expenditures and substantial indirect costs through loss of productivity, long-term disability, and premature mortality. The burden is particularly acute in low- and middle-income countries where rapid urbanization, dietary transitions, and sedentary lifestyles are accelerating the obesity epidemic². The COVID-19 pandemic further amplified the health risks for obese individuals, revealing their heightened vulnerability and reinforcing the urgency for impactful, scalable, and sustainable management strategies³. Conventional therapeutic approaches including pharmacotherapy, dietary modifications, and bariatric surgery have shown limited and short-term efficacy and are often associated with adverse effects. Approved anti-obesity medications such as orlistat, setmelanotid, phentermine and liraglutide have been linked to various complications including anxiety, hepatotoxicity, gastrointestinal disturbances, and sexual dysfunction 4-6. These limitations have led to growing interest in alternative, preventive, and integrative strategies that are safer and more holistic in nature. The traditional Indian system of medicine, ayurveda offers a comprehensive and customized framework for the management of obesity termed Sthaulya in classical Ayurvedic texts. The Charaka Samhita and Sushruta Samhita describe Sthaulya as a metabolic disorder resulting from

poor dietary habits, sedentary behavior, and indulgence in pleasurable lifestyle practices, which lead to the vitiation of Kapha Dosha and excessive accumulation of Meda Dhatu (adipose tissue)⁷⁻⁸. Ayurveda emphasizes balancing the Doshas, enhancing Agni (digestive/metabolic fire), detoxification through Shodhana (purificatory procedures), and rejuvenation via personalized regimens that include dietary modifications, herbal formulations, physical activity, and yogic practices. Modern evidence supports the relevance of Ayurvedic interventions for obesity, particularly due to their holistic approach, low risk profile, and growing public demand for natural therapies 9. Integrating Ayurveda into contemporary healthcare paradigms aligns with global efforts to embrace culturally rooted, evidence-informed practices 10. Ayurvedic regimens when scientifically validated can serve as sustainable alternatives or adjuncts to conventional treatments, offering a multidimensional strategy for obesity prevention and management 11-12.

Physiological And Metabolic Basis of Obesity

The obesity process is being identified as an increasing chronic metabolic disease with radical changes in fat tissue biology, systemic inflammation, and endocrine controls 13. Consistent excess intake of calories over expenditure leads to the growth and proliferation of fat cells, which changes the release of signaling molecules, including leptin, adiponectin, resistin, TNF- α , and IL-6 14. These changes hinder the typical functioning of insulin, cause chronic, low-grade inflammation, and interfere with processes controlling appetite in the hypothalamus 15. Alterations in intestinal microbial diversity and increased intestinal permeability promote metabolic dysregulation subsequent to the gut-brain-adipose axis. The disruption of efficient mitochondrial performance, oxidative stress and

impaired fatty acid oxidation decrease metabolic capacity at the system level and the accumulation of adiposity 16. Chronic stress leads to the obesity due to overstimulation of the hypothalamic-pituitary-adrenal (HPA) axis, resulting in cortisol-induced fat build up, insulin resistance as well as metabolic dysfunction 17. Sympathetic hyperactivity, inflammation of the adipose tissue, changes in adipokine secretion, and intestinal-microbiota disruption contribute to the increase in body weight 18. These metabolic and endocrine alterations align with the ayurvedic description of sthaulya, characterized by impaired digestive processes and excessive adipose formation. This comprehensive review critically examines the Ayurvedic understanding of Sthaulya, its etiopathogenesis, classical and contemporary therapeutic interventions, and the available clinical evidence supporting the effectiveness and safety of ayurvedic regimens in the management of obesity.

METHODOLOGY

This comprehensive review, conducted through a literature search, across PubMed, Google Scholar and Ayush Portal using keywords such as “obesity, yoga, sthaulya, ayurveda, panchkarma and herbal medicine” were combined using (or, and) Boolean operators. Articles published between 2018 to 2026 were considered. Additionally, relevant articles were identified through manual screening of reference list. A total number of 110 relevant articles, including clinical trials, and review literature, were incorporated. The findings were thematically organized, offering an integrative view of traditional therapies and contemporary insights, and identifying research gaps for future exploration. The detailed study selection process is illustrated in the PRISMA flow diagram (Fig 1).

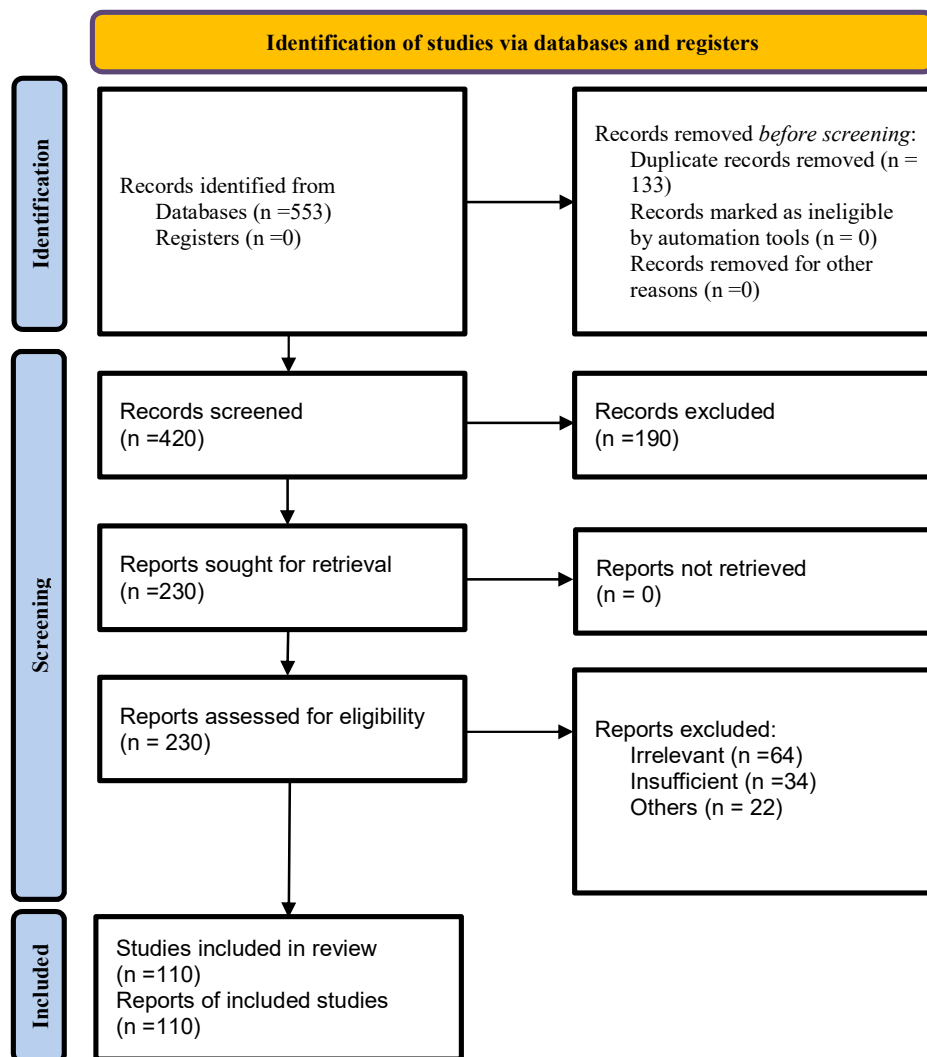


Fig. 1 PRISMA Flow Diagram Showing the Study Selection Process

OBESITY AND ITS AYURVEDIC PERSPECTIVE: A CONTEMPORARY OVERVIEW

In the classical Ayurvedic system, Sthaulya (obesity) a pathological condition marked by the excessive accumulation of Meda Dhatu (adipose tissue) and Mamsa Dhatu (muscle tissue), resulting in structural and functional disruptions in the body¹². Ayurveda views Sthaulya (obesity) not merely as a condition of excess body weight but as a multidimensional metabolic disorder involving deranged digestion, impaired tissue metabolism, and doshic imbalance (homeostasis disruption), particularly of Kapha Dosha¹⁹. The verses 4 to 6 of the Sutrasthana, chapter 21, of the Charaka Samhita provides the comprehensive clinical features of sthauilya (obesity) indicates that excessive meda and mamsa (fat and muscles) deposition, leads to symptoms like, heaviness, weakness, lethargy, odour, excessive sweating, and sweet cravings²⁰. The foundational ayurvedic principle “Rogah sarve api mande’gnu” (Astanga Hridaya, sutrasthana 12\3) focuses on weakened Agni predisposes individuals to illness, provide a framework for sthauilya (obesity), explaining it as the result of poor digestive and metabolic efficiency leads to improper nutrient processing and progressive fat assimilation²¹. Modern medicine perspective views obesity similarly, as multifaceted condition caused by prolonged energy imbalance, sedentary lifestyles, and poor dietary practices²². While utilizing divergent theoretical background both Modern medicine and Ayurveda demonstrate disordered regulatory mechanism, impaired metabolic function, and poor lifestyles patterns the main contributor to accumulation of fat²³. The combined perspective

provides advanced, holistic interpretation of sthauilya (obesity) which effectively bridges ayurvedic paradigms with contemporary frameworks for the management of obesity²⁴.

ETIOPATHOGENESIS OF STHAULYA IN AYURVEDA

Sthaulya (obesity) is a condition arises due to a combination of etiological factors that disrupt the equilibrium of Doshas (bio-regulatory system), Agni (digestive fire), Dhatus (structural and functional tissue system), and Srotas (transport channels)²⁵. It is categorized under Santarpanajanya Vikara (metabolic dysregulation), indicating disorders caused by over-nourishment and indulgent lifestyle practices. The primary causative factors Nidana includes the frequent consumption of heavy (Guru), oily (Snigdha), cold (Shita), and sweet (Madhura) foods, overeating (Atimaatra Bhojana), lack of physical activity (Avyayama), excessive sleep during the daytime (Divaswapna), indulgence in sensory pleasures, absence of mental exertion, and genetic predisposition²⁶. These factors lead to the formation of Ama a toxic by product of incomplete digestion which accumulates in the body and interferes with the function of Medo-dhatvagni, the metabolic fire responsible for the proper transformation and assimilation of fat tissue⁸. As Medo-dhatvagni becomes hypoactive, Meda Dhatu is synthesized in excess and subsequent tissues such as Asthi (bone), Majja (marrow), and Shukra (reproductive fluids) receive inadequate nourishment. This abnormal proliferation of Meda leads to obstruction of the body’s microchannels (Srotorodha), resulting in the vitiation of all three Doshas. However, the most prominent imbalances occur in Kapha and Vata Doshas, especially in their subtypes: Samana

Vayu and Vyana Vayu (responsible for digestion and circulation), Kledaka Kapha (involved in lubrication and moisture balance), and Pachaka Pitta (responsible for metabolic transformation)²⁷. The systemic impact includes (Angnidya)

(impaired digestion), deranged fat metabolism, accumulation of metabolic waste, and compromised tissue functioning²⁸, as shown in Fig. (2).

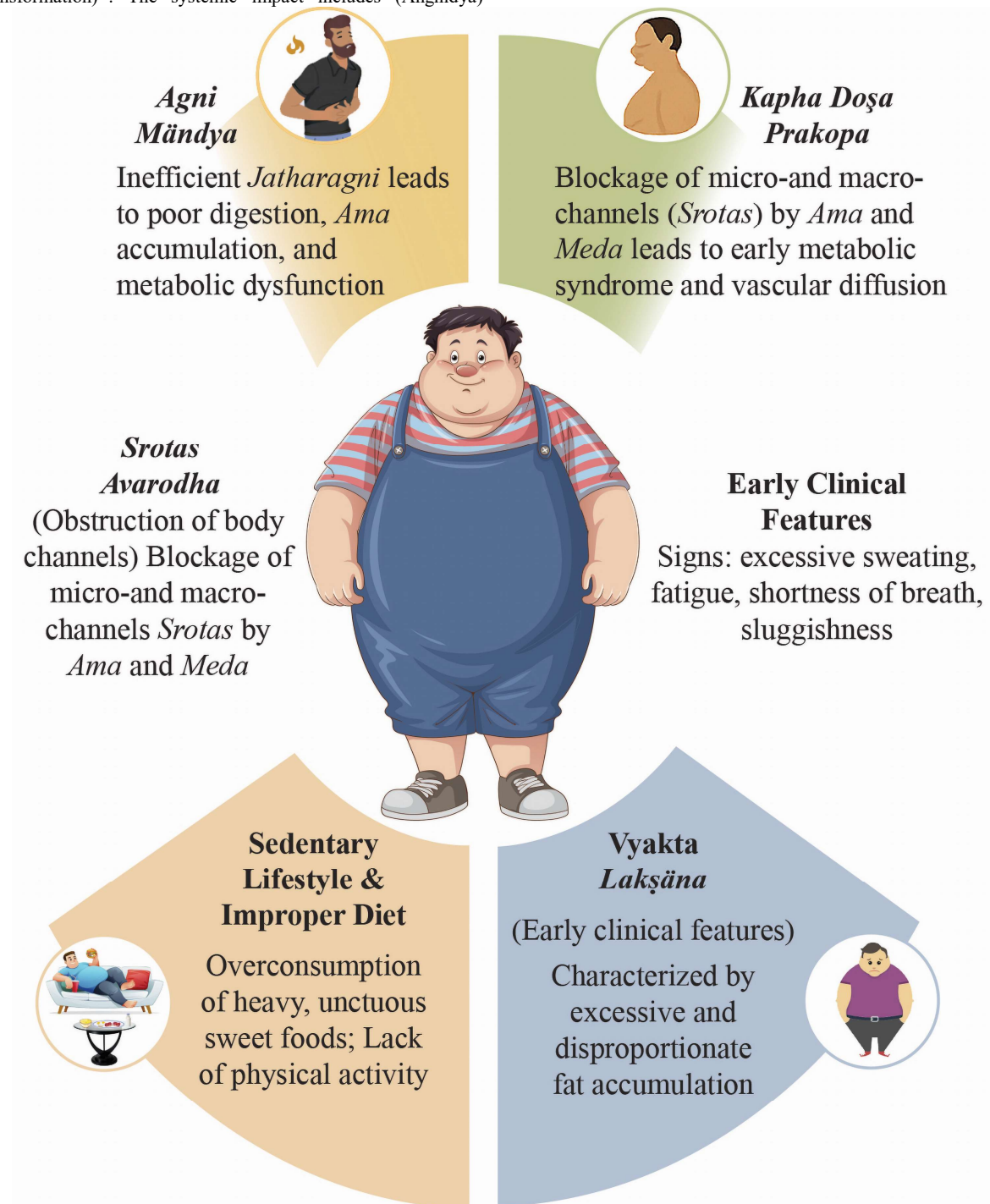


Fig. 2 Pathogenic pathway of *Sthaulya* in Ayurvedic context

COMPLEMENTARY AND ALTERNATIVE MANAGEMENT OF STHAULYA (OBESITY)

Complementary and Alternative Therapies (CAT) such as herbal medicine, yoga, acupuncture, massage therapy, and detoxification regimens are increasingly recognized as supportive strategies in the holistic management of obesity (*Sthaulya*)²⁹.

These approaches focus not only on reducing excess body weight but also on improving metabolic parameters and enhancing overall quality of life³⁰. CAT interventions are grounded in traditional healing systems and emphasize individualized care that targets the multifactorial etiology of obesity. Recent studies have reported that yoga practices associated with significant improvements in central adiposity, including waist

circumference, waist hip ratio and body composition indicators 31. For instance, dietary supplements and herbal remedies have been shown to lower adiposity and improve glucose-lipid homeostasis 32-33. Integrative management approaches combining Ayurvedic therapies, botanical interventions, and mind-body practices provide a multidimensional framework that addresses physical, psychological, and behavioral aspects of obesity 34-35. These therapies have demonstrated measurable outcomes, positioning them as safe, non-invasive, and effective alternatives or adjuncts to conventional treatment modalities 36-37.

Shamana Chikitsa (Palliative Therapy)

Shamana Chikitsa, or palliative therapy in Ayurveda, focuses on pacifying imbalanced doshas without eliminating them from the body. In obesity management, this approach aims to alleviate associated discomforts while enhancing long-term physiological and psychological resilience. Core therapies include Swedana (sudation therapy), Abhyanga (herbal oil massage), Basti (medicated enema), yoga, and meditation all of which contribute to reducing fatigue, stress, and metabolic dysfunction 38. In advanced obesity, Shamana therapies are particularly beneficial for relieving musculoskeletal stress, respiratory strain, and emotional disturbances³⁹. Herbal medicines play a central role in this approach, offering pharmacologically active compounds that support lipid metabolism and insulin sensitivity. Several botanicals such as *Aconitum heterophyllum*, *Terminalia chebula*, *Terminalia bellirica*, *Emblica officinalis*, *Cyperus rotundus*, and *Commiphora mukul* have shown significant anti-obesity effects 40-41. These herbs act through various mechanisms, including appetite suppression, enhancement of (Agni) digestion fire, and reduction of Medas (fat tissue), contributing to improved metabolic health and weight loss 36.

Shodhana Chikitsa (Detoxification And Panchakarma Therapy)

Shodhana Chikitsa, the purification branch of Ayurvedic therapy, involves the elimination of accumulated toxins (Ama) and aggravated doshas through specific detoxification procedures 42. In the management of Sthaulya, Panchakarma plays a central role. This five-fold cleansing therapy includes Udvartana (dry herbal powder massage), Snehapana (internal oleation), Swedana (steam therapy), Virechana (purgation), and Basti (medicated enema), particularly Lekhana Basti, which is indicated for scraping excess fat 43. These therapies act synergistically to mobilize deep-seated fat deposits, correct digestive dysfunction, and enhance tissue metabolism. For example, Udvartana stimulates lymphatic drainage and fat breakdown, while Virechana eliminates excess Pitta and Kapha. Lekhana Basti,

administered with scraping and detoxifying herbs, has been shown to reduce body weight, skinfold thickness, and waist-to-hip ratio effectively 44. Moreover, Panchakarma procedures strengthen Agni (digestive fire), facilitate toxin clearance, improve nutrient absorption, and restore physiological balance, thereby promoting sustainable weight management and improved energy levels 43.

Ahara (Dietary Modifications In Obesity Management)

Ahara or diet is a cornerstone of both Ayurvedic and Yogic traditions, seen not merely as sustenance but as a determinant of health, vitality, and mental clarity. According to the Bhagavad Gita (17.8), Sattvika foods (balanced diet) are those that “*ayuh-sattva-balarogya-sukha-priti-vivardhanah*” life-promoting, strength enhancing, and conducive to happiness and well-being 45. These include fresh vegetables, whole grains, ghee, honey, and clean water foods that are nourishing, easily digestible, and free from impurities 46. In contrast, Rajasika and Tamasika foods marked by excessive spiciness, fermentation, staleness, or processing are believed to disturb mental and physical equilibrium, contributing to obesity and metabolic disorders (Gita 17.9-10)⁴⁷. Classical yogic texts such as the *Hatha Yoga Pradipika* (1.59-62) and *Gheranda Samhita* (5.16) emphasize the principle of mitahara or moderation, asserting that without regulated dietary intake, yogic practices and health cannot be successfully maintained 48-49. Contemporary research aligns with these views, demonstrating that a clean, balanced, and balanced diet supports optimal metabolism, reduces oxidative stress, and prevents fat accumulation 50.

Vihara (Lifestyle Modifications And Exercise)

Vihara, referring to daily lifestyle routines, serves a pivotal role in the ayurvedic management of obesity. Regular incorporation of yogic practices including Asanas (physical postures), Pranayama (breathing techniques), Surya Namaskara (sun salutations), and meditation has shown profound benefits for both physical fitness and mental well-being 51-52. These practices enhance flexibility, muscular strength, cardiovascular function, and endocrine regulation. Clinical research supports the efficacy of Surya Namaskara in improving body composition, enhancing serotonin levels, and supporting emotional stability 53-58. Additionally, regular engagement in these practices fosters self-regulation, mindfulness, and long-term adherence to healthy habit factors crucial for sustained weight loss 59-63. Studies confirm the utility of integrated yoga helps in maintaining physical and emotional balance⁶⁴⁻⁶⁵. Thus, Vihara, when aligned with ahara and chikitsa, provides a holistic and evidence-based framework for the management of Sthaulya .

Table 1. Summary of clinical studies on Complementary and Alternative therapies in obesity management

S. No.	Regimen type	Intervention type	Key outcomes	Feasibility	Supporting factors	Challenges	References
1	Daily Routine (Dincharya)	Integrated Yoga & Ayurveda Therapy	11.5 kg weight loss in 90 days	High	Cost-effective yoga and diet; accessible herbal support	Standardization issues; adherence challenges	66
		Integrated Yoga Regimen	7 kg weight reduction; improved BMI and WHR	Moderate	Home-based, affordable yoga and flexible diet plan	Inconsistent adherence; lack of treatment uniformity	67
		Ayur Yoga Obesity Management Protocol	12 kg weight loss; improved WHR; relief in polydipsia and pain	Moderate	Simple, low-cost interventions; easily available ingredients	Requires clinical infrastructure and trained personnel	68
2	Panchakarma Therapies	Virechana Karma (Therapeutic Purgation)	7–10 kg weight loss; 6.64% BMI reduction; 22.4% lower triglycerides	Moderate	Herbal-based, non-invasive and affordable	Setup requirement; patient commitment; possible relapse	69
		Deepana-Pachana, Vamana, Snehapana	8.4 kg weight loss; BMI reduced (31.8 to 28.7); fat % decreased	Moderate	Safe and effective; notable fat loss	Needs specialist oversight; protocol rigidity	70
		Virechana Karma + Lekhana Basti + Udvartana	Improved metabolism, digestion, detoxification	Moderate	Accessible herbs; effective detoxification	Trained Panchakarma staff and facility needed	71
		Pippalyadi Basti + Lekhana Basti	7.36 kg weight loss; 2.93 BMI unit reduction; symptom relief	High	Safe, herbal, non-invasive	Patient adherence; technical skill requirement	72
		Diet-only, Diet+Yoga, Diet+Ruksha Udvartana	Significant reductions in weight, BMI, waist and hip circumference	High	Inexpensive, simple diet; herbs easily sourced	Practitioner guidance required	73
		High-Protein + Calorie-Restricted Diet	3.46 kg weight loss; improved gut microbiota	Moderate	Safe, tolerable; enhances gut health	Variable outcomes; dietary compliance	74
		Yoga Therapy + Naturopathic Diet	91 kg to 84 kg weight loss; BMI from 40.5 to 37.3	Moderate	Holistic, cost-effective, non-invasive	Expert-led and time-intensive	75
		Aconitum heterophyllum Extracts (Ethanol/Chloroform)	Weight loss; reduced triglycerides; anti-obesity & anti-inflammatory effect	Moderate	Strong traditional use; flavonoids and polyphenols; safe up to 3g	Detox and extraction setup needed; limited human studies	76-77
		Acorus calamus Powder & Vachadi Churna	BMI reduction; obesity symptom relief	Moderate	Traditional use; known Medohara (fat-reducing) properties	Limited standardization and trials; patient compliance	78
		Navaka Guggulu + Tryushnadi Guggulu + Brihat Manjistha Kwatha	BMI reduced (37.04 to 34.22); relief from fatigue, polyphagia	High	Safe, low-cost, standardized herbal formulations	Compliance with treatment duration	79
		Achyranthes aspera Aqueous Extract	Weight and adipocyte size reduced; improved lipid profile, leptin levels	Low to Moderate	Scientifically validated; holistic impact; non-toxic	No human trials; dosage standardization; regulatory barriers	80
		Berberis brandisiana Methanolic Extract	7.4% weight reduction; appetite suppression; better metabolic markers	Moderate	Traditional use; rich in anti-inflammatory bioactives (TNF- α , IL-6)	Safety unverified in humans; insufficient toxicity data	81
5	Yogic Practices (Yoga and Pranayama)	Structured Yoga + Lifestyle Advice	1.2 kg weight loss; 5.3% BMI reduction	High	Home-based yoga modules; increased metabolic rate	Moderate compliance; underutilization	82
		Continuous Yoga Practice	+0.52 kg muscle gain; -0.68 BMI; -2.88% fat mass	High	Supervised, regular sessions; physical conditioning	Limited generalizability; small sample size	83
		Surya Namaskara Sessions	BMI reduced (30.71 to 30.41); slight WHR reduction	High	Improves posture, flexibility, breathwork	Only female participants; dietary factors uncontrolled	84
		Hatha + Vinyasa Yoga	3.6 kg average weight loss; 1.35 BMI unit reduction	High	Improves physical activity, dietary habits	Lower adherence to Vinyasa; limited comparative analysis	85
		One-Year Hatha Yoga Programme	4% waist circumference reduction; central obesity decreased	High	Long-term yoga protocol; guided by trained instructors	High dropout rate (43%); no diet regulation	86

Abbreviations: WHR: Waist-Hip Ratio; BMI: Body Mass Index; TNF- α , IL-6: Inflammatory cytokines.

COMPARISON OF AYURVEDIC AND ALLOPATHIC APPROACHES TO OBESITY

Modern evidence-based medicine emphasizes on treating sthaulya (obesity) using systematic physical activity and structured dietary programmes, behavioral counselling and pharmacologically targeted interventions 88-89. Some of the pharmacotherapeutic medications include orlistat and lipase inhibitor, lorcaserin and glucagon like peptide-1 (GLP-1)

receptor agonists such as liraglutide and semaglutide, modulate the hunger signals and extend gastrointestinal motility 89. Surgical bariatric procedures, such as sleeve gastrectomy and Roux-en-Y gastric bypass are effective in the patient who has severe obesity or comorbidities associated with obesity 90. These interventions are effective for rapid weight reduction and improve cardiometabolic risk factors, they are often limited by the adverse effect, prohibitive costs, prolonged compliance, and the necessity of tired monitoring 91. The ayurvedic concepts of sthaulya which is commonly known as obesity, is a pathological condition in which impaired digestive capacity and anomalous

nutrient absorption eventually leading to maladaptive fat accumulation 25. Additionally, the treatment strategies aim to adjust gastrointestinal process and develop new routine patterns designed to reverse the tendency toward future adiposity 92. Ahara (dietary intervention) and Vihara (lifestyle intervention) are the traditional intervention strategies emphasized on light, easy to digest, minimized oil foods and the integration of daily behavioral patterns and rigorous exercise becomes a part of daily lifestyle protocols (vihara)⁹³. Conventional, Medohara (fat reducing) herbs such as Haritaki, musta, and guggul are frequently used to accomplish metabolic homeostasis and digestive optimization 94. Instead of focusing on quick changes in body weight, ayurvedic treatment emphasizes on restore the body's balance internally and the development of long-term and sustainable lifestyle changes. The Contribution of each system is more-clear when they are contrasted with modern medical practices. Contemporary allopathic treatment strategies use specific computable approaches- e.g. inhibition of adipogenic uptake or the manipulation of the normalization of the neural circuits controlled by appetite- to achieve exact clinical outcome measures 95. Ayurveda, on the other hand, follows a lifestyle paradigm that is holistic and aimed at improving gastrointestinal activity and circadian and behavioral patterns and restoring a metabolic balance which is systemic 96. Combined these two perspectives create a more holistic approach which can support short-term physiological goals and at the same time enhance sustainable long-term behavioral and metabolic changes 97.

Safety, Standardization and Collaborative Practice in Integrative (sthaulya) Obesity Care

The aspects of safe and efficient use of ayurvedic interventions when addressing obesity management also require strict adherence to dosage compliance, the quality of preparation and their concurrence with the conventional therapeutic modalities 98. Formulations traditional guidelines often represent the general dose ranges but in contemporary formulations the ranges of dosage are varied due to sourcing, processing and manufacturing variations 99. As a result, standardization is obligatory, and must be supported by the high levels of analytical profiling, high quality control measure and clear documentation of dosage, type of formulation and methodology of preparation of doses and agent in future studies 100. Despite the traditionally known safety of several ayurvedic interventions, there are still inadequate findings of empirical data regarding long term use, toxicity levels, and population specific contraindications is lacking 101. To enhance safety evaluation, it is crucial to prioritize well-designed clinical trials, systematic post-marketing monitoring, and comprehensive documentation of adverse effects outcomes 102. In an Integrative framework, there are also the possible interaction between standard therapies and modern anti-obesity pharmacotherapy including the agents that regulate appetite, glucose metabolism, or lipid uptake, need to be considered 103. Interprofessional communication between Ayurvedic and allopathic practitioners ensures effective decision making, reduce the possibility of unintended interactions, contribute to the holistic and patient-centred approach to managing sthaulya (obesity)¹⁰⁴. Integrative practice can provide the therapeutic effectiveness as well as the clinical safety by incorporating a uniform administration schedule, strict safety assessments, and the collaborative effort of multiple systems 105-106.

DISCUSSION

The findings of this comprehensive review highlight that Ayurvedic regimens including panchakarma therapies, herbal medications, dietary controls as well as yoga in the comprehensive management of sthaulya (obesity) have significant improvement 66. The integrative approaches demonstrated positive effects on body weight, body mass index (BMI), waist-hip-ratio (WHR), lipid profile, metabolic health and quality of life 68-69. The findings support Ayurvedic understanding of obesity is caused by the digestive fire (agni),

doshic imbalance (homeostasis disruption), sedentary lifestyles, poor dietary patterns, and therefore requires a multidimensional treatment approach. The key benefit of ayurvedic therapeutics has a multidimensional approach. Panchakarma modalities such as virechana, basti, udvartana, are essential for detoxifying the system, optimize metabolic efficiency, and facilitates the breakdown of stored adipose tissue 71-73. Potential lipid-lowering, digestive-enhancing and anti-inflammatory effects of herbal preparations, including Aconitum heterophyllum, Acorus calamus, Guggulu, Achyranthes aspera and Berberis brandisiana are supported by the traditional Ayurveda literature and scientific studies 76-81. The principle of sattvika Ahara (balanced diet) is closely to contemporary nutritional science, which endorses the intake of nutritious, balanced, and (balanced diet) minimum processed foods that promote metabolic health. Similarly, Yogic practices such as, structured yoga sequences, surya namaskara, pranayama, and meditation have measurable consequences on weight management by increasing metabolic rate, improving stress responses, promoting endocrine balance, and promoting consistent healthy lifestyles adoption 82-86. A Comparison with conventional allopathic modalities reveals substantial differences. Modern obesity treatment often depends on pharmacologic therapy with orlistat, phentermine, and glucagon like peptide- 1 receptor agonists (liraglutide, semaglutide) bariatric surgery is a terminal intervention 89-90. Though such measures can lead to or promote rapid changes in body mass index, and significant cardiometabolic improvements, cost effectiveness, adverse effect, reliance on life-long treatment, and high relapse rates after withdrawal often limit them 91. In addition, the pharmacologic interventions are usually aimed at regulating the appetite signaling or lipid absorption, and surgical interventions regulate gastrointestinal physiology. However, these modalities are unlikely to address the core deficit in behavioral and metabolic regulation foundation 107. Overall, the evidence demonstrates that combined approaches that involve ayurveda, yoga and selective conventional therapies offer a holistic, patient-centric framework for obesity management 108-109. This comprehensive approach, which simultaneously responds to physiological, behavioral, metabolic and psychological factors, aligns precisely with the global paradigm shift toward preventive, holistic healthcare 110.

CONCLUSION AND FUTURE PERSPECTIVES

This comprehensive review represents the therapeutic potential of ayurvedic regimens, including panchakarma therapies, herbal formulations, yoga and dietary interventions in managing sthaulya (obesity). Integrated modalities, particularly those combining ayurveda with yoga, demonstrated greater efficacy in promoting weight loss and improvement in metabolic parameters, and enhanced overall well-being. While Panchakarma and herbal therapies are clinically significant, their implementation is often limited by infrastructure and standardization challenges. Although, yoga and dietary modifications have become widely applicable and sustainable strategies. These holistic ayurvedic regimes offer a safer, patient-centric and cost-effective alternative to conventional obesity treatments (pharmacotherapy, bariatric surgery), which are often limited by adverse effects and poor long-term compliance. This aligns with the emerging global preference for preventative and sustainable health frameworks worldwide. Future research should prioritize the standardization of interventions, validation through multicentric randomized controlled trials, and development of integrative, patient-centric models. Incorporating digital platforms for home-based therapies can further enhance accessibility and adherence. Establishing scientifically grounded, culturally relevant frameworks will support the broader integration of ayurveda and yoga into mainstream obesity management.

CONSENT FOR PUBLICATION

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DATA AVAILABILITY

All data are included in the manuscript.

CONFLICT OF INTEREST

All authors declare they do not have any conflict of interest.

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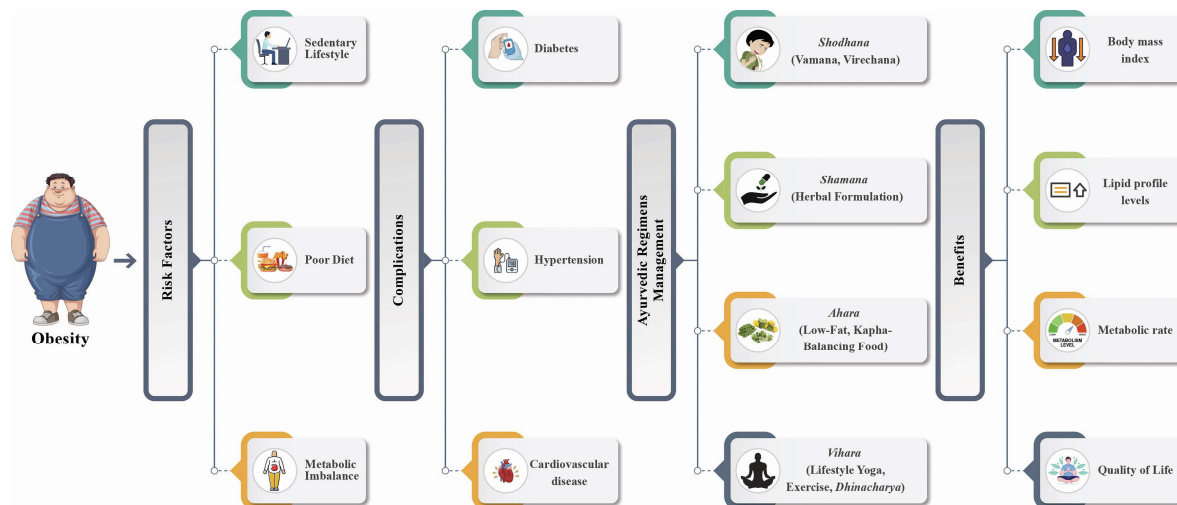
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GRAPHICAL ABSTRACT:



This graphical abstract illustrates risk factors and complications of obesity along with its management through Ayurvedic regimens and its benefits reducing complications and improving quality of life.