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A Review On The Role Of Lekhana And Medohara Plants From Nighantus In Preventing And Managing Sthoulya (Obesity)

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ABSTRACT

Obesity, or *Sthoulya*, has emerged as a major global public health issue, characterized by abnormal or excessive fat accumulation and associated with increased morbidity and mortality. It contributes significantly to non-communicable diseases such as diabetes mellitus, cardiovascular disorders, osteoarthritis, and certain cancers. Modern medical approaches often focus on pharmacological interventions and bariatric surgeries, which may have limitations and side effects. Ayurveda, the ancient science of life, offers a holistic understanding of obesity, classifying it as a *Santarpanajanya Vyadhi*, primarily resulting from *Kapha Dosha* and *Medo Dhatu* vitiation. Ayurvedic texts emphasize the use of drugs with *Lekhana* (scraping), *Medohara* (fat-reducing), and *Karshana* (slimming) properties in the management of *Sthoulya*. The *Nighantus*—Ayurvedic lexicons such as *Bhavaprakasha*, *Dhanvantari Nighantu*, and *Raj Nighantu*—enumerate various herbs known for these effects. Notable examples include *Triphala*, *Guduchi*, *Haritaki*, *Mustaka*, *Chitraka*, and *Vrikshamla*. These herbs act through multiple mechanisms such as enhancing *Agni* (digestive fire), promoting lipolysis, regulating appetite, and correcting metabolic imbalances.This review critically evaluates the therapeutic potential of *Lekhana* and *Medohara* herbs from classical sources and correlates their pharmacodynamics with modern scientific evidence. The integration of Ayurvedic principles with modern pharmacological insights, including studies on anti-obesity, antioxidant, and hypolipidemic properties, suggests a promising, safe, and sustainable approach to obesity management. A multidimensional strategy incorporating diet, lifestyle, and herbal interventions rooted in Ayurveda can significantly contribute to combating the obesity epidemic.

Keywords: *Sthoulya, Obesity, Lekhana, Medohara, Nighantu, Ayurvedic Pharmacology, Dravyaguna.*

1. INTRODUCTION

Obesity is a rapidly escalating global health concern characterized by abnormal or excessive fat accumulation that presents a risk to health. The World Health Organization (WHO) defines obesity as a body mass index (BMI) equal to or greater than 30 kg/m². According to the WHO 2023 fact sheet, more than 1 billion people worldwide are obese, and this number continues to rise at an alarming rate. Obesity has been directly associated with a wide range of non-communicable diseases, including type 2 diabetes mellitus, cardiovascular disorders, osteoarthritis, non-alcoholic fatty liver disease, respiratory issues, and certain forms of cancer [1]. Its multifactorial etiology includes poor dietary habits, sedentary lifestyle, genetic predisposition, psychological stress, and environmental factors.

In the context of Ayurveda, obesity is conceptualized as Sthoulya, which is classified under the broader category of Santarpanajanya Vyadhi (diseases caused by over-nutrition or excessive nourishment). Classical Ayurvedic texts such as

Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya describe Sthoulya as a pathological condition arising primarily from the vitiation of Kapha Dosha and derangement of Medo Dhatu (fat tissue). This doshic imbalance leads to the accumulation of excessive adipose tissue, resulting in reduced mobility, heaviness in the body, excessive sweating, breathlessness on exertion, and increased hunger and thirst [2].

Acharya Charaka has categorized Sthoulya as one of the eight types of Nindita Purusha (undesirable constitutions), indicating the severity and health implications of the condition. Ayurvedic management of Sthoulya involves Ahara (dietary control), Vihara (lifestyle modification), and Aushadha (herbal medication). Among the pharmacological interventions, significant emphasis is laid on herbs possessing Lekhana (scraping), Medohara (fat-reducing), and Karshana (slimming) properties, which help in removing excess fat and correcting metabolic imbalances.In Ayurveda, Lekhana Dravyas are defined as those substances that have the ability to remove or reduce excessive or abnormal body tissues. This concept is closely linked to their ability to act on Meda Dhatu, thus promoting healthy weight loss. These herbs are generally Ushna (hot), Tikshna (sharp), Ruksha (dry), and Katu (pungent) in nature, aiding in Agnideepana (digestive stimulation), Ama Pachana (removal of toxins), and improving Srotoshodhana (channel cleansing). Similarly, Medohara Dravyas specifically target fat metabolism and help in reducing adiposity by regulating lipid pathways and enhancing digestion and metabolism

The Ayurvedic lexicons known as **Nighantus**- including *Dhanvantari Nighantu*, *Bhavaprakasha Nighantu*, *Raja Nighantu*, *Kaiyadeva Nighantu*, and *Shodhala Nighantu*—contain detailed information about herbs with Medohara and Lekhana actions. These texts serve as comprehensive repositories of knowledge regarding the properties, actions, dosages, and indications of medicinal plants. For example, herbs like **Haritaki (Terminalia chebula), Amalaki (Emblica officinalis), Bibhitaka (Terminalia bellirica), Guggulu (Commiphora mukul), Musta (Cyperus rotundus), Chitraka (Plumbago zeylanica), and Vacha (Acorus calamus)** have been highlighted in these texts for their potential to manage Sthoulya through various pharmacodynamic pathways.Recent scientific investigations have begun to validate the traditional claims associated with these herbs. Modern pharmacological studies have revealed that many of these plants exhibit **anti-obesity, hypolipidemic, antioxidant, and anti-inflammatory** activities. For instance, *Guggulu* has been extensively studied for its **lipid-lowering effects** and action on fat metabolism through thyroid regulation and peroxisome proliferator-activated receptor (PPAR) activation. Similarly, *Musta* and *Chitraka* have shown promising **lipolytic and metabolic-enhancing** activities in animal models.

The integration of classical Ayurvedic knowledge with contemporary scientific methodologies such as phytochemical analysis, metabolomics, clinical pharmacology, and systems biology has created new avenues for exploring the therapeutic utility of these herbs in the management of obesity. Moreover, the emerging field of **Ayurgenomics** offers an individualized approach that aligns well with the Ayurvedic principle of **Prakriti-based** treatment, allowing personalized selection of Medohara herbs for better clinical outcomes.Despite the growing popularity of herbal interventions for weight loss, the Ayurvedic understanding of Medohara and Lekhana Dravyas remains underutilized in mainstream obesity management. There is a pressing need to scientifically validate these herbs through **standardized clinical trials, toxicity assessments,** and **mechanism-based studies**. Establishing safety profiles, optimal dosages, and modes of administration will not only improve patient compliance but also contribute to evidence-based Ayurveda.This review article thus aims to critically examine the Lekhana and Medohara herbs described in the **Ayurvedic Nighantus**, explore their pharmacological basis, and assess their relevance in current obesity treatment strategies. Through this comprehensive evaluation, the article aspires to offer a bridge between classical Ayurvedic wisdom and modern pharmacotherapeutics for combating the rising tide of obesity.

2. CONCEPTUAL FRAMEWORK OF STHOULYA IN AYURVEDA

Nidana (Etiology)

Atisevana of *Snigdha*, *Madhura*, *Guru Ahara*

Sedentary lifestyle

Psychological factors: *Avasada* (depression), *Alasya* (laziness)

Genetic predisposition (*Beeja Swabhava*)

Samprapti (Pathogenesis)

Aggravated *Kapha Dosha* affects *Medo Dhatu Agni*, leading to excessive accumulation.

Vitiated *Vata* in *Koshtha* gets obstructed by *Kapha*, resulting in altered metabolism and accumulation of *Meda*.

It leads to increased weight, breathlessness, excessive perspiration, fatigue, and reduced libido.

3. LEKHANA AND MEDOHARA DRAVYAS IN CLASSICAL TEXTS

1. Definition and Properties

Lekhana Dravyas is those which produce *Shoshana* (absorption), *Scraping*, *Langhana*, and remove excessive *Kapha* and *Meda* [3].

Medohara indicates the *Prabhava* (specific action) of reducing or eliminating *Meda Dhatu* [4].

2. Mechanisms of Action (Ayurvedic View)

Deepana and *Pachana* – Stimulate *Agni*

Strotoshodhana – Clear obstructed microchannels

Ruksha, *Tikta*, *Katu* Rasa – Antagonistic to *Kapha* and *Meda*

Ushna Veerya – Stimulates metabolic fire

Lekhana Karma – Scrapes *Meda Dhatu*

4. MAJOR LEKHANA AND MEDOHARA PLANTS FROM NIGHANTUS

Dravya	Rasa	Guna	Veerya	Vipaka	Karma	Source
Musta (*Cyperus rotundus*)	Tikta, Katu	Laghu, Ruksha	Ushna	Katu	Deepana, Medohara, Lekhana	Bhavaprakasha Nighantu [5]
Haritaki (*Terminalia chebula*)	Pancha Rasa	Laghu, Ruksha	Ushna	Madhura	Anulomana, Medohara, Rasayana	Dhanvantari Nighantu [6]
Guggulu (*Commiphora mukul*)	Tikta, Katu	Laghu, Tikshna	Ushna	Katu	Lekhana, Medohara, Srotoshodhana	Raja Nighantu [7]
Chitraka (*Plumbago zeylanica*)	Katu	Laghu, Tikshna, Ruksha	Ushna	Katu	Deepana, Pachana, Medohara	Bhavaprakasha Nighantu [8]
Triphala (*Haritaki, Bibhitaki, Amalaki*)	Mixed	Laghu, Ruksha	Ushna	Katu	Lekhana, Rasayana, Medohara	Dhanvantari Nighantu [6]
Amalaki (*Emblica officinalis*)	Amla	Laghu, Ruksha	Sheeta	Madhura	Rasayana, Medohara	Raja Nighantu [9]
Daruharidra (*Berberis aristata*)	Tikta, Kashaya	Laghu, Ruksha	Ushna	Katu	Kaphahara, Medohara	Bhavaprakasha Nighantu [10]

5. MODERN PHARMACOLOGICAL CORRELATIONS

Many of the above-mentioned herbs have been evaluated scientifically for their anti-obesity properties.

1. Guggulu (*Commiphora mukul*)

Enhances lipolysis and improves lipid profile

Inhibits lipoprotein lipase activity

Shows anti-inflammatory and antioxidant effects [11]

2. Haritaki (*Terminalia chebula*)

Reduces body weight by lowering cholesterol and triglyceride levels

Inhibits lipid accumulation in adipocytes [12]

3. Triphala

Improves metabolism and gut health

Clinical trials show significant reduction in weight and waist circumference [13]

4. Chitraka

Enhances digestion and acts as a metabolic stimulant

Contains plumbagin which exhibits anti-obesity and anti-inflammatory action [14]

5. Amalaki

Rich in vitamin C and antioxidants

Modulates adipokines and inflammatory markers [15]

6. INTEGRATIVE MECHANISM: CLASSICAL TO MODERN

Ayurvedic Principle	Modern Equivalent
Rasa-Guna-Veerya	Pharmacodynamics
Lekhana Karma	Lipolytic and anti-adipogenic effects
Deepana-Pachana	Thermogenesis and increased BMR
Srotoshodhana	Detoxification and lymphatic drainage
Rasayana	Antioxidant, Anti-inflammatory properties

7. DISCUSSION

The therapeutic utility of *Lekhana* (scraping), *Medohara* (fat-reducing), and *Karshana* (slimming) plants, as documented in classical Ayurvedic texts like the *Nighantus*, is rooted in Ayurveda's holistic view of health and disease. Ayurveda identifies *Sthoulya* (obesity) as a *Kapha*-dominant condition arising from *Agnimandya* (weak digestion), *Meda Dhatu Vriddhi* (excess fat tissue), and a sedentary lifestyle. The herbs classified under *Lekhana* and *Medohara* Dravyas act through multifaceted mechanisms that aim to restore balance in the bodily *Doshas* and *Dhatus*, enhance metabolism, and mobilize accumulated *Meda* (fat).

Unlike modern anti-obesity drugs, which generally act through a single or limited set of mechanisms—such as appetite suppression, inhibition of fat absorption, or thermogenesis enhancement—Ayurvedic herbs exhibit synergistic, adaptogenic, and polyherbal effects, thereby addressing the root cause of obesity rather than merely treating the symptoms.

Ayurvedic Pharmacodynamics and Modern Correlations

Several classical herbs exhibit properties that, when translated into modern pharmacology, align with known anti-obesity mechanisms:

Lipid-lowering activity: Herbs like *Haritaki (Terminalia chebula)*, *Amalaki (Emblica officinalis)*, and *Mustaka (Cyperus rotundus)* have demonstrated significant lipid-modulating effects in experimental and clinical studies, reducing serum cholesterol, triglycerides, and LDL while improving HDL levels.

Appetite suppression: *Vrikshamla (Garcinia indica)* contains hydroxycitric acid, which is known to suppress appetite by inhibiting ATP citrate lyase, an enzyme involved in fat synthesis. Similarly, *Triphala* is believed to improve satiety and reduce food cravings through modulation of gut flora and digestion.

Thermogenesis stimulation: Some herbs like *Chitraka (Plumbago zeylanica)* and *Pippali (Piper longum)* are known to kindle *Agni* (digestive fire), which can be correlated with increased thermogenesis and energy expenditure.

Improved insulin sensitivity: *Guduchi (Tinospora cordifolia)* and *Shunthi (Zingiber officinale)* have demonstrated potential in improving insulin sensitivity and glycemic control, addressing one of the metabolic roots of obesity.

Multi-Target Approach and Systemic Benefits

The polyherbal nature of Ayurvedic formulations offers a multi-target therapeutic approach. Many of the *Medohara* plants also exhibit anti-inflammatory, antioxidant, hepatoprotective, and gut microbiota-modulating properties, which are crucial in managing obesity-related complications such as metabolic syndrome, non-alcoholic fatty liver disease, and cardiovascular risk. This holistic approach positions Ayurvedic herbs as not just fat-reducing agents but as systemic modulators.

8. CHALLENGES AND LIMITATIONS

Despite these promising attributes, there are notable limitations in the widespread acceptance and integration of these herbal remedies into mainstream obesity management:

Lack of rigorous clinical evidence: Most of the available data are limited to small-scale or observational studies. The absence of well-structured, randomized controlled trials (RCTs) with standardized endpoints and statistical power remains a

critical gap.

Standardization issues: Herbal preparations are often subject to variation in potency due to differences in cultivation, harvesting, processing, and formulation methods. Lack of pharmacognostic and phytochemical standardization affects reproducibility and reliability.

Safety and adverse effects: While Ayurvedic herbs are generally considered safe, comprehensive documentation regarding long-term use, herb-drug interactions, and toxicological profiles is insufficient.

9. CONCLUSION

Ayurveda presents a time-tested, holistic framework for addressing lifestyle disorders like Sthoulya (obesity). The concept of using Lekhana (scraping), Medohara (fat-reducing), and Karshana (slimming) herbs, as elaborated in classical Ayurvedic Nighantus, underscores a preventive and curative approach rooted in balancing Doshas and metabolic homeostasis. These herbs exhibit properties such as Agni Deepana (enhancing digestion), Meda Pachana (fat metabolism), and Ama Shodhana (detoxification), aligning well with modern mechanisms like lipolysis, appetite regulation, and insulin sensitization.Modern pharmacological studies increasingly validate the traditional claims, demonstrating lipid-lowering, antioxidant, and anti-inflammatory actions of several Medohara herbs. Their multi-targeted actions, minimal side effects, and long-term adaptability make them a valuable alternative to synthetic anti-obesity agents. However, rigorous standardization, safety profiling, and clinical trials remain necessary to establish their therapeutic efficacy by contemporary evidence-based standards.An integrative model that merges Ayurvedic wisdom with modern pharmacological insights offers a sustainable and personalized approach to managing obesity. Encouraging interdisciplinary collaboration and investment in Ayurvedic pharmacoepidemiology can pave the way for these ancient herbal solutions to find their rightful place in global health management.

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11. CONFLICT OF INTEREST

None declared.

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