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Childhood Obesity: An Ayurvedic Perspective on Prevention and Clinical Pharmacology

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Abstract

Background: Childhood obesity is an escalating global public health challenge, predominantly within urbanized demographics, predisposing pediatric populations to early-onset metabolic syndrome, type 2 diabetes, and long-term cardiovascular risks. In the paradigm of Ayurvedic medicine, childhood obesity is conceptualized as *Sthaulya Roga* (a primary *Medoroga* classification), categorized among the *Aṣṭa Nindita Purusha* (eight undesirable metabolic constitutions).

Objectives: This study evaluates classical Ayurvedic frameworks alongside modern biomedical indices to delineate multi-modal preventive strategies and therapeutic interventions, evaluating contemporary evidence on specialized herbo-mineral therapeutics (*Vidangadi Churna* and *Trivritayukta Navaka Guggulu*) and structured yogic practices.

Materials and Methods: A systematic review of authoritative classical Ayurvedic literature (*Charaka Samhita*, *Sushruta Samhita*, *Kashyap Samhita*, and *Ashtanga Hridaya*) was conducted and cross-analyzed with contemporary pediatric biomedical guidelines, clinical trials, and epidemiological criteria from the World Health Organization (WHO) and Indian pediatric standards.

Results: Pathophysiological analyses indicate that *Sthaulya* operates as a dushya-dominant metabolic syndrome driven by *Medo-Dhatvagni Mandya* (hypofunction of adipose tissue metabolism), causing systemic microchannel obstruction (*Srotorodha*). Comparative clinical observations show that while both internal regimens optimize metabolic rates, *Trivritayukta Navaka Guggulu* exhibits highly significant improvements in lipid profiles and metabolic biomarkers relative to *Vidangadi Churna*, due to its potent *Lekhana* (scraping) and *Chhedaniya* (obstruction-clearing) bioactivities. Supplementary yogic interventions systematically lower truncal adiposity and regulate neuro-endocrine tone.

Conclusion: Integrating traditional Ayurvedic metabolic modulation with evidence-based lifestyle changes offers a safe, multi-targeted, and culturally viable clinical framework for managing pediatric metabolic health.

Keywords: Ayurveda, Pediatric Obesity, *Sthaulya*, Clinical Pharmacy, Phytotherapy, *Yoga*

Introduction

The World Health Organization (WHO) defines health as a multi-dimensional state of complete physical, mental, and social well-being, rather than merely the absence of disease or infirmity (Charaka, 2017). This holistic benchmark closely parallels the classical Ayurvedic tenet of *Swasthya*, which dictates that baseline metabolic equilibrium is achieved only through the synchronized harmony of the *Doshas*

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(biophysical forces), *Agni* (digestive and metabolic kinetic fires), *Dhatus* (cellular tissues), and *Malas* (excretory pathways), alongside a serene and contented state of mind, senses, and spirit (Sushruta, 2016).

In modern society, alterations in socio-environmental structures have disrupted this synchronization, accelerating the global prevalence of metabolic conditions like childhood obesity. Within classical texts, obesity (*Sthaulya*) is classified as a *Santarpanajanya Vikara*—a metabolic disorder of overnutrition arising from nutrient over-saturation (Vagbhata, 2015). It is further identified as *Medoroga*, a pathological condition of *Meda Dhatu* (adipose tissue) and impaired lipid processing.

Historical accounts by Acharya Charaka include *Atisthaulya* within the *Ashta Nindita Purusha* (eight undesirable human constitutions) (Shastri & Chaturvedi, 2009a), recognizing it both as a *Santarpanajanya* manifestation and an expression of *Sleshma Nanatmaja* (Kapha-mediated) disorders (Shastri & Chaturvedi, 2009b). Individuals presenting with an excessive accumulation of *Meda* and *Mamsa* (muscle mass), resulting in distinct tissue flabbiness in the truncal, abdominal, and pectoral regions, are clinically categorized as *Atisthula* (Trikamji, 2005).

Meda Dhatu is governed by the *Prithvi* (earth) and *Apa* (water) *Mahabhutas*, showing a direct affinity with *Kapha Dosha* (Trikamji, 2005). In *Ashtanga Hridaya*, Acharya Vagbhata describes *Sthaulya* within the *Dwividhopakramaneya Adhyaya* framework (Gupta, 2005), while the *Kashyap Samhita* incorporates it when detailing anthropological variants (Samhita et al., 2018). In *Madhava Nidana*, Madhavakara outlines the precise pathology of *Sthaulya*, identifying it as a condition characterized by abnormal, excessive deposits of *Medodhatu* and *Mamsadhatu* (Tripathi, 2007). In its pathogenesis, all three *Doshas* are vitiated, with particular involvement of *Kledaka Kapha*, *Pachaka Pitta*, *Samana Vayu*, and *Vyana Vayu*, which collectively contribute to the disorder's *Samprapti* (etiopathogenesis) (Samhita et al., 2018).

Materials and Methods

A comprehensive literature evaluation was executed to cross-reference classical Ayurvedic doctrines with contemporary biomedical clinical benchmarks. Primary traditional sources comprised text analyses of the *Charaka Samhita*, *Sushruta Samhita*, *Kashyap Samhita*, *Ashtanga Hridaya*, and *Ashtanga Sangraha*, focused on *Kaumarbhritya* (pediatrics) and *Medoroga* etiopathogenesis. Concurrently, modern medical databases were utilized to review clinical trials, pediatric diagnostic criteria, and standard pharmacological profiles.

Classification in Classical Texts

Although no universally standardized classification of *Sthaulya* exists in the Ayurvedic classics, several *Acharyas* have provided insights:

- **Charaka:** Categorizes the condition into *Sthula* (overweight) and *Atisthula* (morbidly obese) (Trikamji, 2011).
- **Sushruta:** Establishes a functional distinction between simple *Sthaulya* and metabolic *Medoroga* (Trikamji, 2012).
- **Vagbhata:** Divides *Sthaulya* into three operational grades: *Adhika* (severe), *Madhyama* (moderate), and *Hina* (mild) (Sastri, 2010).
- **Sharangadhara:** Defines *Sthaulya* primarily as an external manifestation of underlying *Medodosha* (Tripathi, 2016).

Modern Biomedical Perspective

In biomedical terms, obesity is defined as an abnormal growth of adipose tissue, resulting from hypertrophy (enlargement of fat cells), hyperplasia (increased fat cell number), or a combination of both (Hager, 1981). Excessive fat accumulation impairs overall health and is primarily caused by a chronic imbalance between energy intake and energy expenditure (Lissauer, 2008). Children with overweight or obesity, despite having high energy reserves, require increased energy to meet the demands of their elevated body weight (Parthasarathy, 2013a).

The World Health Organisation (WHO) and the International Obesity Task Force (IOTF) define obesity using the Body Mass Index (BMI), which serves as a reliable marker of adiposity calculated as:

$$BMI = \frac{weight\ (kg)}{height\ (m)2}$$

In adults, overweight is defined as a BMI > 25 kg/m^3, morbid obesity as a BMI > 40 kg/m^3, and super obesity as a BMI > 60 kg/m^3. In pediatric cohorts, BMI varies with age; hence, BMI-for-age percentiles or z-scores are used. According to CDC charts and WHO norms:

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- **Overweight:** BMI between the 85th–95th percentile.
- **Obesity:** BMI above the 95th percentile.

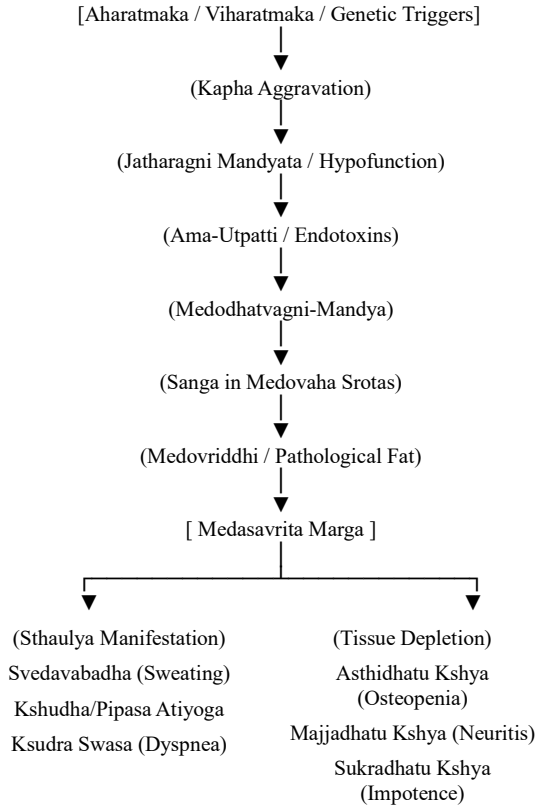
For children under five years, weight-for-height parameters are typically employed:

- **Overweight:** up to 120% of ideal body weight.
- **Obese:** 120% of ideal body weight (Khadilkar et al., 2012).

Children above two years with a BMI > 95th percentile meet the criteria for obesity, while those between the 85th–95th percentile are considered overweight (Parthasarathy, 2013b). Khadilkar et al. (2012) revised these criteria specifically for Indian children, equating an adult-equivalent BMI of 23 kg/m^3 overweight and a BMI of 27 kg/m^3 with obesity.

Etiopathogenesis & Factors Responsible

Obesity is a multifactorial condition with a complex etiology. In Ayurveda, the causation of *Sthaulya* involves dietary, lifestyle, genetic, and psychological influences (Kumar, 2014; Parthasarathy, 2013b).



1. Genetic and Behavioural Factors

Hereditary predisposition (*Beejadosha*) and behavioral patterns play a crucial role in development. Children with a family history of obesity are more prone to excessive weight gain, particularly when combined with unhealthy lifestyle practices (Kumar, 2014; Parthasarathy, 2013b). Prenatal influences such as maternal weight gain and gestational diabetes further increase risks. Several genetic and endocrine disorders are associated with obesity, including intellectual disability syndromes, muscular dystrophy, Cushing's syndrome, Prader–Willi syndrome, Laurence–Moon–Biedl syndrome, Alstrom syndrome, Cohen syndrome, proopiomelanocortin (POMC) deficiency, growth hormone deficiency, and hypothyroidism (Kumar, 2014; Parthasarathy, 2013b). Additionally, medications like sedatives (e.g., sodium valproate) and corticosteroids contribute directly to weight gain.

2. Dietetic Factors (*Aharatmaka Nidana*)

Faulty dietary habits such as frequent consumption of fast foods, junk foods, fruit juices, carbonated beverages, and energy-dense drinks contribute to excessive adiposity. Modern packaged foods are typically low in fiber, rich in simple carbohydrates (fructose, sucrose), high in fat, and deficient in essential micronutrients (Kumar, 2014; Parthasarathy, 2013b). Acharya Charaka notes that obesity arises from explicit substances that enhance the properties of *Medo Dhatu* (adipose tissue) (Shastri & Chaturvedi, 2009a; Murthy, 2001; Joshi, 2001). These are classified into:

- **Dravya Samanya:** Foods like *Vasa* (animal fat), *Meda* (fatty substances), and *Mamsa* (meat) promote excessive fat accumulation based on similar structural components.
- **Guna Samanya:** Foods possessing *Guru* (heavy), *Snigdha* (oily), and *Sheeta* (cold) properties aggravate *Meda*.
- **Specific Components:** *Atibhojana* (overeating), *Madhura* (sweet) intake, *Navanna* (fresh grains), *Nava Madya* (fresh alcohol), *Gramya/Audak Rasa* (domestic/aquatic meat soups), *Paya Vikara* (milk products, ghee, curd), and excessive wheat or rice consumption (*Shali, Masha, Godhuma*).

Based on the principle of *Samanya Vishesha Siddhanta*, excessive intake of similar substances results in enhanced *Dhatu* formation (Shastri & Chaturvedi, 2009c). Continuous exposure to *Aharatmaka Nidana* contributes directly to the overproduction of *Medo Dhatu*.

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3. Physical Activity and Lifestyle (*Viharatmaka Nidana*)

Sedentary behavior is a major contributor to childhood obesity. Reduced opportunities for outdoor play, limited playgrounds in schools, prolonged television viewing, and increased screen time reduce physical activity and promote unhealthy eating through food advertisements. Daily habits such as *Sukhasana* (sedentary lifestyle), *Avyayama* (lack of exercise), *Sukha Shaiyya* (luxurious bedding), and *Divaswapna* (daytime sleep) contribute to fat accumulation (Shastri & Chaturvedi, 2009a; Murthy, 2001; Joshi, 2001). Lifestyle factors like *Divaswapna* exhibit *Abhishyandi* properties, obstructing the body's microchannels (*Srotas*), especially the *Medovaha Srotas* (Shastri & Chaturvedi, 2009d). Another contributor to fat accumulation is the reduced metabolic rate observed during sleep.

4. Psychological Factors (*Manasika Factors*)

Ayurvedic scholars categorized *Sthaulya* as a psychosomatic disorder. Acharya Charaka identified *Saukhyena* (relaxed life), *Harshanitya* (constant cheerfulness), *Priyadarshana*, *Manasonivrutti* (lack of mental work), and *Achinta* (lack of worry) as psychological factors responsible for *Meda Vriddhi*. These elements aggravate *Kapha* and foster adipose deposition (Shastri & Chaturvedi, 2009a; Shastri & Chaturvedi, 2009e).

Systemic Manifestations and Complications

Clinical Signs of Atisthaulya

According to the *Ashtoninditiya Adhyaya* of the *Charaka Samhita*, severe obesity presents with ten key clinical signs (Shastri & Chaturvedi, 2009f):

1. *Ayuhrasa* (Diminution of lifespan)
2. *Javoparodha* (Lack of enthusiasm/speed)
3. *Krcchravyavaya* (Difficulties in reproductive function)
4. *Dourbalya* (Systemic weakness)
5. *Dourgandhya* (Foul body odor)
6. *Swedavabadha* (Excessive, distressed sweating)
7. *Kshudita Atimatra* (Excessive, insatiable hunger)
8. *Pipasa Atiyoga* (Excessive thirst)
9. *Ksudra Swasa* (Exertional dyspnea)
10. *Ayatopacaya* (Abnormal bulk/abdominal girth)

Biomedical Complications

In pediatric populations, severe obesity is associated with considerable morbidity (Connell et al., 2006). Behavioral stress, including social and psychological challenges, is common. Skeletal complications such as *Genu Valgum* (knock-knees) and slipped capital femoral epiphysis may occur. Respiratory disorders, particularly obstructive sleep apnea, are frequently observed. Cardiovascular conditions like hypertension, along with metabolic disturbances including hyperlipidemia and diabetes, are linked directly to obesity. Thus, childhood obesity predisposes individuals to multiple complications that persist into later life (Agrawal, 2017).

Pathophysiology (*Samprapti*)

The etiological factors of *Sthaulya* are grouped into four major pathological mechanisms (Tripathi, 2007):

- **Dosha Dushtikara:** *Guru, Madhura,* and *Sheeta* diets cause *Kapha* aggravation.
- **Khavaigunyakara:** *Avyayama* and *Achintana* weaken localized systemic resistance.
- **Agnimandyakara:** *Ati Bhojana* impairs the main digestive fire (*Jatharagni*), generating *Ama* (endotoxins).
- **Beejadosha:** Genetic factors deplete *Medo Dhatvagni*.

This state of *Medo-Dhatvagni Mandya* leads to the excessive formation of defective *Meda Dhatu*. The accumulated *Meda* creates an obstruction (*Sanga*) in the *Medovaha Srotas*. This blocks *Vyana Vayu*, preventing proper nutrient distribution to successive *Dhatus*. Consequently, *Medadhatu* increases while subsequent tissues like *Asthi* (bone), *Majja* (marrow), and *Shukra* (reproductive) are depleted, manifesting as systemic *Sthaulya* and its complications.

Comprehensive Pharmacological Management

1. Sanshodhan Chikitsa (Purification Therapies)

- **Bahyashodhan (External):** *Ruksha Udvartan* (dry powder massage), *Avagaha* (sudorific baths), *Parishek* (therapeutic drenching), and *Lepana* (medicinal pastes).
- **Abhyantara Shodhan (Internal):** *Vaman* (therapeutic emesis), *Virechan* (therapeutic purgation), *Nasya* (nasal instillations), and *Niruha Basti* (decoction enemas).

2. Shamana Chikitsa (Palliative Protocols)

Ayurveda prescribes several therapeutic measures under *Samana Langhana Chikitsa*. The seven procedures—*Deepana* (appetite stimulation), *Pachana*

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(digestion of endotoxins), *Vyayama* (exercise), *Marutsevana* (exposure to wind), *Atapasevana* (sun exposure), *Kshudha Nigraha* (hunger regulation), and *Trusha Nigraha* (thirst regulation)—are effective forms of *Langhana* recommended in *Santarpanajanya Vyadhi* (Sushruta, 2016; Vagbhata, 2015). Several formulations are recommended for *Samshamana* therapy, acting through *Deepana, Pachana, Lekhana* (scraping), and *Medohara* properties:

- **Lekhaniya Mahakashaya:** Acharya Charaka describes a group of ten medicines under *Lekhaniya Mahakashaya*, included among *Medohara Dravyas* (agents that reduce adiposity) (Charaka, 2017).
- **Sushruta Ganas:** Acharya Sushruta enumerates specific therapeutic groups including *Varunadi Gana, Shalasaradi Gana, Lodhradi Gana, Arkadi Gana, Mushkakadi Gana, Nyagrodhadi Gana, Tryushana Gana,* and *Ushakadi Gana* (Sushruta, 2016).
- **Core Formulations:** *Guduchi, Bhadramusta, Triphala, Takrarishta, Madhu* (honey), *Vidangadi Lauha, Bilvadi Panchamula,* and *Shilajatu* combined with *Agnimantha Svarasa* (Sushruta, 2016; Vagbhata, 2015).
- **Medo-Nashaka and Lekhana Dravyas:** Preparations such as *Gavedhuka Karshana Yavagu, Bibhitaka Lekhaniya, Venuyava,* and *Madhudaka* (honey-water) are highlighted for their scraping properties (Shastri & Chaturvedi, 2009a). Substances dominated by *Akash* and *Vayavya Mahabhuta* impart *Laghavakara* (lightness), making them suitable for obesity management (Sharma, 2011).
- **Rasa Dominance:** *Katu* and *Kashaya Rasa* exhibit *Karshana* (emaciating) actions, while *Tikta Rasa* possesses *Lekhana* and *Medo-Upshoshana* (fat-drying) properties.
- **Virukshana and Chhedaniya Dravyas:** Sushruta recommends *Shilajatu, Guggulu, Gomutra, Triphala, Loha Raja,* and *Rasanjana* (Sushruta, 2016). Dalhaṇa explains that *Virukshana* reduces *Meda*, while *Chhedaniya* clears obstructions in *Medovaha Srotas* through *Sroto-Vishodhana* (channel purification).
- **Specific Monographs:** *Amalaki* is described as *Medopaham* (fat-reducing) (Sharma, 2011), and *Haritaki* is recommended for *Santarpanajanya Roga* (Sharma, 2011).

Standard Clinical Formulary

- **Rasa:** *Trimurti Rasa, Vadvagni Rasa, Parad Bhasma*
- **Vati:** *Arogyavardhini Vati, Bhedni Vati, Kutaki Vati*
- **Churna:** *Triphala Churna, Vacha Churna, Trikatu Churna, Guduchyadi Churna*
- **Kwatha:** *Mustadi Kwatha, Agnimantha Kwatha, Brihat Panchamoola Kwatha, Mahamanjisthadi Kwatha*
- **Saktu:** *Vyoshadi Saktu, Chavyadi Saktu*
- **Asava/Arishta:** *Loharishta, Vidangasava, Lohasava*
- **Taila Yoga:** *Mahasugandhadi Taila, Triphaladya Taila*
- **Loha Yoga:** *Vidangadya Loha, Triushnadya Loha*
- **Guggulu Yoga:** *Navaka Guggulu, Medohar Guggulu, Amritadya Guggulu, Trayodashanga Guggulu, Dasanga Guggulu* (Gupta, 2005)
- **Rasayana:** *Shilajatu Rasayana, Guggulu Rasayana, Amalaki Rasayana*

Comparative Analysis of Experimental Groups

Mode of Action of Vidangadi Churna

The therapeutic mechanism of *Vidangadi Churna* mirrors that of *Trivritayukta Navaka Guggulu* due to a comparable *Rasapanchaka*. However, *Vidangadi Churna* lacks the highly potent scraping agent *Guggulu*.

Its primary ingredients possess *Katu Rasa, Laghu, Ruksha Guna, Ushna Virya, Katu Vipaka, Vatakaphashamaka, Karshana, Lekhaniya, Amapachana,* and *Dhatu Shoshana* properties. These collectively help normalize *Jatharagni*, clear channel obstructions (*Stroto Vibandhanasana*), and counteract *Kapha, Kleda,* and *Meda*. This action regularizes *Medodhatvagni*, checks the excessive growth of *Medodhatu*, and provides symptomatic relief in *Sthaulya*.

- **Effect on Doshas:** Encounters *Vata-Kapha* anomalies via *Katu Rasa* dominance and *Ushna Virya*, with *Vatahara* actions supported by *Laghu* and *Snigdha* properties.
- **Effect on Agni:** Stimulates *Medodhatvagni* through its *Laghu, Ruksha, Ushna,* and *Tikshna* qualities, while removing the fatty

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coverings (*Avaran*) affecting *Vata Dosha* to restore *Jatharagni*.

- **Effect on Srotas:** Removes *Abhishyanda* (fluid stagnation) from microchannels and absorbs excess *Kleda* (moisture), returning *Mamsa* and *Meda Dhatu* to a normal structural state.

Mode of Action of Trivritayukta Navaka Guggulu

The clinical action of *Trivritayukta Navaka Guggulu* relies on its *Rasapanchaka* profile, where the majority of its ingredients present *Katu Rasa, Laghu, Ruksha Guna, Ushna Virya,* and *Katu Vipaka*. It exhibits strong *Vatakaphashamaka, Karshana, Lekhaniya, Medorogahara, Amapachana,* and *Dhatu-shoshana* properties.

By incorporating *Guggulu*, it acts as a highly potent scraping agent compared to *Vidangadi Churna*, demonstrating significantly better clearance of lipid parameters and deep tissue obstructions in clinical trials.

Lifestyle and Yogic Interventions

Yoga offers complementary therapeutic management through specific postures, breathing techniques, and relaxation methods that support weight reduction, fat metabolism, and endocrine regulation:

- **Sarvangasana (Shoulder stand):** Stimulates thyroid function and balances endocrine activity.
- **Padahastasana (Forward bend):** Enhances metabolic rate and reduces abdominal fat.
- **Ardha Matsyendrasana (Half spinal twist):** Supports digestion and addresses constipation and sluggish metabolism.
- **Bhujangasana (Cobra pose):** Improves spinal flexibility, massages abdominal organs, and helps regulate thyroid function.
- **Pavanmuktasana (Wind-relieving pose):** Targets and reduces localized abdominal fat blocks.
- **Dhanurasana (Bow pose):** Stimulates visceral abdominal organs and accelerates lipid metabolism.
- **Pashchimottanasana (Seated forward bend):** Reduces abdominal adiposity and enhances primary digestive fire.
- **Kati Chakrasana, Halasana, Matsyasana, and Ushtrasana:** Improve joint flexibility, regulate core metabolism, and minimize fat accumulation.
- **Surya Namaskara (Sun salutation):** Provides a comprehensive routine combining *Asana, Pranayama,* and *Mantra*. Regular practice yields rapid, positive outcomes in pediatric weight management.

Discussion

In Ayurveda, obesity is understood as *Sthaulya*, a metabolic condition involving an imbalance of *Meda Dhatu*, impaired *Agni*, and obstruction within the *Srotas*. Modern science similarly attributes obesity to disordered lifestyles and poor dietary habits, leading to excessive fat accumulation.

Childhood obesity is recognized as a non-communicable disease with serious health consequences, including Type 2 Diabetes Mellitus, hypertension, dyslipidemia, non-alcoholic fatty liver disease (NAFLD), and psychosocial challenges like low self-esteem and social isolation. Delineating a correlation between modern biomedical concepts of obesity and Ayurvedic principles of *Sthaulya* provides a holistic framework for prevention and management.

Sthaulya is fundamentally a *Dushya*-dominant metabolic disorder classified as a *Rasa Nimittaja Vyadhi* and *Shleshmaja Nanatamaja Vyadhi*, grouped under *Santarpanotha Vyadhi* (conditions caused by overnutrition). The condition of *Medo-Dhatvagni Mandya* leads to an excessive formation of defective *Meda Dhatu*. This fat accumulation blocks body channels, preventing *Vyana Vayu* from transporting nutrients to other *Dhatus*, resulting in an increase in *Medadhatu* alongside the depletion of subsequent *Dhatus*.

Classical formulations for *Sthaulya* focus on *Lekhana* (scraping), *Medohara* (fat-reducing), and *Kapha*-pacifying actions:

- **Triphala Churna:** Regulates digestion and baseline metabolism.
- **Medohara Guggulu:** Reduces excess *Meda Dhatu* deposits.
- **Punarnava Mandura:** Supports metabolism and reduces systemic fluid retention.
- **Decoctions:** *Mustadi Kwatha* and *Aragwadhadi Kwatha*.
- **Single Herbs:** *Haritaki, Guduchi, Shunthi,* and *Vacha* normalize digestion and accelerate fat metabolism.

Epidemiological observations indicate that obesity occurs frequently in females during periods of light occupational activity, or following specific hormonal shifts (e.g., contraceptive use, childbirth, and

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menopause). In comparative clinical evaluations, the *Vidangadi Churna* treatment group did not show significant changes in biochemical parameters over short trial durations, suggesting a longer course is required. Conversely, *Trivritayukta Navaka Guggulu* demonstrated highly significant improvements in lipid profiles and metabolic parameters compared to *Vidangadi Churna*.

Management should prioritize *Nidana Parivarjana* (avoidance of causative factors), *Shodhana* (purification), and *Shamana* (palliative therapies). Ayurveda emphasizes preventive care through *Dinacharya* (daily regimen), including regular yoga practice and avoiding daytime sleep (*Divaswapna*). *Pathya Palana* (dietary discipline) remains essential for reducing obesity in both children and adults.

Conclusion

Excessive consumption of oily foods, a sedentary lifestyle, daytime sleep (*Divaswapna*), psychological factors like *Harshanitya*, and genetic predisposition play a significant role in the pathogenesis of *Sthaulya*. It operates as a *Dushya*-dominant disorder, and individuals with a *Vata-Kapha Prakriti* are more susceptible, requiring early dietary and exercise interventions.

The condition is driven by *Medo-Dhatvagni Mandya* and channel obstructions that block nutrient distribution, leading to adipose tissue accumulation and subsequent tissue depletion. Clinical trials confirm that *Trivritayukta Navaka Guggulu* achieves highly significant therapeutic results compared to *Vidangadi Churna*. Future trials should utilize larger sample sizes and longer treatment durations to confirm these findings.

As a primary metabolic disorder described by Charaka under the *Ashtaunindita Purusha*, the primary objective of childhood obesity management is not merely short-term weight reduction but achieving and maintaining a healthy weight throughout growth. This approach ensures improved physical health, psychological well-being, and the prevention of obesity-related complications in adulthood.

References

1. Agrawal, M. (2017). *Textbook of Pediatrics* (2nd ed., p. 30). CBS Publishers and Distributors.
2. Charaka. (2017). *Charaka Samhita, Sutrasthana 21/3–9* (Acharya Y. T., Rev.). Chaukhambha Orientalia.
3. Connell, L. J., Ulrich, P. V., Brannon, E. L., Alexander, M., & Presley, A. B. (2006). Body Shape Assessment Scale: Instrument development for analyzing female figures. *Clothing and Textiles Research Journal*, 24(2), 80–95.
4. Gupta, A. (2005). *Ashtanga Samgraha with Hindi Commentary* (Vol. 1, Sutrasthana Chapter 24, p. 182). Chowkhamba Krishnadas Academy.
5. Hager, A. (1981). Adipose tissue cellularity in childhood with the development of obesity. *British Medical Journal*, 37(3), 287-290.
6. Joshi, Y. G. (2001). *Kayachikitsa* (4th ed., Chapter 21, pp. 265-270). Pune Sahitya Vitaran.
7. Khadilkar, V. V., et al. (2012). BMI cut-offs for screening childhood overweight and obesity in Indian children. *Indian Pediatrics*, 49(1), 29-34.
8. Kumar, S. (2014). *Manual of Paediatric Practice* (4th ed., Chapter 15, pp. 698-702). Paras Medical Publisher.
9. Lissauer, T. (2008). *Illustrated Textbook of Paediatrics* (3rd ed., Chapter 12, pp. 201-203). Mosby Elsevier.
10. Murthy, K. R. S. (2001). *Ashtanga Sangrah of Vagbhata* (4th ed., Sutrasthana 24, p. 23). Chaukhambha Orientalia.
11. Parthasarathy, A. (2013a). *IAP Textbook of Paediatrics* (p. 130). Jaypee Brothers Medical Publishers.
12. Parthasarathy, A. (2013b). *IAP Textbook of Paediatrics* (p. 1004-1005). Jaypee Brothers Medical Publishers.
13. Samhita, K., Tanta, V. J., & Sharma, P. H. (2018). *Vidyotini Hindi Commentary* (Chapter 28, p. 80). Chaukhambha Sanskrit Series.
14. Sastri, H. S. (2010). *Ashtanga Hridaya with the Commentaries Sarvangasundara of Arundatta and Ayurveda Rasayana of Hemadri* (Sutrasthana Chapter 14, pp. 12-14, 224). Chaukhamba Orientalia.
15. Sharma, R. K. (2011). *Charak Samhita English Commentary Based on Cakrapani Datta's Ayurveda Dipika* (Vol. XCIV, Sutrasthana Chapter 21). Chaukhamba Sanskrit Studies.
16. Shastri, K., & Chaturvedi, G. (2009a). *Charak Samhita, Vidyotini Hindi Commentary* (Sutrasthan 21/3, pp. 407, 411). Chaukhamba Bharti Academy.

17. Shastri, K., & Chaturvedi, G. (2009b). *Charak Samhita, Vidyotini Hindi Commentary* (Sutrasthan 20/17, p. 405). Chauamba Bharti Academy.
18. Shastri, K., & Chaturvedi, G. (2009c). *Charak Samhita, Vidyotini Hindi Commentary* (Sutrasthan 1/44, p. 15). Chaukhamba Bharti Academy.
19. Shastri, K., & Chaturvedi, G. (2009d). *Charak Samhita, Vidyotini Hindi Commentary* (Vimansthan 5/16, p. 713). Chaukhamba Bharti Academy.
20. Shastri, K., & Chaturvedi, G. (2009e). *Charak Samhita, Vidyotini Hindi Commentary* (Sutrasthan 21/3, 9, pp. 407, 411). Chaukhamba Bharti Academy.
21. Shastri, K., & Chaturvedi, G. (2009f). *Charaka Samhita, Vidyotini Hindi Commentary* (Sutrasthan 21/4, p. 409). Chaukhambha Hindi Bharati Academy.
22. Sushruta. (2016). *Sushruta Samhita, Sutrasthana 15/32–38* (Kaviraj Ambikadutta Shastri, Ed.). Chaukhambha Sanskrit Sansthan.
23. Trikamji, J. (2005). *Chakrapani Dutta in Commentator, Sushruta Samhita, Sutra Sthana, Doshadhatumalakshayavruddhi Vijnaniya Adhyaya 15/4* (8th ed., p. 68). Chaukhambha Orientalia.
24. Trikamji, Y. (2011). *Charaka Samhita - Ayurveda Dipika Commentary of Chakrapanidatta* (Siddhi Sthana, Panchkarmiya Siddhiadhyaya 8, p. 678). Chaukhamba Sanskrit Sansthan.
25. Trikamji, Y. (2012). *Sushruta Samhita - Nibandhasangraha Commentary of Shri Dalhanacarya* (7th ed., Chikitsa Sthana, Vamana-Virechanasadhyopdrava Chikitsadhyaya Chapter 33, pp. 104-117, 517). Chaukhamba Orientalia.
26. Tripathi, B. (2007). *Madhavnidanam* (Vol. 2, Medorognidanam Chapter 34, p. 35, Reprint 2018). Chaukhambha Prakashan.
27. Tripathi, B. (2016). *Deepika Hindi Commentary Sharangdhar Samhita* (Purva Khanda 7, p. 69). Chaukhamba Surabharti Prakashana.
28. Vagbhata. (2015). *Ashtanga Hridaya, Sutrasthana 14/37–40* (Arunadatta and Hemadri, Comm.). Chaukhambha Orientalia.

