AYUSHDHARA
ISSN: 2393-9583 (P)/ 2393-9591 (O)
An International Journal of Research in AYUSH and Allied Systems

Review Article

MEDODUSHTI AS A PATHOPHYSIOLOGICAL BASIS OF METABOLIC SYNDROME

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Article info
Article History:
Received: 11-01-2026
Accepted: 18-02-2026
Published: 10-03-2026

KEYWORDS:
Ayurveda, *Kapha dosha, Medodushti*, Metabolic Syndrome, *Panchakarma.*

ABSTRACT

Metabolic Syndrome is a multifactorial disorder characterized by central obesity, insulin resistance, dyslipidemia, and hypertension, significantly increasing the risk of cardiovascular diseases and type 2 diabetes mellitus. Its global rise is attributed to sedentary lifestyles, unhealthy diets, and stress. In Ayurveda, this condition parallels *Medodushti*, a pathological state involving derangement of fat metabolism due to vitiation of *Kapha dosha* and accumulation of *Meda dhatu*. **Aims and Objective:** To critically analyze Ayurveda literature and modern medical literature with reference to Metabolic Syndrome and to devise a rational Ayurvedic approach for diagnosis and management of Metabolic Syndrome. **Material and Methods:** The classic Ayurvedic literature, Contemporary literature, magazines, research journals, as well as medical databases were all compiled for this review. **Discussion:** Ayurveda attributes *Medodushti* to improper diet, lack of physical activity, and *Kapha* aggravation leading to metabolic imbalance. Modern parallels include insulin resistance and lipid abnormalities. Ayurvedic management emphasizes *Ahara, Vihara, Aushadha*, and *Panchakarma* for detoxification, supported by *Vyayama, Yoga*, and *Pranayama*. **Conclusion:** Understanding metabolic syndrome through the lens of *Medodushti* offers a holistic framework that integrates modern science with Ayurvedic principles, enabling preventive and therapeutic strategies for restoring metabolic health and overall well-being.

INTRODUCTION

Metabolic Syndrome was observed more frequently in males (54.8%) than in females (45.2%). Interestingly, its occurrence was higher among individuals with normal body weight (43.56%). A reduced level of high-density lipoprotein (HDL) was the most commonly noted abnormality in both rural (90.63%) and urban (95.65%) populations diagnosed with Metabolic Syndrome, followed by an increase in waist circumference. Additionally, the condition was predominantly seen in individuals belonging to the 51–60 years age group, indicating greater vulnerability within this age range.[2]

Metabolic Syndrome (MetS) is a multifactorial disorder characterized by the interconnection of insulin resistance, dysfunctional adipose tissue activity, and persistent low-grade inflammation. When insulin resistance develops, the body compensates by increasing insulin secretion, leading to hyperinsulinemia and disturbed glucose utilization. This metabolic imbalance favors fat accumulation and increases the risk of cardiometabolic complications.

Visceral adipose tissue plays a central role in this process, as it releases excess free fatty acids along with pro-inflammatory mediators further aggravate insulin resistance and sustain systemic inflammation.[3] The Stimulation of neurohormonal systems, particularly the renin–angiotensin system, contributes to vascular injury and elevated blood pressure. Pro-inflammatory cytokines such as TNF-α and IL-6 are key contributors, as they impair insulin signalling, disturb lipid metabolism, and promote a prothrombotic environment. The combined effects of chronic inflammation, oxidative stress, and endothelial dysfunction ultimately lead to the clinical features of MetS, including an increased risk of cardiovascular disease. Management approaches therefore focus not

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Quick Response Code
https://doi.org/10.47070/ayushdhara.v13i1.2515

only on pharmacological interventions targeting these underlying mechanisms but also on lifestyle modification, especially weight reduction and regular physical activity, to minimize cardiovascular risk and improve overall metabolic health.[4]

As per classical Ayurvedic literature by *Aacharya Sushruta*, improper dietary and lifestyle habits such as consumption of *Kapha*-aggravating foods, overeating, physical inactivity, and excessive daytime sleep lead to the formation of *Ama Rasa*. Due to which the improperly processed nutritive essence circulates throughout the body and affects *Medo Dhatu*.[5] Over time, this results in *Medo Vriddhi*, marked by abnormal accumulation of adipose tissue, clinically reflected as increased abdominal circumference and breathlessness on exertion. Disturbance of the *Medovaha Srotas* under these conditions gives rise to disorders like *Medoroga* and *Sthaulya*. The excessive *Meda* obstructs the normal movement of *Vata*, which in turn influences other channels such as *Rasavaha* and *Raktavaha Srotas*. Such obstruction, along with imbalance of *Prana* and *Vyana Vata*, contribute to elevated blood pressure through altered autonomic nervous regulation.[6] In the management of Metabolic Syndrome, *Nidan Parivarjan* is a foremost thing as it is the first line of treatment for any disease in Ayurveda. *Charak Samhita* emphasized on the use of *Rukshana, Ushna*, and mainly *Kapha-Vata shamana* drugs for the management of *Sthoulya*. Procedures like *Basti, Udvartana*, and *Mriduvirechana* are clinically effective for Metabolic Syndrome.[7]

Definitions of Metabolic Syndrome[1]

Definitions	NCEP ATP III (2005 revision)	WHO (1998)	EGIR (1999)	IDF (2005)
Absolutely required	None	Insulin resistance	Hyperinsulinemia (Plasma insulin > 75th percentile)	Central obesity (waist circumference) ≥ 94 cm (male), ≥ 80 cm (female)
Criteria	Any three of the five criteria below	Insulin resistance or diabetes plus two of the five criteria below.	Hyperinsulinemia, plus, two of the four criteria below	Obesity, plus two of the four criteria below
Obesity	Waist circumference > 40 inches (male), > 35 inches (female)	Waist / Hip ratio >0.90 (male), > 0.85 (female) or BMI > 30 kg/m^2	Waist circumference ≥ 94 cm (male), ≥ 80 cm (female)	Central obesity already required
Hyperglycemia	Fasting glucose ≥100 mg/dl or Rx	Insulin resistance already required	Insulin resistance already required	Fasting glucose ≥ 100 mg/dl
Dyslipidemia	Triglycerides ≥ 150 mg/dl or Rx	Triglycerides ≥ 150mg/dl or HDL-C < 35mg/dl (male), <39mg/dl (female)	Triglycerides ≥ 177mg/dl or HDL-C < 39mg/dl	Triglycerides ≥ 150mg/dl or Rx
Dyslipidemia (Second separate criteria)	HDL-C <40 mg/dl (male), <50 mg/dl (female) or Rx			HDL-C < 40mg/dl (male), < 50mg/dl (female) or Rx
Hypertension	>130mm of Hg systolic or >85mm of Hg diastolic or Rx	≥140/90 mm of Hg	≥140/90 mm of Hg Or Rx	>130mm of Hg systolic or >85mm of Hg diastolic or Rx
Other criteria		Microalbuminuria		

AIMS AND OBJECTIVE

1. To critically analyze Ayurveda literature and modern medical literature with reference to Metabolic Syndrome.
2. To devise a rational Ayurvedic approach for diagnosis and management of Metabolic Syndrome.

MATERIAL AND METHODS

The classic Ayurvedic literature, Contemporary literature, Pharmacology (*Dravyaguna*), magazines, research journals, as well as medical databases were all compiled for this review.

Pharmacological Measures

In the modern medicine patients of metabolic syndrome are treated with anti-diabetic, anti-hypertensive, anti- hyperlipidemic, anti-obesity drugs and lifestyle modifications. These drugs have Several side effects and patients have to take it for long life. Due to these limitations, the mankind is in search of other alternatives that can substitute these medications.

Modern aspect of Metabolic Syndrome equivalent to Ayurvedic aspect

From an Ayurvedic perspective, metabolic syndrome can be understood with the concept of *Medodushti* [8]. The habitual consumption of *Kapha*-promoting foods, along with lack of physical activity and excessive daytime sleep, aggravates *Kapha Dosha* and weakens *Dhatvagni* (tissue-level metabolic fire). As a result, improperly digested metabolic by-products, known as *Ama*, are formed. This *Ama* tends to localize in *Medo Dhatu*, impairing *Medo Dhatvagni* and leading to the formation of inadequately processed and excessive adipose tissue (*Apakva Meda*). The accumulation of such vitiated *Meda* disrupts the normal functioning of *Medovaha Srotas* and compromises proper nourishment of other bodily tissues. Over time, this pathological sequence manifests as *Medoroga* and *Sthaulya*. reflecting systemic metabolic imbalance.[9]

Ayurvedic concept of metabolic syndrome can be very well understood according to *Nidan panchaka*.

Nidan panchaka includes

1. *Nidan*
2. *Purvarupa*
3. *Rupa*
4. *Samprapti*
5. *Upshaya*

1. *Nidan* (Causative factors)

As per Ayurveda[10]

Ahara- *Guru, Madhura, Sheeta, Snigdha, Sleshmala, Atipichila,* and *Abhisyandi Atisampuran, Adhyasana, Vishamasana, Viruudhashana, Samasana*

Vihara– *Avyayama, Avyavaya, Diwaswapna, Asyasukha, Swapna sukha*

Manasik - *Harshanityatwa, Achitanath*

As per Modern Science[11]

Risk factors of Metabolic Syndrome

Lifestyle habits: Physical inactivity, consumption of poor-quality food in excessive quantities, inadequate restorative sleep, and the habitual use of tobacco and alcohol.

Occupation: Individuals working in rotating or night shifts are more prone to developing metabolic syndrome. Prolonged sitting, such as desk-based jobs, professional driving, and other sedentary roles, also increase this risk.

2. *Purvarupa* (Premonitory signs and symptoms)

As per Ayurveda[12]

Udarastha medsanchiti, Alasya, Sweda atipravritti

As per Modern Science

Increased waistline, pre-diabetes, Type 1 hypertension

3. *Rupa* (Signs and Symptoms)

As per Ayurveda[13]

Kshudra Shwas, *Trishna*, *Daurgandhya*, *Kshudha Atimatra*, *Nidraadhikya*, *Swedaadhikya*, *Alpa Prana*

As per Modern Science[14]

Clinical Indicators

- Central, visceral, abdominal obesity, specifically, a waist size of more than 40 inches in men and more than 35 inches in women.
- Fasting blood glucose levels of 100mg/dL or above.
- Blood pressure of 130/85 mm/Hg or above.
- Blood triglycerides levels of 150mg/dL or higher.
- High-density lipoprotein (HDL) levels of 40mg/dL or less for men and 50mg/dL or less for women.

Physical Signs

1. Fatigue
2. Increased hunger
3. Weight gain
4. Reduced exercise tolerance
5. Menstrual irregularities in females

Samprapti (Pathogenesis)

As per Ayurveda

According to Ayurvedic principles, various etiological factors such as *Beejadushti* (genetic predisposition), improper *Ahara* (dietary habits), and *Vihara* (lifestyle practices) initiate the pathological process. These factors predominantly provoke *Kapha dosha* within the *Aahararasa*. Simultaneously, they vitiate the *Medovaha Srotas* and promote an increased affinity between *Kapha* and *Meda dhatu* due to similarity in *Guna* (qualities). This interaction results in the formation of *Ama* at the level of *Medodhatu*, leading to impairment of *Medodhatvagni* (metabolic dysfunction at adipose tissue level).[15] Progressive accumulation of vitiated *Meda dhatu* culminates in conditions like *Medoroga* and *Sthaulya*. Excessive

Meda causes obstruction (*Margavarodha*) in vital channels such as *Rasavaha, Raktavaha,* and *Medovaha Srotas*. This obstruction disturbs the normal movement of *Vata dosha*. Particularly, the functional coordination of *Prana* and *Vyana Vata* becomes impaired. Disturbance of *Rasavaha Srotas* affects circulatory regulation, which may clinically manifest as hypertension due to altered autonomic control of blood pressure.[16] In the context of *Prameha*, multiple *Dhatus* are involved, including M*eda, Mamsa, Vasa, Majja, Kleda, Shukra, Rakta, Lasika, Rasa,* and *Ojas*. The more fluid components such as *Kleda, Shukra, Rakta, Lasika, Rasa,* and *Ojas* undergo pathological transformation and are excreted through urine. The channels of kidneys and urinary bladder vitiated due to the influence of excessive *Meda* and deranged liquid *Dhatus*. This ultimately leads to the clinical manifestation of *Prameha*.[17]

***Samprapti ghataka* of Metabolic Syndrome[18]**

1. *Dosha - Kapha* predominant *Tridoshaj vyadhi*
2. *Dushya - Rasa, Mamsa* and *Meda* are the principle *dushya.*
3. *Agni- Dhatvagni mandata* specially *Medodhatvagni.*
4. *Srotasa - Rasavaha, Raktavaha, Mamsavaha* and *Medovaha srotasa* along with the involvement of other *Srotasa.*
5. *Srotodushti- Srotosanga* and *Vimarga gamana* are initial defect in *Srotasa* followed by *Atipravritti.*
6. *Udbhavasthana- Amashayottha vyadhi*
7. *Vyaktasthana– Udara, Sphika, Stana* and *Gala pradesha*
8. *Sancharasthana– Sarvasharira* by *Rasa* and *Raktavaha srotasa*
9. *Svabhava - Chirakari*
10. *Sadhya-asadhyata- Kricchhrasdhya vyadhi*

As per Modern Science

From a contemporary biomedical perspective, insulin resistance plays a central role in the development of Metabolic Syndrome. Impaired insulin action in adipose tissue reduces its normal inhibitory effect on lipolysis, leading to elevated levels of circulating free fatty acids (FFAs). Increased FFAs interfere with intracellular signaling pathways in skeletal muscles, thereby decreasing glucose uptake. In the liver, they stimulate pathways that enhance gluconeogenesis and lipid synthesis. To maintain normal blood glucose levels, the pancreas initially compensates by increasing insulin secretion, resulting in a hyperinsulinemic state. Over time, this compensatory mechanism fails due to lipotoxic damage to pancreatic beta cells, ultimately reducing insulin output. Insulin resistance further contributes to elevated blood pressure by diminishing insulin's vasodilatory effect while FFAs promote vasoconstriction. Additional contributing factors include heightened sympathetic nervous system activity and increased renal sodium retention. Moreover, insulin resistance induces a pro-inflammatory and prothrombotic milieu, increases blood viscosity, and stimulates the release of inflammatory cytokines from adipose tissue. These changes collectively enhance the risk of cardiovascular complications associated with Metabolic Syndrome.[19]

Ayurvedic approach towards management of Metabolic Syndrome

In Ayurveda, disease management is broadly categorized into two principal lines of treatment: *Samshodhana* and *Samshamana*. The first aims at removing the aggravated *Doshas* from the body, thereby addressing the root pathology, whereas the second focuses on controlling symptoms and restoring equilibrium when complete elimination is not feasible. In metabolic disorders resembling *Medoroga* and *Prameha*, purification therapies such as *Basti, Udvartana*, and *Mridu Virechana* are considered beneficial. Classical Ayurvedic literature, including the *Charaka Samhita,* recommends therapies that are *Ruksha* (dry), *Ushna* (hot in potency), and *Kapha-Vata* pacifying in conditions characterized by *Meda* accumulation and *Agnimandya*.[20] Ayurveda adopts a structured yet holistic plan that combines detoxification, metabolic correction, herbal medicines, dietary regulation, exercise, and behavioral discipline.

Treatment strategies typically encompass [21]

1. *Nidana Parivarjana* (avoidance of causative factors)
2. *Langhana* (Fasting)
3. *Vyayama* and *Pranayama* (Physical and breathing exercise)
4. *Kapha Medo nashaka Chikitsa/Deepan Pachana Chikitsa* (Hypolipidaemic and digestive)
5. *Shodhana* (purification therapy for toxin removal)
6. *Shaman* (medication therapy).

Each component addresses a distinct stage of pathogenesis.

1. *Nidana Parivarjana*

The foremost step in treatment is the identification and elimination of etiological factors. In Metabolic Syndrome, these commonly include excessive consumption of heavy, oily, sweet foods, lack of physical activity, chronic stress, irregular sleep, and hereditary predisposition.

Management therefore begins with dietary correction- favouring light, warm, and easily digestible foods- along with structured daily exercise and stress-reducing practices such as controlled breathing and

meditation. Importantly, recommendations must be individualized according to the patient's *Prakriti* (constitutional type) and the present *Dosha* imbalance.

2. *Langhana*

Langhana is especially useful in conditions dominated by *Ama* and *Kapha*. Controlled dietary restriction and consumption of low-calorie, easily digestible meals help reduce metabolic burden. *Langhana* will lead to *Strotoshuddhi* and pacify the *Kaphabhuistha Dosha vridhi.*

3. *Vyayama* and *Pranayama*

***Vyayama* (Exercise):** Plays a central role in managing *Meda* accumulation. Regular physical activity enhances metabolic rate, improves insulin sensitivity, and facilitates fat utilization. Brisk walking, yogic postures, and moderate aerobic exercises are generally advised, tailored to the individual's strength and tolerance.

***Pranayama* (Breathing Practices):** Supports metabolic regulation indirectly by reducing stress and improving autonomic balance. Techniques such as *Nadi Shodhana, Bhastrika,* and *Kapalabhati* enhance oxygenation, stimulate digestion, and help maintain systemic equilibrium. When practiced consistently, exercise and breathing techniques together contribute significantly to weight control and metabolic stability.

4. *Kapha medo nashaka chikitsa/Deepana pachana chikitsa*

This line of management is directed toward counteracting the heavy and unctuous qualities of *Kapha* and *Meda*. Dietary measures emphasize warm, light, and dry foods. Herbal preparations possessing *Ushna* and *Ruksha* properties stimulate metabolism and assist in reducing excess adiposity.

Deepana strengthens the digestive fire (*Agni*), improving digestion and nutrient assimilation.

Pachana facilitates the breakdown and elimination of *Ama*. Substances with *Katu* and *Tikta rasa* are particularly effective in this context.

Together, these interventions restore metabolic efficiency and prevent further *Dhatu* derangement.

5. *Shodhana*

Complete eradication of disease in Ayurveda involves removing vitiated *Doshas* to prevent recurrence and restore normal strength, complexion, and longevity. Internal purification therapies like *Vamana*, *Virechana*, *Basti.*

Vamana

Vamana primarily targets *Kapha dosha* and excess *Medo dhatu*, potentially reducing visceral adiposity and circulating FFAs, thus ameliorating insulin resistance and Metabolic Syndrome.

Virechana

Virechana eliminates excess *Pitta* and liquid *Kapha*, alleviating *Vata* obstruction and correcting *Jatharagni* and *Bhutagni*, effectively combating insulin resistance.

Basti

Teekshna Bastis with *Ruksha Ushna* drugs normalize *Vata, Kapha, Kleda,* and *Meda.*

6. *Shamana*

In Ayurveda, *Shaman Chikitsa* refers to the therapeutic approach aimed at palliating or alleviating the symptoms of a disease without completely eliminating its root cause. When purification is not indicated or after *Shodhana* has been completed, *Shamana Chikitsa* is adopted. This approach utilizes herbal and herbo-mineral preparations to pacify *Doshas*, enhance metabolism, and prevent complications. Formulations containing *Medonashaka*, *Deepana*, and *Kapha-shamaka* properties are commonly prescribed in metabolic disorders. Various compound preparations in the form of *Vati, Guggulu, Churna, Kwatha,* and *Rasa Aushadhi* are traditionally used to support metabolic correction, improve *Agni*, regulate blood pressure, and reduce lipid accumulation.

Compound preparations which are found to be helpful in the patients of metabolic syndrome are[22]

1. *Vati- Chitrakadi Vati, Sarpagandha ghanavati, Arogyavardhini vati, Lasunadi vati* etc.
2. *Guggulu- Medohara guggulu, Punarnavadi guggulu, Triphaladi guggulu, Amritadi guggulu* etc.
3. *Churna– Nisha amalaki, Triphala, Kalmegha, Jatamansi, Sarpagandha, Arjuntwak* etc.
4. *Kwatha– Dashmoola, Phalatrikadi, Varunadi, Gokshuradi, Mustadi, Triphala* etc.
5. *Ras aushadhi– Shilajatvadi lauha, Vyoshadya Lauha, Shodhita shilajatu, Abhrak Bhasma, Trivanga Bhasma, Loha Bhasma* etc.

Pathya* and *Apathya

Ayurveda's hallmark lies in its holistic approach to disease management, encompassing lifestyle, diet, and medicine. *Pathya*, optimizing *Srotas* function, signifies practices nurturing health, while *Apathya* denotes habits detrimental to bodily channels, exacerbating ailments. This integrated approach underscores Ayurveda's emphasis on preventive care and holistic wellness.

1. *Ahara*

Pathya – Yava, Kodrav, Mudga, Adhaki, Kulath, Patola, Amalaka, Takra, Madhu, Ushnodak etc.

Apathya – Navanna shali, Dugdha, Ikshu, Dadhi, Anupa-Audaka-Gramya Mamsa etc.

2. *Vihara*

Pathya – Shrama, Jagrana, Nitya bhraman, Chintana, Krodha.

Apathya – Diwaswapna, Avyavaya, Sukha shaiya, Nitya harsh, Achintana

DISCUSSION

Metabolic syndrome is fundamentally an *Agnimandya-janya Vyadhi*, wherein derangement of *Jatharagni* constitutes the primary initiating factor. Continuous *Sevana* of *Guru, Snigdha, Madhura, Sheeta Ahara*, along with *Atimatra Bhojana, Vishamashana,* and *Avyayama*, leads to *Kapha-Medo Vriddhi* and progressive diminution of *Jatharagni*. Due to this impaired digestive fire, proper formation of *Sara Bhaga* does not occur; instead, *Ama-yukta Annarasa* is produced. Subsequently, this defective *Annarasa* circulates and vitiates *Medodhatvagni*, resulting in *Dhatvagnimandya*, particularly at the level of *Meda Dhatu*. The normal sequential process of *Dhatu Poshana* becomes disturbed, leading to *Ati-poshana* of *Meda Dhatu* and relative depletion or qualitative impairment of subsequent *Dhatus*. This culminates in *Medovriddhi*, *Medodusti*, and *Srotorodha*, especially in *Medovaha* and *Rasavaha Srotas*. The obstructed *Srotas* impair the normal *Vata Gati*, further aggravating metabolic dysfunction and establishing a vicious cycle of *Agnimandya* and *Meda* accumulation.

In the context of metabolic syndrome, a similar *Samprapti* can be delineated. *Kapha-pradhana Tridosha Dushti*, precipitated by *Ahita Ahara-Vihara, Diwaswapna, Alasya,* and *Mansika Nidana* such as *Chinta* and *Atichintana*, initiates systemic metabolic derangement. The predominance of *Guru, Snigdha, Manda,* and *Picchila Gunas* enhances *Kapha* and suppresses *Agni*. Persistent *Dhatvagnimandya* results in improper transformation of *Dhatus*, particularly *Meda*, leading to *Ama Sanchaya* and *Margavarodha.* This *Ama*, characterized by *Guru, Picchila,* and *Srotorodhakara Guna*, circulates through *Rasavaha* and *Raktavaha Srotas*, producing systemic obstruction and impaired tissue responsiveness. Such *Srotorodha* may be understood as the Ayurvedic counterpart of impaired metabolic signalling. Over time, this pathology manifests clinically as *Sthaulya, Medoroga, Raktagata Vata Lakshana,* and *Prameha-poorvarupa*, reflecting the spectrum of metabolic dysfunction. Ayurveda also emphasizes the role of *Mansika Bhavas* in *Agni Dushti*. Disturbance of *Rajas* and *Tamas* influences *Samana Vata* and *Pachaka Pitta*, further aggravating *Jatharagni Mandya* and accelerating *Ama* formation. Thus, both *Sharirika* and *Mansika Nidanas* contribute to the chronicity of the disorder.

Management, therefore, should be centered upon *Agnideepana, Amapachana,* and *Kapha-Medohara Chikitsa*. *Shodhana Karma,* particularly *Vamana* and *Virechana,* may be indicated based on *Dosha Avastha* to eliminate accumulated *Doshas*. *Langhana, Rukshana,* and *Lekhana Upakrama* help reduce excess *Meda* and clear *Srotas*. Long-term administration of *Tridoshaghna, Medohara,* and *Rasayana Dravyas*, along with strict adherence to *Pathya Ahara-Vihara, Vyayama,* and *Mansika Sattvavajaya* measures, is essential for sustainable management. Thus, Metabolic Syndrome can be comprehensively understood as manifestations of *Agnimandya-pradhana, Kapha-Medo Dushti-janya Vyadhi,* involving *Ama Sanchaya* and *Srotorodha*, requiring a multidimensional Ayurvedic therapeutic approach.

CONCLUSION

Metabolic Syndrome may be understood, from an Ayurvedic perspective, as a chronic disturbance of metabolic regulation arising from sustained impairment of *Agni* and imbalance of *Doshas*, particularly *Kapha* with involvement of *Meda Dhatu*. When digestive capacity declines over time, the transformation of nutrients becomes inefficient and irregular. This altered metabolic processing affects the quality of tissue nourishment, gradually leading to structural and functional instability within the body. Such condition does not develop suddenly; rather, it evolves through persistent dietary excess, physical inactivity, and psychological strain, all of which weaken metabolic coordination. As *Agni* loses its stability, tissue-level metabolism is also compromised, resulting in disproportionate accumulation and qualitative alteration of specific *Dhatus*. The disturbance extends to the channels responsible for transport and communication, thereby influencing multiple physiological systems. Hence, the syndrome reflects a systemic imbalance rather than a localized disorder.

In Ayurveda, effective management requires more than symptomatic correction. The primary objective is to re-establish metabolic clarity by strengthening *Agni*, supporting proper tissue transformation, and preserving the functional integrity of bodily channels. Equally important is the regulation of *Ahara* and *Vihara*, as consistent dietary discipline, physical activity, and mental composure directly influence metabolic stability. By focusing on the restoration of internal equilibrium and long-term physiological resilience, Ayurveda provides a comprehensive and sustainable framework for addressing complex metabolic conditions. This integrative approach aims not only to control disease progression but also to enhance overall metabolic harmony and quality of life.

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Cite this article as:
Prachi Brahma, Yogesh Kumar Pandey, Anjali. Medodushti as a Pathophysiological Basis of Metabolic Syndrome. AYUSHDHARA, 2026;13(1):451-457.
https://doi.org/10.47070/ayushdhara.v13i1.2515
Source of support: Nil, Conflict of interest: None Declared

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