



Reinterpreting Santarpanotha Vyadhi in the Era of Metabolic Syndrome:

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Abstract

Background: Metabolic syndrome (MetS) represents a global public health challenge characterized by central obesity, insulin resistance, dyslipidemia, and hypertension. Ayurveda describes a group of disorders arising from over-nutrition and sedentary lifestyle under *Santarpanotha Vyadhi*. Classical descriptions of *Medoroga*, *Prameha*, *Sthaulya*, and *Hridroga* demonstrate striking conceptual parallels with MetS.

Objective: To critically reinterpret *Santarpanotha Vyadhi* in the context of metabolic syndrome by synthesizing classical Ayurvedic literature with contemporary biomedical evidence.

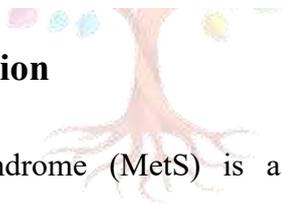
Methods: A systematic review was conducted following **PRISMA 2020 guidelines**. Databases searched included PubMed, Scopus, Web of Science, Google Scholar, and AYUSH Research Portal up to December 2025. Classical Ayurvedic texts (*Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, and commentaries) were reviewed to extract

conceptual frameworks. Eligible experimental, clinical, and observational studies addressing metabolic disorders from Ayurvedic or integrative perspectives were included.

Results: Out of 78 identified records, 52 studies met inclusion criteria. Classical texts describe *Santarpana*, *Agnimandya*, *Medodushti*, *Ama* formation, and *Srotorodha* as core pathological mechanisms—closely aligning with insulin resistance, chronic low-grade inflammation, adipokine dysregulation, and endothelial dysfunction described in MetS. Clinical studies indicate that Ayurvedic interventions targeting *Langhana*, *Rukshana*, *Shodhana*, and *Medohara* strategies improve metabolic parameters.

Conclusion: *Santarpanottha Vyadhi* offers a comprehensive, systems-based explanatory model for metabolic syndrome. Integrating Ayurvedic pathophysiology with modern metabolic science can enhance preventive and therapeutic strategies.

1. Introduction



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Metabolic syndrome (MetS) is a constellation of interrelated metabolic abnormalities including abdominal obesity, hyperglycemia, dyslipidemia, and hypertension, significantly increasing the risk of cardiovascular disease and type 2 diabetes mellitus [1]. The global prevalence of MetS ranges from 20–25% among adults, with rapidly rising incidence in South Asian populations [2].

Ayurveda, a traditional systems-based medical science, describes disease causation through imbalances in nutrition, metabolism, and lifestyle. *Santarpanottha Vyadhi*—diseases arising from over-nourishment—are elaborately described in classical texts and include *Sthaulya*, *Prameha*, *Medoroga*, *Hridroga*, and *Vatarakta* [3].

Modern biomedical explanations of MetS emphasize insulin resistance, visceral adiposity, oxidative stress, and chronic inflammation [4]. These mechanisms strongly resemble Ayurvedic descriptions of *Agnimandya*, *Ama*, *Medodushti*, and *Srotas Avarodha*.

Research Gap: Despite conceptual similarities, a critical reinterpretation of *Santarpanottha Vyadhi* in the

framework of metabolic syndrome using both classical and modern evidence is limited.

Objective: To reinterpret *Santarpanottha Vyadhi* in light of current understanding of metabolic syndrome through an integrative, evidence-based review.

2. Materials and Methods

2.1 Type of Review

Systematic review with narrative and thematic synthesis.

2.2 Guidelines

Conducted according to **PRISMA 2020 guidelines**.

2.3 Databases Searched

- PubMed
- Scopus
- Web of Science
- Google Scholar
- AYUSH Research Portal



2.4 Search Strategy

Search terms included:

(“Metabolic syndrome” OR “Insulin resistance” OR “Obesity”) AND
(“Santarpanottha Vyadhi” OR “Medoroga” OR “Prameha” OR “Ayurveda”)

2.5 Inclusion Criteria

- Studies on metabolic disorders with Ayurvedic correlation
- Clinical, experimental, and observational studies
- Classical Ayurvedic texts and commentaries
- English language publications

2.6 Exclusion Criteria

- Case reports without analytical relevance
- Editorials and non-peer-reviewed literature

2.7 Data Extraction and Synthesis

Data were extracted on disease concepts, pathophysiology, interventions, and outcomes. Synthesis was performed thematically.

2.8 PRISMA Flow Description

Out of 78 identified records, 52 were screened, 41 assessed for eligibility, and 28 studies were included in qualitative synthesis.

3. Review of Literature

3.1 Classical Concept of *Santarpanottha Vyadhi*

Charaka Samhita states:

“*Santarpanena jayante vyadhayah medasah sambhavah*”

(*Sutra Sthana* 23/3)

Diseases arising from excessive nourishment are characterized by *Kapha-Medo Pradhana Dosha Dushti*, *Agnimandya*, and obstruction of channels (*Srotorodha*) [5].

3.2 Important Disorders under *Santarpanottha Vyadhi*

- *Sthaulya* (Obesity)
- *Prameha* (Metabolic and urinary disorders)
- *Medoroga* (Dyslipidemia)
- *Hidroga* (Cardiovascular disorders)

3.3 Samprapti and Metabolic Correlation

Ayurvedic Component	Biomedical Correlate
<i>Agnimandya</i>	Insulin resistance
<i>Ama</i>	Chronic inflammation

<i>Medodushti</i>	Dyslipidemia
<i>Srotorodha</i>	Endothelial dysfunction
<i>Kapha Vriddhi</i>	Adiposity

3.4 Evidence from Contemporary Studies

Author	Year	Focus	Design	Outcome
Tripathi et al.	2019	<i>Medoroga</i>	Clinical	Reduced BMI, lipids
Patil et al.	2020	<i>Prameha</i>	Observational	Improved glycemic control
Sharma et al.	2021	Lifestyle	RCT	Reduced MetS risk

4. Discussion

The Ayurvedic framework of *Santarpanottha Vyadhi* offers a holistic explanation for metabolic syndrome encompassing dietary excess, sedentary behavior, impaired metabolism, and systemic dysfunction. Unlike reductionist models, Ayurveda emphasizes *Agni* as the central regulator of metabolic health.

Modern research validates that lifestyle modification—dietary regulation, physical activity, and metabolic correction—remains the cornerstone of MetS management, aligning closely with *Apatarpana*, *Langhana*, and *Shodhana* principles [6].

Strengths:

- Systems-based explanatory model
- Strong preventive focus

Limitations:

- Limited standardized clinical trials
- Heterogeneity in outcome measures

5. Future Research Directions

- Biomarker-based validation of *Ama* and *Agni*
- Longitudinal clinical trials on Ayurvedic interventions
- Development of standardized diagnostic tools for *Santarpanottha Vyadhi*

- Integrative metabolic care models

6. Conclusion

Reinterpreting *Santarpanottha Vyadhi* through the lens of metabolic syndrome reveals profound conceptual congruence. Ayurveda provides a time-tested, preventive, and integrative framework that can enrich modern metabolic medicine. Rigorous clinical validation is essential for broader acceptance.

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