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CRITICAL REVIEW OF CORRELATION OF KOSHTHA (AYURVEDA ASPECT) AND MODERN DIGESTIVE SYSTEM

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ABSTRACT

Background: Koshtha, a fundamental Ayurvedic concept, represents the functional capacity and responsiveness of the gastrointestinal tract based on doṣa predominance and digestive strength. Traditionally classified into *mṛdu*, *madhyama*, and *krūra koshtha*, it governs digestion (*agnibala*), bowel habits, and therapeutic decisions such as *pañcakarma*. Modern gastroenterology, on the other hand, evaluates gastrointestinal function using objective parameters including motility, secretions, gut-brain axis, microbial composition, and metabolic responses. A critical comparative examination of these two paradigms provides deeper insight into digestive physiology and its clinical implications. **Objectives:** To systematically analyze the concept of Koshtha from classical Ayurvedic texts and correlate it with contemporary understanding of gastrointestinal physiology, motility patterns, neural regulation, and microbiome science. **Methods:** Relevant Ayurvedic literature (Bṛhattrayī, Nighaṇṭus, and commentaries) and modern scientific sources on digestive physiology, gut motility, neuroenteric mechanisms, and functional bowel disorders were reviewed. Conceptual mapping was performed to identify similarities, differences, and potential points of integration. **Results:** *Mṛdu koshtha* shares functional characteristics with enhanced bowel motility, soft stools, and increased parasympathetic activity; *madhyama koshtha* aligns with balanced peristalsis and optimal enzyme secretion; whereas *krūra koshtha* demonstrates similarities with slow transit constipation, reduced colonic motility, and altered enteric neuromuscular function. The Ayurvedic concept of

agnibala corresponds with metabolic efficiency, enzyme activity, gut hormone balance, and microbial diversity. Emerging evidence on the gut-brain axis and microbiome supports Ayurveda's functional approach to individualized digestion. The review highlights areas where traditional categories predict clinical responses, especially in laxative therapy, detoxification procedures, and dietary planning. **Conclusion:** Koshtha classification offers a personalized framework to understand digestive behavior that resonates with modern concepts of motility patterns, neuroenteric regulation, and gut microbiota. Integrating Ayurvedic Koshtha assessment with scientific digestive evaluation could enhance precision in clinical decision-making, gastrointestinal therapy, and preventive health strategies. Further interdisciplinary research is essential to establish measurable parameters that validate Koshtha in contemporary biomedical terms.

KEYWORDS: Koshtha; Ayurvedic physiology; Agni; Gastrointestinal motility; Digestive physiology; Gut–brain axis; Microbiome; Functional bowel disorders.

INTRODUCTION

Ayurveda describes digestion as a dynamic process governed by *Agni*, the metabolic fire responsible for transforming food into nutrients and biological energy.[1] The functional variability of the gastrointestinal tract is explained through the concept of *Koshtha*, which denotes an individual's bowel responsiveness, digestive strength, and overall gut behavior.[2] Classical Ayurvedic texts classify Koshtha into three main types—*Mṛdu*, *Madhyama*, and *Krūra*—each influenced by doṣa predominance and playing a decisive role in bowel movement patterns, drug absorption, and the outcome of therapeutic interventions, especially *Pañcakarma*.[3,4]

Modern gastroenterology defines digestive physiology through coordinated mechanisms involving gut motility, enzymatic secretion, neuroenteric regulation, and microbial balance.[5] The enteric nervous system, gut–brain axis, and measurable parameters like colonic transit time demonstrate patterns similar to Ayurvedic Koshtha types, enabling meaningful conceptual correlation.[6,7] For instance, rapid intestinal motility with soft stools aligns with *Mṛdu Koshtha*, while delayed transit and hard stools closely resemble *Krūra Koshtha*.[8]

Advances in research on the gut microbiome and neurogastroenterology further support Ayurveda's emphasis on individualized digestive capacity and integrated bowel assessment.[9,10] These emerging scientific models contribute a strong basis for comparative

evaluation of Koshtha, enabling its potential use as a predictive tool in dietetics, gastrointestinal therapy, and functional bowel disorder management.

However, despite theoretical similarities, critical comparative studies correlating Koshtha with contemporary digestive physiology remain limited. This review aims to bridge this knowledge gap by systematically examining classical descriptions alongside modern scientific understanding, thereby presenting an integrative approach to digestive function.[11]

OBJECTIVES

1. To critically evaluate the Ayurvedic concept of Koshtha in relation to digestive physiology.
2. To compare Koshtha classifications with modern gastrointestinal motility patterns.
3. To identify conceptual overlaps that may support integrative digestive assessment.

MATERIALS AND METHODS

A narrative review method was adopted using classical Ayurvedic texts (*Bṛhattrayī*, Nighaṇṭus, and commentaries) and modern gastroenterology sources including physiology textbooks, peer-reviewed journals, and microbiome studies. Relevant concepts were collected, analyzed, and mapped for correlation. Data extraction focused on Koshtha features, digestive strength, motility, gut–brain axis, and GI functional parameters.

Table: Different Types of Koshtha and Their Features.

Koshtha Type	Dominant Doṣha	Bowel Habit	Digestive Strength (Agni)	Intestinal Motility	Clinical Features
Mridu Koshtha	Pitta-dominant	Frequent, soft or loose stools	Strong (Tikshna Agni)	Fast	Quick response to purgation, tendency for loose motions, increased secretion
Madhyama Koshtha	Balanced Vata–Pitta–Kapha	Regular, normal stools	Balanced (Sama Agni)	Moderate	Ideal digestion & absorption, good therapeutic response
Krura (Kathina) Koshtha	Vata-dominant	Hard stools, constipation	Variable or weak (Manda Agni)	Slow	Requires strong purgatives, dryness, irregular bowel habits
Vataja Koshtha	Vata	Dry, hard, difficult evacuation	Irregular	Slow	Gas, bloating, constipation
Pittaja Koshtha	Pitta	Soft, frequent stools	Strong	Rapid	Burning, loose motions
Kaphaja Koshtha	Kapha	Heavy, sticky, sluggish stools	Slow	Sluggish	Heaviness, mucus in stool, slow digestion

Detailed Critical Review

1. Conceptual Foundation of Koshtha in Ayurveda

Koshtha is a classical Ayurvedic term describing the functional responsiveness of the gastrointestinal tract, primarily governed by *doṣa* predominance, *Agni*, bowel movement pattern, and overall digestive capacity.

Ayurveda identifies three major Koshtha types

- Mṛdu Koshtha – Pitta-dominant; characterized by soft, frequent stools and quick response to purgatives.
- Madhyama Koshtha – Balanced doṣa; regular bowel habits with normal response to therapies.
- Krūra Koshtha – Vata-dominant; hard stools, delayed evacuation, and slow response to medications.

These classifications guide clinical decisions in *Pañcakarma*, drug dosage, diet selection, disease prognosis, and personalized treatment planning.

2. Physiological Basis of Digestion in Modern Science

Modern digestive physiology describes GI function through:

- Motility: peristalsis, segmentation, colonic transit time
- Secretions: gastric acid, pancreatic enzymes, bile
- Neuroregulation: enteric nervous system (ENS), autonomic nervous system
- Gut–Brain Axis: bidirectional signalling influencing motility & mood
- Microbiome: bacterial composition affecting digestion, immunity & metabolism

These parameters are measurable and provide objective insight into digestive function.

3. Correlation Between Koshtha and Modern Digestive Physiology

Ayurvedic descriptions of Koshtha closely resemble modern physiological patterns, especially regarding bowel transit, neuromuscular regulation, and gut microbiome behaviour.

Table 1: Correlation of Koshtha Types with Modern GI Physiology.

Koshtha Type (Ayurveda)	Ayurvedic Description	Modern Physiology Correlates
Mṛdu Koshtha	Soft, loose stools; frequent evacuation; quick response to purgatives	↑ Motility; ↓ Transit time; Hyperactive peristalsis; Features similar to IBS-D
Madhyama Koshtha	Normal stool consistency; regular bowel habits	Balanced motility; Normal enzyme secretion; Healthy gut-brain axis function

Krūra Koshtha	Hard stools; difficulty in evacuation; delayed response to medicines	Slow transit constipation; Hypomotility; ↑ Colonic water absorption; ENS dysregulation

4. Role of Doṣa in Koshtha vs Autonomic Influence in Modern Science

In Ayurveda, doṣa dominance determines Koshtha:

- Vāta → dryness, irregular movement → Krūra Koshtha
- Pitta → heat, liquidity → Mṛdu Koshtha
- Kapha → stability, mildness → Madhyama Koshtha

In modern physiology:

- Parasympathetic dominance increases motility (similar to Pitta-mediated Mṛdu Koshtha).
- Sympathetic dominance decreases motility (akin to Vata-mediated Krūra Koshtha).

Table 2: Doṣa & Autonomic Nervous System (ANS) Correlation.

Doṣa Function	Gastrointestinal Effect	ANS Equivalent
Vāta	Dryness, reduced motility → constipation	↑ Sympathetic activity
Pitta	Increased digestion, loose stools	↑ Parasympathetic activity
Kapha	Stable digestion, normal fluids	Balanced ANS

This conceptual overlap highlights Ayurveda's sophisticated understanding of gut regulation long before neurophysiology was established.

5. Koshtha and Gut Microbiome

Recent microbiome research demonstrates that bowel patterns depend significantly on:

- Microbial diversity
- Short-chain fatty acid (SCFA) production
- Intestinal pH
- Immune interactions

These findings parallel Ayurvedic descriptions

- Mṛdu Koshtha = increased fermentation, higher gut fluidity
- Krūra Koshtha = low microbial diversity, slow transit, dryness
- Madhyama Koshtha = balanced microbial ecosystem

Table 3: Microbiome Patterns and Koshtha.

Parameter	Mṛdu (Pitta)	Madhyama (Kapha)	Krūra (Vāta)
Microbial diversity	Moderate–High	Balanced	Low
SCFA production	Increased	Normal	Decreased
Bowel transit	Fast	Moderate	Slow
Water absorption	Low	Moderate	High

Thus, Koshtha reflects the functional output of microbiome–motility interaction, even though ancient texts use doṣa terminology.

6. Therapeutic Implications

Ayurvedic Perspective

Koshtha assessment determines:

- Type & dose of Virechana (purgation)
- Timing and strength of Snehapāna
- Diet planning (e.g., light vs. heavy food)
- Prognosis in digestive disorders

Modern Perspective

Clinical parallels include

- Choosing osmotic vs stimulant laxatives
- Evaluating patients for constipation subtypes
- Assessing motility before GI procedures
- Personalized nutrition (e.g., fiber, probiotics)

Table 4: Therapeutic Correlation.

Ayurvedic Practice	Modern Equivalent
Koshtha parīkṣā (bowel habit examination)	History of bowel habits, Bristol stool chart
Virechana dose based on Koshtha	Laxative dose based on motility pattern
Agni assessment	Enzyme function, metabolic rate
Pathya–Apathyā	Dietary counselling, fiber and probiotic planning

7. Integrative Interpretation

The critical comparison reveals that Koshtha is a functional classification system for digestive physiology, grounded in empirical observation. Modern science validates many aspects through:

- Transit studies
- Motility patterns
- ENS physiology
- Microbiome analytics

Thus, Koshtha serves as an early model for personalized digestive profiling, aligning strongly with today's concepts in integrative medicine**.**

DISCUSSION

The present review critically analyzes the Ayurvedic concept of Koshtha in relation to contemporary digestive physiology, revealing substantial points of convergence between these two epistemological frameworks. Ayurveda describes Koshtha as the collective reflection of bowel responsiveness, digestive strength (*Agni*), and doṣa predominance that governs individual variations in gastrointestinal function. These descriptions, though qualitative, effectively capture the functional diversity observed in modern motility patterns, neuroenteric regulation, and gut–brain interactions.

The interpretation of *Mṛdu*, *Madhyama*, and *Krūra Koshtha* corresponds strongly with current understandings of rapid, normal, and delayed gastrointestinal transit, respectively. *Mṛdu Koshtha*, characterized by quicker bowel movement and sensitivity to purgation, mirrors increased colonic motility and parasympathetic predominance observed in individuals with loose stools or irritable bowel syndrome–diarrhea subtype (IBS-D). In contrast, *Krūra Koshtha* reflects a physiological state of hypomotility, greater colonic absorption, and constipation-dominant patterns comparable with slow transit constipation or autonomic imbalance. *Madhyama Koshtha*, being functionally balanced, aligns with normal gut physiology and homeostasis. This parallel suggests that Koshtha classification, though formulated through empirical observation, effectively represents measurable physiological states now described through transit time analysis, motility testing, and stool pattern evaluation.

Additionally, the doṣa-based functional attributes of Koshtha offer insights that complement autonomic nervous system (ANS) regulation described in modern physiology. Vāta's association with dryness, irregular movements, and obstructive tendencies resembles the sympathetic-overdrive state that slows motility, whereas Pitta's association with heat and fluidity aligns with parasympathetic stimulation and enhanced secretory activity. Such correlations indicate that Ayurveda's constitutional framework captures neuroenteric influences that regulate digestive behaviour.

The emerging science of the gut microbiome provides further validation of Koshtha concepts. Microbial diversity, fermentation patterns, SCFA production, and microbial interactions

significantly influence bowel habits and digestive response—factors long recognized in Ayurveda through the concepts of *Agni*, *Mala*, and Koshtha variability. For instance, individuals with rapid transit tend to exhibit different microbial signatures compared to those with slow transit or constipation, aligning with descriptions of Mṛdu and Krūra Koshtha, respectively. These convergences highlight a mechanistic basis that explains how Koshtha can influence disease susceptibility, dietary tolerance, and drug responsiveness.

Therapeutically, Koshtha assessment plays a central role in Ayurveda, particularly in planning *Pañcakarma* procedures, determining purgative dosage, and customizing dietary regimens. Modern gastroenterology similarly emphasizes individual variability while selecting laxatives, prokinetics, dietary fibre, and probiotic strategies. Thus, integrating Koshtha assessment with biomedical evaluation offers a promising approach for enhancing personalized digestive care.

Despite conceptual alignment, certain challenges remain. Ayurvedic classifications are largely subjective and require standardization to correlate precisely with measurable medical parameters. Similarly, modern gastroenterology may overlook functional individuality that Ayurveda captures through Koshtha and *Agni*. Bridging these gaps will require interdisciplinary research combining traditional assessment tools with modern diagnostics such as transit studies, motility metrics, microbiome analysis, and hormonal assays.

Overall, this critical review demonstrates that Koshtha is not merely a traditional theoretical construct but a clinically relevant framework that can enrich modern digestive science. It provides functional insight into gastrointestinal behaviour, supports personalized treatment strategies, and holds potential for integrative approaches in digestive health.

CONCLUSION

The present review highlights that the Ayurvedic concept of Koshtha provides a highly relevant and clinically meaningful framework for understanding individual variations in digestive function. Although formulated through ancient empirical observation, Koshtha classification closely parallels modern concepts of gastrointestinal motility, autonomic regulation, gut–brain communication, and microbiome diversity. *Mṛdu*, *Madhyama*, and *Krūra Koshtha* exhibit functional similarities to rapid, normal, and slow transit physiological states recognized in contemporary gastroenterology.

Integrating Koshtha assessment with modern diagnostic approaches can enhance precision in digestive management by enabling personalized dietary planning, therapeutic decision-making, and optimized Panchakarma procedures. The correlation also emphasizes the value of Ayurveda's individualized perspective in predicting treatment response and digestive behavior. However, further interdisciplinary research is needed to develop standardized tools that objectively align Koshtha features with measurable biomedical parameters.

Overall, the review concludes that Koshtha serves as a bridge between traditional Ayurvedic physiology and modern digestive science, offering a complementary model for advancing integrative gastrointestinal health.

REFERENCE

1. Sharma RK, Dash VB, editors. *Charaka Samhita* of Agnivesha, Sutra Sthana. Varanasi: Chaukhambha Sanskrit Series Office, 2014.
2. Tripathi B, editor. *Ashtanga Hridaya* of Vagbhata, Sutra Sthana. Varanasi: Chaukhambha Sanskrit Pratishthan, 2015.
3. Murthy KRS, editor. *Ashtanga Sangraha* of Vriddha Vagbhata. Varanasi: Chaukhambha Orientalia, 2012.
4. Sharma PV, editor. *Sushruta Samhita*, Sutra Sthana. Varanasi: Chaukhambha Visvabharati, 2010.
5. Guyton AC, Hall JE. *Textbook of Medical Physiology*. 14th ed. Philadelphia: Elsevier, 2021.
6. Barrett KE, Barman SM, Brooks HL, Yuan JX. *Ganong's Review of Medical Physiology*. 26th ed. New York: McGraw-Hill, 2020.
7. Furness JB. *The Enteric Nervous System*. 2nd ed. Boca Raton: CRC Press, 2017.
8. Camilleri M. Integrated upper and lower gastrointestinal response to food intake. *Gastroenterology*, 2021; 160(6): 1935-47.
9. Cryan JF, O'Riordan KJ, Cowan CLK, et al. The microbiota-gut-brain axis. *Physiol Rev*., 2019; 99(4): 1877-2013.
10. Thursby E, Juge N. Introduction to the human gut microbiota. *Biochem J*., 2017; 474(11): 1823-36.
11. Patwardhan B, Vaidya AD. Ayurveda and natural products drug discovery. *Curr Sci*., 2020; 118(8): 1127-33.