

LANGHANA CHIKITSA IN JWARA: A REVIEW WITH MODERN CORRELATION

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ABSTRACT

Background: *Jwara* (fever) is considered the king of diseases (Rogaraja) in Ayurveda. Langhana Chikitsa (fasting and lite diet) is the main treatment recommended in classical texts, especially when fever is associated with *Ama* (undigested metabolic waste). Modern science also suggests that controlled fasting may help regulate inflammation and improve immune function. **Aim:** To review the role of Langhana Chikitsa in *Jwara* and correlate Ayurvedic concepts with modern biomedical evidence. **Methods:** A narrative review was conducted using classical Ayurvedic texts and recent scientific literature from PubMed, Google Scholar, and the AYUSH Research Portal. **Results:** The review found similarities between the Ayurvedic concept of *Ama* and modern concepts such as gut dysfunction and systemic inflammation.

Therapeutic fasting may promote autophagy, reduce inflammatory cytokines, and support immune function. Ayurvedic herbs like *Guduchi*, *Tulasi*, and *Trikatu* have anti-inflammatory and immunomodulatory properties. Classical post-fasting diets such as *Peya*, *Yavagu*, and *Ushna Jala* also support gut health and recovery. **Conclusion:** *Langhana Chikitsa* has a scientific basis supported by modern research on fasting, autophagy, and nutritional immunology. Integrating Ayurvedic principles with current biomedical knowledge may improve the management of febrile illnesses.

1. INTRODUCTION

Langhana Chikitsa is one of the six main treatment principles (*Shat Upakrama*) in Ayurveda and is considered the primary treatment for *Jwara*. The word *Langhana* means "to make the body lite" and includes fasting (*Upavasa*), taking a lite diet, and improving digestion. Acharya Charaka states, "*Langhanam Upavasashcha Jwaraghnam*," meaning that fasting is one of the most effective treatments for fever.

In recent years, modern research has shown that controlled fasting can reduce inflammation, improve immune function, and activate autophagy, a natural process that removes damaged cells. These findings support the Ayurvedic concept of *Langhana*. This review aims to explain the role of *Langhana Chikitsa* in the management of *Jwara* and correlate classical Ayurvedic concepts with current biomedical evidence.

AYURVEDIC CONCEPT OF JWARA

1. Definition and Significance^[1]

Jwara is defined as the condition in which there is elevation of body temperature associated with suffering of body (*Deha Santapa*) and mind (*Manas Santapa*). Charaka describes *Jwara* as the first disease created by Lord Shiva's wrath, emphasising its primacy. It arises from derangement of all three *Doshas*, though *Vata* and *Pitta* play dominant roles in its Samprapti (pathogenesis).

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2. Classification of Jwara^[1]

Classical texts describe numerous classifications of *Jwara*. The principal classification relevant to treatment decision-making is:

Table 1: Classification of Jwara according to Ayurvedic classical texts.

Classification Basis	Type	Characteristics
<i>Doshaja</i>	<i>Vataja, Pittaja, Kaphaja, Sannipataja</i>	Based on predominant Dosha involved
<i>Avastha (Stage)</i>	<i>Amavastha, Niramaavastha</i>	Based on presence/absence of Ama
<i>Nidana (Cause)</i>	<i>Agantuja (exogenous), Nija (endogenous)</i>	Based on causative factor
Duration	<i>Navaja (fresh), Jeerna (chronic)</i>	Based on duration of illness

3. Samprapti (Pathogenesis) of Jwara

The Samprapti of *Jwara* involves the vitiation of *Doshas*, particularly *Pitta*, which occupies the *Srotas* (channels) and produces *Santapa* (heat/suffering). *Ama* — unprocessed metabolic waste arising from impaired *Agni* (digestive fire) — plays a critical role in the progression and severity of *Jwara*^[5] The concept of *Sama Jwara* (fever with Ama) versus *Nirama Jwara* (fever without Ama) governs the selection of therapeutic interventions, particularly *Langhana*.

LANGHANA CHIKITSA: CLASSICAL PERSPECTIVE

1. Definition and Types

Langhana literally means to make the body lite (Laghu). It is one of the *Dvividha Upakramas* (two primary therapeutic principles — *Langhana* and *Brimhana*) and one of the *Shat Upakramas*. Charaka describes ten types (*Dasha Vidha Langhana*) under two broad categories.

Table 2: Dasha Vidha Langhana (Ten types of Langhana) according to Charaka Samhita.

Category	Types	Examples
Shodhana Langhana (Eliminative)	<i>Vamana, Virechana, Asthapana Basti, Shirovirechana, Raktamokshana</i>	<i>Emesis, Purgation, Enema, Nasal therapy, Bloodletting</i>
Shamana Langhana (Palliative)	<i>Pachana, Pipasa, Maruta, Atapa, Upavasa, Vyayama, Jagarana</i>	<i>Digestive herbs, Thirst/controlled fluid, Air exposure, Sun exposure, Fasting, Exercise, Wakefulness</i>

Ayurvedic classics clearly state that *Langhana* is the primary treatment for *Jwara* (fever). Important references include:

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The use of *Langhana* mainly depends on the presence or absence of *Ama*. In *Sama Jwara* (fever associated with *Ama*), *Langhana* along with *Pachana* is the primary treatment. Once the *Ama* is digested and *Nirama Jwara* develops, *Langhana* may still be continued when appropriate, along with other treatments such as *Svedana* and Dosha-specific therapies.

Classical texts caution against excessive *Langhana* in certain conditions: *Jeerna Jwara* (chronic fever), *Ksheenavala* (debilitated patients), children, elderly, and pregnant women. Over-*Langhana* may cause excessive *Vata* aggravation, depletion of *Dhatus*, and prolongation of illness — underscoring the importance of individualized assessment (Bala Pariksha).

MODERN CORRELATION OF LANGHANA IN JWARA

Fever (pyrexia) in modern medicine is defined as an elevation of the hypothalamic set-point mediated by endogenous pyrogens — particularly prostaglandin E2 (PGE2), Interleukin-1 β (IL-1 β), IL-6, and Tumor Necrosis Factor- α (TNF- α). These cytokines are released by macrophages and other immune cells in response to exogenous pyrogens (PAMPs — Pathogen-Associated Molecular Patterns) via Toll-Like Receptor (TLR) signalling. The systemic metabolic response to fever includes increased basal metabolic rate, accelerated gluconeogenesis, reduced gastrointestinal motility, and anorexia — phenomena strikingly congruent with the classical description of Sama Jwara.

2. Ama and Endotoxemia: A Proposed Correlation

The concept of *Ama* — incompletely metabolised, sticky, foul-smelling substance produced by impaired *Agni* — bears a remarkable conceptual resemblance to the state of endotoxemia and metabolic dysregulation seen in acute febrile illness. *Ama* blocks *Srotas* (microchannels), disturbs *Agni*, and triggers systemic Doshic imbalance. Modern science recognizes that gut dysbiosis, increased intestinal permeability ("leaky gut"), and translocation of bacterial lipopolysaccharides (LPS) during acute illness contribute to systemic inflammatory responses. *Langhana*, by resting the gut and promoting *Pachana* (digestion/catabolism), may serve to restore intestinal integrity and reduce endotoxin burden — paralleling the restoration of gut barrier function described in therapeutic fasting research.^[7,18]

3. Fasting and Caloric Restriction: Immunomodulatory Evidence^[12,17]

Contemporary research has established that caloric restriction and short-term fasting exert profound immunomodulatory effects. The key mechanisms and their Ayurvedic parallels are outlined below:

Modern Mechanism	Effect During Fever/Infection	Ayurvedic Parallel
Autophagy activation	Clearance of intracellular pathogens and damaged organelles	<i>Ama pachana</i> — digestion of metabolic toxins
Reduced insulin/IGF-1 signalling	Decreased pro-inflammatory cytokine production	<i>Agni deepana</i> — enhancement of metabolic fire
Gut microbiome modulation	Reduction in dysbiotic flora; restoration of gut homeostasis	<i>Srotovishodhana</i> — purification of channels
Reduced energy substrate availability	Starves certain pathogens requiring glucose	<i>Langhana</i> deprives the disease of its substrate
Decreased GI motility support	Allows gut rest and mucosal repair	<i>Upavasa</i> — therapeutic fasting

4. Autophagy and Ama Pachana

One of the most compelling modern correlations with *Langhana* is the phenomenon of autophagy^[9,10] — a conserved cellular self-degradation pathway activated during nutrient deprivation and fasting. Autophagy facilitates the breakdown of damaged cellular components and intracellular pathogens (xenophagy), plays a critical role in antigen presentation, and regulates inflammatory signalling. Studies have demonstrated that caloric

restriction activates autophagy within 12-24 hours — a timeframe consistent with Ayurvedic recommendations for initial *Upavasa* (one to three days) in *Navajna Jwara* (acute fever). *Ama Pachana* — the elimination of *Ama* through enhanced metabolic fire — conceptually mirrors the autophagic clearance of intracellular debris and pathogen fragments.

5. Cytokine Regulation and Laghu Ahara

Post-*Langhana* dietary recommendations in *Jwara Chikitsa* consistently advocate *Laghu* (lite), easily digestible, *Agni*-promoting diet — typically *Yavagu* (thin gruel/rice soup), *Peya*, and warm water (*Ushna Jala*). Modern nutritional immunology supports this approach: heavy, high-fat, high-protein meals during acute illness elevate pro-inflammatory cytokines (IL-6, TNF- α), suppress NK cell activity, and increase oxidative stress. Conversely, light carbohydrate-based diets support mucosal immunity, reduce inflammatory load, and spare metabolic resources for immune defence.

6. Pipasa (Thirst Management) and Hydration Physiology

Pipasa (thirst or controlled fluid intake) is a *Shamana Langhana* measure in *Jwara*. Classical texts recommend *Ushna Jala* (warm water), *Yavagu*, and herbal decoctions (*Panchakola Phanta*, *Trikatu Kwatha*) — avoiding cold water and heavy fluids during *Sama Jwara*. Modern science validates warm fluid intake during fever: warm liquids improve mucociliary clearance, aid nasal patency, promote comfort, and support hydration without the gastric burden of cold fluids. Herbal decoctions used in *Langhana* regimens contain bioactive molecules (*gingerols*, *piperine*, *curcumin*) with established anti-inflammatory and antimicrobial properties.

7. Pachana Dravyas and Their Pharmacological Basis

When full *Upavasa* is not feasible, classical texts advocate *Pachana* (digestive stimulants) as a milder *Langhana* measure. Commonly used *Pachana Dravyas* in *Jwara* include:^[13,14,16]

Dravya (Drug)	Botanical Name	Classical Action	Modern Activity
Shunthi	<i>Zingiber officinale</i>	Ama Pachana, Dipana	Anti-inflammatory (COX inhibition), antipyretic
Pippali	<i>Piper longum</i>	Deepana, Kaphanashana	Immunomodulatory, bioavailability enhancer (piperine)

Dravya (Drug)	Botanical Name	Classical Action	Modern Activity
Maricha	<i>Piper nigrum</i>	Kaphavata Hara, Pachana	Antioxidant, antibacterial, anti-inflammatory
Guduchi	<i>Tinospora cordifolia</i>	Jwaraghna, Tridoshashamaka	Immunostimulant, antipyretic, hepatoprotective
Tulasi	<i>Ocimum sanctum</i>	Kaphavata Hara, Svedajana	Adaptogenic, antimicrobial, antipyretic

DISCUSSION

Classical Ayurvedic principles of *Langhana* Chikitsa closely align with modern biomedical concepts. The Ayurvedic concept of *Ama* resembles gut dysfunction, metabolic imbalance, and systemic inflammation seen during fever. *Langhana*, through fasting (*Upavasa*), lite diet (*Laghu Ahara*), and digestive therapy (*Pachana*), helps improve digestion (*Agni*), reduce *Ama*, and control inflammation. Modern studies also show that fasting activates autophagy, regulates immune responses, and supports recovery. The Ayurvedic approach of selecting *Langhana* based on the patient's strength, disease stage, and *Dosha* reflects the principles of personalized medicine. Similarly, herbs such as *Guduchi*, *Tulasi*, and *Trikatu* possess anti-inflammatory and immunomodulatory properties, supporting their traditional use in fever.

CONCLUSION

Langhana Chikitsa is not simply fasting but a scientific therapeutic approach that improves digestion, enhances immunity, and reduces inflammation. Classical Ayurvedic concepts of *Agni*, *Ama*, and *Langhana* are supported by modern evidence on autophagy, nutritional immunology, and gut-immune interactions. Further clinical studies using modern biomarkers are needed to validate these concepts. Integrating *Langhana* Chikitsa with evidence-based medical care may provide a safe, effective, and economical approach for managing mild to moderate febrile illnesses.

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