WJPMR, 2026, 12(3), 120-125 **Review Article** **Impact Factor: 7.555**

WORLD JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.wjpmr.com

ISSN (O): 2455-3301
ISSN (P): 3051-2557
Coden USA: WJPMBB

AYURVEDIC UNDERSTANDING AND THERAPEUTIC STRATEGIES IN THE MANAGEMENT OF PNEUMONIA: A CONCEPTUAL REVIEW

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DOI: https://doi.org/10.5281/zenodo.18797863

How to cite this Article: Dr. Kirthana K.1*, Dr Ananta S. Desai2, Dr. Sidram Guled3. (2026). Ayurvedic Understanding and Therapeutic Strategies In The Management of Pneumonia: A Conceptual Review. World Journal of Pharmaceutical and Medical Research, 12(3), 120–125.

Article Received on 23/01/2026 **Article Revised on 12/02/2026** **Article Published on 01/03/2026**

ABSTRACT

Pneumonia continues to be a major cause of morbidity and mortality, particularly among children, elderly individuals, and immunocompromised patients. Despite advances in antimicrobial therapy, issues such as recurrent infections, antibiotic resistance, and prolonged post-infectious debility remain significant clinical challenges. Ayurveda provides a distinct framework to understand respiratory disorders through the concepts of Dosha, Agni, Srotas, Ama, and Ojas, which may offer supportive insights in the management of pneumonia. **Aim:** To conceptualize pneumonia from an Ayurvedic perspective and to elucidate its Pathogenesis and management principles with special reference to Sannipataja Jvara, Shwasa, and Kasa. **Materials and Methods:** Classical Ayurvedic texts including Caraka Saṃhita, Sushruta Saṃhita, and Ashtanga Hridaya were reviewed along with contemporary biomedical literature. Conceptual correlations were drawn between modern pathophysiology of Pneumonia and Ayurvedic principles. **Results:** Based on clinical features and disease progression, pneumonia can be conceptually correlated with Sannipataja Jvara with predominant Kapha and Vata involvement, associated with Pranavaha Srotodusṭi and Ama accumulation. The Ayurvedic approach emphasizes Amapacana, Kapha-hara, Vatanulomana, and subsequent Rasayana therapy during recovery. Commonly described formulations such as Dashamula, Sitopaladi Churna, and Agastya Rasayana are traditionally indicated for symptom relief and post-infectious strengthening. **Conclusion:** An Ayurvedic interpretation of pneumonia provides a structured understanding of disease progression and recovery. A Dosha-based and stage-oriented approach may serve as a supportive framework alongside contemporary medical care, particularly in addressing post-infectious weakness and recurrence.

KEYWORDS: Pneumonia, Sannipataja Jvara, Pranavaha Srotas, Shwasa, Ayurveda.

INTRODUCTION

Respiratory diseases constitute a major portion of global disease burden, among which pneumonia is a leading cause of mortality worldwide. According to the World Health Organization, pneumonia accounts for approximately 14% of deaths in children under five years of age, especially in developing countries. Although modern medicine provides effective diagnostic tools and antimicrobial therapies, emerging challenges such as antimicrobial resistance, recurrent infections, and prolonged convalescence necessitate a broader therapeutic outlook.[1]

Ayurveda provides a comprehensive understanding of disease through Doṣa, Dhatu, Agni, Srotas, and Ojas. Conditions resembling pneumonia are described under Sannipataja Jvara, Shwasa, Kasa, and Agantuka Jvara. An integrative understanding of pneumonia through Ayurvedic principles may enhance prevention, treatment outcomes, and post-infectious recovery.

PNEUMONIA: MODERN OVERVIEW

Definition

Pneumonia refers to an inflammatory condition of the lung parenchyma in which the alveolar spaces become involved due to infectious etiology.

Etiology

Pneumonia is caused by bacteria, viruses, fungi, or parasites. Common pathogens include *Streptococcus pneumoniae*, *Klebsiella pneumoniae*, *Influenza virus*, and *Mycobacterium tuberculosis*.

Pathophysiology

Pneumonia occurs when infectious agents invade the lower respiratory tract, triggering inflammation of the lung parenchyma. The resulting alveolar exudation disrupts gas exchange and leads to pulmonary consolidation with associated respiratory and systemic manifestations. Lobar pneumonia progresses through stages of congestion, red hepatization, grey hepatization, and resolution.

Clinical Features

Patients with pneumonia commonly present with a combination of respiratory and systemic manifestations. Respiratory symptoms include cough**,** dyspnoea**,** sputum production, and pleuritic chest pain. Systemic features such as fever, chills, myalgia, fatigue, and altered mental statu**s** may be present, with confusion occurring more frequently in elderly and severely ill patients. A subset of patients may present with extra-pulmonary manifestations alone, including generalized weakness, falls, or acute abdominal pain, necessitating a high index of clinical suspicion.

On physical examination, findings suggestive of pulmonary consolidation include bronchial breath sounds, crackles, reduced air entry, egophony, increased tactile fremitus, and dullness on percussion.

Bacterial pneumonia typically presents acutely with high-grade fever, productive cough with purulent or blood-stained sputum, tachypnoea, chest pain, and signs of systemic toxicity, while viral pneumonia often has a more insidious onset, characterized by dry cough, headache, myalgia, and profound fatigue.

In older adults, pneumonia may manifest atypically with sudden cognitive changes**,** anorexia, and lethargy**.** In infants and young children, symptoms may be nonspecific and include fever, tachypnoea, feeding difficulty, vomiting, irritability, lethargy, and respiratory distress.

Investigations[2]

- Chest X-ray and CT scan
- Hematological markers (CBC, CRP, ESR, lymphocyte count**)**.
- Sputum microscopy and culture
- Pulse oximetry and arterial blood gas analysis
- Special diagnostic tests such as urinary antigen testing, bronchial aspirate examination, and induced sputum analysis may be employed for the identification of specific pathogens.
- Inflammatory biomarkers, particularly procalcitonin and C-reactive protein, assist in differentiating bacterial from viral pneumonia, especially when clinical and radiological features are equivocal.

Management[3]

Treatment includes supportive care, antibiotics, antivirals, or antifungals depending on etiology. Hospitalization decisions are guided by CURB-65 scoring.

Complications[4]

- Pleural effusion
- Lung abscess
- Empyema
- Sepsis and multi-organ failure
- Acute Respiratory Distress Syndrome (ARDS).

AYURVEDIC CONCEPTUALIZATION OF PNEUMONIA

Doshic Correlation

Pneumonia is primarily a Sannipataja condition with predominant Vata and Kapha involvement and secondary Pitta association. Kapha causes Srotorodha leading to mucus accumulation, while Vata results in dyspnea and chest pain.

Samprapti

According to Ṣhatkriya Kala:

- **Sanchaya & Prakopa:** Kapha accumulation due to cold exposure or infection
- **Prasara:** Spread into Pranavaha Srotas
- **Sthanasamshraya:** Localization in *Uras*
- **Vyakti:** Manifestation as Jvara, Kasa, Shwasa
- **Bheda:** Progression to Sannipataja Jvara or sepsis-like conditions

Srotodushṭi

Pranavaha Srotas dysfunction manifests as cough, breathlessness, chest heaviness, and impaired oxygenation, comparable to alveolar congestion and hypoxemia.

Ama and Immunopathology

Ama formation due to Agnimandya parallels inflammatory mediators and endotoxins, contributing to disease chronicity and impaired immunity.

PROBABLE AYURVEDIC CORRELATION OF PNEUMONIA

Based on clinical presentation, pneumonia can be conceptually correlated with various disease entities described in Ayurvedic classics. The correlation depends upon the predominance of Doshas, nature of fever, respiratory involvement, and chronicity of the condition.

1. Vata-Kapha Sannipataja Jvara[5]
Severe pneumonia presenting with high-grade fever, dyspnoea, productive cough, chest pain, and systemic involvement can be correlated with Vata-Kapha Sannipataja Jvara. *In this* condition, Kapha is relatively depleted, Pitta remains moderate, and Vata is predominant, leading to marked respiratory distress.

This description closely resembles severe pneumonia with breathlessness, cough, nasal symptoms, dryness of mouth, and chest pain.

2. Shwasa Roga - Urdhva Shwasa[6]
Acute pneumonia cases with severe dyspnoea, rapid and laboured breathing, inability to exhale properly, altered sensorium, and impending respiratory failure show close resemblance to Urdhwa Shwasa, a grave variety of Shwasa Roga.

This condition is considered Asadhya and clinically parallels severe pneumonia with respiratory exhaustion or acute respiratory distress syndrome (ARDS).

3. Kasa Roga - Kaphaja Kasa[7]
Chronic or congestive pneumonia characterized by excessive sputum production, chest heaviness, mild fever, reduced appetite, and lethargy corresponds to Kaphaja Kasa.

The presence of thick,unctuous sputum and chest fullness is comparable to mucus-laden pneumonic consolidation.

4. Kasa Roga - Kshayaja Kasa[8]
In advanced or unresolved pneumonia associated with weight loss, haemopurulent sputum, tissue depletion, and chronic respiratory symptoms, the condition may progress towards Kshayaja Kasa.

This bears similarity to necrotizing pneumonia, lung abscess, or post-infective pulmonary damage.

5. Rajayakshma (Pulmonary Tuberculosis-like Condition)[9],[10]
Chronic pneumonia with fever, cough, chest pain, anorexia, voice changes, and hemoptysis may simulate Rajayakshma, particularly when multiple systems are involved.

6. Shwasanaka Jvara[11]
Pneumonia presenting with fever associated with prominent *Shwasa* and *Kasa* can also be correlated with Shwasanaka Jvara.

This condition highlights the inseparable association of fever with respiratory distress, which is a hallmark of pneumonia.

AYURVEDIC MANAGEMENT

Shamana Chikitsa
Includes Kashaya, Churna, Vati, Ghrita, Lehya, and Asava-Arishta formulations.

Shodhana Chikitsa
Indicated in chronic or recurrent cases:
- Vamana for Kapha dominance
- Virechana for Pitta involvement
- Nasya and Dhumapana for airway clearance

Rasayana Chikitsa
Post-acute phase focuses on restoring Ojas and lung strength using Cyavanaprasha, Dashamula Rasayana, and Amritaprasha Ghrita.

TREATMENT PRINCIPLES
According to Ayurvedic classics, the management of pneumonia-like conditions falling under Sannipataja Jvara, Kasa, and Shwasa requires a Dosha-based, stage-wise, and strength-oriented approach. Since pneumonia exhibits predominance of Kapha with associated Vata and Pitta, the therapeutic strategy focuses on Amapacana, Kapha-hara, Vatanulomana, and later Brimhana and Rasayana measures.

- In Sannipataja Jvara, the initial line of treatment emphasizes elimination of Ama and aggravated Kapha, followed by pacification of Pitta and Vata once Kapha kshaya is achieved. Thus, Langhana, Dipana-Pacana, and mild Swedana form the cornerstone of early management.[12]
- In Kasa, treatment is tailored to dosha predominance and Kapha consistency. Kaphaja Kasa is treated with tikta-katu-ushna, lekhana, and shleshma-hara measures, while Vata-Kapha involvement requires snigdha-ushna therapies with vatanulomana action. Tanukapha responds to madhura, snigdha-shita measures, whereas ghanakapha necessitates tikta, ruksha-shita interventions. In balavan patients, Vamana followed by kaṭu-ruksha-ushna diet is advised with stage-wise dosha modification.[13][14][15][16]
- For Shwasa, classical management begins with Snehana and Swedana to liquefy obstructing Kapha, thereby restoring normal movement of Prana Vayu. Ekantika Cikitsa(exclusive treatment for one Dosha) is contraindicated in Sannipataja conditions; hence a balanced, judicious approach is emphasized.[17][18]

Overall, the treatment principles include
- Amapacana and Agnidipana
- Kapha-hara and Vatanulomana
- Srotovishodhana of Pranavaha Srotas
- Prevention of *Ojas kshaya*
- Gradual transition to *Brimhana* and *Rasayana* therapy during recovery

SHAMANA AUSHADHIS[19]

Shamana therapy plays a vital role in both the acute and subacute stages of pneumonia, particularly in patients with moderate strength or those unsuitable for Shodhana.The selection of formulations is based on Dosha predominance, disease stage, and associated symptoms. Judicious use of these formulations not only alleviates acute respiratory symptoms but also reduces recurrence and post-infectious morbidity.

This therapeutic framework highlights the individualized, stage-wise, and holistic approach of Ayurveda in managing pneumonia.

Table 1: Treatment Principles in Pneumonia.

Disease Stage	Dosha Predominance	Treatment Principle
Acute febrile stage	Kapha-Pitta with Ama	*Langhana*, *Dipana-Pacana*, *Amapacana*
Productive cough, chest congestion	Kapha-Vata	*Kapha-hara*, *Sleshma-nisravana*, *Vatanulomana*
Dyspnea, chest tightness	Vata-Kapha	*Snehana*, *Swedana*, *Srotovisodhana*
Chronic / recurrent stage	Kapha Sanga, Ojas kshaya	*Sodhana* (selective), *Brimhana*
Recovery phase	Dhatu & Ojas depletion	*Rasayana*, *Balya*, *Pranavaha Srotas* strengthening

Table 2: Shamana Kashaya.

Formulation	Dosha Action	Indication
Dashamula Katutraya Kashaya	Kapha-Vata hara	Fever, chest congestion, dyspnea
Elakanadi Kashaya	Kapha hara	Productive cough, heaviness
Balajirakadi Kashaya	Kapha-Vata hara	Weak patients, post-fever
Nayopayaṃ Kashaya	Tridosha hara	Mixed presentation
Punarnavadi Kashaya	Kapha-Vata hara	Edema, breathlessness
Vyaghradi Kashaya	Kapha-Vata hara	Shwasa-Kasa

Table 3: Vati / Rasa Preparations.

Formulation	Therapeutic Action	Indication
Shwasananda Gulika	Shwasa-hara	Acute dyspnea
Shwasakuthara Rasa	Kapha-Vata Shamaka	Severe dyspnea
Dhanwantara Gulika	Vata-Kapha hara	Chest tightness
Gorochanadi Gulika	Jvara-hara	Fever with respiratory symptoms
Kaphaketu Rasa	Kapha-hara	Excess sputum
Lakshmivilasa Rasa	Kapha-Vata hara	Chronic cough

Table 4: Churna.

Formulation	Action	Indication
Sitopaladi Churna	Kapha-hara	Cough, sore throat
Talisapatradi Churna	Kapha-Vata hara	Productive cough
Karpuradi Churna	Shwasa-hara	Breathlessness
Avipattikara Churna	Pitta-shamaka	Fever with Pitta
Haridra Khanda	Kaphahara	Post-infectious cough

Table 5: Ghrita, Lehya / Rasayana & Asava-Arishta Preparations.

Formulation	Indication
Kantakari Ghrita	Chronic cough
Rasnadasamuladi Ghrita	Vata involvement
Vidaryadi Ghrita	Weak patients
Amrutaprasha Ghrita	Ojas depletion
Agastya Rasayana	Chronic Shwasa
Cyavanaprasha	Post-pneumonic debility
Dashamula Haritaki	Kapha clearance
Kanakasava	Bronchial congestion
Vasarishta	Productive cough

Table 6: Pathya-Apathya In Pneumonia.[20,21,22]

	Common (Applicable to all diseases)	Kasa (Specific)	Shwasa (Specific)	Jvara (Specific)
Pathya Ahara	Old rice ,Barley Green gram Yusha, Warm water, Ghee, Meat soup, Light and liquid diet	Goat's milk	Garlic,ginger	Fasting in initial stage, peya, vilepi
Apathya Ahara	Heavy food, Cold food and drinks Excessively, unctuous food, Fried food, Curd , Excessively sweet food, Dry food, Excessively spicy food		Abhishyandi food	
Pathya Vihara	Adequate rest Warm regimen			
Apathya vihara	Excessive physical exertion, Day sleep, Exposure to cold wind, Exposure to dust and smoke, Suppression of natural urges, Mental stress (grief, anger, fear)	Excessive talking		Physical exertion in acute stage

DISCUSSION

Pneumonia represents a complex interaction between pathogen factors and host immune response, resulting in alveolar inflammation, consolidation, and impaired gas exchange. While modern management primarily focuses on antimicrobial therapy and supportive care, Ayurveda emphasizes correction of systemic imbalance through Dosha pacification, removal of Srotorodha, and restoration of Agni and Ojas.

The clinical presentation of pneumonia shows close resemblance to Sannipataja Jvara with associated Shwasa and Kasa, wherein Kapha leads to obstruction in Pranavaha Srotas and Vata contributes to dyspnoea, chest discomfort, and irregular respiratory patterns. The concept of Ama may be correlated with inflammatory mediators and metabolic by-products that perpetuate disease severity and delay convalescence.

In the Practices, patients recovering from acute pneumonia frequently present with features of Kapha sanga, reduced appetite, generalized weakness, and features suggestive of Ojas kshaya. These manifestations are often not fully addressed by antimicrobial therapy alone. Incorporation of Rasayana measures such as Cyavanaprasha and Agastya Rasayana etc.. during the recovery phase has been observed to improve appetite, strength, and tolerance to exertion, and may help in reducing recurrent respiratory symptoms.

Similarly, formulations aimed at Amapacana and Kapha-hara, such as Dashamula-based preparations and Sitopaladi Churna, are commonly utilized in clinical practice to relieve chest congestion, cough, and breathlessness. These measures support clearance of Srotorodha and restoration of normal Prana Vayu gati.

Thus, the Ayurvedic therapeutic principles described in classical texts-namely Amapacana, Kapha-hara, Vatanulomana, and gradual Brimhana-provide a rational, stage-oriented framework that addresses both acute manifestations and post-infectious debility. This approach highlights the importance of host-centred care and metabolic correction, which may complement contemporary pneumonia management.

CONCLUSION

Pneumonia, although effectively managed with modern antimicrobial therapy,continues to be associated with complications, recurrence, and prolonged post-infectious weakness in a subset of patients. From an Ayurvedic perspective, pneumonia can be understood as a Sannipataja condition involving Pranavaha Srotodushṭi, Ama formation, and progressive involvement of Ojas.

A Dosha-based and stage-specific approach encompassing Amapacana, Kapha-hara, Vatanulomana, and appropriate use of Rasayana during recovery provides a comprehensive conceptual framework for supportive care. Integration of these principles with contemporary medical management may be beneficial in addressing residual symptoms, enhancing recovery, and improving overall respiratory health. Further clinical and interdisciplinary studies are warranted to validate these observations and establish evidence-based integrative protocols.

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