

# Ayurvedic Intervention for Bronchial Asthma: A Case Study

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| KEYWORDS                                                                                                  | ABSTRACT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| Bronchial asthma, <i>Tamaka Shwasa</i> , <i>Samana karma</i> , <i>Agasthya Hareetaki</i> <i>Avaleha</i> . | Bronchial asthma is a chronic respiratory disorder that significantly impacts quality of life and is associated with high morbidity and mortality rates. In Ayurveda, it is correlated with <i>Tamaka Shwasa</i> , a subtype of <i>Shwasa Roga</i> . This case study presents the Ayurvedic management of a 45-year-old woman diagnosed with bronchial asthma. The treatment protocol included the administration of <i>Agasthya Hareetaki Avaleha</i> for one month, resulting in notable symptomatic relief and improved clinical outcomes. The intervention addressed the <i>Kapha</i> and <i>Vata</i> doshas imbalance, contributing to disease remission. These findings suggest the potential of Ayurvedic formulations as a complementary approach to asthma management. However, further research with larger sample sizes and rigorous methodologies is necessary to validate these outcomes and explore broader clinical applications. |

## Introduction

Bronchial asthma is a chronic inflammatory condition of the airways characterized by airway hypersensitivity, resulting in recurring episodes of wheezing, breathlessness, chest tightness, and coughing.[1] The etiopathology and clinical presentation of bronchial asthma closely resemble *Tamaka Shwasa*, a disease described in Ayurveda as one of *Shwasa roga*. Symptoms of bronchial asthma are often triggered by exposure to allergens, physical exertion, upper respiratory infections, or irritants such as smoke or dust.[2] Similarly, *Tamaka Shwasa* manifests with symptoms such as breathlessness, forcible expiration, cough, wheezing, difficulty breathing while lying down, and relief in a sitting position. It is aggravated by factors like cloudy weather, cold water, cold winds, and a diet that aggravates *Kapha dosha* (the *dosha* responsible for regulating body fluids and maintaining cohesion in the body).[3]

The pathology of *Tamaka Shwasa* begins with dietary habits and lifestyle factors that provoke *Kapha dosha*. When aggravated, *Kapha dosha* combines with *Vata dosha* (the *dosha* responsible for movement and cognition), obstructing the *Prana* (respiratory channels), *Udaka* (pathways for fluid circulation), and *Annavaha srotas* (digestive tract). This obstruction disrupts the normal flow of *Vata dosha*, causing it to move in a reverse direction (*Pratiloma gati*), ultimately leading to *Tamaka Shwasa*. [4] According to *Acharya Charaka*, *Tamaka Shwasa* is classified as a *Yapyavyadhi* (a chronic condition that is incurable but manageable).[5]

Ayurvedic texts recommend different types of *Shodhana* (cleansing therapies) and *Shamana* (palliation therapies), along with various herbal and herbal-mineral formulations, for managing *Tamaka Shwasa*. This case study highlights the effectiveness of *Samana* therapy with *Agasthya hareetaki avaleha* for 1 month. The treatment significantly improved subjective symptoms and objective pulmonary function parameters.

**Case Details**

A 45-year-old female visited the Ayurvedic outpatient department, reporting recurrent episodes of shortness of breath, cough, and chest tightness after exposure to dust, cold, or exercise for the past 20 years.

**History of present illness-**

A 45-year-old female patient was asymptomatic and in normal health 20 years ago. She initially noticed episodes of dry cough triggered by consuming cold items or exposure to dust. These symptoms were mild and were ignored. Gradually, she began to develop episodes of cough that were sometimes dry and sometimes accompanied by the expectoration of mild, whitish sputum. These episodes were associated with shortness of breath and chest tightness, particularly during exposure to cold, physical exercise, or after heavy physical work. The episodes were intermittent and resolved spontaneously without medical intervention. The symptoms are aggravated during winter, particularly upon exposure to cold. Although she sought treatment at various hospitals and experienced temporary relief with medications, she did not achieve long-term improvement. Over the past month, coinciding with the onset of winter, the patient has been experiencing similar symptoms, including cough, chest tightness, and shortness of breath. Concerned about her worsening condition, she presented to our Out Patient Department for further evaluation and management.

**Past History:** The patient has no history of diabetes, hypertension, tuberculosis, significant chest infections, cardiovascular abnormalities, allergic rhinitis, eczema, or any prior hospitalizations for respiratory or systemic conditions.

**Personal History:** Known dust allergy. She denied any history of Smoking or alcohol use.

**Treatment history-** The condition was Previously managed with inhalers (formoterol fumarate and budesonide) and some oral medications (No record available) as prescribed

**Examination:**

General examination: Normal, with BP 120/92 mmHg, pulse rate 74/min.

Respiratory system: On examination of the respiratory system, the chest shape was normal with symmetrical expansion, and no deformities were observed. The respiratory rate was within normal limits, with no signs of tachypnea or use of accessory muscles. Breath sounds were vesicular. There were no signs of crepitations or other adventitious sounds. The percussion note was resonant, and the trachea was centrally positioned without any deviation. Overall, no other pathological findings were detected on respiratory system examination.

**Diagnosis:** Acute exacerbation of chronic asthma, confirmed through reversibility testing. This test involves measuring the Peak Expiratory Flow Rate (PEFR) before and after administering a bronchodilator, salbutamol. A significant improvement in PEFR ( $\geq 20\%$  increase from the baseline measurement) after bronchodilator use indicates reversible airway obstruction, a hallmark of asthma.

## Ayurvedic Approach

Table 1- Ayurvedic examination of patient and disease

| <b>Ashtasthana pareeksha</b>                                                         | <b>Dashavidha pareeksha</b>                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nadi (pulse)- <i>Kapha Vataja</i> ( <i>Kapha</i> and <i>Vata</i> predominant)        | <i>Dushya</i> (A bodily structure which can be vitiated by aggravated <i>Doṣha</i> ) - <i>Pranavaha srotas</i> , <i>Annavaha srotas</i> (channels carrying <i>Prana</i> and <i>Anna</i> )<br><i>Kaphadosha</i> , <i>Vatadosha</i> |
| Mootra (urine)- <i>Samyak</i> (Normal state)                                         | <i>Desha</i> (habitat)- <i>Sadharana</i> (A moderate habitat)                                                                                                                                                                     |
| Mala (excreta)- <i>Samyak</i> (Normal state)                                         | <i>Kala- Adana</i> ( <i>Hemanta ṛtu</i> (early winter), <i>Shisira</i> (Winter), <i>Vasanta</i> (spring)                                                                                                                          |
| Jihwa (tongue)- <i>Anupalipata</i> (uncoated)                                        | <i>Bala</i> (strength)- <i>Madhyama</i> (Moderate)                                                                                                                                                                                |
| <i>Shabda</i> (voice/speech)- <i>Prakruta</i> (Normal state), <i>Spashta</i> (clear) | <i>Agni</i> (metabolic factors located in the digestive tract) – <i>Samagni</i>                                                                                                                                                   |
| <i>Sparsha</i> (touch) – <i>Anushnashita</i> (not too cold or warm)                  | <i>Prakrti</i> (An individual's inherent nature)- <i>Kapha Vataja</i>                                                                                                                                                             |
| <i>Drik</i> (vision)- <i>Prakruta</i> (Normal state)                                 | <i>Vaya</i> (Age) – <i>Madhyama</i> (Moderate)                                                                                                                                                                                    |
| <i>Akrti</i> (body stature)- <i>Madhyama</i> (Moderate)                              | <i>Satva</i> (psyche) – <i>Avara</i> (Insufficient)                                                                                                                                                                               |
|                                                                                      | <i>Satmya -Madhura pradhna Shadrasa</i> (Sweet predominant six taste)                                                                                                                                                             |
|                                                                                      | <i>Ahara</i> -Normal <i>Jarana and Abhyavaharana shakti</i> (digestive capacity)                                                                                                                                                  |

## Treatment plan

The patient was guided on the *Pathya* and *Apathya* (wholesome and unwholesome) regimen. It was advised to use Warm, light, and freshly prepared meals, at regular timings and it was restricted to having heavy, cold food and drinks, curd, cheese, fried foods, and cold, dust exposure, excess exercises, or work.

Treatment given to the patient-

Table 2- treatment given to the patient

| No | Medicines,                        | Dose  | Frequency, and Mode of Application                        |
|----|-----------------------------------|-------|-----------------------------------------------------------|
| 1  | <i>Agasthya hareetaki avaleha</i> | 5gram | Twice a day, After food, followed by intake of warm water |

The patient was educated about the disease, treatment and expected outcomes, and advised to continue rescue inhalers if necessary.

**Outcome assessment through subjective and objective parameters** (As per guidelines for clinical research methodology in Ayurveda, Institute for Postgraduate Teaching & Research in Ayurveda, Gujarat Ayurved University Jamnagar – 361 008 India 2011)

## Subjective parameter

### A. Frequency of *shwasa vega* (frequency of breathing difficulty attacks)

0 – No attack during the last 1 month

1 - Frequency of attacks once in a month

2 - Frequency of attacks once in two weeks

3 - Frequency of attacks once in a week

- 4 - Frequency of attacks twice in a week  
5 - Frequency of attack once or more than once in a day

**B. Kasam (cough)**

- 0 - No cough  
1 - Dry cough without pain/ wet with easy expectoration  
2 - Dry cough with mild pain & expectoration with slight difficulty  
3 - Cough with severe pain/feeling of restlessness because of difficulty in expectoration  
4 - Frequent coughing due to which the patient becomes unconscious / fainting

**C. Kapha Nishthivanam (Expectoration)**

- 0 - No kapha nishthivanam.  
1 - Kapha nishthivanam only in the early morning.  
2 - Kapha nishthivanam 2-3 times daily  
3 - Always kapha nishthivanam

**D. Rudhho Ghur-ghurakam (Wheezing)**

- 0 - No wheezing  
1 - wheezing only in early morning, doesn't require medicine  
2 - wheezing in the early morning, requires medicine  
3 - wheezing in early morning, occasionally during day time  
4 - wheezing throughout the day & requires medicine  
5 - wheezing throughout the day & not responding to any medicine, requires hospitalization.

**Effect on Subjective Parameters-**

Table 3-Effect on Subjective Parameters

| Criteria                 | Before (18/12/24) | After (22/1/25) |
|--------------------------|-------------------|-----------------|
| Frequency of Shwasa vega | 5                 | 1               |
| Kasam                    | 1                 | 0               |
| Kaphanishthivanam        | 1                 | 0               |
| Rudho ghur ghurakam      | 3                 | 0               |

**Effect on Objective Parameter**

Table 4-Effect on Objective Parameters

| Parameters | Before (18/12/24) |       |    | After (22/1/25) |       |    |
|------------|-------------------|-------|----|-----------------|-------|----|
|            | Pred.             | Meas. | %  | Pred.           | Meas. | %  |
| FEV1       | 2.71              | 0.74  | 27 | 2.71            | 1.33  | 49 |
| FVC        | 3.16              | 1.21  | 38 | 3.16            | 1.77  | 56 |
| FEV1/FVC   | 80.55             | 61.17 | 75 | 80.55           | 75    | 93 |
| PEFR       | 6.50              | 1.16  | 17 | 6.50            | 2.50  | 38 |

**Follow-Up and Outcome:**

The patient showed significant improvement in both subjective and objective parameters. Subjectively, Frequency of *Shwasa vega* (frequency of breathing difficulty attacks) reduced dramatically from daily episodes (score: 5) to once a month (score: 1). *Kasam* (Cough) and *Kaphanishthivanam* (expectoration), which were previously present in the mornings, completely

resolved (score: 0). *Rudhho Ghur-ghurakam* (Wheezing), initially occurring in the early morning and occasionally during the day (score: 3), also completely resolved (score: 0).

Objective measurements also showed substantial improvement. Forced Expiratory Volume in 1 second (FEV1) increased from 0.74 L (27% of predicted) to 1.33 L (49% of predicted), and Forced Vital Capacity (FVC) rose from 1.21 L (38% of predicted) to 1.77 L (56% of predicted). The FEV1/FVC ratio improved from 61.17% to 75%, indicating better lung function. Peak Expiratory Flow Rate (PEFR) also showed notable improvement, increasing from 1.16 L/sec (17% of predicted) to 2.50 L/sec (38% of predicted). Overall, the patient's condition improved significantly, with both subjective symptoms and objective lung function parameters showing marked progress.

These results indicate significant clinical and functional respiratory improvement, reflecting the effectiveness of the treatment approach.

## Discussion



Figure 1- Pulmonary Function test- Before (18/12/24) and After (22/1/25)

According to Ayurveda *Tamaka Shwasath* there is an imbalance of *Kapha* and *Vata doshas*, and is especially recommended to use *laghu* (light), *ushna* (hot), *Vatanulomana* (proper functioning of *Vata*), and *kapha vata-hara* (Kapha and Vata pacifying) substances is particularly indicated.[6] Ayurveda highlights the therapeutic potential of *Ahara*, referring to it as *Bheshaja* (medicine).[7] It asserts that food is the best medicine, and only *Hitakara Ahara* (wholesome food) can sustain good health.[8] Some also state that if a patient adheres to *Pathya Ahara* (wholesome diet), they may not require medication. In this case, proper *Pathya* and *Apathya* (unwholesome) were instructed according to the condition.

*Avaleha* is a semi-solid dosage form with an extended shelf life, consisting of *Drava Dravya* (liquid substances), *Madhura Dravya* (sweetening agents), *Prakshepa Dravya* (condiments), and *Kalka Dravya* (medicinal pastes). [9] In contemporary times, *Avaleha* has gained significance due to its high palatability, compatibility, nutritional benefits, and enhanced oral absorption.

*Agastya Haritaki Avaleha* is a well-known formulation, particularly indicated for respiratory disorders. It is composed of *Haritaki* (*Terminalia chebula* Retz.) as the primary ingredient, along with *Dashamoola* (a group of ten roots), *Kapikacchu* (*Mucuna pruriens* Bek), *Shankhapushpi* (*Clitoria ternatea* L.), *Shati* (*Kaempferia galanga* L.), *Bala* (*Sida cordifolia* L.), *Gajapippali* (*Scindapsus officinalis* Schott), *Apamarga* (*Achyranthes aspera* Linn.), *Chitraka* (*Plumbago indica* L.), *Bharangi* (*Clerodendrum serratum* Spreng), *Pippalimoola* (*Piper longum* Linn.), *Pushkaramoola* (*Inula racemosa* Hook.f.), and *Yava* (*Hordeum vulgare* Linn.). Additionally, it contains *Guda* (jaggery), *Pippali Choorna* (*Piper longum*), *Taila* (*Sesamum indicum* L.), and *Gohrita* (ghee). This formulation is mentioned in widely referenced in classical texts. It is primarily



used in the management of *Kasa* (cough), *Shwasa* (dyspnea/asthma), *Kshaya* (consumption), *Hikka* (hiccups), and for promoting *Varna* (complexion), *Bala* (strength), and *Ayu* (longevity). [10] *Haritaki*, the main component of *Agastya Haritaki Rasayana*, is characterized by *Ruksha* (dry), *Laghu* (light), and *Kashaya Pradhana Pancharasa* (predominantly astringent with all tastes except salty). It has *Madhura Vipaka* (sweet post-digestive effect), *Ushna Veerya* (hot potency), and *Tridosahara* (balancing all three *Doshas*), which makes it particularly beneficial for respiratory health. [11] Modern research supports its effectiveness, with studies showing that chebulic acid from *Haritaki* reduces oxidative stress and helps maintain the integrity of the pulmonary alveolar epithelial barrier. [12] Additionally, its ability to inhibit mast cell activation further enhances its therapeutic potential for asthma management. [13]

*Bharangi* (*Clerodendrum serratum*), as described in *Ayurveda*, is characterized by *Tikta* and *Katu Rasa* (bitter and pungent tastes), *Laghu* (light), *Ruksha* (dry) *Guna*, and *Ushna Veerya* (hot potency), with actions that balance *Kapha* and *Vata Doshas*. It is also effective in alleviating *Swasa* (respiratory) and *Kasa* (cough) conditions. [11] Modern studies validate these *Ayurvedic* properties by demonstrating that the root of *Bharangi* can manage allergic asthma by inhibiting the release of inflammatory mediators and preventing eosinophil infiltration in the lungs. [14] Furthermore, icosahydric acid, a pentacyclic triterpenoid saponin from its roots, protects against mast cell degranulation, while ursolic acid helps prevent inflammation in lung and tracheal tissues. [15,16] These findings support the potential of *Bharangi* as a valuable therapeutic option for asthma management.

*Maricha* (*Piper nigrum*) has *Katu Rasa* (pungent taste), *Ushna Veerya* (hot potency), and *Vatakaphahara* (alleviates *Vata* and *Kapha Doshas*). Ethanol extracts of *Piper nigrum* have shown therapeutic potential in the treatment of allergic asthma by inhibiting inflammatory responses and mast cell activation. [17] In vivo evaluation of the extract demonstrated potent antihistaminic activity, reduced smooth muscle contraction, and a significant decrease in eosinophil and other inflammatory cell counts. [18]

*Pushkaramoola* (*Inula racemosa*) is specifically indicated in *Shwasa* and *Kasa rogas*. [19] Research shows that species of *Inula* serve as a source of bioactive compounds with significant potential against oxidative stress-related diseases. [20]

*Dashamoola*, a renowned formulation comprising ten medicinal roots, is widely utilized in *Ayurveda* for managing *Shwasa rogas*. These herbs exert therapeutic effects on the respiratory system primarily through their antioxidant and anti-inflammatory properties. Among them, certain botanicals have demonstrated direct efficacy in respiratory conditions. Research suggests that *Kantakari* (*Solanum xanthocarpum*) plays a pivotal role in bronchial asthma by restoring the prooxidant-antioxidant balance and alleviating airway inflammation. [21] Likewise, *Shalaparni* (*Desmodium gangeticum*) has shown significant anti-asthmatic potential in animal models, as evidenced by reduced WBC and differential counts, along with decreased malonyldialdehyde levels, and acts as an antioxidant. [22] Additionally, *Bilva* (*Aegle marmelos*) is traditionally employed in asthma treatment due to the presence of anti-histaminic constituents in its alcoholic extract. [23] Furthermore, *Agnimantha* (*Premna integrifolia*) exhibits strong anti-inflammatory and immunomodulatory properties, making it a promising candidate for the development of novel anti-inflammatory therapeutics. [24]

*Pippali* (*Piper longum*) is used as *Prakshepa* in this formulation. It is known for its *Swasahara* (respiratory health-promoting) and *Kasahara* (cough-relieving) properties. It has *Katu Rasa* (pungent taste) and *Ushna Veerya* (hot potency), making it effective in pacifying *Vata* and *Kapha Doshas*. [25] It also acts as a *Deepana* (digestive stimulant), enhancing *Jatharagni* (digestive fire)

and improving digestion and absorption. Additionally, it is *Yogavahi*, indicating that it can increase the bioavailability of drugs. [26] Animal studies indicate that piperine, the bioactive component of *Piper longum*, helps prevent the accumulation of pro-inflammatory markers and reactive oxygen species in the airways. [27] Clinical studies also demonstrate that it effectively reduces systemic oxidative stress, improves clinical symptoms, and enhances the quality of life in patients with respiratory disorders. [28]

The ingredients in the preparation of *Agastya Haritaki Rasayana* are predominantly *Ushna Veerya* (hot potency). *Katu* (pungent), *Tikta* (bitter), and *Kashaya* (astringent) are the dominant *Rasa* (tastes) present. The formulation primarily exhibits *Laghu* (light), *Ruksha* (dry), and *Tikshna Guna* (sharp properties). *Katu Vipaka* (pungent post-digestive effect) is more prevalent than *Madhura Vipaka* (sweet post-digestive effect). Most ingredients are *Vatakapsha Shamaka* (pacifying *Vata* and *Kapha*) and *Tridosha Shamaka* (balancing all three *Doshas*). This makes it highly effective in maintaining *Dosha* balance and *Samprapti Vighatana* (breaking the pathogenesis), thus alleviating asthma symptoms.

### Conclusion

In conclusion, this case study demonstrates the potential effectiveness of Ayurvedic treatment, specifically *Agasthya Hareetaki Avaleha*, in managing bronchial asthma by addressing the imbalances of *Kapha* and *Vata* doshas. The patient showed significant improvement in both symptoms and clinical outcomes, supporting the therapeutic value of *Samana* therapies. While these results are promising, further research with larger sample sizes is required to validate the findings and explore the broader application of Ayurvedic treatments in asthma management.

**Declaration of patient consent-** The authors certify that they have obtained informed consent from the patient to report the case, including using images and clinical information in the journal. The patient understands that their name and initials will not be published and that efforts will be made to protect their identity, however, complete anonymity cannot be guaranteed.

**Conflict of Interest-** The authors declare no conflict of interest.

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