



Review Article

AN EVIDENCE BASED REVIEW ON AYURVEDIC MANAGEMENT OF *TAMAKA SHWASA* (BRONCHIAL ASTHMA)

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ABSTRACT

Ayurveda is the major systems of indigenous medicines and as all of us know it is a science of life. The ancient sages discovered different kinds of Ayurvedic medicines after continuous study, observations, experiments, reflections, trials and judgments. Ayurveda gives us this knowledge of health. Unlike many diseases, which can be attributed to the life style of modern man, asthma is an ancient illness. Childhood Bronchial Asthma has multifactor causation Geographical location, environmental, racial, as well as factors related to behaviors and life-styles are associated with the disease. *Tamaka Shwasa* is a disease described in Ayurvedic texts that shows close resemblance with bronchial asthma on the basis of clinical manifestations. There is no cure for Asthma as per the Conventional Medical Science. Ayurvedic medicines can be a potential and effective alternative for the treatment against the bronchial asthma. Ayurvedic medicines are used for the treatment of diseases globally so that people all over the world can keep faith on it on the basis of scientific evidences.

The present study was a review on the management of *Tamaka-Shwasa* (Childhood bronchial asthma) who were being managed through Ayurvedic approach that includes a combination of *Shodhana Chikista*, Ayurvedic drugs, lifestyle management and wholesome diet. Ayurvedic drugs include the respiratory tonics and naturally occurring bronchodilator and immune-modulator. Thus, study result concluded that the *Shodhana, Shaman*, herbal and herbo-minerals compound drug has got significant anti asthmatic properties.

KEY WORDS: *Tamaka-Shwasa*, Bronchial Asthma, Ayurvedic Management, *Shodhana, Shamanachikista*- Herbal and Herbo-minerals drugs.

INTRODUCTION

Asthma is the most common chronic lower respiratory disease in childhood throughout the world and Ayurveda address it as "*Tamaka Shwasa*." There are five kinds of *Shwasa* : *Kshudra, Tamaka, Chhinna, Maha* and *Urdhava*. *Tamaka Shwasa* is a type of *Shwasa Roga* affecting the *Pranavaha Srotas* and characterized by prolonged expiration, wheeze, dyspnoea of exceedingly deep velocity, which is immensely injurious to life. [1,2] *Vata* moving in the reverse order pervades the channels (of vital breath), afflicts the neck and head, and stimulates *Kapha* (phlegm) to cause *Margavarodha* (blockage of respiratory passage) by producing broncho constriction. *Tamaka Shwasa* classified as *Vata Pradhana* and *Kapha*

Pradhana. Signs and symptoms of *Tamaka Shwasa* are very much similar to that of bronchial asthma.

The word 'asthma' is derived from the Greek meaning 'panting' or 'labored breathing'. Asthma is a condition characterized by a paroxysmal wheezing dyspnea (difficulty in breathing), mainly expiratory. Asthma is the disease of the respiratory system in which the airways constrict, become inflamed, and are lined with excessive amounts of mucus, often in response to one or more "triggers, " such as exposure to an environmental stimulate (or allergen), cold air, exercise, or emotional stress.[3]

There is limited information on the various modalities of Ayurvedic management on *Tamaka-Shwasa* i. e. Bronchial Asthma especially

in children. So an effort was made to review the management on *Tamaka-Shwasa* by *Shodhana*, *Shamana*, herbal and herbo-minerals compound.

Aims and objective:

To highlight the key messages that is common to many of the existing guidelines. Critically reviewing and commenting on any differences, and to assess the effectiveness of internal i.e. herbal and herbo-minerals drugs (*Shamana Chikista*) and procedure based *Panchakarma* therapy (*Shodhana Chikista*) for the treatment of *Tamaka-Shwasa*.

Materials and methods:

This review was done by compiling the classical Ayurvedic literature, Ayurvedic pediatric books, Pharmacology (Dravyaguna) and Rasashastra books, magazines and research journals as well as PUBMED, MEDLINE database. Based on the collected information, logical interpretation done to review efficacy and mode of action of *Vamana*, *Virechana*, herbal and herbo-minerals drug in the management of *Tamakashwasa*.

Epidemiology

Asthma is a public health problem for developed countries as well as developing countries; however, the incidence of the disease varies greatly. Globally 100-150 million people suffer from asthma and this number is rising. World-wide, deaths from this condition have reached over 180, 000 annually. India has an estimated 15-20 million asthmatics. In India, rough estimates indicate a prevalence of between 10% and 15% in 5-11 year old children.^[4]

Tamaka Shwasa

Vata moving in the reverse order pervades the channels (of vital breath), afflicts the neck and head, and stimulates *Kapha* (phlegm) to cause *Margavarodha* by producing broncho constriction. Signs and Symptoms are following^[5]

- 1) *Ghurghuraka* (wheezing or murmuring sound).
- 2) Dyspnea of exceedingly deep velocity which is immensely injurious to life.
- 3) Because of acute spasms, the patient gets tremors and coughs, and becomes motionless.
- 4) The patients faints again and again while coughing;
- 5) Since the phlegm does not come out, he becomes more restless
- 6) The patient is relieved (of restlessness) for some time soon after the phlegm comes out;

- 7) Patient throats is choked because of which he is unable to speak freely
- 8) The patient does not get sleep While lying down (for sleep) he gets (more of) dyspnea because the side of chest in that position get afflicted by *Vayu*. But he is relieved of this discomfort in sitting posture
- 9) Patients develops special liking for hot things;
- 10) The patient eye-balls become prominent (project outside)
- 11) Too much of sweating appears in his forehead and he becomes restless;
- 12) The patients mouth becomes dry frequently;
- 13) The patients get frequent paroxysms of dyspnea.
- 14) The attack gets aggravated when clouds appear in the sky, when he is exposed to water (Humidity), and cold when the easterly wind blows, and when he resorts to *Kapha* aggravating food and regimens.

Samprapti Ghataka (Pathological Factor According to Ayurvedic Principle)

1. *Dosha involved: Kapha and Vata*
2. *Dushya: Rasa*
3. *Agni: Jatharagni, Rasadhatwagni*
4. *Ama: Mandjatharagnijanya and Manda Rasa Dhatwagnijanya*
5. *Srotas involved: Pranavahasrotas, Udakavahasrotas, Annavahasrotas*
6. *Srotodushti prakara: Sanga, Vimargagamana, Atipravritti*
7. *Udbhava Sthana: Amashaya (Stomach/ Abdomen)*
8. *Sancharasthana: Urah, Kantha, Shiras (Pranavahasrotas).*
9. *Adhishtana: Urah, Pranavahasrotas. (Chest)*
10. *Vyaktasthana: Urah(Lungs).*
11. *Rogamarga: Abhyantara.*
12. *Vyadhi swabhava: Daruna, Chirakari (Chronic)*
13. *Sadhyasadyata: Yapy*

Etiological factor in asthma

The biological factors are dust mites, cockroaches, pollen, fungi, pets-saliva, urine, viral infection, food and irritants factors are tobacco smoke, cooking fuel smoke, mosquito coil smoke, sprays, perfumes.^[6]

Management of Tamaka Shwasa

Treatment of *Tamaka-shwasa* is described as:

1. *Shamana Chikitsa*

2. Shodhana Chikitsa

Again management is classified into *Vegakalina* (During the asthmatic attack) and *Avegakalina* (In the absence of attack), *Vegakalina Chikitsa* to removes the block due to obstruction of *Kapha Dosha* and relieves the spasmodic constriction in bronchial lumen to maintain the respiration and to stable the patient vitally.

Avegakalina Chikitsa to prevent recurrent episodes and improvement in body strength, immunity and quality of life i.e. *Rasayana*

Principles of treatment

The physician should treat the patient afflicted Asthma in the beginning, with unctuous fomentation therapies. like *Nadi - Sveda*, *Prastara-Sveda* and *Sankara - Sveda* after anointing the body with oil (unctuous substance) mixed with rock salt. The fomentation therapy renders the adhered *Kapha* dissolved in the channel of circulation and softened thereby. These therapies also cause downward movement of *Vayu* (*Vatanulomana*). The stable *Kapha* in the body get dissolved on account of the heat generated by these formation therapies.^[7]

Shodhana Chikitsa

According to Charaka *Shodhana chikitsa* is *Vamana* and *Virechana*. If *Shwasa* patients complain with *Kasa* and *Swarabheda* then manage with *Vamana* and *Vata-kaphanashaka* medicine along with *Virechana* used in *Tamaka shwasa*.^[8]

Milestone achieved in researches

1. Rawal M et al 2010:-A clinical study on *Tamaka-shwasa* by *Vamana Chikista* that observed wheezing sound and rhonchi were totally absent after *Vamana karma*, and *Vaman* is the ultimate therapy to make the patients totally free from bronchial asthma.^[9]
2. Pillai Vishnu et. al 2013:*Vamana Karma* in reducing the signs and symptoms of *Tamaka Shwasa* viz. Breathlessness, wheezing, respiratory rate and PEFr which is an important diagnostic tool in bronchial asthma.^[10]
3. Kajaria Divyaet. al. 2013: *Virechana* (purgative) therapy helps decrease in dyspnea, remove undigested food material and prevent stimulation of inflammatory mediators.^[11]
4. Shyam, et al 2010: *Nithyavirechana* by *Eranda thaila* and *Shamana* by *Nayopayamkashaya* (*Bala, Jeeraka, Sunthi*) are highly effective in counteracting the

symptoms of *Tamaka Shwasa*. Like breathlessness, cough, respiratory rate, labored breathing, breath sounds.^[12]

5. Ramadevi et al. 2013: *Virecana Karma* with *Trivrutadi Modaka* found more effective in breaking the *Samprapti* (pathogenesis) of *Tamaka Svasa*.^[13]

Vegakalina Chikitsa

The disease *Tamaka Shwasa* needs immediate management in the *Vegakalina-avastha* like *Sadhya-Vamana*, *Abhyanga*, *Swedana* and *Dhoomapana* or *Shamana Aushadhi*. It should aim at both preventive and curative aspect.^[14]

1. *Abhyanga*- *Til* oil and *Lavan* on chest region
2. *Swedana* - *Nadi*, *Prastara*, *Sankara*
3. *Sadhya-Vamana*- Salt water, sugarcane juice, decoction of *Yastimadhu*.^[15]
4. *Dhoomapana* - *Ardraka Arka*^[16]
5. *Muhurmuhar Prayoga* of *Pushkarmulasava* ^[17]
6. Nebulization by '*Amritdhara*'-A mixture of Menthol, Thymol and Camphor used as an aerosol. ^[18]
7. *Shamana Aushadhi*- herbal and herbo-minerals compounds.

Avegakalina Chikitsa

Rasayana Chikista: Increase in the strength of *Pranavaha Strotas* following medication should be used.

6. *Chyavanprashsa*-It alleviates cough, asthma, and bronchospasm of seasonal and non-seasonal origin, smooth functioning of the tracheobronchial tree, maintain the adequate hydration of respiratory system, increasing the strength of respiratory system.^[19]
7. *Vardhaman Pippali*-Gives strength to the *Pranavahasrotas*. Used in *Vata* type asthma, chronic cough and bronchitis. ^[20]
8. *Chausashta Prahari Pippali*- Improves lung health. It helps in detoxifying lung. ^[21]

Intervention / Approaches in Tamaka Shwasa

Asthmatic patients complain various sign and symptoms, following special treatment shall be use^[22].

1. In case of excessive cough and breathlessness:
Kantakari Kwatha- 30 ml thrice a day either alone or with honey
2. In case of excessive cough with fever patients of bronchial asthma:

1. *Shrisha Twakkwatha*- 30 ml thrice a day for 6 weeks.
 2. *Naradiya Laxmivilasa Rasa* 500mg and *Godanti Bhasma* 1 gm thrice a day for 6 weeks.
 3. *Shwasa -Kesari Tablet (Kantakari + Godanti Bhasma)*- 1.5 gm for 6 weeks.
3. In case chronic asthma associated with severe breathlessness, chest congestion and cough not responding to conservative treatment.

1. *Pippli Vardhamana Ksheerapaka* with 250 mg *Samira Pannaga Rasa* thrice in daily for 6 weeks.
2. *Shodhana Chikista: Snehana, Swedana, Vamana, Virechana.*

Herbal drugs and Herbo-minerals compound:

Herbal and Herbo-minerals are used in *Tamaka Shwasa* because of their very good properties. This drug pacifies all the signs symptoms of asthma. Properties are described in table number one and two.

Compound formulation:

Many compound formulation are used in *Tamaka Shwasa*, they relieve the signs and symptoms and improve the quality of life. Some of them are-

1. *Puskaramuladi Churna*^[23]
2. *Vasa Avaleha*^[24]
3. *Vasa Haritaki Avaleha*^[25]
4. *Bharngyadi Avaleha*^[26]
5. *Kanakasava*^[27]

Lifestyle, Breathing Exercises and Meditation

Staying awake at night, exercising, labor, exposing oneself to the heat of the sun or fire, and anxieties, grief, wrath, and everything that disturbs peace of mind should be avoided. A healthy lifestyle would have a preventive role. Breathing exercises, particularly *Pranayama*, reduce the frequency and severity of symptoms, improve exercise tolerance, and enhance lung function. Meditation helps in reducing the stress and may check recurrence. *Sahaja* yoga is an Indian system of meditation based on traditional yogic principles, which may be used for therapeutic purposes. Clinical trials of this therapy in patients with asthma have found evidence of improvement in lung function and reduced frequency of exacerbations.^[28]

Pathya: (Wholesome diet and lifestyle)

1. **Ahara** :*Laghu* and *Ushna* diet, Red rice(un polished) *Mudga, Kulatha, Wheat, Barley, Dates fruit, Cardamom, Goat milk, Honey, Patol, Garlic, Jambira lemon, Matulunga lemon, Hot water.*
2. **Vihara**: *Swedana, Hot water bath, Atapa sevana, Lavana, Taila Abhyanga, Pranayama, Warm clothes in winter season.*

Apathya: (Unwholesome diet and lifestyle)

1. **Ahara**: Over eating and taking milk at bed time. Fried, too cold, sour, heavy preparations. Fishes, Sheep milk. Sour food, Leaves of mustard, *Amla Phala* [Citrus fruits], Deep fried items such as *Samosa, Sheetapaneeya* [cool drinks], *Dadhi, Aamaksheera, Bread, Burger, Pizza, Cheese, Paneer* etc. is used which are having *Srotorodhaka* property.
2. **Vihara**: *Vegadharana, Facing dust/wind/hot sun, hard exercise, Smoke, Pets, Pollen Sheeta, Ruksha* [Air-Conditioner], cold and damp places. Fasting for a longer period, Seating in frosty, smoky and congested places for a longer period etc. are to be avoided.

DISCUSSION

Asthma is a well-documented disease in Ayurveda which is comparable with modern disease bronchial asthma on the parameters of risk factors, etio-pathology, clinical manifestations and treatment principles. Ayurveda strives for boosting host defense mechanism by employing *Panchkarma*, life style modifications including *Yoga* and *Rasayan* medicines. *Vamana* liquefied the thick-sticky bronchial secretion and help in expectoration (Removal of *Sama Kapha Dosha*); while *Virechana* help to remove aggravating factors (*Sama Dosha* and allergens, toxins). *Vamana* and *Virechana* are very good effective management for the *Tamaka-shwasa Vyadhi* and relieve the signs and symptoms of *Tamaka-shwasa*. The effects of these herbs and Herbo-minerals drugs are to liquefy the thick bronchial secretion and help in cough expectoration. They are *Vatta, Pitta* and *Kapha* pacifying properties and are used in *Kasa* and *Tamaka-Shwasa*. The sum total properties of herbal and herbo-minerals are *Tikta Katu Rasa*, light and penetrating properties, *Ushnavirya* (hot potency) and decrease *Vata* and *Kapha Dosha*. The *Gunas* of the drug are *Laghu, Tikshna* which are antagonistic to the *Gunas* of *Kapha Dosha*, thereby normalizing *Kapha Dosha*. The *Virya* (potency) of this drug is *Ushna* (hot),

whereas that of *Vata* is *Sheeta Guna* (cold in Character). All the drugs have the quality to normalize or suppress the vitiated *Vata Dosa* by *Ushna Virya* (hot potency). *Agni mandya* (diminished digestion power) is corrected by *Pippali*. *Srotas* vitiated are *Pranavahasrotas*, which are corrected by all the drugs as they, reduce expiratory dyspnea and decrease cough. *Srotodusti* (The mechanism of manifestation of diseases) is *Sanga* (occlusion), which is relieved by the *Ushna (hot)* properties of the drug and *Shwasahara* property. They help in reducing inflammation of the bronchioles. These drugs also useful in recurrent rhinitis, chronic cough and reducing the cough and relieving chest pain. The benefits of these herbs and Herbo-minerals drugs are highly praised in Ayurvedic classical literature and Rasashatra books for conditions like breathlessness, chest congestion, cough and cold, which act by making the secretion thin and helps in expectoration, reduce the inflammation of the respiratory system, signs and symptoms of *Tamaka-Swasa*. All herbal drugs and herbo-mineral compound having anti allergic, bronchodilator effect, and anti-inflammatory and immunomodulator properties. These properties of drugs help in inflammation in bronchial lumen, increase strength of respiratory system. Herb and Herbo-minerals compound pacifies *Dushita Vata, Pitta*

and *Kapha Dosha* and control asthmatic problems and improves immunity. Healthy lifestyle, breathing exercise like *Yoga, Pranayama*, and meditation is play important role to reduce symptoms and improve the lung function.

CONCLUSION

Methodological quality of the trials was good and it was concluded that *Shodhana, Shamana*, herbal and herbo-minerals products are important in the treatment of asthma. *Shodhana* therapy is effective in adult patient but no evidence regarding in case of children has been prove, so further research is needed. Drugs doses are adjusted for children according to weight, age and severity of disease. Herbal and Herbo-minerals products remain popular for asthma. An update of the current evidence is described.

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Table 1: Herbal drugs with its properties

Drugs	Latin Name	Prosperities
1. <i>Kantakari</i>	<i>Solanum surattense</i> Burm. f	Antihistaminic activity, Anti-inflammation activity ^[29]
2. <i>Vasa</i>	<i>Adhatoda vassica</i> Nees	Antispasmodic, Expectorant, anti-tissue, bronchodilator ^[30,31]
3. <i>Yastimadhu</i>	<i>Glycyrrhiza glabra</i> Linn	Anti-asthmatic ^[32] , anti-inflammatory, anti-microbial, expectorant ^[33]
4. <i>Shirisha</i>	<i>Albizia lebbek</i> Benth	anti-inflammatory ^[34]
5. <i>Haridra</i>	<i>Curcuma longa</i> Linn	anti-inflammatory, analgesic, antibacterial ^[35]
6. <i>Amalaki</i>	<i>Embllica officinalis</i> Gaertn	Immunostimulatory ^[36]
7. <i>Shunthi</i>	<i>Zinziber officinale</i> Roxb	anti-inflammatory ^[37]
8. <i>Shati</i>	<i>Hedychium spicatum</i> Buch-Ham	use in breathlessness, cough, chest heaviness, loss of appetite, dysopnea ^[38]
9. <i>Puskarmool</i>	<i>Inula racemosa</i> Hook	Mast cell Stabilization property in the animal allergic models. ^[39] Anti-histamine activity, Anti eosinophilic ^[40]
10. <i>Tulasi</i>	<i>Ocimum Sanctum</i> Linn	anti-inflammatory, anti-asthmatic, immunomodulatory ^[41]
11. <i>Pipalli</i>	<i>Piper longum</i> Linn	Mast cell Stabilization property ^[42] immunomodulatory, Antiasthmatic ^[43]
12. <i>Kutaki</i>	<i>Picrorrhiza kurroa</i> Royle ex Benth	In animal studies, anti-inflammatory, and immunomodulatory activities have been demonstrated. ^[44]

Table 2: Herbo-Mineral Compounds with its properties

Drugs	Properties
1. <i>Shwasa-kasa-chintamani Rasa</i>	Use in childhood bronchial Asthma ^[45]
2. <i>Mahalaxmivilasa Rasa</i>	control of asthmatic attacks ^[46]
3. <i>Shwasa-kuthara Rasa</i>	Anti-Allergic ^[47]
4. <i>LavangadiVati</i>	Bronchodilator ^[48]
5. <i>Abhraka Bhasma</i>	Use in Asthma and low immunity ^[49]
6. <i>Godanti Bhasma</i>	Use in cough and dyspnea ^[50]
7. <i>Samirapannaga Rasa</i>	Prevent recurrence of asthma, increase in peak expiratory flow rate ^[51]
8. <i>Padmapatradi yoga</i>	bronchodilator, antihistaminic and anti-inflammatory ^[52]

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