

Critical Review of Ayurveda Approach to Paediatric Asthma w.s.r To *Tamaka Shwasa*

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Abstract

Childhood asthma (Paediatric asthma) is the most common serious chronic disease in infants and children characterized by completely or partially reversible airway obstruction in bronchial tree, which may improve spontaneously or may subside only after specific therapy. Airway hyper responsiveness is defined as the narrowing of the airways as response to a variety of stimuli, such as allergens, nonspecific triggers and infections. However the disease has been classified in the classics depending on severity of the condition. *Maha Shwasa* implies all such clinical stages where *Shwasa* is present at end stage of the disease and considered as incurable. While *Urdhwa Shwasa* denotes less severe and incurable condition as compared to *Maha Shwasa*. *Chhinna Shwasa* also implies similar incurable conditions where there is disturbance in rate and rhythm of respirations. *Tamaka Shwasa* is *Yapya* condition, which can be kept under control by medications and *Nidana Parivarjana*. Hence for all clinical purpose the Asthmatic children should be classified as patients of obstructive and Restrictive disorders of the lung. Obstructive causes of Asthma should be treated with *Kaphahara* principle while conditions of aggravated *Vata* should be treated in asthma due to bronchial muscle spasm leading to obstruction. At time there will be both involvement of *Vata* and *Kapha*. All efforts should be done to keep *Vata* under normal limits by reversing the bronchial muscle spasm as early as possible by using different *Vatahara* measure. Meanwhile restrictive disorders of the lung points towards conditions with decreased lung space, loss of compliance of lung, neuromuscular disabilities of chest cavity and treated with certain breathing exercises and *Balya* treatment.

Key points:- *Tamaka Shwasa*, Obstructive, Restrictive, Pediatric asthma, *Shwasa*

Introduction

Shwasa Roga is a condition where in the patient experiences an abnormal or distressful breathing. When *Kapha* does the obstruction to the channels of circulation and then being itself obstructed, the aggravated *Vayu* thus results in *Shwasa*¹. On the basis of clinical features, *Shwasa* can be classified into five types as *Urdhwa Shwasa*, *Maha Shwasa*, *Chhinna Shwasa*, *Tamaka Shwasa* and *Kshudra Shwasa*². On the basis of

prognosis, *Shwasa* can be again categorized into *Sadhya* (Curable)- *Kshudra Shwasa*, *Yapya* (Palliable)- *Tamaka Shwasa* and *Asadhya* (Incurable)- *Maha Shwasa*, *Urdhva Shwasa* and *Chhinna Shwasa*³.

The word *Tamas* means darkness. In *Tamaka Shwasa*, the patient experiences darkness in front of eyes⁴. *Tamaka Shwasa* is an *Amashayasamuttha Vikara*. *Tamaka Shwasa* is again divided into two subtypes; *Santamaka* and *Pratamaka Shwasa*⁵. *Vayu*, which moves in *Pratiloma Gati* (Reverse order) reaches the *Srotasa* (Channels of breath), afflicts *Greeva* (neck) and *Shiras* (Head) and stimulates the *Shleshma* to result in *Peenasa* (Rhinitis). This obstructed *Vata* produces a series of manifestations, which includes *Ghurghuraka* (Wheezing sound), *Ateeva teevra vegam cha swasam pranapravedakam* (Difficulty in breathing and takes breath with a deep velocity). Patient gets tremors and *Kasa* (Cough). *Pramoham kasamanashcha sa gachhathi muhurmu* (Fainting again and again while coughing). As the *Shleshma* does not come out easily, the patient becomes *Dukhita* (restless). Once the phlegm comes out, they will feel the relief. Because of the disturbance in the *Kantha Pradesha* (Throat), there will be inability to speak properly. *Na chaapi Nidram labhate* (Sleep will be disturbed), on lying down posture breathing difficulty aggravates and *Aaseeno labhate saukhyam* (relieves in sitting posture). *Ushnam chaiva abhinandathi* (Develops likeness towards hot things), excess of sweating occurs in forehead region and person becomes restless. Dried mouth and occurrence of episodes of breathing difficulty is specific to this disease. Disease aggravates when *Megha* (Clouds appears in sky) and exposure to *Ambu* (water), *Sheeta* (cold), *Vata* (Blowing wind) and *Kapha vardhaka ahara vihara*⁶. *Shwasaroga* is diagnosed when the clinical manifestation suggests the vitiation of *Vata* and *Kapha Dosha*, affliction of *Rasa Dhatu* in *Pranavaha Srotasa*⁷. Treatment of *Tamaka Shwasa* can be understood according to four different conditions of patients as *Balvaan* (Strength), *Durbala* (Weakness), *Kaphadhikyata* (Predominance of *Kapha*) and *Vatadhikyata* (Pre-dominance of *Vata*). In *Kaphadhikya Avastha* and *Rogi* is *Balvaan*, can be given wholesome food and can be administered *Vamana* (Emesis) and *Virechana* (Purgation), followed by *Dhooma* (Smoking) and *Leha* (electuaries). Bronchial asthma is a chronic inflammatory disorder of the lower airway characterized by paroxysms of dyspnoea, wheezing and coughs as a result of temporary narrowing of the bronchi by the trio of bronchospasm, mucosal oedema and thick secretions⁸. The prevalence of asthma has increased globally for over three decades. The peak incidence is seen in the age group of 5-10 years. When compared with girls, boys suffer twice as much as them. Even the severity of illness is also more severe in them⁹. In school-going age group, it is about 2%.¹⁰ The prevalence is 25.6% in 2009 which is under 18 years and near about 75% of asthma occurs in children under 5 years of age. Current estimates suggest that asthma affects 300 million people world-wide and there will be an additional 100 million people will be diagnosed by 2025¹¹. There are various triggering factors for the causation of asthma which includes infections, exercise, weather, emotions, food and endocrine causes¹². Children being the most vulnerable group are estimated to have an incidence and recurrence much more than adults because of their specific anatomical and physiological peculiarities and immature immune response, which make them more susceptible to respiratory disorders¹³. Nowadays, the prevalence of bronchial asthma is increasing due to excessive pollution, occupational conditions, stress, overcrowding and poor hygiene¹⁴. The clinical presentation of asthma varies from recurrent cough to severe wheezing. When seasonal changes occur, symptoms of asthma get manifested. Usually the condition aggravates during exercises and at night time. The drug for asthma should be with properties like Bronchodilator, Anti-allergic, Anti-tussive and expectorant¹⁵. Asthma, when poorly controlled is always associated with significant morbidity and socio-economic problems like absenteeism from school or work, loss of productivity and wages and thereby a poor quality of life¹⁶. A poorly controlled asthma can become fatal¹⁷.

Ayurvedic Perspective and clinical understanding of Tamaka Swasa

Ayurveda has given prime importance to *Shwasa Roga* as an independent disease as well as a symptom of many other diseases. *Shwasa Roga* is predominantly *Vata-Kaphaja*, originating from *Amashaya* and manifesting through the *Pranavaha Srotasa* (Respiratory channels). *Tamaka Shwasa* is a disease in which free flow of *Vayu* is deranged, when obstructed by the vitiated *Kapha* in the respiratory pathways.

Nidana of Swasa Roga (Etiological Factors)

Ayurvedic management is nothing other than *Nidana Parivarjanam* (avoidance of causative factors). The knowledge of etiological factors (*Nidana*) is very essential for its management. *Tamaka Shwasa* is mentioned as *Kashtasadhya* (difficult to cure) and a thorough understanding of the causative factors is essential in the management. The etiological factors can be summarized as below.¹⁸

<i>Apathya Ahara</i> (Unhealthy food)	<i>Apathya Vihara</i> (Unhealthy regimen)	<i>Rogas</i> (diseases)
<i>Rukshanna</i> (excessive intake of dried food) <i>Vishamasana</i> (untimely food intake of food which is excess or low in quantity) <i>Samasana</i> (intake of desirable a <i>Adhyashana</i> (intake of meal before digestion of previous meals) <i>Seetashana</i> (cold food) <i>Seetapana</i> (cold water consumption) <i>Tila Taila</i> (sesame oil) <i>Guru bhojana</i> (heavy food) <i>Katu</i> (pungent) <i>Amla</i> (sour) <i>Lavana</i> (salty) <i>Saka</i> (leafy) <i>Maasha</i> (black gram) <i>Pistanna</i> (rice flour preparations) <i>Nispaava</i> (beans) <i>Anupa</i> (meat) <i>Mamsa</i> (meat) <i>Dadhi</i> (curd) <i>Aamakshira</i> (milk)	<i>Rajas</i> (dust) <i>Dhuma</i> (smoke) <i>Anila</i> (breeze) <i>Seeta vayu</i> (cold wind) <i>Vyayama</i> (over exercise) <i>Adhva</i> (excessive walking) <i>Vega Rodha</i> (suppression of natural urges) <i>Divaswapna</i> (day sleep)	<i>Amatisara</i> (Diarrhea due to indigestion) <i>Jwara</i> (fever) <i>Kasa</i> (cough) <i>Pratishyaya</i> (allergic rhinitis), <i>Vamadhu</i> (vomiting) <i>Visha</i> (poisons) <i>Pandu</i> (anaemia), <i>Kshathakshaya</i> (generalized weakness) <i>Raktapitta</i> (intrinsic hemorrhage)

Shleshmala (Kapha producing food)		
Abhishyandi (food causing obstruction in channels)		

Samprapti of Tamaka Shwasa (Pathogenesis of the Childhood Asthma)

Samprapti is the one which explains about manifestation of the disease beginning from vitiation of *Doshas*, their association with *Dhatu*s, *Dushti* of the *Srotasa*, occurrence of signs, symptoms, till the complete manifestation of the disease and complications if any.¹⁹ It is the mechanism in which the vitiated *Doshas* proceed to the target site to finally manifest the disease with its symptoms. The modern concept of pathogenesis can be compared with this stage. This progress of the disease from the derangement of the *Doshas* by *Nidanas* to its *Vyakthibhava* as the disease proper takes place in various stages involving various factors and body elements.

Acharya explain that the vitiated *Kapha* along with vitiated *Vata* obstructs the *Srotasa*; the obstructed *Vayu* tries to overcome the obstruction and moves in all the direction resulting in *Shwasa*.²⁰ Other *Acharya* also quotes that the *Pranavayu* goes against its individually (*Prakriti*) combines with *Kapha* causing *Shwasa Roga*.²¹ Another classic further emphasized that the *Annavaha Srotasa* is also involved and hence the production of *Kapha* in *Amashaya* is affected. Thus *Shwasa Roga* is regarded as *Amashaya Samudbhava*.²²

In *Ayurvedic* literature we come across three types of *Samprapti* on *Shwasa* as follows;

- *Samanya Samprapti* of *Hikka* and *Shwasa*
- *Vishista Samprapti* of *Shwasa*
- *Vishista Samprapti* of *Tamaka Shwasa*

Samanya Samprapti of Hikka and Shwasa

Due to *Nidana Sevana*, the vitiated *Vata* enters in the *Pranavaha Srotasa* (Respiratory Channels) and provokes the *Urastha Kapha* (*Kapha* stagnating in chest). This provoked *Kapha* obstructs the *Pranavaha Srotasa* (Respiratory Channels) and gives rise to five types of *Hikka* and *Shwasa*.²³

Vishista Samprapti of Shwasa

The vitiated *Vayu* along with *Kapha* causes the obstruction to the respiratory channels, and then *Vayu* itself gets obstructed and spreads in the whole body making abnormal movements and producing *Shwasa Roga*. The *Pranavayu* which has lost its *Prakrutavastha* and get obstructed by dominant *Kapha Dosha*, then attains *Vimargagati*, and move in all directions in the *Uras* there by impairing the respiration and thus leading to *Shwasa*.²⁴ The word “*Vishwag Vrajati*” has been commented by *Acharya* as “*Sarvato Gachchhati*”²⁵, while *Arunadatta* has also narrated restricted movement only within *Uras* or chest.

Vishista Samprapti of Tamaka Shwasa

Excessive *Nidana Sevana* leads to *Pratiloma Gati* of *Vata* and vitiate the *Kapha Dosha*. As the result excessive *Kapha* will be secreted and leading to *Peenasa*. *Vata* moving through the *Kapha Avruddha Pranavahasrotas* will produce *Ghurghuraka*, along with intense attacks.

Chikitsa of Tamaka Shwasa

Treatment is nothing but the reversal of pathology; hence it is necessary to recall the pathological processes that occur in *Shwasa Roga* in general. Vitiation of *Kapha* and *Vata* are observed in almost all the varieties of *Shwasa Roga*. Therefore an effort is made to correct *Kapha* and *Vata Dosha*²⁶. But this line of treatment holds good in *Tamaka Shwasa*. The prognosis of *Maha Shwasa*, *Urdhwa Shwasa* and *Chhinna Shwasa* is very bad; patient dies within short time, before giving sufficient time to diagnose the disease. Probably this could be the reason that the ancient authors might not have given specific line of treatment for each type of *Shwasa Roga* but it is absolutely necessary now. A keen observation reveals that the explanation of etiology, pathology as well as treatment mentioned in the classics is concentrated more on *Tamaka Shwasa* rather than other varieties of *Shwasa Roga*.

Acharya Charaka said that the *Shwasa Roga* is the disease which takes away the life very quickly and cause emergency condition at any time. Hence they should be attended very quickly with intensive care, if delayed the patient will die within minutes like the dried tree reduces to ashes by fire within no time²⁷.

Chikitsa Siddhanta of Tamaka Shwasa

For the proper management of the disease *Acharya Charaka* has explained so many different management and treatment principles. With comparison of other authors the principles of management are as follows.

Nidana Parivarjana- Patient should avoid the known etiological factors such as house dust, smoke, fumes, *Kapha* aggravating food, cold food and the *Shwasa* aggravating medicines etc²⁸. *Nidana Parivarjana* is especially very useful to prevent the disease like *Tamaka Shwasa*.

Management of *Shwasa Rogi* depends on:

1. *Balabala* of the *Rogi* (*Balawan* or *Durbala Rogi*)
2. *Doshadhikya* (*Kaphadhikya* or *Vatadhikya*)

If the patient is *Kaphadhikya* and *Balawan Rogi* - *Doshas* are to be expelled by *Vamana* and *Virechana*. Before performing the *Vamana Karma* *Anoopa* and *Jalaja Mamsa Rasa* and *Swedana* are to be given. After this *Pathya Ahara*, *Vihara* and later followed by *Shwasa Nashaka Dhooma*, *Avaleha* etc are to be administered.

If the patient is *Vatadhikya* and *Durbala, Baala, Vriddha Rogi*- *Vata* has to be alleviated by *Vatanashaka Dravyas*, *Tarpana*, *Sneha*, *Yusha*, *Mamsarasa* and *Brumhana Chikitsa* should be administered. *Shwasa Rogi* having *Ruksha Shareera*, suffering from *Shushkata* in *Uras*, *Kantha* and *Talu* has to be treated by *Ghruta*.

Doshanubandhi Shwasa Chikitsa-

In case of *Vatanubandhi Shwasa*, the *Ghruta* prepared by *Mamsa* of *Shasha*, *Shallaka* etc. or *Ghruta* prepared by *Pippali*, *Mamsa* and *Shonita* has to be administered. In case of *Vata-pittanubandha Shwasa*, *Shali Odana* prepared with *Suvarchala Swarasa*, *Dugdha*, *Ghruta* and *Trikatu* has to be administered. *Gangadhara* commented on this *Suvarchala Swarasa*, *Dugdha*, *Ghruta* can be administered separately with *Trikatu Churna* after food. In case of *Pittanubandhata*, *Utkarika Gritha* are to be administered. In case of *Kapha-pittanubandha Shwasa*, *Shirisha Pushpa Swarasa* or *Saptaparna Swarasa*, mixed with *Pippali Choorna* and *Madhu* has to be administered.

Shwasa Chikitsa according to Doshas-

Acharya Charaka explained a special line of treatment in managing the *Shwasa Rogi* with respect to

Doshas like *Vatakruddha Kaphahar* and *Kaphakruddha Anilapaham*²⁹. Both the principles can be used differently according to the condition, but treatment aiming towards single *Dosha* must not be performed i.e. *Vata Karaka*, *Kapha Karaka*, *Vata Shamaka* or *Kapha Shamaka*, in indispensable condition to implement one amongst the above four. It is superior to go for *Vatashamaka Upakramas*.

Shodhan Chikitsa in Tamaka Swasa-

Snehana and Swedana

In this context *Snehana* refers to external oleation. *Sarshapa Taila* is mixed with salt and applied on back as well as on the chest externally and then *Swedana* by *Sankara*, *Prastara*, *Nadisweda* (any one of these) is conducted on the same region. Thick and sticky mucus which is inspissated in the *Pranavaha Srotasa* get dissolved by *Snehana* and *Swedana*.³⁰ The manner in which the snow lying on hilly forest melts by the heat of sunrays, the thick sticky mucus in the *Pranavaha Srotasa* get liquefied by the heat of *Swedana*, so that it comes out easily (expectoration occurs).³¹

When the obstruction due to *Kapha* (thick mucus) is cleared in the passage, the trapped air also get eliminated, the functions of *Vata* returns to normal course and free movements of air takes place and this gives comfort to the patient³². The passage of *Pranavaha Srotasa* (bronchi and bronchioles) get relaxed and dilated by *Snehana* and *Swedana* procedures which act as bronchodilator. *Swedana* is contraindicated in patients suffering from *Shwasa* associated with profuse hemorrhage, burning sensation, profuse sweating, and loss of weight and strength and in case of pregnancy.

Vamana

Almost all the *Shwasa Rogas* are predominant of *Vata* and *Kapha*, hence to eliminate the sticky mucus from the *Pranavaha Srotasa*, *Vamana* is induced. Almost all the ancient authors and commentators' opinion is to induce *Mridu Vamana* in *Shwasa Roga*. At the same time *Teekshna Vamana* is contraindicated³³. Commenting on the same, *Dalhana* says that the process of *Vamana* should be conducted in such a way that it should not produce any complications (*Apeedakaram*), and also it should not cause aggravation of *Vata* (*Vata Aviroadhi Yat*). Hence *Mridu Vamana* is ideal in *Shwasa Roga*. With reference to the earlier discussion, apart from pulmonary diseases some of the heart diseases are also included in *Shwasa Roga*. Considering process of *Vamana* is not safe in cardiac diseases, probably *Teekshna Vamana* is contraindicated, therefore *Mridu Vamana* is recommended.

Before *Vamana* procedure, *Snehapana* of increasing order is not advised as followed in routine, instead patient is given *Kapha* aggravating food such as fish soup, pork soup or rice mixed with yoghurt (*Dadhisaara*) in large quantity, and then *Vamana* is induced with *Pippali*, *Saindhava* and honey. Here *Madanaphala* is not recommended to induce *Vamana*. The combination of *Pippali*, *Saindhava* and *Madhu* helps to induce *Vamana* in milder form that gives desired effect in *Tamaka Shwasa*. *Acharya Chakrapani* has advised other method of conducting *Vamana* with the name as *Ullekshana* in the same context. Salt mixed water is recommended to drink full stomach, to induce *Vamana*³⁴. *Vamana* helps in eliminating *Kapha Dosha* collected in bronchi; this statement seems to be embarrassing, but any emetic drug given in sub emetic dose increase the bronchial secretions by producing less tenacious sputum so that it becomes easier to expectorate. In this way *Vamana* helps in expulsion of thick sputum that facilitates free movement of air and gives comfort to the patient.

Virechana

Virechana is important therapy in *Shwasa*, particularly in *Tamaka Shwasa* (*Tamaketu Virechanam*). *Acharya Sushruta* recommends *Mridu Virechana* in *Shwasa* with the drugs that have *Vatahara* and *Kaphahara* properties. As the main seat of *Shwasa* is *Pitta Sthana*, *Mridu Virechana* is beneficial to eliminate the *Doshas* from the body (*Kapha Vataatmakavetau Pitta Sthana Samudhbhavava*)³⁵.

Acharya Charaka has given the *Chikitsa Sutra* of *Tamaka Shwasa* as *Vata Sleshma Hareyuktum Tamaketu Virechanam*³⁶. He said that the intelligent physician should advise purgative and emetic medications with drugs alleviating *Vata* and *Kapha* to patient suffering from cough and cracked voice (hoarseness) and to asthmatics. *Acharya* also quotes that the *Kapha Dosha* obstructs the *Marga* (passage) of *Vayu* and the obstructed *Vayu* takes the *Pratiloma Gati* (*Vimargagamana*) and *Virechana* drugs have a quality of *Vatanulomana*, *Kaphavataghna Karma*, *Ushna Veerya* may be more beneficial in the condition of *Shwasa*³⁷. *Virechana* drugs remove mainly *Kapha* and *Pitta Doshas* and make *Vata* in *Anulomana Gati*. *Arundatta* comments that when the normal course of *Vayu* is obstructed by *Kapha*, it will get aggravated i.e. *Vimargagamana* of *Vayu* due to the *Avarana* of *Kapha*.³⁸ Hence the treatment should have the quality of *Kaphaghna* and *Vatanulomana* and *Virechana* removes *Kapha*, also corrects the direction of *Vayu* to set it on normal course. *Acharya* also quotes that the origin of *Shwasa Roga* is *Pittasthana* also narrated as *Adhoamashaya*³⁹ and *Virechana* purifies the *Pitta Sthana* which in fact is the site of origin of *Shwasa Roga*. Hence, it acts as a curative measure.

***Dhoomapana* (Therapeutic smoking)-**

Even after *Vamana* the deep seated sticky mucus is not completely eliminated from the bronchi, *Dhoomapana* is indicated with the following drugs. The drugs and the procedure mentioned in *Kasa* for *Dhoomapana* are followed in *Shwasa Roga* too⁴⁰. In the process of *Dhoomapana* the fumes of medicinal drugs are inhaled by the patient through the mouth and delivered the drugs to the site of action directly into bronchioles.⁴¹ Therefore the action of the drug will be very quick.⁴² The drugs used in *Dhoomapana* possess *Teekshna* properties, so that they help in *Chhedana* of *Kapha* situated in the lungs. In this context *Chhedana* means the drugs which root out *Kapha Dosha* that has stuck in the *Pranavaha Srotasa*. Similarly the drugs mentioned for *Dhoomapana* act by liquefying the thick and tenacious sputum situated in the lungs (*Sthira* and *Ghana Kapha*), and facilitates its removal by coughing which gives comfort to the patient called as *Vairechanika Dhooma*⁴³. The *Chhedana* of *Kapha* in the lungs is compared to mucolytic action.

Drugs used in *Dhoomapana*

1. *Haridra* leaves, *Eranda* roots, *Laksha* (lack), *Manahshila* (realgar), *Devadaru*, *Haratala* and *Jatamamsi* are powdered together and sticks (*Vartii*) are prepared, smeared with *Ghee* and advised to smoke.
2. *Padmaka*, *Guggulu*, *Shallaki*, *Agaru*, *Shyonaka* etc are also used for *Dhoomapana*.

CONCEPT OF RASAYANA

Rasayana Chikitsa is a disease modifying and prophylactic therapy, which aims at fortifying the ultimate natural resistance of an individual i.e., the innate immunity. The concept and practical implication of the *Rasayana* has been well elucidated by various *Ayurvedic* classics. *Rasayana* therapy has multidimensional and positive impact on the health of an individual. It promotes health, prevents disease, delays ageing & develops youth. *Rasayana* has its effect both on mind and body. The *Rasayana Oushadha* performs these functions by improving the qualitative nourishment to the *Rasadi Sapta Dhatus*, ultimately rendering immunity to the body. While different classics explained the general adaptability of *Rasayana*, *Acharya Susruta* elucidated the disease specific *Rasayana* therapies under the name of '*Naimittika Rasayana*', which performs the actions of both *Samsamana* and *Samsodhana*, thus combating the disease on the whole.

Conclusion

Hence Childhood asthmatic children can be treated effectively by using the *Ayurvedic* principles. However severe cases of Asthma, or acute in chronic presentations, status asthmaticus like conditions are certain limitations. *Ayurveda* also provide an effective treatment for reversal of bronchospasm which is quite

useful in moderate and mild form of Asthma. Meanwhile identification of *Dosha* dominance is quite important before initiating the treatment.

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