A REVIEW ARTICLE ON TAMAKA SHWASA W.S.R. TO CHILDHOOD ASTHMA

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ABSTRACT

At present, many chronic recurrent airway disorders are increasingly seen all over the global population. Ayurveda has described one of such disorder as Tamaka Shwasa. The parallel in western medicine to this disorder i.e. Bronchial Asthma calls the attention of Medical world due to significant burden in terms of health care costs as well as lost productivity and reduced participation in family life. Out of nearly 200 million asthmatics world over, approximately 15 millions are in India. The Prevalence has increased by twofold in last two decades. Asthma is responsible for significant social, economical and psychological impact on the family. It leads to disturbed sleep, restriction in day to day activity and school absenteeism in school going children.

KEYWORDS: Tamaka Shwasa, Bronchial Asthma, Shwasa, absenteeism.

INTRODUCTION

The pioneer of all Medical systems, Ayurveda is based on its profound theories on the structural and functional aspects of wellness and illness. Way back in the prehistoric period, whatever knowledge the seers gained through their senses and intellect, churned in the pot of Rationality, evolved as logical inferences that forms the basic concepts of health and diseases in Ayurveda. Thus the Ayurvedic literature is a vast treasury of immense knowledge, which has been developed through centuries of observational research, condensed into codes that needed to be intellectually analysed and decoded for further development of the science.
Among the 8 angas of Ayurveda, Kaumarbhritya specially deals with the problems related with infants and children. It is a unique peculiarity of Ayurveda that Ayurvedic paediatric start well with the conception. It deals with antenatal Perinatal and postnatal care along with the different aspect of child health and disease.

In developing countries like India, because of population explosion, poor economic status, lower hygiene and sanitation care, people are prone to various infections, parasitic infestations and nutritional disorders.[2]

The allopathic systems of medicine started classifying this disease only in the middle of 19th century. So many claims have been made by the different quarters in different schools of medicine about the treatment of this ailment but no successful treatment have so far been authentically brought out by any of them.

Because of the faulty methods of living, scarcity of balanced diet and various other reasons the incidence of this disease is increasing day by day. There is no satisfactory treatment available. It was because of these facts that decision was taken to take up this problem for intensive study.

Need of researches in Asthma Management
Asthama is a clinical syndrome characterised by episodic reversible air-way obstruction, increased bronchial reactivity, and airway inflammation.[3] Out of nearly 200 million asthmatics world over, approximately 15 millions are in India.[4] Though prevalence rates vary in different studies,[5] the prevalence of bronchial asthma is over 2.5% in adults and over 5% in children in our country and the burden is constantly increasing.[4] Out-patient services in our hospitals are usually overcrowded and due to lack of time and manpower, it is virtually impossible to carry out any asthma education activity in such a scenario. Poorly controlled asthma is associated with significant morbidity and socio-economic problems like absenteeism from school or work, loss of productivity and wages and a poor quality of life.[4] Poorly controlled asthma can also be potentially fatal. The magnitude of the impacts of asthma in children is illustrated by the fact that asthma accounts more hospitalisations in children than any other chronic illness.[3] The prevalence of Bronchial Asthma has increased continuously since the 1970s, and now affects an estimated 4 to 7% of the people worldwide.[6] In India prevalence of asthma in school going children has been reported between 4-20% in different geographic regions.[7] There has been an increase in the
prevalence and similar trend is observed in India. Asthma prevalence rates in Karnataka, Gujarat, Haryana, Uttar Pradesh and Madhya Pradesh are above the national level.[8] The Prevalence has increased by twofold in last two decades. Asthma is responsible for significant social, economical and psychological impact on the family. Acute asthma leads to disturbed sleep, restriction in day to day activity and school absenteeism.[7]

As stated by W.H.O, 100–150 million of global population are suffering from Bronchial Asthma, out of which 1/10th are Indians and the prevalence of asthma is increasing everywhere. Although largely avoidable, asthma tends to occur in epidemics and affects young people; asthma attacks all age groups but often starts in childhood. In India, rough estimates indicate a prevalence of between 10% and 15% in 5-11 year old children. World-wide, deaths from this condition have reached over 1,80,000 annually. Mortality due to asthma is not comparable in size to the day-to-day effects of the disease.[8] World-wide, the economic costs associated with asthma are estimated to exceed those of TB and HIV/AIDS combined. Patients with moderate to severe asthma have to take long-term medication daily (for example, anti-inflammatory drugs) to control the underlying inflammation and prevent symptoms and attacks. If symptoms occur, short-term medications (inhaled short-acting β2-agonists) are used to relieve them.[9] WHO recognizes asthma as a disease of major public health importance and plays a unique role in the co-ordination of international efforts against the disease.[10] In other words we can say Asthma is the most common chronic disease of childhood affecting 12.5 % of children, and the morbidity and mortality due to asthma is increasing worldwide.[11]

Approximately 300 million people around the globe -- roughly the equivalent of the population of the Russian Federation -- suffer from asthma and this number is rising. Worldwide, deaths from this condition have reached over 1,80,000 annually.

- Around 8% of the Swiss population suffers from asthma as against only 2% some 25-30 years ago.
- In Germany, there are an estimated 4 million asthmatics.
- In Western Europe as a whole, asthma has doubled in ten years, according to the UCB Institute of Allergy in Belgium.
- In the United States, the number of asthmatics has leapt by over 60% since the early 1980s and deaths have doubled to 5,000 a year.
• There are about 3 million asthmatics in Japan of whom 7% have severe and 30% have moderate asthma.
• In Australia, one child in six under the age of 16 is affected.
• Asthma is not just a public health problem for developed countries. In developing countries, however, the incidence of the disease varies greatly.

• **India has an estimated 15-20 million asthmatics.**
  • In the Western Pacific Region of WHO, the incidence varies from over 50% among children in the Caroline Islands to virtually zero in Papua New Guinea.
  • In Brazil, Costa Rica, Panama, Peru and Uruguay, prevalence of asthma symptoms in children varies from 20% to 30%.
  • In Kenya, it approaches 20%.

• **In India, rough estimates indicate a prevalence of between 10% and 15% in 5-11 year old children.**
  The numbers of young people and children with asthma is constantly rising. In children ages 5-14 years, the rate of death from asthma almost doubled between 1980 and 1993. The disease is more common in blacks and in city dwellers than in whites and those who reside in suburban and rural areas. A government survey of young people with asthma (those aged 15-24 years) showed that more blacks than whites died of the disease from 1980 to 1993. Among children aged 0-4 years in 1993, blacks were six times more likely to die from asthma than whites. Among children aged 5-14, blacks were four times more likely than whites to die of the illness.\[\text{[12]}\]

**DEFINITION**

The word Tamaka Shwasa comprises of two words *‘Tamaka’* and *‘Shwasa’*.

Tamaka Shvasa is mentioned as one of the variety among five types of Shvasa. But out of these, Kshudra Shvasa present as symptom in most of the diseases & it does not require any medication whereas Maha Shvasa, Urdhva Shvasa & Chinna Shvasa were present in the terminal stages of various diseases and are incurable. Tamaka Shvasa is a 'Swatantra Vyadhi’ & having its own etiology, pathology & management, accepting the same importance of Tamaka Shvasa Acharya Charaka has given separate Samprapti along with the general Samprapti of Shvasa Roga.
Asthma is a “chronic inflammatory disorder of the airways in which many cells and cellular elements play a role. The chronic inflammation causes an associated increase in airway Hyper-responsiveness that leads to recurrent episodes of wheezing, breathlessness, chest tightness and coughing, particularly at night or in the early morning. These episodes are usually associated with widespread but variable airflow obstruction that is often reversible either spontaneously or with treatment.

CLASSIFICATION OF SHWASA ROGA
Unlike most of the other diseases which are classified according to the dosha predominance, Shwasa roga is classified according to its signs and symptoms, pathogenesis and also the severity of the disease. The doshik predominance is secondary in this case. The pancha Shwasa rogas are.

1. Maha Shwasa
2. Urdhwa Shwasa
3. Chhinna Shwasa
4. Tamaka Shwasa.
5. Kshudra Shwasa

On the basis of Prognosis
a. Sadhya (curable)
   • Ksudra Swasa
b. Krchra Sadhya or Yapa (Palliable)
   • Tamaka Swasa
c. Asadhya (incurable)
   • Mahaswasa
   • Urdhvaswasa
   • Chinnaswasa

1. Maha Shvasa
Because of the upward movement of the aggravated Vayu, a patient takes deep breath associated with loud sound continuously, like an intoxicated bull, on account of obstruction of the respiratory channel. He loses his physical and mental senses, his eyes & face become distorted, suffers from constipation, voice becomes feeble, Loses mental stamina, his deep inspiration become audible from a distance. A patient suffering from this ailment succumbs
to death instantaneously. His losses his consciousness, dryness of throat, peri-orbital swelling & extending his body, convulsive (deep, rapid & irregular) movements of the chest and severe pain in ears, temples and head.

2. **Urdhwa Shwasa**

Urdhwa Shwasa is characterized as a prolong expiration with short downward (inspiration) breathing, the mouth & breathing channels are filled with Kapha, Affliction with aggravated symptoms/signs of Vayu and blurred vision, looking with the eye-balls move upwards unconsciousness, affliction with excessive pain, dryness of the mouth and dislike for everything.

3. **Chhinna – Shwasa**

Chhinna-Shwasa is characterized by interruption of breath on account of affliction of all the channels carrying vital air severe distress, affliction with pain, constipation associated with flatulence (Anaha), sweating, fainting, burning sensation in the region of urinary bladder, excessive tears in the eyes, excessive emaciation, one of the eyes become red, loss of consciousness, dryness in mouth.

4. **Kshudra Shwasa**

Dyspnoea appears on slight exertion and is relieved by rest is known as Kshudra Shwasa. It is caused by Vata induced either by exertion or over eating and subsides of its own accord. This variety of dyspnoea dose not induces severe distress and is curable.

5. **Tamak Shwasa**

Charaka has mentioned two-allied stages of Tamaka Shvasa known as two types or further complication of disease proper i.e. Pratamaka and Santamaka.

Sushrutha and Vagbhata have only mentioned the name as Pratamaka, which includes clinical manifestation of Santamaka.

- **Pratamaka Shvasa**

Patients suffering from Tamaka Shvasa when gets afflicted with fever and fainting, the condition is called as Pratamaka Shvasa. It is suggestive of involvement of Pittadosha in Pratamaka Shvasa. It is aggravated by Udavarta, dust, indigestion, humidity (Kleda), suppression of natural urges, Tamoguna, darkness and gets alleviated instantaneously by cooling regimen. As a matter of fact, cooling regimen is one of the causative factors of
Tamaka Shvasa but in Pratamaka Shvasa, the patient gets relief by administering cooling agents due to Pitta Dosha involvement. Chakrapani says that the patient of Pratamaka gets relief with Sheetopachara in the same way as Madya is used for treating Madya-vikaras (Chk Ch Chi 17/64). Pratamaka Shvasa can be considered as the condition of superimposed infection in Bronchial Asthma.

- **Santamaka Shvasa**
  When the patients of Pratamaka Shvasa feels submerged in darkness, the condition is called as Santamaka Shvasa. Though Chakrapani has mentioned these two as synonyms of each other Charaka refers them as two different ailments representing two different stages of Tamaka Shvasa, these two conditions differs from each other according to intensity of attack. This can be taken as the severe stage of Pratamaka.

**Nidana (Etiological factors)**

- Exposure to dust, smoke and air, use of cold waters.
- Residing in a cold place, Intake of Vidahi (Irritant food), Guru (heavy) and Vishtambhi (Slow digestible diet), Rukshanna (dry diet), Abhisyandi (the substances causes obstruction to channels), exercise, long walk beyond the capacity, vitiation of Ama (intermediate products formed during digestion and metabolism), Vishamasana (ingestion of food in inadequate quantity), Aptarpana, Kshaya (emaciation) and nutritional deficiency.
- Injury to vital organs (Marma), as a consequence of jwara (fever), atisara (diarrhea), vomiting, anemia & poison, coryza, Rakta-pitta (bleeding from different parts of body). Udavarta, Alasaka & Anaha (constipation associated with flatulence).
- Intake of nispava (beans), Masha (blackgram), sesame oil, saluki (rhizome of lotus), meat of aquatic animals, curd and unboiled milk, Kapha aggravating ingredients.
- Injury to throat and chest, different types of obstruction to the channels of circulation.
- Exaggerated cough may induce Shwasa.

According to modern medical science, on the basis of etiological factors Asthma can be classified into two types.

1. **Atopic** (Allergic or extrinsic)
2. **Non-atopic** (Idiopathic or intrinsic)
   1.) Atopy or allergic can be considered as a type of Prajayaparadha. (Vd. P Mali et al 2004)
2.) Non atopic or idiopathic can be understood as (Ch.Su.11/37)

a. Asatmyendriarthya Samyoga,
b. Prajyaparadha
c. Parinama.

These further include Vata & Kapha prakopak Ahara, Vihar and Manasika Hetu and Kala.

**Pathogenesis of Hikka and Shvasa**

Hikka and Shvasa originate from the site of Pitta and are caused by the aggravation of Kapha and Vayu. They adversely affect the cardiac region (Hridaya) and all the seven Dhatu (the seven types of essential elements, like Rasa etc.).

Chakrapani has interpreted Pittasthana as Amashaya. Amashaya in this context may mean stomach. This observation is important because gastroesophageal reflux disease (GERD) is a causative factor for asthma. If gastroesophageal reflex disease is present, the patient may have repetitive episode of acid aspiration, which results in airway inflammation and ‘irritant-induced asthma. Gastro-esophageal reflex disease may be common in difficult to control asthma, but generally speaking, treating it does not seem to affect the asthma.

**DISCRIPTION OF SYMPTOMS**

Ruddha Shvasa (obstruction during respiration) & Prana Prapeedaka Shvasa (painfull respiration) due to obstruction by mucous in different bronchioles and bronchoconstriction and to fulfill the requirement patient starts breathing more frequently i.e. Tivra Vega Shvasa (decrease total time of one breathing) & Muhurmuhu Shvasa (increase frequency of respiration).

**Kasati Vegatah Pratamyati** (tilting of the body during coughing) to expell out the obstruction (mucous) patient do more and more cough and tilted his body to make the effort easy and sometimes it is so strong that patient feels fainting **Kasate Muhu Muhu Pramohanam** (fainting during coughing) or sometimes a gap in breathing occurs due to coughing **Kasate Sanniruddhyate** (gap in breathing during cough).

**Kricchena Bhasitam** (difficulty in conversation) due to painfull breathing patient can not talk easily. **Shlesma Amuchyamane Bhrisama Bhavati Dukhitam** all the problems are due to obstruction caused by mucous, patient does not get relief until he get rid of it. **Shlesma Vimokshante Muhurtam Sukham** and after this expectoration, he feels better.
Annadvesha in this dyspnic condition patient does not like to eat anything Vamathu and he feels vomiting like sensation. Parshva Pida & Urah Pida (pain in thoracic region) due to extra load on the respiratory muscles, it causes pain in the thoracic region. In lying down position, his respiratory muscles can not act properly which cause further pain in thoracic region Shayante Parshva Graha (thoracic pain in lying down position) and dyspnoea Shayante Shvasapiditam (dyspnoea on lying down position) so he feels better in sitting posture Asino Labhate Saukhyama (sitting posture gives relief).

Ghurghurakama (breath with sound)-due to constriction and obstruction in the airways, whistling sound is produced with breathing. Due to over exertion of breathing, he feels weak Abala (weakness), Vishushkasyata (dryness of mouth), Latate Sweda (sweating on forehead) these all the signs of over exertion. Finally his eyes move upwards Ucchritaksha (looking upwards) and may be get fainted Moha (fainted).

These all are the symptoms which appear on Vegavastha of Tamaka Shvasa and as soon as obstruction and constriction get removed, symptoms disappear but due to persistent Khaivagunya some symptoms remain present between the two attacks. In this period, he usually has complains of coryza (Peenasa), cough (Kasa), throat irritation (Kanthoudhvansa) so he always likes to take hot food (Ushnabhinandati). His problems increase in rainy, cold seasons, with cold air and with all the cold things.

UPASHAYA AND ANUPASHAYA

Upashaya and Anupashaya may be considered as a therapeutic test. The diet, drugs & activity which increase symptoms and attack, are known as Anupashaya. & that relieve the symptoms, are known as Upashaya.

Upashaya for Tamaka Shvasa are as follows.
(1) Shlesma Vimokshante Saukhyam.
(2) Ushnabhinandati.
(3) Asino labhate Saukhyam.
(4) Bronchodilators.

Anupashaya for Tamaka Shvasa are as follows.
(1) Durdina, Meghambu, Sheeta Ritu.
(2) Sheetambu, Pragvaten.
(3) Kaphavardhaka Ahara Vihar.

PATHYAPATHYA
Drug diet or physical activities having Kapha Vataghna property, Ushna quality and Vatanulomana - Activity should be adopted for Tamaka Shwasa patient.
Shukadhanya - Shashtika Shali, Raktashali, Godhuma, Yava.
Shamidhanya - Shasha, Tittira, Lava, Shuka, Dhanva, Mruga.
Shaaka Varga - Shigru, Vartaka, Atarushaka, Mulaka, Tanduliyaka, Jivanti, Kapotika, Patol, Pathya, Jambir, Bimbi, Amlavetasa.
Phalavarga - Draksha, Amalaka, Matulunga, Karchura,
Madyavarga - Sura, Madira.
Jalavarga – Ushnodaka.
Gorasa varga - Purana Sarpi, Ajaghrita, Aja paya.
Ikshuvarga – Sharkara.
Madhuvarga – Madhu.

GENERAL INSTRUCTION TO BE FOLLOWED.
- To take light diet according to Agni Bala.
- To avoid occupational Asthma, worker should use face mask, when they are working in factories, cotton mills or at places where there is Dust, fumes etc.
- Deep breathing exercise should be followed.
- Diet during evening should be taken three hours before going to bed.
- Avoid direct exposure to external environment after use of Air conditioning.
- Use of warm clothes in winter season.

NOT TO BE FOLLOWED
- Over eating and taking milk at bed time.
- Fried, chilly, too cold, sour, heavy preparations.
- Cold and damp places.
- Fasting for a longer period.
- Seating in frosty, smoky and congested places for a longer period.
- Rukshanna particularly Toast, Popcorn etc.
- Jalaja, Anupa, Mansa, Dadhi, Aamaksheera, due to Guru and Abhisyandi property.
Bread, Burger, Pizza, Cheezes, Paneera etc is used which are having Srotorodhaka property.

- Contact with those pet animals, which do not suit the individual.
- Direct exposure to Prag-vata.

CIKITSA SUTRA (PRINCIPLE OF TREATMENT)

In the classical texts of Ayurveda, the approach of treatment has been made in the following way.\[13,14,16\]

1. SAMSODHANA

Caraka emphasized that strong build patient with the dominance of Kapha and Vata should be treated with samsodhana therapy, i.e. vamana and virecana as per necessities.

Samsodhana karma should be performed in following steps.

a. **Snehana**: Taila mixed with lavana should be gently massaged on the chest to loose the tenacious sputum in the channels.\[13\]

b. **Swedana**: Swedana by nadi, prastara and Sankara method should be performed by these processes the kapha which has become inspissated in the patients body, gets dissolved in the body srotas, the body srotas become softened and as a result, the movement of Vata is restored to normal condition.\[13\]

c. **Vamana**: To eliminate or expectorate the deranged Kapha, vamana should be given with proper method with drugs not antagonist to vata. After proper swedana, snigdha odana(rice), with soup of fish or pigflesh and the supernatent of curds may be given to the patients for the utklesana of kapha. There after vamana should be performed with the help of Madanaphala. Pippali mixed with saindhava and Madhu. Thus the vitiated and stagnant Kapha has been expelled from the system, the patient attains ease and body channels (srotas) are purified, the Vata moves through the srotas, unimpeded.\[13\]

d. **Dhumapana**: After vamana, to eliminate the hidden pathogenic substances ie the Dosa which are in the Linavastha (not completely purified), the physician should endeavour to remove it by Dhuma Cikitsa (inhalation therapy).\[14\]

e. **Virecana**: as defined by caraka, is a process in which waste products (Dosa, Mala) are eliminated through lower channels(adhobhaga) ie, Anus.\[17\] Though all virecana drugs are panchabhautika in constitution, Jala and Prithvi Mahabhuta dominant in their
constitution.[17] An ideal virecana preparation, according to Caraka must have five properties. These Gunas are vyavayi, vikasi, suksma, usna and tiksna.

2. SAMSAMANA
The scope of samsamana therapy in this disease is more wide and practical, which is applicable in all cases in all stages. For the patient who are not eligible for samsodhana karma (Durbala), samsamana therapy should be adopted. Samsamana therapy in this case includes Deepana, Pacana, KaphaVatasamaka drugs and regimen along with drugs that purity pranavaha Srotas. Children and old subjects are also managed with Samsamana therapy.

3. NIDANA PARIVARAJAN
In all the four types of patients for the treatment, nidana parivarjan or avoidance of all types of precipitating or predisposing factors are to be strictly followed. If the precipitating or predisposing factors are not avoided, the Dosas involved in the pathogenesis will further be aggravated and the prognosis will be worse.

LIST OF SWASA HARA DRAVYA
In different Ayurvedic classics various herbs and medicine has been mentioned for Tamaka Swasa. According to the use of these herbs and medicines, it may be classified in following ways.

(1) EKAL DRAVYA (mono herbal): Puskaramul, Sati, Amlavesta, Ela, Hingu, Surasa, Yasti madhu etc.

(2) EKADHIK DRAVYA (poly herbal): Talisadi curna, Bhargni guda, Haridra curna, Pippalyadya lauha, kanakasava etc.

(3) COMPOUND MEDICINE (mixed with herbs, minerals and animal products): Sringadi curna, Bhargi sarkara, Vijaya vati, Swasakutara rasa Swasabhairav rasa, Swasacintamani rasa, Hinsradya ghrita, Suryavarta rasa etc.

DISCUSSION
Asthma has been recognised as one of the world’s major health problem. There is no cure for Asthma as per the Conventional Medical Science. The management line is mainly based on Short-acting β2-agonists, theophylline, oral and inhaled Glucocorticosteroids etc, all of which cause significant side effects in the long run.
Low-cost asthma management programmes should be developed to ensure asthma care is available and affordable for all socio-economic sectors within the population. The levels of air pollution in cities in the region are well above the permissible levels recommended by national and international guidelines.

India is targeted to become the world’s most populous nation by the year 2050. As a result, further predicted increases in the prevalence of asthma will result in a marked increase in the number of asthmatics.

The modern research on bronchial asthma is reached at a turning point, where immune mediated inflammatory response is recognised as having a number of distinct disease entities. These conditions are more effectively controlled by suppressing and reversing the inflammation rather than by only treating the bronchoconstriction and related symptom.[17]

The fundamental treatment method of Samsodhana, Samsamana and parivarjana mentioned in Ayurvedic classics, if administered judiciously, the desired results can be achieved. In the present context, the re-validation of ancient ayurvedic or traditional compound preparations which can optimise the functions of respiratory tract by reversing the inflammatory responses and imparting the Balam of the system is important.

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