

An Observational Study on Epidemiology of *Tamaka Shwasa* W.S.R to Bronchial Asthma

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ABSTRACT

Tamaka Shwasa is a major disease of *Pranavaha srotas* which may disturb the daily activities of an affected individual. The chief *doshas* involved in pathogenesis of this disease are *Vata* and *Kapha*. *Ayurvedic* explanations under *Tamaka Shwasa* closely resembles with Bronchial asthma. Asthma is defined as a chronic inflammatory disease of airways which is characterized by hyper responsiveness of the tracheobronchial tree to various stimuli. It is manifested physiologically by wide spread narrowing of the air passages, which can be eased spontaneously or as a result of therapy, and clinically by paroxysms of dyspnoea, wheezing and cough. The etiological factors of this disease hints on few epidemiological indicators that has to be revisited in the present scenario. This observational study was conducted in 27 patients to evaluate the epidemiology of *Tamaka Shwasa*. Datas regarding age, sex, religion, habitat, marital status, socioeconomic status, education, occupation, family history, dietary habit, bowel habit, sleep, addiction, treatment history, chronicity, *Deha Prakriti*, *Manasa Prakriti*, *Sara*, *Samhanana*, *Pramana*, *Satmya*, *Satva*, Status of *Agni*, *Abhyavaharana Shakti*, *Jarana Shakti* and *Vyayama Shakti* are thoroughly analysed in this study.

KEYWORDS: *Tamaka Shwasa*, *Bronchial Asthma*, *Epidemiology*

INTRODUCTION

Ayurveda is one of the most ancient and well-documented systems of medicine which is still relevant in present era. *Tamaka Shwasa*, being explained in ancient *Ayurvedic* scripts has improvised in its clinical interpretation according to the recent advancement, modernization, lifestyle and other evolving social circumstances. The disease is called *Tamaka* as attack of the illness precipitate during night and during the state of attack dyspnoea becomes so severe that patient feels entering into the darkness. *Tamaka Shwasa* is one among the 5 types of *Shwasa roga* which is *KaphaVatatmaka*, *Pitta sthana samudbhava*¹ and *Pranavaha srotovikara*.

Respiratory diseases are increasing rapidly in this current era of pandemics. So, Bronchial Asthma which is one among the respiratory diseases has to be addressed with care. Asthma is a chronic inflammatory disorder of the airways in which breathing is periodically rendered difficult by widespread narrowing of the bronchi. It is clinically

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characterized by recurrent episodes of wheezing, breathlessness, tightness of the chest and cough².

An estimated 300 million individuals worldwide are affected with Asthma. According to WHO, 15 million disability-adjusted life-years are lost and 250,000 asthma deaths are reported worldwide annually³. Mode of onset, course, aggravating factors and relieving factors of *Tamaka Shwasa* vary from person to person. This points out to the need of individualised treatment protocol that is to be adopted here. *Tamaka Shwasa* is considered as a *Yapya vyadhi*⁴. The disease which can be managed or maintained by appropriate interventions is called a *Yapya vyadhi*. Basically the patient stays alive on the virtue of practicing wholesome dietetic and lifestyle regimens. It becomes *Sadhya* if it is of recent origin.

Epidemiology recognizes the distribution of diseases, factors underlying their source and cause, and methods for their control⁵. Epidemiologists help us to

understand where the disease is coming from, and who it is most likely to impact when a disease occurs in a population. The data collected can then be used to control the disease and prevent future recurrences. *Acharya Vagbhata* said that physician should treat the disease as early as possible after examining the characteristics of the disease, its regional alterations and diversity of causes. This can be achieved by minutely observing *dushya* (tissues/systems involved), *desa* (region-both of the body and the locality of the patient), *bala* (strength, immunity), *kala* (season), *anala* (digestion), *prakriti* (constitution), *vaya* (age), *satva* (mind), *satmya* (habits), *ahara* (dietary regimen) and the various *avasthas* (stages) of the diseases which can help in epidemiological study of a disease as per *Ayurveda* and also help in deciding the treatment to be adopted⁶.

Here an observational study was carried out in 27 patients of *Tamaka Shwasa* to analyse epidemiological data of the disease. The interpretation of the obtained data shown that some of the epidemiological factors have direct interconnection with the disease.

MATERIALS AND METHODS

Aims and Objectives:

To evaluate the epidemiology of *Tamaka Shwasa*.

Study design: Observational study

Selection of Patients:

27 Patients with classical features of *Tamaka Shwasa* attending the *Kayachikitsa* OPD of Rishikul Campus Hospital, UAU Haridwar were selected randomly for this clinical study. A detailed Proforma was prepared on the basis of the *Ayurvedic* texts and allied sciences. The patients fulfilling the inclusion and exclusion

criteria were registered on this Proforma and scoring of the different clinical features were done on the assessment criteria.

Inclusion Criteria:

- Patients presenting with signs and symptoms of *Tamaka Shwasa* for equal to and more than one year as described in *Ayurvedic* texts.
- Patients presenting with 3 or more of the following associated symptoms- *Pinasa*, *Ghurghurak*, *Aasya* *Udhvansa*, *Kantodhvansa*, *Vak kricchrata*, *Lalata Sweda*, *Parshvagraha*, *Ushnabhiprayata*, *Aasya Shushkata*, *Vepathu*, *Aruchi* and *Annadvesh*.
- Mild intermittent, mild persistent, moderate persistent Asthma according to Global Initiative for Asthma (GINA)⁷ guidelines.
- Blood Oxygen saturation (spO₂)>90%.
- PEFr >100 litre/min.
- Age 20-60 years.

Exclusion criteria:

- Severe persistent Asthma according to Global Initiative for Asthma (GINA) guidelines
- H/O Tuberculosis, COPD, Emphysema, Other complicated respiratory diseases.
- Known case of Hypertension and Cardiac involvement.
- PEFr < 100 litre/min.
- Blood Oxygen saturation (spO₂< 90%)
- H/O Endocrine disorders like Diabetes Mellitus.
- Patients with frequent H/O hospitalization due to Status Asthmaticus.

OBSERVATIONS

CONTENT	DETAILS	NO. OF PATIENTS	PERCENTAGE
Age	20-30 Years	6	22.22%
	30-40 Years	2	7.41%
	40-50 Years	7	25.93%
	50-60 Years	12	44.44%
Sex	Female	13	48.15%
	Male	14	51.85%
Religion	Hindu	25	92.59%
	Muslim	2	7.41%
Habitat	Rural	8	29.63%
	Urban	19	70.37%
Marital Status	Married	22	81.48%
	Unmarried	2	7.41%
	Widow	3	11.11%

<u>Socio Economic Status</u>	Middle class	10	37.04%
	Lower Middle class	5	18.52%
	Upper Middle Class	9	33.33%
	Very Poor	3	11.11%
<u>Education</u>	Primary	5	18.52%
	High School	6	22.22%
	Intermediate	2	7.41%
	Graduated	6	22.22%
	Post Graduated	4	14.81%
	Uneducated	4	14.81%
<u>Occupation</u>	Labourer	6	22.22%
	Business	5	18.51%
	Office	5	18.51%
	Housewife	10	37.04%
	Student	1	3.70%
<u>Family History</u>	Present	14	51.85%
	Absent	13	48.14%
<u>Dietary Habits</u>	Vegetarian	15	55.56%
	Mixed	12	44.44%
<u>Bowel Habits</u>	Constipated	19	70.37%
	Irregular	3	11.11%
	Regular	4	14.81%
	Loose	1	3.70%
<u>Sleep</u>	Sound Sleep	12	44.44%
	Disturbed	14	51.85%
	Insomnia	1	3.70%
<u>Addiction</u>	Smoking	7	25.92%
	Tobacco	2	7.40%
	Alcohol	3	11.11%
	None	15	55.56%
<u>Treatment History</u>	Taken	17	62.96%
	Not Taken	10	37.04%
<u>Chronicity</u>	< 2 Years	8	29.62%
	2 -5 Years	10	37.04%
	6-10 Years	5	18.51%
	11-15 Years	3	11.11%
	>15 Years	1	3.70%
<u>Deha Prakriti</u>	Vata-Pitta	6	22.22%
	Vata-Kapha	12	44.44%
	Pitta-Kapha	9	33.33%
<u>Manasa Prakriti</u>	Satvika	2	7.40%
	Rajasa	10	37.04%
	Tamasa	15	55.56%

<u>Sara</u>	<i>Pravara</i>	2	7.40%
	<i>Madhyama</i>	22	81.48%
	<i>Avara</i>	3	11.11%
<u>Samhanana</u>	<i>Pravara</i>	2	7.40%
	<i>Madhyama</i>	21	77.77%
	<i>Avara</i>	4	14.81%
<u>Pramana</u>	<i>Pravara</i>	2	7.40%
	<i>Madhyama</i>	21	77.77%
	<i>Avara</i>	4	14.81%
<u>Satmya</u>	<i>Pravara</i>	2	7.40%
	<i>Madhyama</i>	23	85.18%
	<i>Avara</i>	2	7.40%
<u>Satva</u>	<i>Pravara</i>	2	7.40%
	<i>Madhyama</i>	20	74.07%
	<i>Avara</i>	5	18.51%
<u>Agni</u>	<i>Vishama</i>	8	29.60%
	<i>Tikshna</i>	2	7.40%
	<i>Sama</i>	6	22.22%
	<i>Manda</i>	11	40.70%
<u>Abhyavaharana Shakti</u>	<i>Pravara</i>	4	14.81%
	<i>Madhyama</i>	9	33.33%
	<i>Avara</i>	14	51.85%
<u>Jarana Shakti</u>	<i>Pravara</i>	4	14.81%
	<i>Madhyama</i>	9	33.33%
	<i>Avara</i>	14	51.85%
<u>Vyayamshakti</u>	<i>Pravara</i>	2	7.40%
	<i>Madhyama</i>	19	70.37%
	<i>Avara</i>	6	22.22%

DISCUSSION

Age

Maximum patients i.e., 44.44% were belonging to the age group of 50-60 years. People coming under the age group of 50-60 years are prone to develop the disease since the ageing process advances. Also the patency of airways will be reduced due to decrease in respiratory muscle strength with age⁸ which cannot be compensated by the *bala* of patient.

Sex

Maximum patients i.e., 51.85% were males followed by 48.15% of females. The males were more exposed to dust, allergens and pollutants in the outdoor environment.

Religion

In the present study maximum number of patients i.e., 92.59% were from Hindu community. It is due to geographical predominance of Hindus in Haridwar.

Habitat

Maximum number of patients i.e., 70.37% were belonging to urban area. The intensity of air pollution is more in urban areas⁹ and industrialized regions which triggers the asthma symptoms.

Marital status

In the present study, maximum number of patients 81.48% were married. Majority of the patients were found to be in the age of 50-60 years and people of this age group were usually married. This might be due to the anxiety, panic, anger and sexual excitement in married persons.

Socioeconomic status

Maximum number of patients were belonging to middle class i.e., 37.04% this may be due to less sample size. Also these people are more exposed to

unhygienic atmosphere which can cause infections than that of high economic group¹⁰.

Education

Two groups i.e., High school and Graduated constituted 22.22%. People with High school qualification might be getting low salary jobs which leads to stress in them. Graduated people were also stressed due to hectic work schedule. It is seen that stress is a triggering factor of asthma.

Occupation

The housewives (37.04%) are more prone to develop the disease because they are constantly exposed to dust, fumes, allergens, pollens and all. The increased incidence of *Tamaka Shwasa* in housewives¹¹ may be due to modifiable risk factors like prolonged kitchen stay, irregular dietary pattern, conventional cooking methods, day-sleep etc. which causes *Ama* formation. The next prone class were labourers¹² (22.22%) and it is seen that the Asthmatic symptoms aggravates on exercise and strain.

Family history

In the present study, relevant family history was present in 51.85%. A family history of asthma in a first degree relative is the best recognised risk factor for asthma¹³.

Dietary habit

In the present study, maximum number of patients i.e., 55.56 % were vegetarians whereas 44.44% were having mixed dietary habit. This is because of the vegetarian dietary habit which is been practiced in this geographical area.

Bowel habit

In the present study, maximum number of patients were having constipated bowel habits i.e., 70.37%. The constipated bowel habit signifies the involvement of *Annavaha srothodushti* in the disease pathology. The *Vayuvaigunya* happening in the *Shwasa roga* may results in the *Rukshata* and *Shoshana* which causes constipation.

Sleep pattern

In the present study, maximum number of patients were having disturbed sleep i.e., 51.85%. The *Shwasa vegas* which disturb sleep are commonly seen during night time. Moreover, *Tamaka Shwasa* patients are comfortable in sitting position (*Asino labhate saukhyam*)¹⁴ than lying as inhalation and exhalation becomes easier in this posture. This also can lead to reduced sleep in a *Tamaka Shwasa* patient.

Addiction

In the present study, 25.92% patients were addicted to Smoking. There is a definite relationship between

Smoking¹⁵ and Asthma since it aggravates the disease.

Treatment history

Maximum no. of patients had treatment history i.e., 62.96%. This shows the chronic and relapsing nature of disease.

Chronicity

In the present study, maximum number of patients were having 2-5 years of chronicity of the disease i.e., 37.04%. This emphasizes the chronic nature of the disease and *yapyathwa* of the disease. As the disease becomes chronic, its impact causes the gradual deterioration of the internal channels and it can be maintained by the usage of *upashayas* or *pathyas*.

Deha Prakriti

In the present study, maximum number of patients were having *Vata-Kapha Deha Prakriti* i.e., 44.44%. Since *Tamaka Shwasa* is a disease of *Vata Kapha* origin, it is more likely to occur in patients with *Vata-Kapha Prakriti*. *Vata* and *Kapha* plays a key role in the pathogenesis of the disease¹⁶.

Manasa Prakriti

In the present study, maximum number of patients were having *Tamasika Manasa Prakriti* i.e., 55.56%. *Tamasika Prakriti* is *Kapha* predominant which is the one of the major *doshas* of the disease.

Sara, Samhanana, Pramana, Satmya, Satva

Out of 27 patients of this study, maximum i.e. 81.48 % patients were having *Madhyama Sara*, 77.77 % patients *Madhyama Samhanana*, 77.77 % patients *Madhyama Pramana*, 85.18 % patients *Madhyama Satmya*, 74.07 % patients *Madhyama Satva* as the patients registered were of middle age.

Status of Agni

Status of *Agni* in maximum number of patients were found to be *Mandagni* (40.7%). *Mandagni* leads to the formation of *Ama* which has a major role in *Samprapti* of *Tamaka Shwasa*.

Abhyavaharana shakti

In the present study, maximum number of patients were having *Avara Abhyavaharanashakti* i.e., 51.85%. This corresponds with the fact that *Aruchi* is found in *Tamaka Shwasa* because of *Sama* condition.

Jarana shakti

In the present study, Maximum number of patients were having *Avara Jaranashakti* i.e., 51.85%. This is due to *Agnimandya* which leads to the manifestation of the disease.

Vyayama shakti

In the present study, maximum number of patients were having *Madhyama Vyayama Shakti* i.e., 70.37%.

This may be due to insufficiency to cope up with the disease producing dyspnoea & discomfort in physical activities that exacerbate asthma¹⁷.

CONCLUSION

Tamaka Shwasa was epidemiologically assessed through this observational study. The prevalence of Asthma analysed here points towards the interconnection of some of the epidemiological factors with the disease. Analysis of data like age, habitat, marital status, occupation, family history, bowel habit, sleep, addiction, treatment history and chronicity are having direct link. Gender, religion,

socioeconomic status, education and dietary habit shown no appreciable connection with the disease in this study. Majority of *Ayurvedic* parameters like *Deha Prakriti, Manasa Prakriti, Sara, Samhanana, Pramana, Satmya, Satva, Status of Agni, Abhyavaharana Shakti, Jarana Shakti and Vyayama Shakti* also shown some relevant connection with the disease.

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