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Pharmacotherapeutic Study of *Maharasona* with Reference to *Tamaka Shwasa*

Research Article

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Abstract

Tamaka Shwasa is considered to be a dreadful disease as it is *yapya* (hard to treat) and *ashuprananashakari* (destroys the life very fast) and has high prevalence in society and presents in *vegas* (attacks) and dyspnoea as its cardinal symptom. Ayurveda describes detailed line of treatment for *Tamaka shwasa* which includes *shodhana*, *shamana*, and *brihana* for *apunarbhava*. *Shamana dravyas* indicated in tamaka shwasa should be *kaphavatashamaka*, *amapachana* and *anulomana*. *Maharasona* is a *dravya* possessing *katu madhur pradhan pancharasa, teekshna-ushna guna ushnaveerya, katuvipaka* and *vatakaphahara*. Total 30 patients of *Tamaka shwasa* were selected as per inclusion criteria and treated with *Maharasona* (*Allium porrum Lambinon et al.*) *Kalka* 3 grams twice a day before meals with water. Incidence of *agnimandya* and *kasa* was observed very much associated with *shwasa* and *kujanadhwani* as its cardinal symptom. *Maharasona kalka* showed significant improvement in symptoms like *shwasakruchrata*, *agnimandya*, *kaphanishtheevana*, *jwara* and *peenasa*. This improvement may be due to its above said *gunas*. Hence, from this study, it can be concluded that *Maharasona* is effective and can be safely used in the management of *Tamaka Shwasa*.

Key Words: *Maharasona*, *Grunjana*, *Allium porrum Lambinon et al.*, *Tamaka Shwasa.*

Introduction

Dravyagunshastra, an integral part of Ayurveda deals with the knowledge of the *dravyas*, its *gunakarma* and mode of its application and shows its glimpses in *ashtangas* of Ayurveda. Its proper use leads to health while improper use becomes the cause of disease.(1)

The history of *dravyagunshastra* can be traced back to the Vedic period. In Rugveda 67, in Yajurveda 81 and in Atharvaveda 289 dravyas are found to be mentioned of plant, animal and metal origin (2). *Samhitas* also show classification of *dravyas* in different aspects, but are mainly used on pharmacological properties. Drug descriptions are available with their pharmacology and therapeutics. *Nighantus* exhibit a still better, wide and detailed descriptions of *dravyas*, which are especially the texts on *dravyaguna*. In this, the morphology, synonyms, properties, pharmacological actions, therapeutics and accordingly the classification of individual drugs are available. Different properties and therapeutic indications described in *Nighantus* provides a wide area of research with single drugs in different diseases and in different views.

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Descriptions about '*shwasa'* are also found since the vedic period. '*Shwasa'* – the normal respiration is the cause of existence of life (3). In the present context, the word '*shwasa'* means – a disease pertaining to the impairment of normal breathing. *Shwasa* is considered to be a dreadful disease. Ayurveda describes *shwasa* as "*Ashuprananashakari*" (4) and its types among which *Tamaka Shwasa* is one. It is presented in attacks and prevalence is high. The prevalence is still going on increasing day by day due to the altered life style, faulty methods adopted in diet, stress and strain, increased urbanization and environmental pollution and under nutrition in the view of poverty prevailing all over the globe. The ailment is found all over the world in all socio – economic classes, geographical conditions, age, sex, profession, etc.

Breathlessness or dyspnoea is an unpleasant subjective awareness of sensation on breathing, and is a common symptom in cardiac and respiratory diseases. Asthma is defined as a disorder characterized by chronic airway inflammation and increased airway responsiveness resulting in symptoms as wheeze, cough, chest tightness and dyspnoea (5) (which very much is similar to *Tamaka Shwasa).*

Asthma is common and its prevalence is increasing. According to the global Asthma report 2018, it is a common chronic disease that is estimated to affect as many as 339 million people worldwide. It is a cause of substantial burden of disease, including both – premature death and reduced quality of life in people of all ages in all parts of the world. Asthma contributes to be a major source of global economic burden in terms of both direct and indirect costs. In many countries, essential asthma medicines are unavailable,

unaffordable or are of unreliable quality resulting in unnecessary burden and mortality from asthma. Patients die of asthma in low income countries from lack of effective management (6).

To save the mankind from this menace science is searching new and efficient drugs, which should be harmless to other systems of the body at the same time. The drug should be simple, beneficial and yet within the reach of common man. Hence the world is switching over and looking eagerly towards Ayurvedic system of medicine for the newer and safer drugs.

Ayurveda described a detailed line of treatment for *Tamaka Shwasa* in *shodhana*, *shamana* and *brimhana* for *apunarbhavatwa* aspects. Along with *upakarmas* for *shodhana* and different *yogas*; several *shamakadravyas* are also indicated. There is a need to render Ayurvedic system in this aspect to the present scientific world.

In the treatment of *Tamaka Shwasa* the *shamanadravyas* which can be used should be *kaphavatashamaka*, *amapachana* and *anulomana* (7) so that it can act over the *dushtakapha* (circulating along with *vruddharasa*) and getting *enlodged* in *prana vaha strotas* causing *vimargagamana* and *prakopa* of *vata* and contributing for the *samprapti*.

'*Maharasona'* as described in classics is a *dravya* possessing *katu – madhura pradhana pancharasa*, *teekshna – ushna guna*, *ushna veerya* and *katuvipaka* and *vatakaphaharatwa*. All these *gunas* will help in *samprapti vighatana* of *Tamaka Shwasa* and by its *gandhapradhyana* it will have its affinity for *pranavaha strotas*, thus relieving the signs and symptoms.

But *Maharasona* otherwise also called *Grunjana* is a controversial drug (8). Therefore, botanical identification and confirmation of the species was done, so that the *gunakarmas* of *Maharasona* as described in the texts can be verified with the confirmed species, which is *Allium Porrum*.

The aim of the present study is to highlight the efficacy of *Maharasona* in *Tamaka Shwasa*. *Tamaka Shwasa*, through *yapya*, needs attention in management on account of agony and distress caused to the patient. This can be achieved by subjecting the time – tested effective drugs mentioned by *granthakaras*. Here a humble effort is made to find out significance of *Maharasona* in *Tamaka Shwasa chikitsa* clinically.

Before proper clinical trials, authenticity and quality of drug is assured by botanical identification and conformation and chromatography (HPLC method).

Aims and Objectives

Aim:

- To study the efficacy of *Maharasona* (*Allium porrum*) in *Tamaka Shwasa*.

Objectives:

- To assess the *gunakarmas* of *Maharasona* as described in texts clinically.
- To assess efficacy of *Maharasona* in *Tamaka Shwasa*.

Materials and Methods

Patients

Selection Criteria

30 cases of *Tamaka Shwasa* were selected from Out Patient Department at random.

Inclusion Criteria

Known bronchial asthma cases with repeated episode, bronchitis.

Exclusion Criteria

Patients diagnosed with anaemia, pulmonary tuberculosis, cardiac asthma, tropical eosinophilia, COPD, etc were not included.

Examination of Patients

Detailed history of patients related to the disease was taken and thorough clinical examination was done and recorded on a specially prepared case sheet for this assessment.

Among objective parameters the laboratory investigations like CBP and ESR, complete urine examination was taken.

X-ray PA chest was done.

Drug Regimen

The bulbs of *Maharasona* were given to patients and advised to prepare fresh paste. Three grams paste was adviced twice a day.

Anupana

Cold water/lukewarm water. In a few cases of *Pittaprakruti*, sugar water or milk.

Pathya

Adviced to take light vegetarian foods like Jowar Roti, Green Gram, all vegetables and advised to take evening meals early (around 7:00-7:30 PM).

Apathya

Guru-abhishyandi ahar (Food that is heavy to digest), *dadhisevana* (Consumption of curd), spicy non-veg food, late night food, *adhyashana* (overeating) and *vishamashana* (eating food irrelevant to appetite) were told to be prohibited.

Assessments of Results

The subjective and objective parameters and its data have been recorded and its results were assessed statistically.

Observations

Observations while doing clinical evaluation regarding disease and changes in symptoms after administration of the research drug as a result of effect of drug were noted. The patients who had undergone clinical trials were subjected for classification in different aspects and its statistical analysis was done.

Table 1: Classification according to the sex of the patients

Serial Number	Sex	Number of patients	Percentage
1	Male	17	56.66%
2	Female	13	43.33%
	Total	30	100%

Table 2: Classification according to the age group of the patients

Serial Number	Age Group	Number of male patients	% Age	Number of female patients	% Age	Total Percentage
1	01-20 Years	3	10.00%	2	6.66%	16.66%
2	21-40 Years	7	23.33%	7	23.33%	46.66%
3	41-60 Years	5	16.66%	4	13.33%	30.00%
4	61-80 Years	2	6.66%	0	-	6.66%
	Total	17	56.66%	13	43.33%	100.00%

Table 3: Distribution according to the place of residence of the patients

Serial Number	Area	Number of Patients	Percentage
1	Urban	20	66.66%
2	Suburban	6	20.00%
3	Rural	4	13.33%
	Total	30	100.00%

Table 4: Distribution of patients based on socio-economic status

Serial Number	Socio-Economic Status	Number of patients	Percentage
1	Rich	3	10%
2	Middle	12	40%
3	Poor	15	50%
	Total	30	100%

Table 5: Distribution of patients based on occupation

Serial Number	Class	Number of patients	Percentage
1	Laborious	11	36.66%
2	Average	13	43.33%
3	Sedentary	6	20.00%
	Total	30	100%

Table 6: Distribution of patients of *Tamaka Shwasa* based on their dietary habits

Serial Number	Type of Diet	Number of patients	Percentage
1	Vegetarian	12	40%
2	Non-Vegetarian	18	60%
	Total	30	100%

Table 7: Distribution of patients of *Tamaka Shwasa* based on prevalence of Heredity Origin

Serial Number	Heredity Origin	Number of Patients	Percentage
1	Present	7	23.33%
2	Absent	23	76.66%
	Total	30	100%

Table 8: Distribution of patients based on Chronicity of illness

Serial Number	Duration in Years	Number of Patients	Percentage
1	1-3 Years	12	40.00%
2	3-6 Years	14	46.66%
3	6 Years and Above	4	13.33%
	Total	30	100%

Incidence of Symptoms found in patients

Based on subjective parameters, the incidence of different symptoms of *Tamaka Shwasa* found in patients having *Shwasa Kruchrata* as a main symptom in all patients (100%) is as follows:

Table 9: Table Showing Incidence of Symptoms before Treatment

Serial Number	Symptoms	Total Patients	Number of patients with symptoms present	Percentage
1	*Shwasakruchrata*	30	30	100.00%
2	*Kasa*	30	27	90.00%
3	*Peenasa*	30	20	66.66%
4	*Kunjanadhwani*	30	28	93.33%
5	*Shtheevana*	30	18	60.00%
6	*Agnimandya*	30	28	93.33%
7	*Vibandha*	30	22	73.33%
8	*Anidra*	30	13	43.33%
9	*Jwara*	30	4	13.33%
10	*Trushna*	30	5	16.66%

While going for the objective parameters the eosinophils were found to be raised in 11 patients.

Table 10: Distribution According to Eosinophil count in the Patients

Serial Number	Eosinophil Count	Number of Patients	Percentage
1	Normal Range	19	63.33%
2	Raised Count	11	36.66%
	Total	30	100.00%

Results after Drug Trials

Results were assessed based upon the subjective parameters i.e, signs and symptoms assessed clinically and objective parameters – Eosinophil count mainly taken into consideration. Follow-up examination was done repeatedly during 15 days course of administration and the changes were noted weekly, i.e on the 8th and 15th day.

Table 11: Table showing the Recovery of Symptoms in patients of *Tamaka Shwasa* after Administration of *Maharasona*

Serial Number	Symptoms	No. of patients B.T.	No. of Patients relieved A.T.		% of Recovery (compared to BT)
			8th day	15th day	
1	*Shwasakruchrata*	30	6	22	73.33%
2	*Kasa*	27	14	25	92.50%
3	*Peenasa*	20	4	18	90.00%
4	*Kunjanadhwani*	28	10	21	75.00%
5	*Shtheevana*	18	4	13	72.15%
6	*Agnimandya*	28	16	28	100.00%
7	*Vibandha*	22	14	9	40.80%
8	*Anidra*	13	3	7	53.83%
9	*Jwara*	4	2	3	75.00%
10	*Trushna*	5	2	4	80.00%

Recovery in the raised Eosinophil Count was also recorded (Table 12).

Table 12: Table Showing the Distribution of Recovery in the raised Eosinophil count

Eosinophils Count Raised	Before Treatment	After Treatment		Not Reported
		Relieved	Not Relieved	
Number of Patients	11	7	3	1
Percentage	100.00%	63.63%	27.27%	9.09%

Discussion

The significance of undertaking this study could be very well justified by proving the efficacy of *gunakarmas* by having clinical trials and highlighting the *dravyas* which are efficient but used less in practice.

The present study is an outcome for the above said significance, conducted with the four – fold manner (*naamroopa*, *gunakarma*, *prayoga* and *aushadhividnyam*); and dealing about *Maharasona* to assess its *gunakarmas* practically, especially pertaining to its effective utility in management of *Tamaka Shwasa*.

Tamaka Shwasa or otherwise diagnosed as Bronchial asthma is the common disease, affecting millions of the population and this prevalence is going on increasing. It is identified as an important problem and though *yapya* (9), detailed description about its *chikitsa* aspects is found in *samhitas*.

A person suffering from *Tamaka Shwasa* is generally having *daurbalya* of *pranavaha strotas* (weak respiratory system) and the *sthana samshraya* of

doshas mainly occurs in the functioning structures of *fuffusa (lung)*. The symptoms are caused because of *avritatwa* i.e. blockage and *vimargagamana* of *vata* due to the *sanga* of *kapha* in the *urasthana* i.e. airways in the lungs (mainly the bronchus – bronchioles). Because of this the *prana* and *apana gati* of the *vayu* are disturbed causing *shwasakashtata*. The *kapha* which is *mala* of *rasadhatu* becomes *dushta* due to *dhatu dushti* and *rasadhatvagnimandya*. Also, *kaphavruddhi* is there in *amashya* (it's *udbhavasthana*) when *prathama avasthapak vikriti* is their which is as the result of *agnimandya* (10)(11).

Because of this *agnimandya*, *pravruddha kapha*, *vimargaga vata* and *rasavaha*, *annavaha* and *pranavaha srotodushti lakshanas* like *shwasa kruchrata*, *kasa*, *kapha nishtheevana*, *jwara, aruchi, vibandha*, etc are seen. In complete *vegavastha* or *vyaktavastha* i.e. when *hetu*, *dosha* and *dushya* are with *sampoorna bala*, *asinau labhate saukhyam*, *sheero gaurava*, *timiradarshana*, *trushna*, *kasate pramoham*, *lalate swedana*, *vepathu*, etc *lakshanas* are also seen (12).

Demographic records of the clinical work show that *shwasakruchrata* – the cardinal symptoms were found in all patients and on examination *kunjandhwani* was found in most of the patients (28 out of 30). *Agnimandya* which is a cause as well as symptom found, is having prevalence in 94% of people. *Kasa* is also a major presenting symptom in attack stage which most of the patients complained about, only 10% of the patients did not present *vyaktavastha* of this symptom. The prevalence of *Tamaka Shwasa* is more in males and in the age group of 21 – 40 years.

It is found that the prevalence is more from the people residing in urban area, revealing the fact that the disease is more in densely populated and polluted areas. Poor socio – economic status and exertional work is found to be in greater percentage in the patients suffering from this disease.

Majority of the people consuming non – vegetarian diet was comparatively more. In other *hetus* patients were found to be consuming more *vidagdha – ahara*, *amlarasa* and *abhishyandi* food and late -night meals which explains the *karya karana mimansa* of *agnimandya* and *vibandha* and more possibility of *amasanchaya*.

It was seen that patients responded less in cold and rainy climate to the medicine as these are the aggravating factors for the disease.

Patients having tendency to develop the disease with the family history, i.e. by heredity also showed relatively very less or temporary response to the drug than expected.

In the objective parameters taken into consideration, Differential Leucocyte Count, mainly the eosinophils were found to be increased only in 11 patients, out of which more than 2/3rd showed a marked reduction and 1/3rd didn't respond as expected.

Granthakaras explain a clear and detailed line of treatment for *vegavastha* and *avegavastha* also in *shodhana*, *shamana* and *apponarbhava chikitsa* aspects. For this many *kalpas* and *yogas* are described in the texts. Different *ganas* are also described where single drugs are noted for the treatment.

Maharasona or *Grunjana* has not been mentioned under *shwasahara dashemani* of *Charaka*, but has been mentioned in *shwasa chikistadhyaya* (13). *Acharyas* and *Nighantukaras* have mentioned it to be *kapha vyadhihara* and more specifically can be used in the treatment of *shwasa*.

Grunjana is said to have *pradhana katu* and *madhurarasa*, *katu vipaka*, *ushna veerya*, *ushna* and *teekshna gunas* and *grahi*, *vata – kaphahara* and *pittavardhana karmas* (14)(15)(16)(17)(18).

Agnimandya was relieved because of *katu rasa*, *katu vipaka*, *ushnatwa* and *pittavardhana* properties of the drug after administering it. *Kaphaprakopa* was reduced by its *teekshna ushna guna*, *katu vipaka* and *katu rasa*. While *alpamadhura rasa* and *ushnatwa* are responsible for *anulomana* and *vimargaga* and *avruddha vayu* especially in lungs because the drug is having its route of excretion through this way also along with skin and kidney.

When *kaphavilayana*, *shamana* and *vatanulomana* occurred as a result of action of drug, symptomatic relief was seen especially about the *lakshanas* like *shwasakruchrata*, *agnimandya*, *kapha nishtheevana* were relieved. *Kasa* also reduced and *jwara* which was found in few patients was also reduced.

When the need of *pachana* was over and still the drug was continued to be consumed, *grahi* action of the drug was found. This may be because even though the drug is *deepana pachana* it is having less concentration of volatile oils resulting in *rukshatwa* comparatively. The *vibandha* of *sama mala* which appeared to be relieved after its *pachana* was again seen in few cases in *niramawastha*.

With the *ushna – teekshna guna*, *srotovivarana* and *kaphavilanya* occurred hence making it mucolytic and thus helping in easy *nistheevana*.

In toto *agnimandya* was relieved by *ushna – teekshna guna* and *deepana – pachana karma* of *Grunjana*. *Jwara* and *peensa* were also relieved after *pachana*.

Shwasakruchrata, *kasa*, *shtheevana* were relieved after *kapha – vatanuloma* and *kaphanashana* caused by the properties of the drug.

As the symptoms were relieved, patients reported of better sleep.

Only *alpamaladharana* (*vibandha*) was seen in few patients after *pachana* stage due to the *grahi guna* of the drug.

Few patients reported of *urovidhaha*, *netradaha* and *mutradaha*. These symptoms were seen specifically in *pittaprakruti* individuals or in *balyavastha*.

The above said effects caused by the drug can be neutralized if the drug is given with changing the *anupana* or the form of the drug. Some patients were advised to take sugar water or children were advised to take with milk.

But the drug was given in fresh *kalka* form orally with water so that the *gunakarmas* of the drug and its action over the body can be assessed correctly.

Kalka was to be prepared as in this form the active principles of the drug are found to have some chemical changes and give better effect.

The quantity of drug was given 3 grams, twice a day. The quantity of *kalka* was indicated to be one *karsha* (12 grams) as a dose, but because of *teekshnatwa* the quantity was reduced making a range of 6 grams per day.

After going through all the details and assessment, statistically the readings were compared before and after treatment, which shows that *Maharasona* (*Allium Porrum*) is highly significant in *Tamaka shwasa*.

Conclusion

Maharasona given in *kalka* form was able to significantly relieve the symptoms in *vegavastha* of *Tamaka Shwasa*.

The subjective *paramaters shwasakruchrata, kasa, peenasa, agnimandya, kunjandhwani, jwara, anidra, kapha shtheevana*, were found to be reduced after 15 days of treatment by 73.33%, 92.5%, 90%, 100%, 75%, 100%, 53%, 72.15%, respectively.

Maharasona is also able to show a marked reduction in eosinophil count by 63.63%.

Further Scope

This is the preliminary clinical study carried out in limited number of patients. An elaborate study is needed on more patients of *Tamaka shwasa* based on different parameters. Further studies are required over the drug, to determine its activity and its mode of action on the different systems of the body, and that of the drug as a whole and its active principles, in various conditions indicated by the acharyas.

The drug can be given in *ksheerapaka* form so as to reduce its *teekshnatwa* and *dhahkaratwa*. *Grahi* property may also reduce if the drug is given in this form. *Sharangdhara* has described *ksheerpaka* Kalpana of *rasona* which can be practically applied while administering this drug also, so that the above said effects can be reduced.

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