



Review Article

www.ijrap.net



EFFICACY OF COMMON HERBAL MEDICINES IN TAMAK SHWASA: A REVIEW

Sonam Yadav ^{1*}, Mithilesh Verma ²

¹P.G. Scholar, State Ayurvedic college & Hospital, Lucknow, U.P, India

²Head of Department, P.G. Department of Kaumarabhritya, State Ayurvedic College & Hospital, Lucknow, U.P. India

Received on: 18/02/18 Accepted on: 24/03/18

*Corresponding author

E-mail: ysonam1988@gmail.com

DOI: 10.7897/2277-4343.09381

ABSTRACT

Ayurveda is the major systems of indigenous medicines and as all of us know it is a science of life. It deals with preventive, promotive as well as curative aspects. The signs and symptoms of Tamak Shwasa are closely related to Bronchial Asthma. It has the predominance of vata and kapha. Asthma is a disease of respiratory airways in which the patient complaining of recurrent attacks of breathlessness and wheezing due to the narrowing of the airways. The cause of asthma may be genetic, but the disease develops and persists as a result of changes in the environment, food and life style. There are about 334 million patients with Asthma affecting all age groups, across the world. India has an estimated 15-20 million asthmatics. The prevalence of Asthma has increased over time and an additional 100 million people worldwide will be expected to develop Asthma by the year 2025. The prevalence of bronchial asthma amplified with time & growing hastily due to increasing environmental pollution. There are numbers of drugs in modern medicine to control the attack of episodes of asthma but still are unable to cure the disease completely and besides this have many adverse effects. Ayurveda has described many herbal drugs Vasa, kantakari, Shirish, bharangi, shati, Pushakarmool, etc. which are described and experimentally proved to treat Tamak shwasa without any adverse effect.

Keywords: Indigenous medicine, Tamak shwasa, Shirish.

INTRODUCTION

Ayurveda is the major systems of indigenous medicines and as all of us know it is a science of life. Ayurveda deals with preventive, promotive as well as curative aspects. The human seeks for health and long life covered the way for the birth of Science of life, which is the science of medicines as well; to keep the health of the healthy and restore the health for the unhealthy. Unlike many diseases, which can be attributed to the life style of modern man, asthma is an ancient illness. Bronchial Asthma has multifactor causation like geographical location, environmental, racial, as well as factors related to behaviors and life-styles are associated with the disease. Tamak 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 prevalence of Bronchial Asthma has amplified over time and is growing hastily due to increasing environmental pollution produced by vehicles and industries. The disease emerges from highly complex interaction between factors intrinsic to the patient and environment. In today's environment there is so much pollution, which cannot be avoided because it is mostly produced by vehicles and industries. According to Ayurveda vitiated Pranavayu combines with deranged Kapha dosha in Strotas causing obstruction. This result gasping, labored breathing and respiratory distress. These conditions called as Shwasroga¹. Tamak Shwasa is mentioned as one among five types of Shwasa. Acharyas stated that, Tamak Shwasa is sadhya in the initial phase, and becomes Yapya in chronic condition or if not treated in early condition². Bronchial Asthma mentioned in modern medicine closely resembles with Tamak Shwasa, is a major chronic airway disorder. It is characterized by

inflammation of the airways, bronchoconstriction breathlessness, wheezing.

EPIDEMIOLOGY

The global prevalence of Asthma is anticipated to be approximately 45 percent^{3,4}. There are about 334 million patients with Asthma affecting all age groups, across the world. India has an estimated 15-20 million asthmatic⁵. The prevalence of Asthma has increased over time and an additional 100 million people worldwide will be expected to develop Asthma by the year 2025⁶. In the United States, about 20 million people have asthma. Nearly 9 million of them are children. Among children and adolescents aged 5-17 years, asthma accounts for a loss of 10 million school days annually (National Health Interview Survey, National Center for Health Statistics). A hospital based study in Bengaluru showed that the prevalence of asthma steadily increased from 9% in 1979 to 29.5% in 1999. Persistent asthma increased by 20-72% and persistent severe asthma by 4-11% from 1999 to 2009⁷. In 2006, approximately 14% of the world's children experienced asthma symptoms.⁸ In African countries, the prevalence of asthma ranges from approximately 10% to more than 20%. Poorly treated asthma can lead to school absence, hospitalization and death⁹. In contemporary medical science, management of Bronchial Asthma is carried out with usage of bronchodilator leukotriene antagonist, mast cell stabilizers and corticosteroids. Long lasting usage produces adverse effects and also reduces the effectiveness of therapy¹⁰. So by this, modern medical science can only control the episode of attack.

HERBAL MEDICINES

Vasa

In a study comparative efficacy of Vasarishta and Vasakaasava were assessed on 24 patients of Shwasa. Effect of therapy showed

that marked improvement was found more in Vasarishta group while the improved patients were in Vasakaasava treated group. In another study 32 patients were taken in a study and randomly divided into 3 groups consisting of Vasavleha, Vasarishta and Vasa ghrita. Overall effectiveness of test samples on shwasa was observed more in Vasa avleha than Vasarishta and Vasa ghrita.¹¹ In a comparative study of Vasavleha prepared from swarasa and kwathakalpana in the management of shwasa, 35 patients were taken and randomly divided in two groups. Both the preparation of Vasa avleha showed statistically highly significant results on shwasa. From both preparations, Vasa avleha (prepared from swarasa) was better clinically effective in compare to Vasa avleha (prepared from kwath)¹². In respiratory disorders Vasa (*Adhatoda*) has been used for so long as traditional medicine. The primary alkaloid constituents of *Adhatoda* are vasicine and vasicinone. These are well established therapeutical respiratory agents. *Adhatoda*'s leaves and root Extracts are useful in treating different respiratory conditions like bronchitis, bronchial asthma and other lung and bronchiole disorders, as well as common coughs and colds. Leaves decoction of has a soothing effect on irritation in the throat and helps to expel out the phlegm in the respiratory passages. In a sequence of evaluating the more therapeutic properties of vasa, good antitussive activity of *Adhatoda* extract in anesthetized guinea pigs and rabbits and in unanesthetized guinea pigs have been evaluated. Vasicine showed broncho-dilatory activity both in vitro and in vivo during recent investigations¹³.

Kantakari

Kantakari was mentioned under hikka nigrahana and kasahara mahakashayas by Acharya Charaka. Literature available on kantakari supports use of whole plants. The therapeutic effect of ethanolic extract of *Solanum xanthocarpum* i.e. asthma relieving orantihistaminic, antiallergic property have been evaluated. Effects of *Solanum xanthocarpum* extract on some of the parameters like smooth muscle relaxation, and antagonism of asthma mediators such as histamine, eosinophills and protection against mast cell degranulation which seemed to be prominent in pathophysiology of asthma.¹⁴ The ethanolic extract of *Solanum xanthocarpum* showed a significant antihistaminic activity of in histamine induced contraction in goat tracheal chain preparation. It shows ethanolic extract of *Solanum xanthocarpum* has a significant inhibition of histamine induced contractions on isolated goat tracheal chain preparation. Besides this, all three extracts of flowers of *Solanum xanthocarpum* results were screened and showed that only ethanolic extract of *Solanum xanthocarpum* at a dose of 50 and 100 mg / kg reduced milk induced eosinophilia to a great extent. Mast cell stabilization activity of *Solanum xanthocarpum* at a dose of (50-100 mg/kg, i.p) showed significant as compared to standard drug Disodium chromoglycate (DSCG)¹⁵.

Shirish

A single blind study had been conducted on *Albizia lebbek* stem bark decoction (Shirish Twak Kwatha). In this study, patients with good, fair, poor are 56 %, 38 %, 6 % respectively. The results reveal that the drug significantly acts upon the parameters that were assessed during the study. It could suppress total leukocyte count, eosinophil count and ESR and improve the PEFR along with symptomatic relief. So, the drug can be recommended for its use in the Bronchial Asthma patients¹⁷. Antihistaminic activity of *Albizzia lebbek* has been proved in various trials. An experiment on guinea pig against 1% Histamine induced bronchospasm showed that the bark decoction in dose of 0.25g to 1.0 g/kg considerably affective. The flower decoction in dose of 50mg/kg

appreciably protected the guinea pig against Histamine induced bronchospasm. Due to smooth muscle relaxation activity both the bark and flower decoction of the plant protect the guinea pig against Histamine induced bronchospasm¹⁸.

Bharangi

On the isolated guinea pig ileum and tracheal chain showed a graded inhibition of histamine responses with the aqueous extract of the root bark (10 to 500 µg/ml) of bharangi. The aqueous extract's ethyl acetate fraction (0.1 to 1 µg/ml) showed inhibition of histamine responses on the guinea pig ileum. After saponin treatment for three weeks the *in vitro* sensitivity of the rat lung tissue to histamine was diminished but the sensitivity to acetylcholine was not remarkable¹⁹. After continuous perfusion of the alcoholic fraction of aqueous extract of the root of *Clerodendrum serratum* suggesting anti-asthmatic potential on anaphylactic bronchoconstriction response in sensitized isolated guinea pig lung²⁰. The saponin derived from the plant caused disruption of mast cells of the rat mesentery and the maximum effect was produced in thirty minutes after which they were was no further increase. The effect was dose dependent²¹.

Yashtimadhu

Purified saponin fraction of the extract of *Glycyrrhiza glabra* was injected to the swiss variety of albino rats were induced asthma by triple antigen. The outcome obtained shows that the saponin fraction acts as anti-asthmatic agent is in triple antigen sensitized albino rats. The mast cell degranulation inhibition took place up to 62% at 25 mg/Kg body weight²².

Pushkarmool

Pushkarmool has antihistaminic and a bronchodilator action that make it work in shwasa roga. The root of pushkarmool is useful in all edematous condition and helpful in curing swelling and pain. The root of this drug is bitter, acrid, thermogenic, aromatic, stimulant, expectorant, and bronchodilator. The chemical constituents of root are inulin (10%), aromatic oil (1.3 %). Main alkaloid in oil is Alantolactone. Roots of *Inula racemosa* gave β-sitosterol, dancosterol, and isoalantolactone²³. Pushkarmool is a respiratory support that smoothens the irritated bronchial tree. It is rejuvenative for lungs. It is useful in many conditions including inflammation, anorexia, cough, hiccough, cardiac and bronchial asthma, bronchitis, anemia and general debility. According to Charaka it is the drug of choice in Hikka, Shwasa and Parshwashool. Pushkarmool has anti- histaminic and a bronchodilator action that make it work in Shwasa roga. Alantolactone and inulin extracted from root of *Inula racemosa* showed maximum antibacterial and anti-inflammatory activities²⁴.

Shati

In a study of 25 patients with recurrent paroxysmal attacks of dyspnea (bronchial asthma) the powdered rhizome of, given 10 g in divided doses to for 4 weeks. All patients' relieved dysopnea, cough and restlessness in various degrees. The ronchi completely disappeared in 36 % of the patients. 25 % reduction in mean respiration rate and 20 % increase the vital capacity with 55.6 % decline in mean absolute eosinophil count also. In another study of *H.spicatum* 16 patients of bronchial asthma. Patients were given 1 g of powder thrice daily for 21 days, with plain water. The chief complaints like breathlessness, cough, chest heaviness, loss of appetite, uneasiness during exercise and sleeplessness etc were relieved with varying extent of relief²⁵.

Table 1: Some Herbal Drugs with its Properties

Sl.No.	Drugs	Latin Name	Prosperities
1	Kantakari	<i>Solanum surattense</i> Burm. f	Antihistaminic activity, Anti-inflammation activity ²⁶
2	Vasa	<i>Adhatoda vassica</i> Nees	Antispasmodic, Expectorant, anti-tissue, bronchodilator ^{27,28}
3	Yastimadhu	<i>Glycyrrhiza glabra</i> Linn	Anti-asthmatic ²⁹ , anti-inflammatory, anti-microbial, expectorant ³⁰
4	Shirisha	<i>Albizia lebbek</i> Benth	anti-inflammatory ³¹
5	Haridra	<i>Curcuma longa</i> Linn	anti-inflammatory, analgesic, antibacterial ³²
6	Amalaki	<i>Emblica officinalis</i> Gaertn	Immunostimulatory ³³
7	Shunthi	<i>Zinziber officinale</i> Roxb	anti-inflammatory ³⁴
8	Shati	<i>Hedychium spicatum</i> Buch-Ham	Use in breathlessness, cough, chest heaviness, loss of appetite, dyspnea ³⁵
9	Puskarmool	<i>Inula racemosa</i> Hook	Mast cell Stabilization property in the animal allergic models ³⁶ , Anti-histamine activity, Anti eosinophilic ³⁷
10	Tulasi	<i>Ocimum sanctum</i> Linn	anti-inflammatory, anti-asthmatic, immunomodulatory ³⁸
11	Pipalli	<i>Piper longum</i> Linn	Mast cell Stabilization property ³⁹ immunomodulatory, Antiasthmatic ⁴⁰
12	Kutki	<i>Picrorrhiza kurroa</i> Royle ex Benth	In animal studies, anti-inflammatory, and immunomodulatory activities have been demonstrated ⁴¹

CONCLUSION

Ayurveda is the systems of native medicines and as all of us know it is a science of life. Ayurveda deals with a healthy life style. Contrasting many diseases, which can be attributed to the life style of modern era, asthma is an ancient illness. Bronchial Asthma has multifactor causation like ecological location, environmental, racial, as well as life style. India has an estimated 15-20 million asthmatic. The prevalence of Asthma has increased over time and an additional 100 million people worldwide will be expected to develop Asthma by the year 2025. In this review article, an effort is made to collect the single herbs which are affective in Tamak shwasa (asthma), helpful in management of distressing condition of tamak shwasa. Anti-asthmatic, antihistaminic, mast cell stabilizing, bronchodilation etc. activities of above described drugs prove good efficacy of herbal drugs for management of Tamak shwasa. The article may be helpful to enhancing the use of herbal drugs in general practice.

REFERENCES

1. Agnivesh, Charaka, Dradhabela, K. Sastri and G. Chaturvedi, Charaka Samhita, Vidhyotini Hindi commentary, Chikitsa Sthana, 17/45, Chaukhambha Bharati Academy, Varanasi, Reprint:2011 p.515.
2. Agnivesh, Charaka, Dradhabela, K. Sastri and G. Chaturvedi, Charaka Samhita, Vidhyotini Hindi commentary, Chikitsa Sthana, 17/62, Chaukhambha Bharati Academy, Varanasi, Reprint:2011p.516]
3. Masoli M, Fabian D, Holt S, Beasley R; global Initiative for2. Asthma (GINA) programme. The global burden of asthma: executive summary of the GINA Dissemination Committee report. Allergy 2004; 59: 469-78. Available from www.icmr.nic.in/ 2015/april/editorial2.
4. Global asthma prevalence in adults: findings from the cross-sectional world health survey¹⁶. BMC Public Health 2012; 12: 204. Available from www.icmr.nic.in/2015/april/editorial2
5. www.who.int/mediacentre/factsheets.
6. The Global Asthma Report 2014. Auckland, New Zealand: Global Asthma Network, 2014 Available from www.icmr.nic.in/2015/april/editorial2
7. A Parthasarathy, Diseases of Respiratory System, IAP Text book of pediatrics Edition 5th, page no. 485.
8. The global asthma report 2014. Auckland: Global Asthma Network; 2014. Martinez FD, Vercelli D. Asthma. Lancet. 2013 Oct 19; 382(9901):1360-72. http://dx.doi.org/10.1016/S0140-6736(13)61536-6 pmid: 24041942
9. Global surveillance, prevention and control of chronic respiratory diseases: a comprehensive approach. Geneva: World Health Organization; 2007)
10. K.D.Tripathi, Essentials of medical Pharmacology, 5th Edition, Chapter 15th /4, published by Jaypee Brothers Medical [p] Ltd. New Delhi. Reprint: 2004. p.199.
11. Panara et.al, Dravyaguna Department, IPGT&RA, Gujarat Ayurved University, Jamnagar, Gujarat, India Review On Research Studies Of Vasapatra (Leaf Of *Adhatoda Vasica* Nees.). *International Journal of Pharmacology*, 2014; Vol. 1(3): 168-173 ISSN: 2348-3962.
12. Panara et. al, Dravyaguna Department, IPGT&RA, Gujarat Ayurved University, Jamnagar, Gujarat, India . Review On Research Studies Of Vasapatra (Leaf of *Adhatoda Vasica* Nees.) *International Journal of Pharmacology*, 2014; Vol. 1(3): 168-173 ISSN: 2348-3962.
13. Gangwar Atul et. al Medicinal uses and Pharmacological activity of *Adhatoda Vasica*. *International Journal of Herbal Medicine* 2014; 2 (1): 88-91.. ISSN 2321-2187
14. Mohan L, Sharma P, Srivastava CN; Comparative efficacy of *Solanum xanthocarpum* extracts alone and in combination with a synthetic pyrethroid, cypermethrin, against malaria vector, *Anopheles Stephensi*. *Southeast Asian Journal of Tropical Medicine and Public Health*, 2007; 38(2):256-260.
15. Vadnere GP, Gaud RS, Singhai AK; Evaluation of Anti-Asthmatic Property of *Solanum Xanthocarpum* Flower Extracts. *Pharmacologyonline*, 2008; 1: 513-522].
16. S . Kumar et al, The Clinical Effect of *Albizia lebbek* Stem Bark Decoction on Bronchial Asthma *International Journal of Pharmaceutical Sciences and Drug Research* 2010; 2(1): 48-50
17. Gajendra kumar Sharma et al; Review of Shirish (*Albizia lebbek*) therapeutic properties. *International journal of ayurvedic & herbal medicine* 5(1) Jan-Feb. 2015(1683-1688) ISSN: 2249-5746
18. Poornima BS et al, Pharmacological review on *Clerodendrum serratum* Linn. Moon., *Journal of Pharmacognosy and Phytochemistry* 2015; 3(5): 126-130, E-ISSN: 2278-4136 P-ISSN: 2349-8234.
19. Poornima BS et al, Pharmacological review on *Clerodendrum serratum* Linn. Moon., *Journal of Pharmacognosy and Phytochemistry* 2015; 3(5): 126-130, E-ISSN: 2278-4136 P-ISSN: 2349-8234.
20. Poornima BS et al, Pharmacological review on *Clerodendrum serratum* Linn. Moon., *Journal of Pharmacognosy and Phytochemistry* 2015; 3(5): 126-130, E-ISSN: 2278-4136 P-ISSN: 2349-8234.
21. Prajapati Shashikant M et. al Phyto-Pharmacological Perspective of Yashtimadhu (*Glycyrrhiza Glabra* Linn.) – A Review. *International Journal of Pharmaceutical &*

- Biological Archives 2013; 4(5): 833 – 841, ISSN 0976 – 3333 Available Online at www.ijpba.info
22. Prachi Sharma et.al, A Review on the role of an important medicinal plant *Inula racemosa* Hook. F. in asthma management, International Journal of Global Science Research ISSN: 2348-8344 (Online) Vol. 4, Issue. 2, October 2017, pp. 609-613 DOI: 10.26540/ijgsr.v4.i2.2017.83 Available Online at www.ijgsr.com
 23. P.Khurana, et al.: Role of Pushakermool in the asthma management: a conceptual study. Journal of Traditional & Natural Medicines | July-August 2015 | Vol 1 | Issue 1, <https://www.researchgate.net/publication/281366533>
 24. Herwade Ajitkumar et al. A Review On *Hedychium Spicatum* – Shati, International Ayurvedic Medical Journal ISSN: 2320 5091
 25. N M Reddy et al., *Solanum xanthocarpum* Chemical Constituents and Medicinal Properties: A Review, Sch. Acad. J. Pharm., 2014; 3(2): 146-149
 26. Salim D. Gohel, et al. A comparative study on efficacy of Bharangyadi Avaleha and Vasa Avaleha in the management of Tamaka Shwasa with reference to childhood asthma Ayu. 2011 Jan-Mar; 32(1): 82–89. doi: 10.4103/0974-8520.85736, PMID: PMC3215424
 27. Sateesh kumar et al, Asthma: alternative management approaches, Asian Journal of Pharmaceutical and Clinical Research, Vol. 4, Issue 1, 2011
 28. Sheela Kumar et al. Some important medicinal plants used in the treatment of asthma - a review International Journal of Pharma Sciences and Research (IJPSR), Vol 3 No 10 Oct 2012
 29. A.Tarai et al, Antiasthmatic Effect of *Glycyrrhiza glabra* against Histamine Induced Bronchospasm in Guinea Pigs, International Journal of Pharmaceutical and Phytopharmacological Research, 2013, 2(5): 389-390
 30. Yadav S et al. Anti-inflammatory activity of Shirishavaleha: An Ayurvedic compound formulation. Int J Ayurveda Res. 2010 Oct-Dec; 1(4): p.205–207
 31. Duggishrishail, et al Turmeric: Nature’s Precious Medicine. Asian Journal of Pharma and Clinical Research, Vol 6, Issue 3, 2013, 10-16
 32. Suja RS et al. Evaluation of immunomodulatory potential of *Embllica officinalis* fruit pulp extract in mice. Indian Journal of Animal Research 2009;43: 103-106.
 33. Panda A et al, Clinical efficacy of herbal Padmapatradi yoga in bronchial asthma (Tamaka shwasa) J Ayurveda Integr. Med. 2011 Apr-Jun; 2(2): p 85–90.
 34. Chaturvedi GN et al. Clinical Studies On *Hedychium Spicatum*: An Antiasthmatic Drug. J Res Indian Med 1975; 10(2): 6.
 35. G.P.Choudhary, mast cell stabilizing activity of *Inula racemosa linn*. International journal of research and reviews in pharmacy and applied science2 (4).630-636
 36. K.V.R.S.S.Ramgopal et al, Critical Review Of Herbs Acting On Pranavaahasrotovikar, international journal of ayurveda and pharma research, 2013; 1(3): 19-26
 37. Sai Krishna. G, et al. “Tulsi” The Wonder Herb (Pharmacological Activities of *Ocimum sanctum*), American Journal of Ethnomedicine, 2014, Vol. 1, No. 1, 089-095
 38. Choudhary GP et al. Mass cell stabilizing activity of *Piper longum* Linn. Indian Journal of Allergy and Asthma Immunol. 2006; 20: 112-116.
 39. Chauhan Khushbu et.al, Phytochemical and therapeutics Potential of *Piper longum* Linn –A Review, IJRAP, 2011, 2 (1) 157-161
 40. Scientific basis for Ayurvedic therapies edited by lakshmi C. [www.progenresearchlab.com/.../Scientific%20basis%20for%20Ayurvedic asses on 10/1/15](http://www.progenresearchlab.com/.../Scientific%20basis%20for%20Ayurvedic%20asses%20on%2010/1/15)

Cite this article as:

Sonam Yadav & Mithilesh Verma. Efficacy of common herbal medicines in Tamak shwasa: A review. Int. J. Res. Ayurveda Pharm. 2018;9(3):151-154 <http://dx.doi.org/10.7897/2277-4343.09381>

Source of support: Nil, Conflict of interest: None Declared

Disclaimer: IJRAP is solely owned by Moksha Publishing House - A non-profit publishing house, dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. IJRAP cannot accept any responsibility or liability for the site content and articles published. The views expressed in articles by our contributing authors are not necessarily those of IJRAP editor or editorial board members.