



SYSTEMATIC REVIEW ON AYURVEDA MANAGEMENT OF *TAMAKA SHWASA*

Manimendra Sashini Piumika^{1*}, OTMRKSB Kalawana²

¹BAMS Scholar, Institute of Indigenous Medicine, University of Colombo, Rajagiriya, Sri Lanka.

²Senior Lecturer II, Institute of Indigenous Medicine, University of Colombo, Rajagiriya, Sri Lanka.

***Corresponding Author: Manimendra Sashini Piumika**

BAMS Scholar, Institute of Indigenous Medicine, University of Colombo, Rajagiriya, Sri Lanka.

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ABSTRACT

A systematic review attempts to collect all empirical evidence which fits pre-specified eligibility criteria in order to answer a specific research question. *Tamaka shwasa* is a very broad term in Ayurveda, which includes many more symptoms where dyspnea is predominant and it is correlated with Bronchial Asthma. Aim of this study was to assess the methodological quality of researches, on efficacy and methods that used for the management of *Tamaka shwasa* in Ayurveda aspect. In this study EMBASE, MEDLINE, AMED, PubMed were screened which published from September 2019 to February 2020. Randomized clinical trials were considered if they investigated any type of Ayurveda management of *Tamaka shwasa*. The five point of Jadad scale was used to assess methodological quality of studies. As a result, 56 Randomized clinical trials (RCT) met inclusion criteria. Only one study completed the score range five among them. One study was scored 4 and 2 studies were scored 3 points on Jadad scale. 11 were scored as 2, 33 were scored 1 point and 8 were unable to score any point. According to the treatment procedure *Shamana karma* were used in 88% of included randomized controlled trials. It can be concluded that Ayurveda management has potential effect on symptoms of *Tamaka shwasa*. There were many researches done regarding this topic, but RCTs were few (54%). Among them 4 RCTs were of high quality (≥ 3 in Jadad score) and 52 RCTs were of low methodological quality (≤ 2 in Jadad score). So methodologically large proportion (98.2%) of them were failed according to the Jadad score. Hence, further RCTs concerning Ayurveda management of *Tamaka shwasa* should be conducted according to a recommended standard methodological process to maintain a higher quality and for global acceptance.

KEYWORDS: Ayurveda, Bronchial asthma, Jadad score, Systematic review, *Tamaka shwasa*.

INTRODUCTION

In Ayurveda, there are many diseases which take a great toll of life but not to the extent of *Shwasa* and *Hikka*. The severity of *Shwasa roga* is emphasized by Acharya Charaka thousands of years back. *Tamaka shwasa* is one of the five types of disease *Shwasa roga*, i.e. *Maha shwasa*, *Urdavashwasa*, *Tamaka shwasa*, *Chinna shwasa*, *Kshudra shwasa* and it is mainly a disease of *Pranavaha srotas*.^[1] The word *Tamaka shwasa* consists of two words, *Tamaka* means Fainting/Darkness in front of eyes and *Shwasa* refers to breath. Attack of the disease precipitates during night and during the state of attack dyspnea becomes so severe that the patient feels entering into the darkness. *Shwasa* is the function of *Prana vayu*, in *Tamaka shwasa* this physiological respiration is impeded due to vitiation of *Pranavaha srotas* & *Annavaha srotas* by aggravated *Vata* & *Kapha* especially in *Urahpradesha* (Thoracic region). The signs, symptoms and etiopathogenesis of Bronchial asthma explained in modern science which is characterized by paroxysms of dyspnea, accompanied by wheezing resulting from narrowing of bronchial airways by muscle spasm,

mucosal swelling or viscid secretion, have a lot of similarities with the disease entity *Tamaka shwasa*.

Bronchial Asthma is a major global health problem, which can affect the population irrespective of age, sex, economic status, etc. Current estimates suggest that 300 million people worldwide suffer from asthma and an additional 100 million may be diagnosed with asthma by 2025.^[2] So management of this condition is very much essential.

In every year around two million research articles are published in biomedical journals all over the world. In both electronic as well as printed. Even in specialty areas it is impossible to keep all relevant new information practically, in this situation systematic reviews hold a key position to summarize the state of actual knowledge. A systematic review summarizes the results available from carefully designed healthcare (controlled trials) studies and providers of healthcare interventions. Judgments may be made about the evidence and inform recommendations for health care.

Considering knowledge about the “Ayurveda management of *Tamaka shwasa*” is more helpful to health care services, drug manufactures, therapists and other health care providers. And also doing systematic review, analyzing the result (such as percentage of cure, adverse effects, validity of the treatment and time that required to cure...etc.)And giving beneficial output, people may force to studying these things and also they may inferred more broadly than individual studies the condition.

MATERIALS AND METHOD

It was conducted under four steps.

1. Search strategy: Online and hand searches were the basic tools of this systematic review based on Ayurveda management of *Tamaka shwasa*. Research papers which related to Ayurveda management of *Tamaka shwasa* were searched using bellow key words and sources from September 2019 to February 2020.

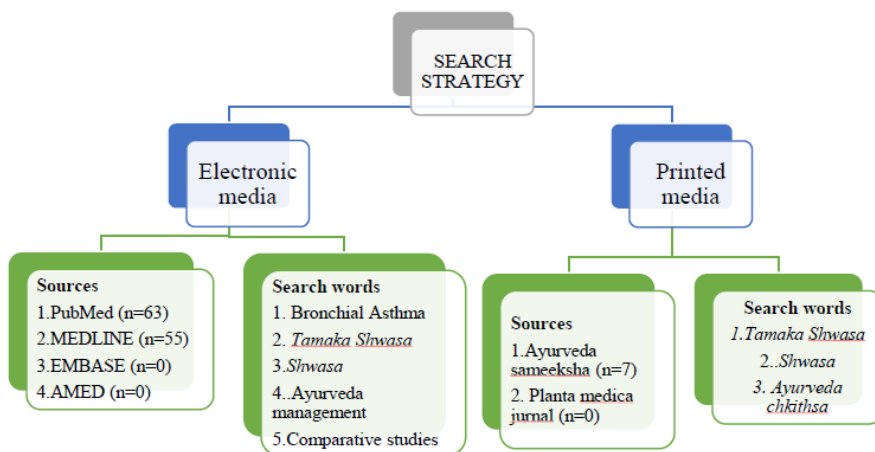


Fig. 1: Description of search strategy.

2. Data recording: Identified articles were arranged in MS Excel sheet and proper recording system was used for record each data while collecting. Data screening were done by using those tables.

3. Eligibility assessment and inclusion: Across all categories of research articles, only Randomized controlled Clinical trial based research studies were eligible to further qualitative and quantitative assessment. (Figure 01)

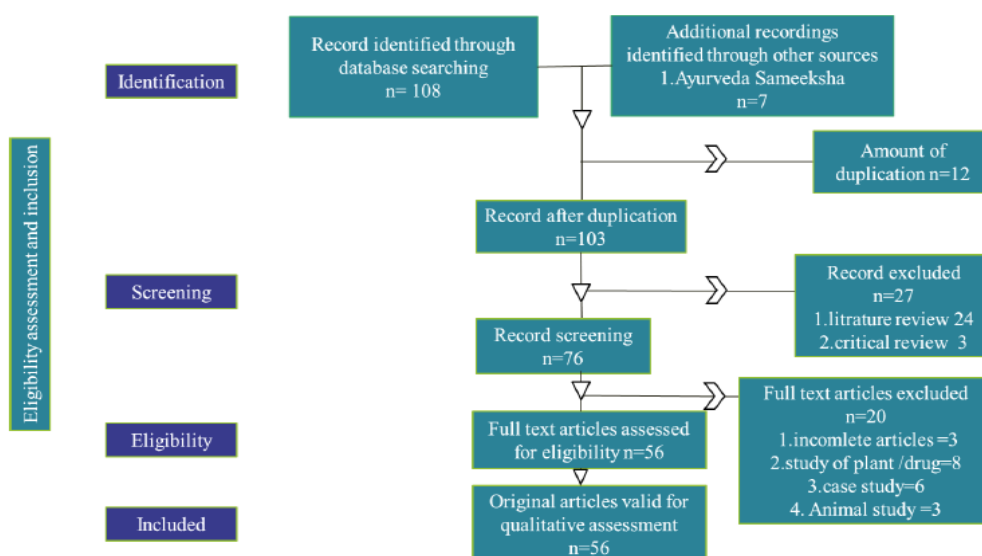


Fig. 2: Eligibility assessment and inclusion method.

4. Data synthesis: For each study, trail design, randomization, blinding, dropout rate, inclusion and exclusion criteria details of treatment method and control groups, main results were extracted from collected data

and entered into per structural tables (Table 01). Statistical analysis will be done using five point JADAD SCORE and summarized the results regarding to the topic.

Table 1: Pre structural table relevant to the “Jadad score”.

Name of the research	Randomization	Double blinding	Description of randomization	Description of double blinding	Description of withdrawals	Total point

Points are awarded as follows, Study described as randomized, 1 point; Double blinding, 1 point; description of randomization, 1 point; Description of double blinding, 1 point; Description of withdrawals, 1 point.

OBSERVATIONS AND RESULTS

1. Observation and results based on methodological assessment

One hundred and three research articles were founded on Ayurveda management of *Tamaka shwasa* in search strategy. But only 56 (54%) researches were Randomized controlled trials (RCTs). Distribution of search strategy mention bellow (Fig. 3)

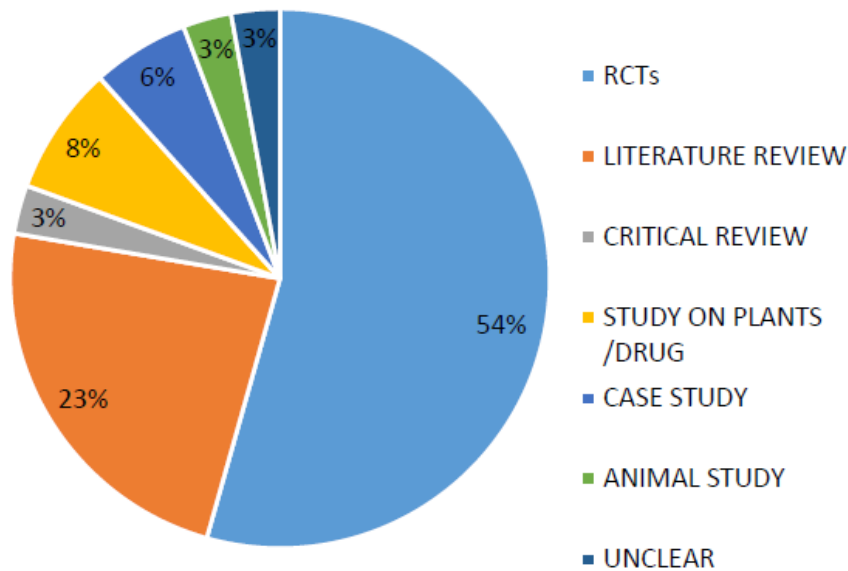


Fig. 3: Distribution of search strategy.

Methodological quality of above 56 clinical trial based researches which were eligible in search strategy under the topic of Ayurveda management of *Tamaka shwasa*

were assessed by 5 point jaded score and obtained the results (Fig. 4).

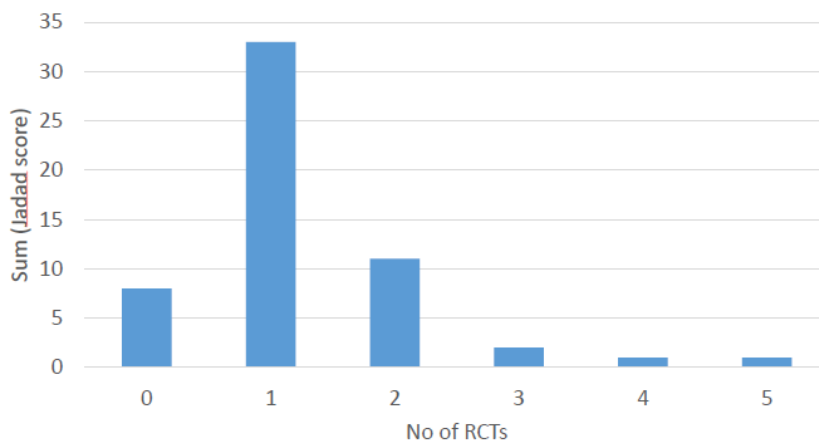


Fig. 4: Final outcome of Jadad score.

2. Observation and results based on treatment procedures of researches.

Ayurveda aspect of management of *Tamaka shwasa*,

Vrihatraya were mentioned in detail description of line of treatment. Considering above 56 of RCTs they were assessed according main treatment procedure. Mainly

categorized in to 2 types of management (Fig.5). 87.5% studies were conducted by using *Shamana karma* for

management of the disease with using different pharmacological preparations.

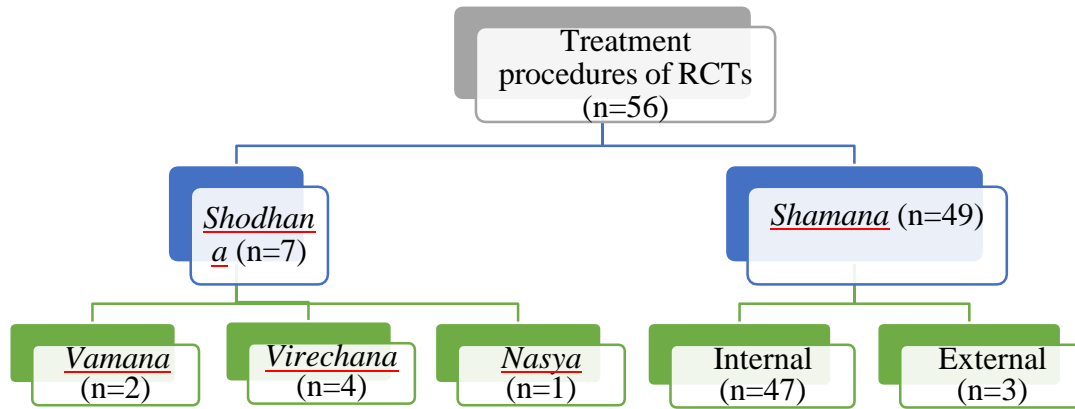


Fig. 5: Management methods.

DSSCUSSION

Ayurveda management of *Tamaka shwasa* concluded that various principles of Ayurveda and many a formulations can be used according to *Roga & Rogi Bala*, during *Vegavastha & Avegavastha* and as per palatability of the patient for free flow of *Prana vayu* so that *Srothorodhais* removed and free flow of *Prana Vayu* may occur thereby curing the attack of disease *Tamaka shwasa*,^[3] it was unsystematic and failed to include the totality of the available data. Different clinical studies were based on different formulas and methods, however, it was burdened with highrisk of bias due to low quality of the included studies, lack of high quality RCTs, a critical assessment of the methodology. The purpose of the present review to critically evaluate the totality of the evidence from RCTs for or against the effectiveness of

Ayurveda treatment on managementof *Tamaka shwasa*.

The Jadad score is often used to assess the methodological quality of controlled trials. Studies are scored according to the presence of three key methodology features of clinical trials, specifically randomization, masking and accountability of all patients including withdrawal (Fig. 6). One point is added for a “yes” answer to each of the five items and one point is subtracted for a “yes” answer to either of the last two items for an overall score from 0-5. Its short length and ease of use remain as attractions. The 3 feature brevity given the least responder burden displays the items used in calculating the Jadad score, along with their guidelines for assessment. Any study which obtain ≥ 3 point consider as high methodological quality trial and which obtain ≤ 2 consider as low methodological quality trails.^[4]

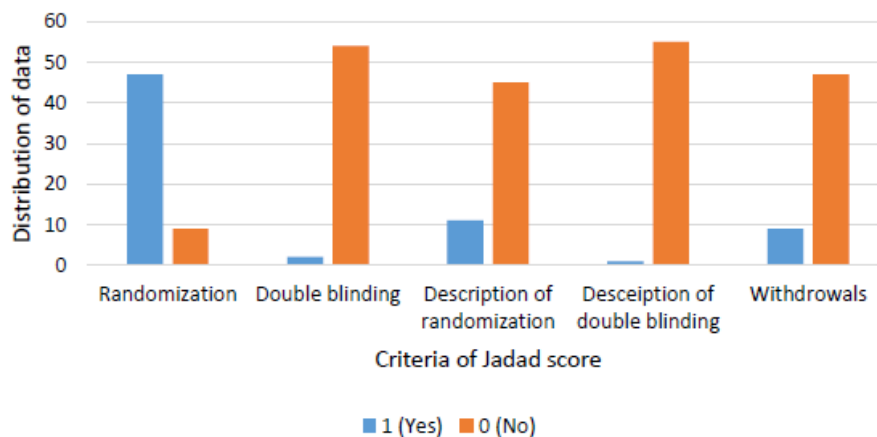


Fig. 6: Primary outcome of Jadad score.

Considering methodological quality assessment, it is very much important to use internationally recognized way to randomize the control groups. Included studies were used different methods like this (Fig.7).

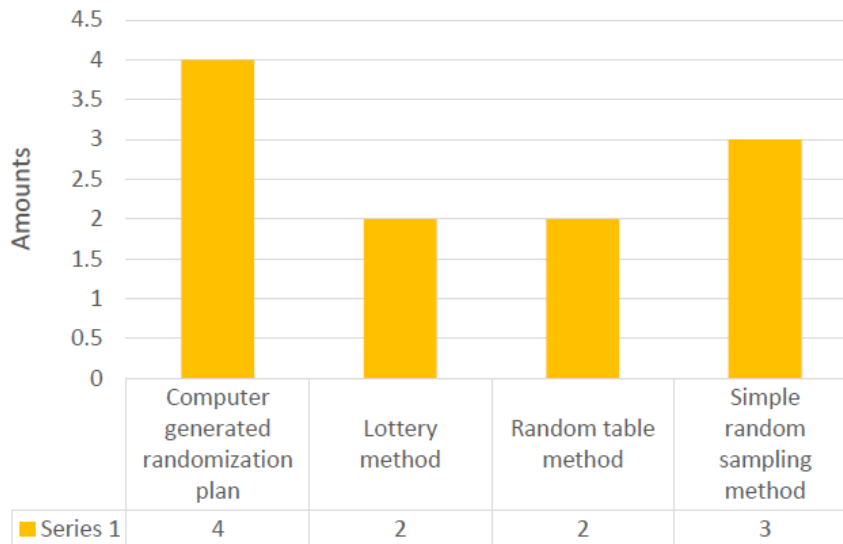


Fig. 7: Randomization methods used by 9 RCTs in this study.

Regarding final outcome of methodological analysis, there were only 4 studies can consider as high methodological quality studies on topic of Ayurveda management of *Tamaka shwasa*. (Table2)

By considering included 56 RCTs 100% gave significant improvement on symptoms of disease by using *Shodhana* and *Shamana* treatment procedures. *Shamana* involves the usage of a strict *Pathya*, *Doomapana*, and

Leha etc. Drugs, foods and drinks having *Ushana guna*, which acts as *Kapha Vatagna* and *Vatanulomana*, should be administrated to *Tamaka shwasa*. Majority researches were done by giving compound preparations as *Shamana karma*, 49 out of included RCTs were done their researches under *Shamana karma* by using various Ayurveda formulas. So it mean Ayurveda management have good validity and reliability on reducing asthmatic symptoms.

Table 2: Details of highest scored Randomized controlled trials.

First author year	Study design	Characteristics of participants (n)	Experimental intervention	Control intervention	Primary outcome measures for asthmatic symptoms	Main result	Jadad score
HAMEET KAUR 2018 ^[5]	Double blind RCT with 2 parallel groups	66 patients with Bronchial asthma	28 days of trial drug, 10g twiceday before meal with lukewarm water	Diet and lifestyle modification	BHT PEFR/AEC	Significant improvement of disease condition (p<0.001). <i>Shirishawaleha</i> prepared by <i>kanji</i> give best results than water.	5
SHIPA P.KARANDE 2017 ^[6]	Double blind randomized with 2 parallel groups	60 patients with mild to moderate persistent bronchial asthma	6 month of <i>Swasawin</i> asthaloc tablet 600mg twicedaily before meal with lukewarm water	No intervention	BHT PEFR Ayurveda asthma symptoms score & asthma symptom score	Significant improvement of asthma symptoms (p <0.001)	4
ANUROOPA H.K 2016 ^[7]	RCT with 2 parallel groups	30 patients with Bronchial asthma	21 days of 125mg <i>kapha kethu rasa</i> with <i>ardraka swarasa</i> twice daily before meals and 21 days followed more.	No intervention.	PEFR	Highly significant improvement of both subjective & objective parameters.	3
REENA KULAKARNI 2017 ^[8]	RCT with 2 parallel groups	26 patients aged up to 12yrs	3 months of <i>Vrisha ghruta</i> in divided dosage of 5-15ml twice daily with honey.	No intervention	AEC PEFR Subjective parameters	Significant in combating the clinical manifestation of <i>Tamaka shwasa</i> (p<0.01)	3

This systematic review has several limitations. Firstly the potential incompleteness of the reviewed evidence, secondly publication and location biases may also influence the result of this study. Thirdly total number of trials included in this review and analysis and sample size are small to allow definitive judgments. Fourthly, incredibility of some databases and limitation of time to collect data as there may be many publications. However this systematic review strengths either, including the comprehensive search strategy, the inclusion of only the RCTs which use of Ayurveda treatment measures for management of *Tamaka shwasa*.

CONCLUSION

Ayurveda treatment procedure has been interpret positive intervention for managing *Thamaka shwasa*. Also there were many researches published regarding Ayurveda management of *Tamaka shwasa*. But they were not conducted in standard methodological process. So that, further RCTs concerning Ayurveda management of *Tamaka shwasa* should be designed and conducted according to a recommended standard methodological process to maintain a higher quality as well as for global acceptance. In particular studies should be of adequate sample size based on power calculations, use validated outcome measures, control for non-specific effects and minimize other threats to internal and external validity such as lack of blinding of outcome assessors.

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