



Research Article

**INTEGRATED APPROACH IN THE MANAGEMENT OF BRONCHIAL ASTHMA: A RETROSPECTIVE ANALYSIS**

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**ABSTRACT**

Bronchial asthma is a widely occurring respiratory tract disorder with a poor quality of life, associated with adverse reactions and many achieve incomplete cure. Recently, an integrated approach of allopathy with lifestyle management, psychosocial approaches and evidence based complementary medicine has been promoted in the management of bronchial asthma. Hence, the present study was undertaken to evaluate the same.

**Methods:** The present study was a retrospective analysis of patients diagnosed as asthmatics who were being managed through integrated approach that includes a combination of ayurvedic drugs, lifestyle management and the allopathic agents. The ayurvedic drugs include the respiratory tonics and naturally occurring bronchodilators such as *Shwaskaschintamani*, *Shwaskuthar ras*, *Vasakasavam*, *Vasavleham*, *Mahalaxmivilas rasa*. The allopathic drugs include short and long-acting beta-2 agonists and inhalational corticosteroids depending on the intensity of bronchial asthma.

**Results:** A total of 36 children and 71 adults were identified as asthmatics with a median (range) age (in years) of 8 (2-13) and 46 (18-64). A significant resolution of all the symptoms except for hyperacidity was observed at all the follow-up periods as compared to the baseline ( $P < 0.05$ ).

**Conclusion:** A holistic approach of adding alternative therapies to the conventional pharmacotherapy offers the asthmatic patients a potential to safely control their symptoms in Indian patients.

**KEYWORDS:** Ayurveda, Bronchial asthma, Polyherbal preparations, Complementary and Alternative medicine.

**INTRODUCTION**

Bronchial asthma is a widely occurring respiratory tract disorder with a prevalence of 5-15% and a total of 15-20 million asthmatics in the country.<sup>[1,2]</sup> A poor quality of life has been reported in individuals with bronchial asthma in India.<sup>[3]</sup> The parents of asthmatic children have also been found to have a poor quality of life.<sup>[4]</sup> Despite the presence of many effective allopathic medicines for managing the disease, their side effects are of major concern especially when used for long-term.<sup>[5]</sup> Hence, recently an integrated approach of allopathy with lifestyle management, psychosocial approaches and evidence based complementary medicine has been promoted in the management of bronchial asthma.<sup>[6]</sup> Our hospital is a tertiary care centre and we recently started implementing this

integrated approach for treating bronchial asthma. Considering its infancy stage, hardly any studies have been performed to determine the usefulness of integrated approach, especially in Indian set up. Hence, we did a retrospective analysis of drug-naive patients with bronchial asthma who underwent management with the integrated approach in our institute.

**METHODS**

The present study was a retrospective analysis of those patients diagnosed to have bronchial asthma who were being managed through integrated approach between December 2013 and June 2014 in the Ayurveda outpatient department in Bhakti Vedanta Hospital and Research Institute. The study was commenced

after obtaining institutional ethics committee approval and a waiver was obtained for informed consent. The integrated approach of management includes the combination of ayurvedic drugs, lifestyle management and allopathic agents. The ayurvedic drugs include the respiratory tonics and naturally occurring bronchodilators such as *Shwaskaschintamani*, *Shwaskuthar ras*, *Mahalaxmivilas rasa* (1 gram of Rasa medicines for 1 month in divided doses), *Vasakasavam* (1-10 ml twice a day) and *Vasavleham* (2-10 gram twice a day). As per subjective treatment, *Prakriti abd dosha* imbalance, any one or all medicines were used. Treatment modification (dose changes) was done on age but also was based on Dushya (Tissue affected), *Desham*, *Bala* (Immunity), *Kalam* (Time or seasonal change), *Analam* (Agni digestive fire), *Prakriti* (Nature). The allopathic drugs include short and long-acting beta-2 agonists and inhalational corticosteroids depending on the intensity of bronchial asthma. The lifestyle changes include standard dietary patterns to be followed (avoid fermented, stored, cold food items) and a regular sleep pattern. The presenting symptoms were classified into various categories such as wheeze, cough,

dyspnoea, sleep disturbance, hyperacidity and cold. All the patients who underwent integrated therapy were asked to follow up at 15 days, 1 month and 3 months following the initiation of therapy. Patients were classified into children (aged < 12 years) and adults (12 years and above). Descriptive statistics was used for analyzing the demographic details and Cochran Q test was used for analyzing the significance of resolution of each of the presenting symptoms in these patient categories. Normality of the continuous variable was ascertained using Kolmogorov-Smirnov test and non-normal data were represented using median (range).

## RESULTS

A total of 36 children and 71 adults were identified as asthmatics with a median (range) age (in years) of 8 (2-13) and 46 (18-64). Table 1 and 2 depict the total number of individuals with various symptoms of asthma and their resolution at the follow-up periods in paediatric and adult population. A significant resolution of all the symptoms except for hyperacidity was observed at all the follow-up periods as compared to the baseline ( $P < 0.05$ ).

**Table 1: Number of children with each symptom at different time points**

Symptoms	Baseline	First follow-up (15 days)	Second follow-up (1 month)	Third follow-up (3 months)
Wheeze*	36	1	1	1
Cough*	13	7	1	1
Dyspnea*	9	3	1	0
Disturbance of sleep*	4	1	1	0
Hyperacidity	2	1	1	0
Cold*	10	5	1	1

\* -  $P < 0.05$  (significant)

**Table 2: Number of adults with each symptom at different time points**

Symptoms	Baseline	First follow-up (15 days)	Second follow-up (1 month)	Third follow-up (3 months)
Wheeze*	29	0	0	0
Cough*	79	14	2	0
Dyspnea*	33	8	3	0
Disturbance of sleep*	49	2	0	0
Hyperacidity	2	0	0	0
Cold*	71	8	2	0

\* -  $P < 0.05$  (significant)

## DISCUSSION

The present study was a retrospective analysis of patients diagnosed to have bronchial asthma who were managed through integrated approach in a tertiary care hospital. We found a

significant improvement of all the patients with this therapy.

Bronchial asthma is a widely prevalent respiratory tract disorder with limited options available in the allopathic system of medicine.

The WHO has estimated that 16 million disability-adjusted life-years are lost annually due to asthma, representing 1% of the total global disease burden. It is a public health problem not just for high-income countries; it occurs in all countries regardless of the level of development.<sup>[7]</sup> A recent study by Kotwani *et al.* revealed the presence of wide gaps between the desirable and the actual management-practices on asthma in Indian set up.<sup>[8]</sup> The authors found an unsatisfactory patient-doctor contact, as well as poor knowledge about asthma and its management amongst patients. A cross-sectional study from an Indian metropolitan city revealed that majority of the asthmatic patients were administered short-acting beta-2 agonists (100%) and anticholinergics (80%) followed by inhalational corticosteroids (71%) and theophylline (5%).<sup>[9]</sup> Around 15% of the individuals experienced adverse effects in the form of palpitation, tremors, vomiting and dry mouth to the allopathic medicines. Hence, there is a need for using alternate systems medicinal systems for managing bronchial asthma.

Ayurveda, the great indigenous system of medicine of India refers to bronchial asthma as *Tamaka Swasa* and contributes several modalities of treatment for the same.<sup>[10]</sup> Although individual herbs have shown good amount of efficacy, polyherbal combinations are found to be well-accepted, safe and effective in asthma.<sup>[11]</sup> Polyherbal preparations cause target the multiple components of the disease pathway. Many ayurvedic agents such as *Shwaskaschintamani*, *Shwaskuthar ras*, *Vasakasavam*, *Vasavleham*, *Mahalaxmivilas rasa*, *Nidigdihikadi kvatha* and *Padmapatradi yoga* have been shown to be effective in the control of asthmatic attacks.<sup>[12,13]</sup> In the same study, it was also observed that around 17% of the individuals were also using alternative medicine. In the present study we have carried out an integrated approach of combining both the ayurvedic agents with allopathic system of medicine along with lifestyle alterations. Despite inadequate literature on the possible interactions between the ayurvedic drugs used in the study with allopathic agents, we did not observe any adverse drug reactions. Although there were no previous studies with such approach of allopathic drugs with ayurvedic agents, a study combining yoga with ayurvedic drugs for treating bronchial asthma has shown a significant improvement in the ventilation parameters.<sup>[14]</sup>

This is the first study reporting the usefulness of an integrated approach for managing bronchial asthma from India to the best of our knowledge. However, the study is also limited in being a retrospective analysis, small number of study participants, and absence of any control group and objective measures of the disease without quality of life of the patients. The findings of this study have to be confirmed in large population based studies.

To conclude, a holistic approach adding alternative therapies to the conventional pharmacotherapy offers the asthmatic patients a potential to safely control their symptoms in Indian patients.

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