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Effects Of Bronchial Asthma In Adults Through Naturopathic Managemen: A Single Case Study

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ABSTRACT:

Background: Chronic airway inflammation and elevated airway hyperresponsiveness, which cause wheezing, coughing, and dyspnea, are hallmarks of bronchial asthma. Numerous environmental and genetic factors are implicated. The knowledge and evidence on the combined effect of Naturopathy and yoga on bronchial asthma is limited. The purpose of this study was to assess how yoga's naturopathic benefits would lessen bronchial asthma..**Materials and Methods:** Sree Ramakrishna Medical College of Naturopathy and Yogic Sciences and Hospital, situated in Kulasekharam, Tamil Nadu, India, is where the study was conducted. A single case study was presented. Verbal consent was obtained when the goal of the study was explained. Over the course of 21 days, the investigation was carried out. The six-minute walk test, the rate of perceived exertion (RPE), the rate of perceived dyspnea (RPD), and the recording of frequent symptom changes are the parameters of the study. **Results:**The data analysis was conducted using JASP software version 0.95.0. It is clear that a significant decrease in bronchial asthma was achieved by the combination of naturopathy and yoga treatments. The combined naturopathic and yoga therapies clearly reduced the symptoms of exertion (RPE) (t 6.776, p-value < 0.001) and dyspnea (RPD) (t 7.266, p-value < 0.001). **Conclusion:** Given the benefits of the therapies that yoga and naturopathy offer, it would be prudent to add them to conventional treatment regimens in order to efficiently manage bronchial asthma symptoms and reduce the side effects of drug use. Yoga and naturopathy utilize a lifestyle that integrates diet, yoga, and naturopathic practices to prevent and treat bronchial asthma by reducing its underlying cause.

Keywords: Bronchial asthma, Breathlessness, Breathing difficulty,Wheezing,Mucus hyper secretion,Airway inflammation.

INTRODUCTION

Asthma is a long-term obstructive condition that affects the bronchi, causing inflammation, tightness in the chest, and broncho constriction. Both hereditary and environmental variables can have an impact on asthma, making it a complex disorder. The complicated pathophysiology of asthma includes bronchial hyperresponsiveness, occasional airflow restriction, and airway inflammation. The condition can cause symptoms like wheezing, coughing, shortness of breath, and chest tightness[1]. Asthma is not usually excluded by the absence of wheezing, especially when it primarily affects tiny airways. Furthermore, a cough, particularly one that starts or gets worse at night, may be the only symptom. The hallmark of this respiratory disorder is airway inflammation, which results in bronchial hyperresponsiveness and occasional airflow blockage[2]. The principal aim of the study was to evaluate the effects of yoga and naturopathic therapies on the quality of life and symptom relief, including the reduction of breathing discomfort, in patients with bronchial asthma.

PATHOPHYSIOLOGY

There are two main forms of bronchial asthma: "extrinsic (atopic, allergic) bronchial asthma," which is caused by both hereditary and environmental factors and manifests symptoms only upon exposure to a particular allergen and starts in childhood. A key factor in the onset of clinical asthma is the activation of mast cells by cytokines and other mediators. Affected patients develop particular IgE antibodies after first inhaling allergens because the T-helper 2 subset of lymphocytes is overexpressed in comparison to the T-helper1 type. T-helper 2 cells generate cytokines, such as IL-4, IL-5, and IL-13, which stimulate eosinophilic and IgE responses in atopy. These particular IgE antibodies attach to mast cell and basophil receptors after they are generated. Histamine, prostaglandin D2, and cysteinyl leukotrienes are released as a result of the cross-linking of allergen-specific IgE antibodies on the mast cell surface, which occurs after further allergen inhalation[3]. Within minutes, this causes the smooth muscle in the airways to contract, perhaps activating reflex neuronal circuits. The contraction of airway smooth muscle, thickening of the airway wall due to edema, mucus plugging in the airways, and airway remodeling all contribute to different degrees of airflow obstruction, which results in the narrowing of the airway lumen throughout the tracheobronchial tree. Airway smooth muscle contraction and relaxation are triggered by mediators like histamine and leukotrienes, which are released from inflammatory cells or through reflex neuronal pathways. The exact process that causes hyperresponsiveness of the airways. Irreversible changes in the airways can result from airway remodeling, which includes thickening of the basement membrane, collagen deposition, and epithelial cell shedding. Lung function deterioration is accelerated by this process, especially in people with severe and early-onset asthma.

METHODOLOGY:

The study was carried out in Kulasekharam, Tamil Nadu, India, at the Sree Ramakrishna Medical College of Naturopathy and Yogic Sciences and Hospital. Participants in the study were 35-year-old female patients. After explaining the goal of the study, verbal consent was obtained. The study took place over a period of 21 days. The six-minute walk test, the rate of perceived exertion (RPE), the rate of perceived dyspnea (RPD), and the recording of frequent symptom changes are the parameters of the study. In addition to psychotherapy, mud therapy, hydrotherapy, and good diet and lifestyle management, patients receive these treatments. The volunteer was well-educated and helpful.

Criteria:

Consent was given verbally. 35 years old. Bronchial asthma in a female patient. In both Tamil and English, she should be able to read, write, and understand.

Study design:

Single case study ---> Pre assessment ---> Yoga and Naturopathy Intervention for 21 days ---> Post assessment---> Statistical analysis by JASP 0.95.0 version software and interpretation of results.

Methods: A single case study. The variables were used in pre-assessments conducted before the intervention and post-assessments conducted following the 21-day implementation.

Treatment protocol:

Yoga and naturopathic therapy were administered to the patient. These consist of yoga, mud therapy, hydrotherapy, and nutritional therapy. For 21 days, the following yoga and naturopathy program was followed. A naturopathic diet was recommended for the patient.

Diet Given to Patient:

DAYS	7.30AM	8.00AM	11.00AM	1.00PM	4.00PM	7.00AM
1	Tulsi ginger tea	Millet idly with sambar	Pineapple juice	Rice, dhal with boiled vegetables	GMP Tea	Chappathi with boiled vegetables
2	Lemon honey water	Oats with carrot	Pomegranate juice	Kichadi with boiled vegetables	GMP Tea	Millet dosa with Mint chutney
3	Honey water	Ragi malt with boiled vegetables	Amla juice	Vegetable soup, Rice,dhal with boiled vegetables	GMP Tea	Chappathi with boiled vegetables
4	Tulsi ginger tea	Millet idly with sambar	Pineapple juice	Rice, dhal with boiled vegetables	GMP Tea	Chappathi with boiled vegetables
5	Lemon honey water	Oats with carrot	Pomegranate juice	Kichadi with boiled vegetables	GMP Tea	Millet dosa with Mint chutney
6	Honey water	Ragi malt with boiled vegetables	Amla juice	Vegetable soup, Rice,dhal with boiled vegetables	GMP Tea	Chappathi with boiled vegetables
7	Tulsi ginger tea	Millet idly with sambar	Pineapple juice	Rice, dhal with boiled vegetables	GMP Tea	Chappathi with boiled vegetables
8	Lemon honey water	Oats with carrot	Pomegranate juice	Kichadi with boiled vegetables	GMP Tea	Millet dosa with Mint chutney
9	Honey water	Ragi malt with boiled vegetables	Amla juice	Vegetable soup, Rice,dhal with boiled vegetables	GMP Tea	Chappathi with boiled vegetables
10	Tulsi	Millet idly	Pineapple	Rice, dhal	GMP	Chappat

	ginger tea	with sambar	juice	with boiled vegetables	Tea	hi with boiled vegetables
11	Lemon honey water	Oats with carrot	Pomegranate juice	Kichadi with boiled vegetables	GMP Tea	Millet dosa with Mint chutney
12	Honey water	Ragi malt with boiled vegetables	Amla juice	Vegetable soup, Rice,dhal with boiled vegetables	GMP Tea	Chappathi with boiled vegetables
13	Tulsi ginger tea	Millet idly with sambar	Pineapple juice	Rice, dhal with boiled vegetables	GMP Tea	Chappathi with boiled vegetables
14	Lemon honey water	Oats with carrot	Pomegranate juice	Kichadi with boiled vegetables	GMP Tea	Millet dosa with Mint chutney
15	Honey water	Ragi malt with boiled vegetables	Amla juice	Vegetable soup, Rice,dhal with boiled vegetables	GMP Tea	Chappathi with boiled vegetables
16	Tulsi ginger tea	Millet idly with sambar	Pineapple juice	Rice, dhal with boiled vegetables	GMP Tea	Chappathi with boiled vegetables
17	Lemon honey water	Oats with carrot	Pomegranate juice	Kichadi with boiled vegetables	GMP Tea	Millet dosa with Mint chutney
18	Honey water	Ragi malt with boiled vegetables	Amla juice	Vegetable soup, Rice,dhal with boiled vegetables	GMP Tea	Chappathi with boiled vegetables
19	Tulsi ginger tea	Millet idly with sambar	Pineapple juice	Rice, dhal with boiled vegetables	GMP Tea	Chappathi with boiled vegetables
20	Lemon honey water	Oats with carrot	Pomegranate juice	Kichadi with boiled vegetables	GMP Tea	Millet dosa with Mint chutney
21	Honey water	Ragi malt with boiled vegetables	Amla juice	Vegetable soup, Rice,dhal with	GMP Tea	Chappathi with boiled

				boiled vegetables		vegetables

Treatment Protocol

DAYS	5.30AM	6.45AM	10AM	3.00PM
1	Yoga	Abdomen pack	Steam inhalation and Asthma pack	Neutral spinal bath
2	Yoga	Abdomen pack	Asthma bath, Mud application on abdomen	Hot arm and foot bath
3	Yoga	Abdomen pack	Massage with Steam bath	Neutral spinal bath
4	Yoga	Abdomen pack	Chest pack, Asthma bath, Mud application on abdomen	Hot arm and foot bath
5	Yoga	Abdomen pack	Steam inhalation and Asthma pack	Neutral spinal bath
6	Yoga	Abdomen pack	Asthma bath, Mud application on abdomen	Hot arm and foot bath
7	Yoga	Abdomen pack	Massage with Steam bath	Neutral spinal bath
8	Yoga	Abdomen pack	Chest pack, Asthma bath, Mud application on abdomen	Hot arm and foot bath
9	Yoga	Abdomen pack	Steam inhalation and Asthma pack	Neutral spinal bath
10	Yoga	Abdomen pack	Asthma bath, Mud application on abdomen	Hot arm and foot bath
11	Yoga	Abdomen pack	Massage with Steam bath	Neutral spinal bath
12	Yoga	Abdomen pack	Chest pack, Asthma bath, Mud application on abdomen	Hot arm and foot bath
13	Yoga	Abdomen pack	Steam inhalation and Asthma	Neutral spinal bath

			pack	
14	Yoga	Abdomen pack	Asthma bath, Mud application on abdomen	Hot arm and foot bath
15	Yoga	Abdomen pack	Massage with Steam bath	Neutral spinal bath
16	Yoga	Abdomen pack	Chest pack, Asthma bath, Mud application on abdomen	Hot arm and foot bath
17	Yoga	Abdomen pack	Steam inhalation and Asthma pack	Neutral spinal bath
18	Yoga	Abdomen pack	Asthma bath, Mud application on abdomen	Hot arm and foot bath
19	Yoga	Abdomen pack	Massage with Steam bath	Neutral spinal bath
20	Yoga	Abdomen pack	Chest pack, Asthma bath, Mud application on abdomen	Hot arm and foot bath
21	Yoga	Abdomen pack	Massage with Steam bath	Neutral spinal bath

Yoga Protocol:

S.NO	Yoga Pose	Rounds
1	Ardha Kati Chakrasana, Ardha Chakrasana, Tadasana.	3 rounds each, 10 minutes
2	Gomukasana,Tandasana,Shukasana,Ardha Matyndrasana,Vakrasana.	3 rounds each, 20 minutes
3	Matyasana,Shavasana.	3 rounds each, 5 minutes
4	Bhujangasana,Marjariasana.	3 rounds each, 5 minutes
5	Nadi Shuddhi Pranayama, Kapalpathi Pranayama,Cyclic Breathing.	3 rounds each, 20 minutes

Total Duration:1 hour

RESULTS

This study set out to evaluate the effectiveness of yoga and naturopathy in treating bronchial asthma. Data were gathered at the baseline and following the intervention. The results showed that breathing was uncomfortable. Both overall health improved and the severity of bronchial asthma has been reduced. One of the traits that has obviously improved is breathing discomfort. Version 0.95.0 of the JASP program was used for the data analysis. It is evident that bronchial asthma symptoms were considerably reduced by the combination of naturopathic and yoga treatments. Both the dyapnea (RPD) (t 7.266, p-

value < 0.001) and exertion (RPE) (t 6.776, p-value < 0.001) symptoms were clearly decreased by the combined naturopathic and yoga therapies.

Abbreviations:{COV- Coefficient of variation, SEM- Standard error of mean,SD- Standard deviation)

Table:1 Statistics for Samples:

	Mean	Variance	SD	COV	SEM	95% confidence Mean difference		df	t	P- value
RPE						Lower	Upper			
	1.524	1.062	1.030	0.676	0.225	1.055	1.993	20	6.776	< 0.001

Table:2

	Mean	Variance	SD	COV	SEM	95% confidence Mean difference		df	t	P-value
RPD						Lower	Upper			
	1.571	0.982	0.991	0.631	0.216	1.120	2.023	20	7.266	< 0.001

DISCUSSION

The main objective of the study was to evaluate the effects of yoga and naturopathic treatments on the quality of life and reduction of symptoms, including breathing difficulties, in bronchial asthma patients. The six-minute walk test, rate of perceived exertion (RPE), rate of perceived dyspnea (RPD), and frequent symptom changes were the parameters used in this investigation. People who suffer from bronchial asthma can benefit from a variety of treatments, including yoga and naturopathy. They are thought of as drug-free therapeutic approaches. These include yoga, nutrition counseling, hydrotherapy, and so forth. These techniques are the most effective for treating any pathological disease, whether it be acute or chronic. Holistic healing is the goal of naturopathy and yoga, as opposed to merely treating the underlying issue. In order to alleviate the symptoms of bronchial asthma, a naturopathic diet is necessary. Breathing pain can be considerably decreased by using hydrotherapy in the form of compresses and packs, such as an asthma bath or chest pack. Constipation can be considerably lessened by applying mud to the abdomen and abdominal pack. We can hypothesize that most symptoms of respiratory discomfort may be lessened by yoga and naturopathy. Nonetheless, the level of discomfort was lower on the twenty-first day than it was on the first. This could have been caused by a variety of factors, such as sudden changes in the surroundings, fasting, dietary adjustments, or withdrawal symptoms from tea and coffee consumption. However, compared to the first day, the degree of discomfort was less intense on the twenty-first day. The results showed that when utilized as an alternative treatment for bronchial asthma, the interventions offered were effective.

CONCLUSION

The positive effects of alternative medical systems on bronchial asthma are well-supported by prospective research. People with bronchial asthma are more likely to utilize stress-reduction strategies, hydrotherapy and mud therapy treatments, yoga, and a nutritious diet. Given the beneficial effects of the biotherapies covered by yoga and naturopathy, it would be wise to add them to conventional treatment regimens in order to reduce the side effects of medication use and to efficiently manage bronchial asthma symptoms.

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