

## Effectiveness of Breathing Exercises among Patients with Bronchial Asthma at MAPIMS

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### Abstract

A quasi experimental research design was adopted for the study, 30 bronchial asthma patients were selected by using non probability convenient sampling technique at Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research, Melmaruvathur, Kancheepuram District. The data were collected by using demographic variables, structured interview schedule about bronchial asthma and modified Borg's structured observation tool. The results revealed that the assessment and pretest mean were 63.1 with standard deviation of 8.72 and evaluation and post test mean were 83.7 with standard deviation of 9.23 for patients with bronchial asthma, statistically there was a significant improvement at  $P < 0.05$ . The improvement score mean were 20.60 with the standard deviation of 4.10 and the obtained 't' value was 27.53. The calculated value was more than tabulated value so accepted hypothesis. Comparing the pretest and posttest values with demographic variables, the associations were more. So breathing exercise was effective among bronchial asthma patients.

**Keywords:** Bronchial Asthma; Breathing Exercise; Demographic Variables.

### Background

Bronchial asthma is one of the most challenging respiratory disorders that concern the entire medical world. About more than 25 million people are suffering from bronchial asthma in India, and its prevalence condition is very high. Despite of increase understanding of the pathogenesis of asthma, there has been an increase in the morbidity and mortality due to bronchial asthma.

The prevalence of asthma increased significantly, in developed countries, during the second part of the 20th century. Cause for this increase is currently unknown.

According to medical expenditure survey, among 86.5% of asthmatic population uses some type of asthma medication. Asthma client need frequent

admission and embrace treatment and it cost approximately Rs.4000 per year for medication alone. Hospitalization rate differs, as the client gets admitted in government hospitals and private hospitals and also differ for the number of attacks per year. It affects school attendance, occupational choice; physical activities and other aspects of life. Asthma accounts for an estimated 3 million last days for children annually.

All India Medical Science and Technology, Delhi had conducted research on breathing exercise among bronchial asthma patients which showed that breathing exercise had dramatically improved the pulmonary status.

### Objectives

1. To assess the respiratory status of patients with bronchial asthma,
2. To evaluate the effectiveness of breathing exercises among the patients with bronchial asthma.
3. To find out the association between the demographic variables and effectiveness of breathing exercises among patients with bronchial asthma.

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## Methodology

### Research design

The quasi experimental research design was adopted for the study.

### Setting of the study

The study was conducted at Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research, Melmaruvathur, Kancheepuram District.

### Sample size

The sample for the study was 30 bronchial asthma patients.

### Sampling technique

Samples were selected by using non probability convenient sampling technique.

### Criteria for sample selection

Patients between the age group of 20 to 60 years, Both male and female patients with bronchial

**Table 1:** Frequency and percentage distribution of respiratory status among patients with bronchial asthma

S no	Respiratory status	Assessment		Evaluation	
		No	%	No	%
1.	Good	---	---	8	26.7
2.	Fair	28	93.3	22	73.7
3.	Poor	2	6.7	---	---

**Table 2:** Comparisons between mean and standard deviations score among patients with bronchial asthma

S no	Respiratory status	Mean	Standard deviation
1.	Assessment	63.1	8.72
2.	Evaluation	83.7	9.23

asthma, Patients who were willing to participate, Patients who can understand Tamil and English.

### Description of tool

*Section A* - Consist of demographic profile of the patients.

*Section B* - Consists of structured interview schedule about bronchial asthma and observation with modified Borg's structured observation tool.

## Results

The study revealed that during assessment phase 2(6.7%) bronchial asthma patients were in poor respiratory status 28(93.3%) patients were in fair respiratory status and during evaluation phase after receiving exercise 22(73.7%) of patients were in fair respiratory status and 8(26.7%) were in good respiratory status. So, breathing exercise was effective among bronchial asthma patients.

## Discussion

The major finding of the study were the majority of patients were male, illiterate, the income were

less than Rs 1000, most of the patients were from rural area and allergens with the grade of asthma for more than three years and with regular treatment, taking regular medications. They gathered information about the nature of disease and its treatment through the television and Newspaper.

The study finding showed that the assessment and pretest mean were 63.1 with standard deviation of 8.72 and evaluation and post test mean were 83.7 with standard deviation of 9.23 for patients with bronchial asthma, statistically there was a significant improvement at  $P < 0.05$  the improvement score mean were 20.60 with the standard deviation of 4.10 and the obtained 't' value were 27.53. The calculated value was more than tabulated value so accepted hypothesis. Hence it found that there were significant differences between pretest and posttest value among bronchial asthma patients. So breathing exercise was found to be effective for bronchial asthma patients.

### Implications

The findings of the study have implications in the field of Nursing practice, Nursing education, Nursing administration and research.

### Nursing practice

1. The nurse working in the hospital, clinical setting and in the community could administer multifactor pulmonary rehabilitation program for patients.
2. The nurse with the patients can teach breathing exercise as a health education program.

3. Breathing exercise program can be conducted for cotton mill workers, leather factory workers and who are all exposed to dust more to prevent asthma.

#### *Nursing education*

1. The study emphasis organizing short term courses, workshops, in service education and other program to nurses and other paramedical health workers with advanced knowledge of pulmonary rehabilitation. They could provide quality care to patients with pulmonary impairment.
2. The study stresses the importance of breathing exercise for bronchial asthma and need for public awareness regarding the breathing exercise as they intervention while caring for the patients with respiratory problems.

#### *Nursing administration*

1. Leaders in nursing are challenged to undertake health needs of the patients with bronchial asthma and while taking this problems need involvement of the family members and society in helping the patient to lead a modifiable and non modifiable life style and control risk factors of bronchial asthma.
2. The health care workers have responsible to provide patients education service as an integral part of high qualities, cost effectiveness care, respiratory care need necessary manpower and materials.
3. The nurse administrator should give special attention and proper selection and effective utilization of breathing exercise program.

#### *Nursing research*

The essence of research to build up a body of knowledge in nursing as it's evolving progression. The effectiveness of research can be made by further replication of the study. The study help the researcher to investigate further on the benefits of the breathing exercise with pulmonary diseases.

#### *Recommendations*

1. A similar study will be done with large samples.
2. A study could be done to determine the factors influencing and affecting patients' education.

3. A comparative study would be done between male and female patient.
4. A study could be done on knowledge and skill of the nurses regarding pulmonary rehabilitation program.
5. A similar study can be assessed by all pulmonary function values.
6. A study could be done to determine the effectiveness of teaching on the practice of self care activities.

#### **Conclusion**

The conclusions were drawn from the study, the breathing exercise programme were found to be effective among patients with bronchial asthma.

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