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A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING BREATHING EXERCISES AND RELAXATION TECHNIQUES AMONG ASTHMA IN A SELECTED HOSPITAL AT LUCKNOW

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Abstract: Asthma is a common chronic respiratory disorder characterized by airway obstruction and inflammation, which can severely affect quality of life. Breathing exercises and relaxation techniques are recognized as effective supportive measures to improve respiratory function and reduce stress among asthmatic patients. **Introduction:** Asthma is a significant health problem in developing countries like India, largely exacerbated by air pollution and urbanization. Effective non-pharmacological interventions such as breathing exercises can improve oxygenation, reduce symptoms, and promote patient well-being. This study was conducted to assess the effectiveness of a structured teaching Programme on knowledge regarding breathing exercises and relaxation techniques among asthma patients in a selected hospital at Lucknow. **Methods and Materials:** A pre-experimental one-group pre-test and post-test design was used. The study was conducted in selected hospitals of Lucknow among 60 asthmatic patients selected through non-probability purposive sampling. The data collection tool included a structured questionnaire divided into demographic data and knowledge assessment sections. A structured teaching Programme was administered, and post-test was conducted after seven days. **Results:** The results showed that before the intervention, the majority of patients had moderate to poor knowledge. Specifically, 3.33% had A+ and A grades, 10% had B+, 40% had B, 16.67% had C, and 26.67% had D grades. The mean knowledge score was 13.867 with a standard deviation of 5.848. A significant association was found between knowledge scores and selected demographic variables such as education, occupation, and family income ($P < 0.05$). **Conclusion:** The study concluded that the structured teaching Programme was effective in improving the knowledge of asthmatic patients regarding breathing exercises and relaxation techniques. Majority of patients showed improved understanding, which is crucial for better management of asthma.

IndexTerms - Asthma, Breathing Exercises, Relaxation Techniques, Structured Teaching Programme, Knowledge, Non-pharmacological Interventions.

INTRODUCTION

All living organism needs air for the survival. It's one of the basic psychological needs of the human beings. The psychological need of the human body is maintained by the respiratory system.[1] Our body needs a constant supply of oxygen to support the metabolic need.[2] The respiratory system brings oxygen through the airways of the lungs into the alveoli where it diffuses, into the blood for transport to the tissues. This process is so vital that difficulty in breathing is experienced as a threat of life itself. In developing countries like India air pollution is common due to industrialization. Air pollution is common causes for the respiratory problems. Chronic respiratory problems include asthma, chronic bronchitis, emphysema and cystic fibrosis. Asthma is the most common lung disease for which pulmonary rehabilitation is needed. Asthma is a lung disease characterized by airway obstruction, inflammation and increased responsiveness to a variety of stimuli. The airway obstruction may resolve spontaneously or with treatment. Some of patients it may not resolve completely. The clinical course of asthma is unpredictable ranging from paroxysms of dyspnea, wheezing and cough. This maybe mild, and difficult to detect to severe and unremitting symptoms such as status asthmatics. [3,4,5]

Breathing is a normal physiological process which maintains the vital function of the body. Breathing is a complex behaviour requiring the coordinated activity of several muscle groups, both in the upper airway and in the chest wall. The primary function of the respiratory system is the exchange of gases between atmosphere and blood. At the end of the last century Austrian physiologists

Breyer and Gering made a sensational discovery - Man is the only biological specimen on earth who had not developed a correct way of breathing.[6] All other beings know how to breath but not humans. Just observe those around you carefully and you will find that people breathe differently. Some breathe deeply others superficially, some faster, others slower, with pauses and some without.

The function of our respiratory system is not just to push air in and out but to maintain a very specific ratio of oxygen and carbon dioxide. When we over breath and hyperventilate, we loss valuable carbon dioxide. Hyper ventilation causes a depletion of carbon dioxide. Low levels of carbon dioxide in the organism cause blood vessels to spasm and also cause oxygen starvation of the tissues. The air that we breath contains 200 times less carbon dioxide that we need and 10 times more oxygen than we need[4]. The human respiratory system comprises lungs, airways and the respiratory muscles. It is primary function is exchange of gases to aid breathing. Respiration or breathing is the function of the respiratory system. Lungs are the vital organs of the respiratory system. There is a muscle located below the lungs known as the diaphragm. It also plays an important role in the process of respiration. During inhalation the diaphragm contracts, creating a vacuum that helps in pulling air into the lungs. On the other hand, during exhalation the diaphragm relaxes and helps in forcing the air out of the lungs. [7,8,9]

Breathing exercise is therapeutic exercises aimed to deep inspiration or expiration or even to alter the rate and rhythm of respiration. Breathing exercises help entire lung and keep chest muscles active. They allow to get more oxygen with each breath and to breathe with less effort. Breathing exercises also can reduce symptoms caused by anxiety and stress. Anxiety and stress increase the heart and breathing rates and increase the body's demand for oxygen. Learning to control breathing rate is a big benefit breathing exercises can improve performance during physical activity.[10]

OBJECTIVES OF THE STUDY

1) To assess the level of knowledge regarding breathing exercises among in asthmatic clients in selected demographic variables
2) To evaluate the effectiveness of structured teaching Programme on breathing exercises among asthmatic clients.
3) To find out the association between the knowledge score along with their selected demographic variables.

HYPOTHESIS

H01- There will be no significant difference between pre-test and post-test knowledge scores regarding breathing exercises among Bronchial Asthma Patients.

H02- There will be no association between pre-test knowledge scores and socio-demographic variables regarding breathing exercises among bronchial asthma patients.

METHODOLOGY

1. **REASEARCH APPROACH:** Research approach indicates the procedure for conducting the study. Descriptive and evaluative approach was used in the study.

RESEARCH DESIGN

Research design is an investigators overall plan for obtaining answers to the research question or for testing the research hypothesis. Pre experimental one group pre-test and post-test.

1. **SETTING OF THE STUDY:** Selected Hospitals at Lucknow
2. **POPULATION:** Asthmatic Patients
3. **SAMPLE SIZE:** In the present study the sample consists of 60 Asthmatic patients in selected Hospital at Lucknow.
4. **SAMPLING TECHNIQUES:** Non probability purposive sampling technique

CRITERIA

INCLUSIVE CRITERIA

I. Both male and female patients.
II. Those who are available during the data collection time

EXCLUSIVE CRITERIA

I. Those who are willing to do participate.
II. Those who are available during the study time.
III. Those who have recently visit in OPD.

DESCRIPTION OF TOOL

The tool was organized into two parts:

I. **Section A:** Demographic Data
I. **Section B:** Structured questionnaire

Programme were given and after 07 days again post-test questionnaire was conducted so the result show after completing the both test it was found that structured teaching Programme was effective.

RESULTS

The study was conducted among 60 asthmatic patients to assess their knowledge regarding deep breathing exercises and relaxation techniques before and after a structured teaching programme.

Distribution of Knowledge Levels

Table 1 shows the frequency and percentage distribution of knowledge levels among the participants. It was found that only 2 (3.33%) patients had excellent knowledge (Grade A+), and 2 (3.33%) patients had very good knowledge (Grade A). About 6 (10%) patients had good knowledge (Grade B+), and the majority, 24 (40%), had moderate knowledge (Grade B). Furthermore, 10 (16.67%) patients had poor knowledge (Grade C), while 16 (26.67%) patients had very poor knowledge (Grade D).

Level of knowledge	Frequency (F)	Percentage (%)
A+	2	3.33
A	2	3.33
B+	6	10
B	24	40
C	10	16.67
D	16	26.67
TOTAL	**60**	**100**

Table 1: Frequency distribution of level of knowledge on deep breathing exercises among asthmatic patients (N=60)

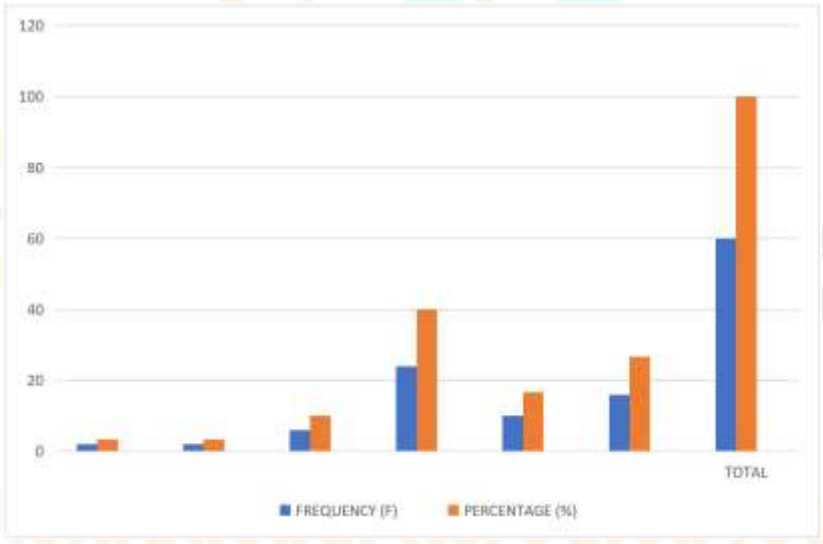

Fig 1: Percentage distribution of level of knowledge regarding deep breathing exercises on asthmatic patients.

Mean and Standard Deviation of Knowledge Score

The mean knowledge score of the asthmatic patients was **13.867**, with a standard deviation of **5.848**, indicating a moderate level of overall knowledge regarding deep breathing exercises and relaxation techniques.

LEVEL OF KNOWLEDGE	MEAN	SD
Asthmatic Patient	13.867	5.848

Table 2: Mean and standard deviation of knowledge score among asthmatic patients (N=60)

Vital Findings

- The majority of asthmatic patients (40%) demonstrated moderate knowledge (Grade B) regarding breathing exercises.
- Only 6.66% (Grades A+ and A) of the patients had a high level of knowledge.
- A significant proportion (43.34%) of patients fell into poor and very poor categories (Grades C and D), highlighting a major gap in awareness and education.
- Statistical analysis showed a significant association between knowledge scores and selected demographic variables such as education, occupation, and family income at **P < 0.05** level.

CONCLUTION

The present study aimed to assess the effectiveness of a structured teaching programme on knowledge regarding breathing exercises and relaxation techniques among asthmatic patients in a selected hospital at Lucknow. The findings revealed that prior to the intervention, the majority of participants had only moderate to poor knowledge about breathing exercises, with 40% falling under the moderate category (Grade B) and 43.34% under poor or very poor grades (C and D). The mean knowledge score of the participants was 13.867 with a standard deviation of 5.848, indicating a general lack of comprehensive understanding of the subject. After the structured teaching programme, an improvement in knowledge was observed, suggesting that the educational intervention was effective. Furthermore, the study established a statistically significant association between knowledge scores and certain demographic variables such as education, occupation, and family income ($P < 0.05$), emphasizing the influence of socio-demographic factors on awareness levels.

In conclusion, the structured teaching programme proved to be an effective method for enhancing knowledge regarding breathing exercises and relaxation techniques among asthmatic patients. There is a strong need for regular educational sessions in clinical settings to empower patients with the necessary skills for better self-care and improved respiratory health.

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