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Knowledge regarding deep breathing exercises on respiratory function among asthmatic patients in Narayana medical college hospital, Nellore, Andhra Pradesh

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Abstract

Background: Breathing becomes difficult and complicated for patients with asthma. Breathing exercise are 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.

Aim: The aim of the study was to assess the knowledge regarding breathing exercise among asthmatic patients.

Objectives: 1.To assess the level of knowledge regarding deep breathing exercise on respiratory function among asthmatic patients. 2. To find the association between level of knowledge regarding deep breathing exercise on respiratory function among asthmatic patients with their demographic variables.

Methodology: 60 Asthmatic patients admitted in Narayana Medical College Hospital, Nellore were selected by using Non-probability convenience sampling technique method.

Results: Regarding the level of knowledge on deep breathing exercises among asthmatic patients, 2(3.33%) had A+, 2(3.33%) had A, 6(10%) had B+, 24(40%) had B, 10(16.67%) had C, and 16(26.67%) had D grade.

Keywords: Knowledge, deep breathing exercises, respiratory function, asthmatic patients

Introduction

The human respiratory system comprises lungs, airways and the respiratory muscles. Its 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 ^[1].

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 ^[2].

Asthma is a lung disease that comprises underlying inflammation and tightening of the small types in the airway which occurs in response to asthma triggers such as animal dander's or pollen. The high prevalence of asthma worldwide is a major public health problem because of the high health care costs associated with hospitalization and medication breathing exercise are a non-pharmacological intervention that has been used routinely in the treatment of patient with asthma ^[3].

Breathing exercise aim to control the hyperventilation symptoms of asthma can be performed as the pap worth method the Buteyko breathing technique yoga or any other similar intervention that manipulates the breathing pattern. Asthma is a breathing disorder of the

respiratory system, so poor breathing techniques can aggravate the symptoms of asthma. Breathing exercise involve manipulation of breathing pattern and include deep breathing, relaxation session and other exercises. If done regularly and properly it would provide a simple self-control by asthmatic^[4].

The importance of breathing exercises is not well practiced in the treatment of asthma. These exercises the patient can easily do for himself and with a minimal amount of perseverance and energy, he can acquire the necessary control of the respiratory muscle and there by improve his condition to quite a large extent. Type of breathing exercise are Pranayama and Buteyko^[5].

Pranayama is an effective breathing technique followed in yoga. Pranayama is derived from two Sanskrit words prana (life force) and Ayama (control or mastery). Prana is taken in through the air we breathe and since the pranayama exercises increase the amount of air we taken in they also increase out intake of Prana therefore in a wide sense, pranayama is used to control, cultivate and modify the flow of life force in the body. Buteyko links hyperventilation to asthma and is based on techniques to normalize breathing pattern reversing symptoms and lessening the need for medication^[6].

Need for the study

The incidence of asthma suffers between 100-150 million people around globe worldwide deaths from conditions have reached over 1,80,000 annually Asthma is not just a public health problem for developed countries. In developing countries the incidence of the disease 15-20 million asthmatics in India rough estimates indicates prevalence between 10% to 15% in 15-11 years of children^[7].

In India, the incidence of asthma suffering between the increasing from 10.4 million to 14.6 million. Asthma affected approximately 4.8 million people under the year of 2005 to 2010. The leading cause of hospitalization for chronic illness among people under 15% asthma that cause approximately 5000 deaths each year^[8].

In Andhra Pradesh, the incidence of asthma suffering from 1-10 of 1210 peoples. Mainly 485 of males are 21% were having asthma. Most of them with asthma had either family history of asthma parents of family members smoking at home. In Nellore district, 80% people suffered with asthma in the year 2010-2016. It make the respiratory muscle exercise are provided the help of incentive spirometer and peak expiratory flow meter. It helps with breathing exercise to follow the degree of airway openers^[9].

A study was conducted to assess the prevalence and factors associated with asthma among people in Pondicherry. The sample size was 60 asthma people. Questionnaire method was used to collect data. The study concludes that overall prevalence of asthma was found to be 8.7% males had a higher prevalence of asthma (10.1%) compared to women (7.1%) family history of asthma (OR=6.64), presence of hey in house (OR=9.79), exercise as aggravating factor (OR=4.63) were with asthma^[10].

Statement of the problem

A study to assess the knowledge regarding deep breathing exercises on respiratory function among asthmatic patients in Narayana Medical College Hospital, Nellore, Andhra Pradesh.

Objectives

1. To assess the level of knowledge regarding deep breathing exercise on respiratory function among asthmatic patients.
2. To find the association between level of knowledge regarding deep breathing exercise on respiratory function among asthmatic patients with their demographic variables.

Delimitations

- Asthmatic patients admitted in Narayana Medical College Hospital, Nellore.
- Willing to participate in the study
- Sample size of 60.

Methodology

Research Approach

A quantitative approach was adopted to determine the research study.

Research Design

The present study was conducted by using descriptive research design

Setting of the study

The study was conducted at Narayana Medical College Hospital, Nellore.

Target population

The target population for the present study was asthmatic patients.

Accessible population

The accessible population for the present study was asthmatic patients admitted in Narayana Medical College Hospital, Nellore and who fulfilled the inclusion criteria.

Sample size

The samples consist of 60 asthmatic patients.

Sampling technique

Non-probability convenience sampling technique was adapted for the study.

Criteria for sampling selection

Inclusion criteria

- Asthmatic patients admitted in Narayana Medical College Hospital, Nellore.
- Asthmatic patients are willing to participate in the study.

Exclusion criteria

- Asthmatic patients are willing to participate in the study.
- Asthmatic patients who are critically ill.

Description of tool

Part-I

Socio demographic variables: It includes Age, Sex, religion, Education, family income, occupation, family history of asthma and duration of Asthma.

Part-II

This consists of structured questionnaire to determine the

knowledge regarding deep breathing exercises among asthmatic patients.

Data analysis and Discussion

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

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

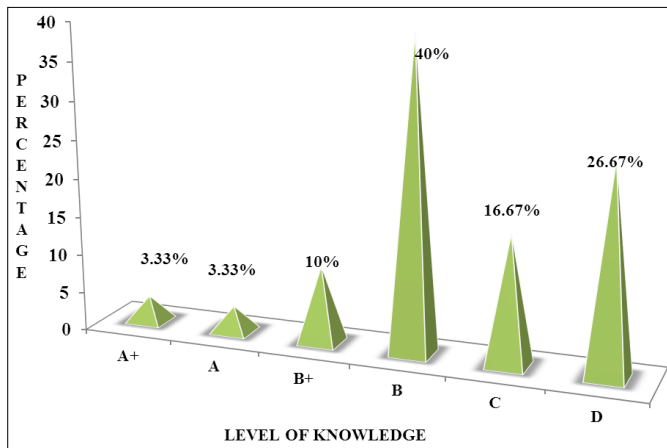


Fig 1: Percentage distribution of level of knowledge regarding deep breathing exercises on asthmatic patients.

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

Level of knowledge	Mean	SD
Asthmatic patients	13.867	5.848

Major findings of the study

- Regarding level of knowledge on deep breathing exercises among asthmatic patients, 2(3.33%) had A+, 2(3.33%) had A, 6(10%) had B+, 24(40%) had B, 10(16.67%) had C, and 16(26.67%) had D grade.
- The mean knowledge score of asthmatic patients was 13.867 and standard deviation was 5.848.
- Regarding association, education, occupation and family income had significant association with level of knowledge at $P < 0.05$ level.

Conclusion

The study concluded that majority of asthmatic patients, 24(40%), had moderate knowledge regarding deep breathing exercises.

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