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A STUDY TO ASSESS THE EFFECTIVENESS OF INTERVENTIONAL PACKAGE ON PULMONARY FUNCTIONAL PARAMETERS AMONG PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE ADMITTED IN SREE MOOKAMBIKA MEDICAL COLLEGE HOSPITAL, KULASEKHARAM

Adlin Prabha[1], C. Ajitha Retnam[*2], C. Jothi Sophia[3]

[2] Ph.D. Scholar, Vice Principal, [1]Sree Mookambika College of Nursing, Kulasekharam, Kanyakumari, Tamil Nadu, India.
[3]Principal, C.S.I. Jayaraj Annapackiam College of Nursing, Pasumalai, Madurai, Tamil Nadu, India.

ABSTRACT

Chronic Obstructive Pulmonary Disease is very common in general population. It is a slowly progressing disease involving the airways or pulmonary parenchyma resulting in airflow obstruction. The most common factor leading to COPD is cigarette smoking, exposure to occupational dust and chemicals. The symptom of COPD ranges from dyspnoea, chronic cough with or without sputum production. Interventional package containing education and deep breathing exercises improved the health status and increased the exercise tolerance of patients with COPD. The main objective of the study was to determine the effectiveness of interventional package on pulmonary functional parameters among patients with chronic obstructive pulmonary disease in experimental group. The research design adopted was quasi experimental with two group pre test post test design. Purposive sampling technique was followed to obtain a sample of 60 COPD patients (30 COPD patients in experimental groups and 30 COPD patients in control groups) Pre test and post test assessment was done by using pulmonary functional parameters. Interventional package containing educational phase was provided for 15-20 minutes daily and deep breathing exercises were administered 2 cycles per day for 7 days to the experimental group whereas control group was not given any intervention. Post test was conducted after intervention both experimental and control group on day 7. The study reveals the effectiveness of interventional package on pulmonary functional parameters The t value of difference of comparison mean of pulmonary function tabulated was found to be t=28.45, df = 59 P<0.05. The study also shows that there is an association between age, history of smoking, family history, the conclusion of the study shows that interventional package is found to be an effective non pharmacological therapy to improve lung function.

Key words: Interventional package, Pulmonary functional parameters, COPD patients.

Corresponding Author

C. Ajitha Retnam
Email:- ajithar.justin@gmail.com

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INTRODUCTION

Chronic Obstructive Pulmonary Disease is a major cause of ill health globally. It is the fourth leading cause of death s globally. The potential outcome of COPD is the progressive deterioration in lung function as a result of persistent lung inflammation in response to inhaled pollutants .The present study determines to find the effectiveness of interventional package which comprises of education and a set of breathing exercises specifically tailored to reduce the symptoms experienced by COPD patients as extensive literature search reveals limited empirical documentation for nurse managed rehabilitation

programmmes. Our main of the study is that people should be will induce COPD attack and practice it regularly to get their symptoms reduced[1-4].

OBJECTIVES OF THE STUDY

1. To asses the pulmonary functional parameters among patients in experimental and control group before implementing the interventional package.
2. To assess the pulmonary functional parameters among patients in experimental and control group after implementing the interventional package.
3. To determine the effectiveness of interventional package on pulmonary functional parameters.
4. To find out the association between the pulmonary functional parameters and the selected demographic variables of patients with COPD.

METHODS

To accomplish the objective of the study a quasi experimental two group pretest post test design was considered most appropriate purposive sampling was used to select the sample after getting ethical clearance the study was conducted in Sree Mookambika Medical College Hospital, Kulasekharam ,Kanyakumari district. Samples were selected according to sample selection criteria Questionaire was used to assess the health status of COPD patients ,modified dyspnea borg scale was used to assess the level of dyspnes, spirometry was used to measure functional lung capacity, chest expansion was measured using inch tape Data was collected in the medical (male and female wards) of Sree Mookambika Medical College Hospital in the month of October 2015. 60 samples were selected based on inclusion and exclusion criteria. Pre test was conducted to both experimental group and control group by using these assessment tools. Educational phase was provided for 15 – 20 minutes daily and deep breathing exercises were administered 2 cycles per day for 7 days for the experimental group whereas control group was not given any intervention. Post test was conducted after intervention both experimental and control group on day 7 [5-9].

RESULTS

This section displays the demographic variables of the subjects selected by the investigator.

The above table shows the effectiveness of interventional package on pulmonary functional aware of the factors which parameters among the patients by using the post test score in experimental group and control group. The pos test mean of COPD in experimental group was 39.26 and control group was 55.05. The post test mean of modified dyspnoea borg scale in experimental group was 2.40 and control group was 5.40 the post test mean of spirometer in experimental group was 4.40 and control group was 3.16. The post test mean of chest expansion in experimental group was 1.46 and control group was 0.90. The post test mean of breath holding time in experimental group was 19.10 and control group was 13.72.

There was association found between the history of smoking and COPD and history of allergies with COPD

The study findings were congruent with the study conducted by Scherer et al, on COPD patients to determine the effects of two intervention strategies ie pulmonary rehabilitation and education Results showed that there was a significant increase in the training program ($P<0.01$). They concluded that self management and rehabilitation programs improved the quality of life among patients with COPD

Limitation

1. The sample size of the patients for the experimental and control group was only 30 and hence generalization was not possible.
2. The data collection period was only 1 month.
3. The study was delimited to patients diagnosed as COPD and within the age group of 35-75 years.
4. The study is limited only to the patients admitted in Sree Mookambika Medical college Hospital during the period of data collection.

Recommendation

1. The study may be replicated with randomization in selection of a large sample.
2. Nurse researcher can do studies related to other types of non pharmacological therapies in reducing dyspnoea.
3. A study can be conducted by including more number of variables and at different geographic locations.
4. The study can be conducted to determine the other therapeutic benefits of exercises among COPD patients [8-11].

Table 1. Percentage Distribution of study subjects According to Demographic variables

N=60

Demographic variables	Experimental group		Control group		Total		x^2
	f	%	f	%	f	%	
Age Group							
35 – 45 yrs	4	13.33	3	10.00	7	12	9.38
46 – 55 yrs	10	33.33	9	30.00	19	32	
56 – 65 yrs	9	30.00	11	36.67	20	33	
66 – 75 yrs	7	23.34	7	23.33	14	23	
Gender							
Male	16	53.33	17	56.67	33	55	1.15
Female	14	46.67	13	43.33	27	45	
Education							
Primary	4	13.33	3	10.00	7	12	1.33
Middle	7	23.33	8	26.67	15	25	
SSLC	8	26.67	9	30.00	17	28	
Higher Secondary	6	20.00	6	20.00	12	20	
Nil	5	16.67	4	13.33	9	15	
History of Smoking							
Yes	20	66.67	19	63.33	39	65	4.28
No	10	33.33	11	36.67	21	35	
Family History							
Allergy	11	36.67	12	40	23	38	4.96
Lung disease	9	30.00	10	33.33	19	32	
Heart disease	10	33.33	8	26.67	18	30	

Table 2. Effectiveness of interventional package on PFP among the patients by using the post test score on both groups

N=60

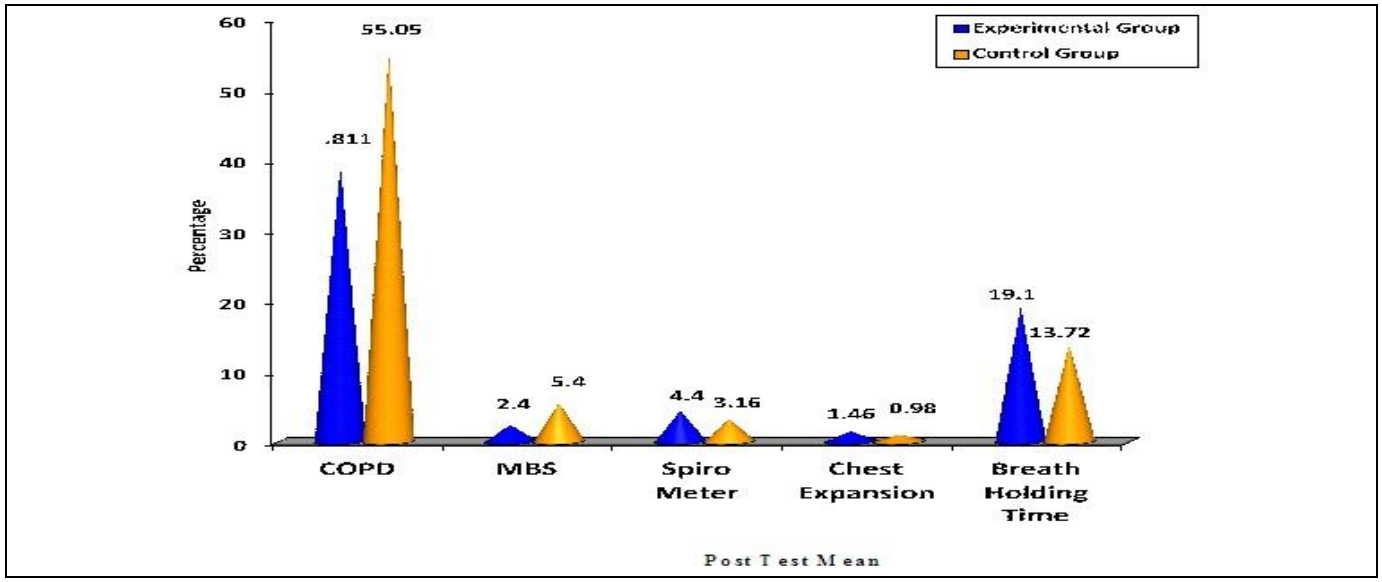
Type of Tool	Experimental Group	Control Group	Mean Difference	't' test	df	Table value
COPD	39.26 ± 5.19	55.05 ± 6.10	15.79	10.67	59 df	2.046
MBS	2.40 ± .62	5.40 ± 1.0	3.0	3.55	59 df	
Spirometer	4.40 ± 1.31	3.16 ± .98	1.24	4.13	59 df	
Chest Expansion	1.46 ± 0.36	.90 ± .28	.56	6.66	59 df	
Breath holding time	19.10 ± 3.16	13.72 ± 2.62	5.38	7.06	59 df	

Significant at P<0.05

Table 3. Association between the pulmonary functional parameters and selected demographic variables

N= 60

Demographic Variables	x^2	df	Table Value
History of Smoking Yes No	4.28	1	3.84
Family History Allergy Lung disease Heart disease	4.96	2	5.99



CONCLUSION AND DISCUSSION

The study identified that the level of dyspnoea was reduced in experimental group. It was found that there was a significant improvement in the pulmonary functional parameters of experimental group after interventional package than in control group. The 't' valve of difference of mean reduction of dyspnoea, on pulmonary functional parameters tabulated was found to be t =10.67, 3.55, 4.13, 6.66, 7.06, df =59, P<0.05.

The study also shows that there was an association between the age, smoking and family history.

Thus the study has proved in silence the wonderful effect of education combined with breathing exercises in improving the wellbeing of patients with COPD Thus the study proclaims in silence the benefits of education combined with deep breathing exercise is very much effective in reducing dyspnea.

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Conflict of Interest

No Conflict of Interest**.**

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