



A STUDY TO ASSESS THE EFFECTIVENESS OF INDIVIDUAL HEALTH EDUCATION ON LEVEL OF KNOWLEDGE REGARDING PULMONARY REHABILITATION AMONG PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) IN SELECTED HOSPITALS AT GWALIOR

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Abstract : Pulmonary rehabilitation is an integral part of the clinical management and health maintenance of those patients with chronic respiratory disease. Pulmonary rehabilitation aims to reduce symptoms, decrease disability, increase participation in physical and social activities, and improve the overall quality of life for patients with chronic respiratory disease. Method: An evaluative approach with pre-experimental one group pre-test post-test design was used for this study. The study was carried out in a Geeta Bhavan Hospital at Gwalior. The samples, 50 COPD patients, were selected by a non-probability purposive sampling technique. The data collection was done from after obtaining permission and consent. Pre-test was conducted by administering a structured knowledge questionnaire. After the pre-test the individual health education was administered. Post-test was conducted on 7th day using the same structured knowledge questionnaire. The data was analyzed using descriptive and inferential statistics. Paired 't' test was used to find the effectiveness of individual health education and chi-square was used to find the association of pre-test knowledge score with selected baseline variables. Results: The findings showed that the mean post test knowledge score (18.1) is higher than the mean pre test knowledge score (9.0833) after the individual health education. The mean percentage knowledge score of pre-test was higher in the area of anatomy and physiology of respiratory system with mean percentage of 70% and the mean percentage of knowledge score was found to be lower in the area of relaxation techniques (24%). whereas the mean percentage knowledge score of post-test was higher in the area of nutrition with mean percentage of 78.66%. The mean percentage of knowledge score was found to be lower in the area of knowledge regarding disease condition (67.33%). The mean difference between the mean post test and the mean pre test knowledge score was found to be statistically significant ($t_{49} = 30.56$) at 0.05 level of significance. Hence, the null hypothesis was rejected and research hypothesis was accepted, indicating that the individual health education was an effective method of increasing the knowledge of the COPD patients, on pulmonary rehabilitation.

IndexTerms - Pulmonary rehabilitation; Individual health education; Chronic respiratory disease; Chronic obstructive pulmonary disease (COPD); Quality of life.

I. INTRODUCTION

COPD is characterized by chronic airflow obstruction and limitation and interferes with breathing reduces energy and vitality, and produces progressive worsening and fluctuating symptoms which can be disabling for both the patients and their families. The individual with COPD often has several problems (physical, psychological and social) and requires more than a prescription aimed at symptom relief. Many patients and their families are left alone to cope with the functional and emotional difficulties caused by this irreversible and progressive disease which can severely impair their quality of life. The past thirty years had seen the development of pulmonary rehabilitation in treating patients with COPD. The primary goal of pulmonary rehabilitation has been to restore the patient

to the highest possible level of independent functioning. Pulmonary rehabilitation is an exercise and education program that can greatly benefit those with lung disease such as asthma, emphysema, and chronic bronchitis. Whether caused by smoking, occupational, environmental, or genetic factors, these conditions leave people chronically shortness of breath and can be very debilitating. Pulmonary rehabilitation for patients with COPD is well established and widely accepted as a means to alleviate symptoms and optimize functional status, increase participation, and reduce health care costs by stabilizing or reversing systemic manifestations of the disease. It is a form of rehabilitation dealing with respiratory disorders and limited participation in daily life.

II. NEED OF THE STUDY

Worldwide, COPD is the only cause of death that still has a rising mortality rate. It has been estimated that by the year 2020 COPD will be the fifth leading cause of death in the world¹⁶. In 2010, almost 24 million adults over the age of 40 in India had COPD. Data monitor expects this number to increase 34% to approximately 32 million by 2020. COPD is predominately a disease of men and only 40% of cases in India occur in women. Depending of disease severity, the five-year mortality rate of patients with COPD varies from 40% to 70%.

A study was conducted to describe the prevalence of chronic obstructive pulmonary disease in patients attending chest clinic in a tertiary hospital in India. Three year retrospective analysis of all subjects who underwent pulmonary function tests between January 1999 to December 2001. Out of 13860 patients 946 patients were diagnosed to have COPD. Out of 964 patients, 284 had mild COPD (30%), 286 had moderate disease (30%) and the remaining 387 patients (40%) had severe COPD. The result showed an overall prevalence of 6.85% in South India¹⁹.

III. OBJECTIVE

The following are formulated to carry out the study are to:

- assess the level of knowledge regarding pulmonary rehabilitation among patients with COPD using structured knowledge questionnaire.
- evaluate the effectiveness of individual health education on level of knowledge regarding pulmonary rehabilitation among patients with COPD.
- find the association between the pre-test knowledge score and selected baseline variables.

IV. ASSUMPTION

The study assumes that:

- Patients with COPD may have inadequate level of knowledge regarding pulmonary rehabilitation.
- Individual health education regarding pulmonary rehabilitation may improve the level of knowledge in patients with COPD.

3.1 Population and Sample

50 COPD patients, were selected by a non-probability purposive sampling technique. The data collection was done from after obtaining permission and consent.

3.2 Data and Sources of Data

For data collection 50 COPD patients was choose to collect the data from the self-structured multiple questioner that was made on COPD

3.3 Theoretical framework

Conceptual model is a set of highly abstract related constructs that broadly explains phenomena of interest, express assumptions and reflects a philosophical stance. Conceptual frame work of this study is based on context, input, process, and product (CIPP) model by Danial Stuffle beam (figure 1). It consists of a four- step model of programme evaluation, developed for obtaining information and for taking decision. It provides comprehensive, systematic and continuously ongoing framework for programme evaluation. It includes 4 aspects:

- Context evaluation
- Input evaluation
- Process evaluation
- Product evaluation

3.4.3 Comparison of the Models

Pre-test knowledge score of the COPD patients on pulmonary rehabilitation.

This section deals with the analysis and interpretation of the data of the pre-test knowledge of COPD patients on pulmonary rehabilitation, which was assessed using a structured knowledge questionnaire.

Part I: Overall pretest knowledge score of the COPD patients on pulmonary rehabilitation.

This section deals with the analysis and interpretation of the data of the overall pre-test knowledge of COPD patients on pulmonary rehabilitation

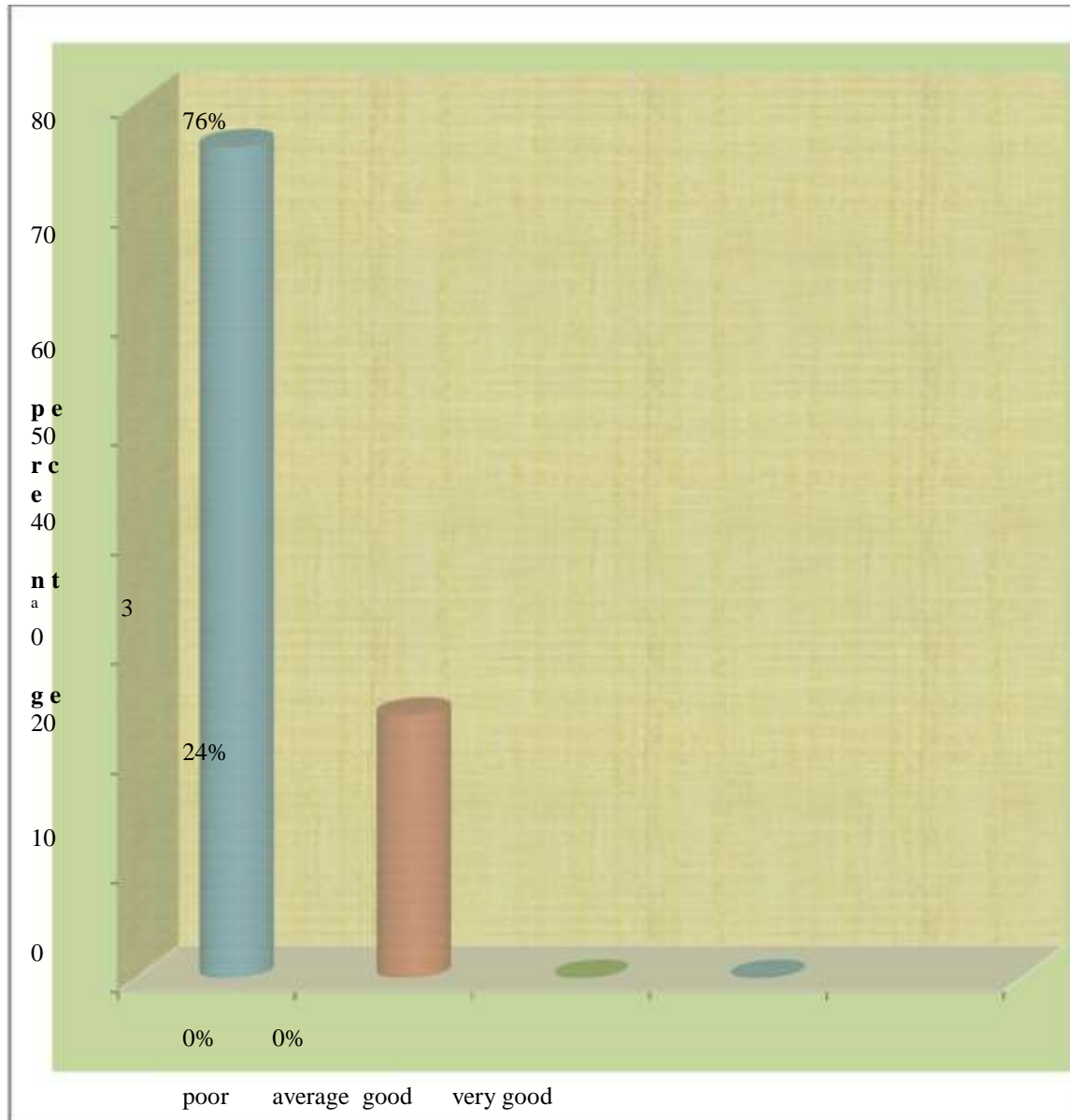
The obtained data is tabulated below.

Table 2: Distribution of overall pre-test knowledge score of COPD patients on pulmonary rehabilitation in terms of frequency and percentage on knowledge.

n= 50

Pre test		
Level of knowledge	Frequency (f)	Percentage (%)
Poor	38	76%
Average	12	24%
Good	-	-
Very good	-	-





Level of knowledge

Figure 14: Cylindrical diagram showing the distribution of samples according to the pre test level of knowledge.

n= 50

Level of knowledge	Post-test	
	Frequency (f)	Percentage (%)
Poor	0	0
Average	4	8%
Good	38	76%
Very good	8	16%

CONCLUSION

The purpose of this study was to evaluate the effectiveness of individual health education on pulmonary rehabilitation among the COPD patients admitted in Geeta Bhawan hospital.

The following conclusions were drawn on the basis of the findings of the study:

- Majority of the subjects had poor knowledge score on the pre-test.
- The mean post-test knowledge score was significantly higher than the mean pre-test knowledge score.
- It was also found that the area of anatomy and physiology of respiratory system had maximum score in pre-test and the area of nutrition, in the post-test.
- Findings showed that individual health education was an effective method to improve the knowledge of patients on pulmonary rehabilitation.
- There was no association between pre-test knowledge scores and selected baseline variables.

Nursing implications

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

The healthcare delivery system at present days more emphasis on rehabilitative aspect. The finding of the study has shown that COPD patients have inadequate knowledge on pulmonary rehabilitation. The individual health education could be used as an illustrative informational aid to staff, student nurses, nurse educators and patients.

Although today's nursing curriculum includes course on communication skills, it needs to further emphasis on information as a process. Continuing nursing education should be conducted for need awareness, effective teaching material and AV aids to express the content area clearly for patients should be utilized.

Nursing practice

Health education is one of the cost effective interventions used for educating the public on various aspects. The nurse should take initiative for arranging health talks and seminars by gathering all the persons in the community based on their felt needs. The knowledge they receive will help to prevent many communicable and non-communicable diseases. This acquired knowledge will be disseminated to others by interaction.

The present study revealed that the individual health education on pulmonary rehabilitation was an effective method to improve the knowledge of patient. The nurse can take the role of a facilitator and educator and can educate the patients they care for, during their practice. This can improve the patient's knowledge and the nurses can participate actively in the patient care.

Nursing Administration

The nursing administrator takes part in the making of health policy, development of protocols and standing orders with respect to various patient problems. The findings of the study can be used by the nurse administrator to assess the need for educating the patients regarding pulmonary rehabilitation. The administrator, based on the felt needs, can plan the education program and also encourage staff nurses to educate their patients.

Nursing education

The Medical Surgical Nursing curriculum needs to be reorganized to enable nursing personnel to identify high risk for COPD so as to provide supportive education to cope with proper management of COPD.

As a nurse educator, there are ample opportunities, for the nursing professional to educate the COPD patients on pulmonary rehabilitation and provide care in the clinical setting.

The study emphasizes the significance of the short term courses or in-service education for nurses in advanced knowledge on pulmonary rehabilitation and in making use of facilities available in the management of COPD.

Nursing Research

The study helps the nurse researcher to develop insight into the development of teaching module and materials for pulmonary rehabilitation towards promotion of quality of life of the COPD patients. Nurse researcher can investigate various aspects of pulmonary rehabilitation and can add to the knowledge base. The present study also gives various recommendations, which can be considered and taken up as researches or project in different settings and population.

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