Journal of Advanced Medical and Dental Sciences Research

@Society of Scientific Research and Studies *NLM ID: 101716117*

Journal home page: www.jamdsr.com doi: 10.21276/jamdsr Indian Citation Index (ICI) Index Copernicus value = 100

(e) ISSN Online: 2321-9599; (p) ISSN Print: 2348-6805

Original Research

A Study to Assess the Effectiveness of a Structured Booklet on Knowledge Regarding Pulmonary Rehabilitation Among Patients with Chronic Obstructive Pulmonary Disease at a Selected Hospital in Jodhpur, Rajasthan

Shivani Patil

Associate Professor, Government College of Nursing, CRP Line, Indore, Madhya Pradesh, India

ABSTRACT:

Background: Chronic Obstructive Pulmonary Disease (COPD) is a progressive respiratory condition that significantly affects patients' quality of life. Pulmonary rehabilitation is a key non-pharmacological intervention known to improve functional capacity and reduce disease burden. However, awareness and knowledge regarding pulmonary rehabilitation among COPD patients remain limited. **Aim:**To assess the effectiveness of a structured booklet in improving knowledge regarding pulmonary rehabilitation among COPD patients in a selected hospital in Jodhpur, Rajasthan. **Material and Methods:**A quasi-experimental pretest-posttest control group design was employed. A total of 60 COPD patients were selected using a convenient sampling technique and divided into two groups: experimental (n = 30) and control (n = 30). Data collection included demographic variables and a structured knowledge questionnaire. The experimental group received a structured booklet on pulmonary rehabilitation, while the control group continued with routine care. Pretests and posttests were conducted on Day 1 and Day 7, respectively. Data were analyzed using paired and unpaired t-tests and Chi-square tests. **Results:**In the experimental group, the mean knowledge score increased significantly from 11.63 ± 2.53 (pretest) to 23.57 ± 2.62 (posttest), with a paired t-value of 17.92 ($p < 0.001$). The control group showed no significant improvement (pretest mean = 11.83 ± 2.17; posttest mean = 11.93 ± 2.94; $t = 0.18$; $p > 0.05$). An unpaired t-test between posttest scores of both groups showed a significant difference ($t = 16.19$, $p < 0.001$), confirming the effectiveness of the structured booklet. Chi-square analysis revealed significant differences between groups in age, gender, education, occupation, and smoking status ($p < 0.05$), while marital status, income, and residence showed no significant differences. **Conclusion:**The structured booklet was highly effective in enhancing knowledge regarding pulmonary rehabilitation among COPD patients. Structured educational interventions by nurses can play a pivotal role in improving patient awareness and self-management in chronic respiratory conditions.

Keywords:COPD, Pulmonary rehabilitation, Structured booklet, Patient education, Quasi-experimental study

Received: 26 April, 2025 Accepted: 20 May, 2025 Published: 12 June, 2025

Corresponding author: Shivani Patil, Associate Professor, Government College of Nursing, CRP Line, Indore, Madhya Pradesh, India

This article may be cited as: Patil S. A Study to Assess the Effectiveness of a Structured Booklet on Knowledge Regarding Pulmonary Rehabilitation Among Patients with Chronic Obstructive Pulmonary Disease at a Selected Hospital in Jodhpur, Rajasthan. J Adv Med Dent Scie Res 2025; 13(6):82-84.

INTRODUCTION

Chronic obstructive pulmonary disease, or COPD, is a chronic lung disorder that affects millions of individuals worldwide. It makes breathing difficult and generally leads to a poor quality of life. Pulmonary rehabilitation is a specific treatment that can help patients improve their condition. However, the majority of individuals are uninformed of the program's benefits. The purpose of this study is to determine the patients levels of knowledge and to distribute a structured booklet about pulmonary rehabilitation to COPD patients at selected hospital in Jodhpur.

Statement of the Problem

A study to assess the effectiveness of a structured booklet on knowledge regarding pulmonary rehabilitation among patients with chronic obstructive

pulmonary disease at a selected hospital in Jodhpur, Rajasthan.

Objectives of the Study

1. To assess the pretest and posttest levels of knowledge regarding pulmonary rehabilitation among patients with COPD in both the experimental and control groups at a selected hospital in Jodhpur, Rajasthan.
2. To evaluate the effectiveness of a structured booklet on knowledge regarding pulmonary rehabilitation among patients with COPD in the experimental group at a selected hospital in Jodhpur, Rajasthan.
3. To compare the posttest knowledge scores between the experimental and control groups of patients with COPD at a selected hospital in Jodhpur, Rajasthan.
4. To determine the association between posttest knowledge scores with their selected demographic variables among clients with COPD in both groups at a selected hospital in Jodhpur, Rajasthan.

Hypotheses

H_0: There is no significant difference in the knowledge scores regarding pulmonary rehabilitation between the experimental and control groups.

H_1: There will be a significant difference between the pretest and posttest knowledge scores in the experimental group.

H_2: There will be a significant difference in posttest knowledge scores between the experimental and control groups.

H_3: There will be a significant association between posttest knowledge scores and selected demographic variables.

MATERIALS AND METHODS

A quasi-experimental pretest-posttest control group design was used in this study. The sample consisted of 30 COPD patients in experimental group and 30 COPD patients in control group were selected by convenient sampling technique. The study was conducted at a selected hospitals in Jodhpur. Permission was obtained from the concerned hospital authority prior to the data collection process.

Data were statistically analyzed using central tendency, paired and unpaired t-tests, chi-square tests.

Tools:

Part I: Demographic data such as age, gender, education, occupation, marital status, residence , income, and smoking status .

Part II: Structured self-administered knowledge questionnaire related to pulmonary rehabilitation.

Data Collection Process

In Jodhpur district, COPD patients were selected from hospitals by using a convenient sampling technique. A total 60 COPD patients were selected and 30 patients assigned into experimental and 30 patients assigned into control group.

On the first day, a pretest was conducted using a structured self administered knowledge questionnaire to assess the patient knowledge regarding pulmonary rehabilitation. Demographic data were also collected at this time.

After the pretest, the experimental group received a structured booklets on pulmonary rehabilitation. The control group continued with routine care.

On the seventh day, a posttest was conducted using the same knowledge questionnaire to evaluate any changes in knowledge in both Groups.

DATA ANALYSIS AND INTERPRETATION AND DISCUSSION

A. Knowledge Scores

Group	Test	Mean	SD	t-value	Significance
Experimental	Pretest	11.63	2.53	—	—
Experimental	Posttest	23.57	2.62	17.92	$p < 0.001$
Control	Pretest	11.83	2.17	—	—
Control	Posttest	11.93	2.94	0.18	Not significant

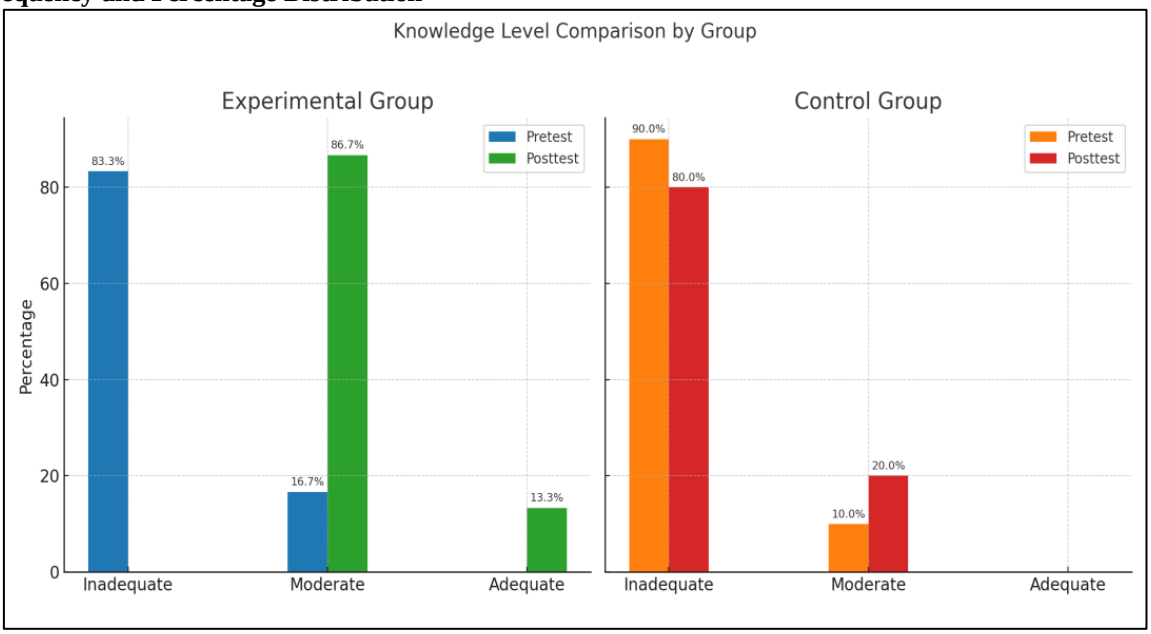
The above table shows that, in experimental group the pretest mean score was 11.63 (SD = 2.53), and the posttest mean score was 23.57 (SD = 2.62). This difference was statistically significant, with a paired t-value of 17.92 and a p-value of less than 0.001, indicating the effectiveness of the structured booklet. In the control group the pretest mean score was 11.83 (SD = 2.17) and posttest mean score was of 11.93 (SD = 2.94). This change was not statistically significant ($t = 0.18$, $p > 0.05$), so that there is no improvement occurred without the intervention.

Based on the post test scores in experimental and control groups, unpaired t-test score was identified and revealed that $t = 16.19$ ($p < 0.001$), which is confirmed that the structured booklet was highly effective in improving knowledge about pulmonary rehabilitation among patients with COPD.

The Chi-square analysis indicated statistically significant differences between the experimental and control groups concerning several demographic variables: age ($p = 0.0016$), gender ($p = 0.0201$), education level ($p = 0.0021$), occupation ($p = 0.0002$), and smoking status ($p < 0.05$). These results highlight that the two groups varied substantially in age distribution, gender ratio, educational background, employment status, and smoking behavior. The experimental group comprised more individuals aged 61–70 years, a greater number of males, higher levels

of education (mainly secondary and tertiary), a higher rate of employment, and fewer smokers. In contrast, the control group consisted largely of participants aged 40–50 years, a higher proportion of females, lower education levels (primarily primary education), more unemployed individuals, and more smokers. Meanwhile, no significant differences were found in income level (p = 0.8371), marital status (p = 0.7602), and area of residence (p = 0.7963), suggesting similarity between the two groups in these aspects.

Frequency and Percentage Distribution



The above bar graph represents that the comparison of levels of knowledge between an experimental group and control group based on the pretest and posttest score. In experimental Group, pretest score for inadequate knowledge was 83.33% and only 16.67% had moderate knowledge and the posttest score revealed that, 86.67% had moderate knowledge, and 13.33% had adequate knowledge. This indicates after the indication patients knowledge was improved. In Control Group , Pretest score revealed that 90% had inadequate knowledge, and 10% had moderate knowledge and Posttest results had only a small improvemen such as 80% inadequate, 20% moderate, and 0% adequate. This suggests minimal knowledge gain without the intervention.

CONCLUSION

This study found that the structured booklet significantly enhanced COPD patients knowledge toward pulmonary rehabilitation in the experimental group. Nurses have a crucial role in delivering quality education to COPD patients. The findings were beneficial in improving the overall well-being of the patients.

REFERENCES

1. Bourbeau, Jean, et al. “Reducing hospital utilization in patients with chronic obstructive pulmonary disease: a disease-specific self-management intervention.” Archives of Internal Medicine, vol. 163, no. 5, 2003, pp. 585–591. https://doi.org/10.1001/archinte.163.5.585
2. Effing, Tanja, et al. “Self-management education for patients with chronic obstructive pulmonary disease.” Cochrane Database of Systematic Reviews, no. 8, 2012. https://doi.org/10.1002/14651858.CD002990.pub3
3. Gallefoss, Frode, and Per Bjermer. “Impact of patient education and self-management on morbidity in asthma and chronic obstructive pulmonary disease.” Respiratory Medicine, vol. 103, no. 3, 2009, pp. 403–411. https://doi.org/10.1016/j.rmed.2008.09.003
4. Zwerink, Marrie, et al. “Self management for patients with chronic obstructive pulmonary disease.” Cochrane Database of Systematic Reviews, no. 3, 2014. https://doi.org/10.1002/14651858.CD002990.pub3
5. Rice, Karen L., et al. “Disease management program for chronic obstructive pulmonary disease: a randomized controlled trial.” American Journal of Respiratory and Critical Care Medicine, vol. 170, no. 9, 2004, pp. 986–991. https://doi.org/10.1164/rccm.200401-033OC