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Effectiveness Of A Structured Teaching Programme On Knowledge Regarding Risk Factors And Home Care Management Of Chronic Bronchitis Among Adults In A Selected Hospital At Indore

1MS. MEHA, 2Dr. Manoj Prajapati

1Ph.D. Scholar, 2Professor

1Malwanchal University,

2Malwanchal University

Abstract

Background: Chronic bronchitis, a major component of Chronic Obstructive Pulmonary Disease (COPD), contributes significantly to morbidity and reduced quality of life. Limited knowledge regarding risk factors and home care practices often leads to poor disease management.

Objective: To evaluate the effectiveness of a structured teaching programme on knowledge regarding risk factors and home care management of chronic bronchitis among adults.

Methods: A quantitative pre-experimental one-group pre-test and post-test design was adopted. A total of 100 adults diagnosed with chronic bronchitis were selected using purposive sampling. A structured knowledge questionnaire was used for data collection. The intervention consisted of a structured teaching programme. Post-test was conducted after 7 days. Data were analyzed using descriptive statistics and paired *t*-test.

Results: The mean post-test knowledge score (18.6 ± 2.5) was significantly higher than the pre-test score (10.8 ± 3.2), with a mean difference of 7.8. The calculated *t*-value was statistically significant at $p < 0.05$. Adequate knowledge increased from 10% to 60% after intervention.

Conclusion: The structured teaching programme was effective in improving knowledge among adults with chronic bronchitis. Incorporating educational interventions into routine care is recommended.

Keywords: Chronic bronchitis, structured teaching programme, knowledge, risk factors, home care management, adults

1. Introduction

Chronic bronchitis is a long-standing inflammatory disorder of the bronchial airways characterized by persistent cough and excessive sputum production for at least three months in two consecutive years. It represents a major clinical component of Chronic Obstructive Pulmonary Disease (COPD), a progressive respiratory condition associated with airflow limitation and significant impairment in daily functioning. Globally, chronic bronchitis contributes substantially to morbidity, disability, and reduced quality of life, particularly among adults exposed to modifiable risk factors.

The etiology of chronic bronchitis is multifactorial, with **tobacco smoking** being the most prominent risk factor. In addition, prolonged exposure to environmental pollutants, occupational dust, biomass fuel smoke, and recurrent respiratory infections further accelerates disease progression. These factors not only increase the incidence of the condition but also contribute to frequent exacerbations, hospitalizations, and economic burden on healthcare systems.

In India, the prevalence of chronic respiratory diseases has been steadily increasing due to rapid urbanization, industrialization, and deteriorating air quality. Many patients remain inadequately informed about the disease process, risk factors, and appropriate home care management strategies. This lack of awareness often results in poor adherence to treatment, delayed healthcare-seeking behavior, and increased risk of complications.

Patient education plays a crucial role in the management of chronic bronchitis. Structured teaching programmes are effective nursing interventions designed to enhance patient knowledge and promote positive health behaviors. These programmes provide comprehensive information on disease prevention, medication compliance, lifestyle modifications, breathing exercises, and early recognition of warning signs. By improving patient knowledge and self-care practices, such educational interventions can significantly reduce disease exacerbations, improve functional status, and enhance overall quality of life.

2. Need for the Study

Despite considerable advances in the medical management of chronic respiratory conditions, chronic bronchitis—an important component of Chronic Obstructive Pulmonary Disease—continues to pose a substantial burden on individuals, families, and healthcare systems. The disease is associated with recurrent exacerbations, frequent hospital admissions, reduced productivity, and diminished quality of life. In developing countries like India, this burden is further aggravated by increasing exposure to environmental pollutants, tobacco smoke, and occupational hazards.

A major challenge in the effective management of chronic bronchitis is the **lack of patient awareness** regarding modifiable risk factors and appropriate home care practices. Many patients are unable to recognize early warning signs of exacerbations, adhere to prescribed treatment regimens, or implement necessary lifestyle modifications. This gap in knowledge often leads to poor disease control, increased complications, and higher healthcare costs.

Although pharmacological therapies are essential, they alone are insufficient to ensure optimal disease management. There is a growing recognition that **patient education and self-management** play a crucial role in controlling symptoms and preventing disease progression. Structured teaching programmes, as a form of nursing intervention, provide systematic and comprehensive information tailored to patients' needs. These programmes focus on enhancing knowledge related to risk factors, medication adherence, breathing techniques, environmental control, and home-based care strategies.

Therefore, there is a clear need to evaluate the effectiveness of structured teaching programmes in improving knowledge among adults with chronic bronchitis. Assessing such interventions will help in strengthening nursing practices, promoting patient-centered care, and ultimately improving health

outcomes. This study is undertaken to address this gap and provide evidence-based support for integrating educational interventions into routine clinical practice.

3. Objectives

1. To assess the pre-test knowledge regarding risk factors and home care management of chronic bronchitis among adults.
2. To evaluate the effectiveness of the structured teaching programme.
3. To determine the association between post-test knowledge scores and selected demographic variables.

4. Hypotheses

- **H1:** There will be a significant difference between pre-test and post-test knowledge scores.
- **H2:** There will be a significant association between knowledge scores and selected demographic variables.

5. Methodology

Research Approach and Design

A quantitative research approach was adopted for the present study to objectively assess the effectiveness of the intervention. The research design selected was a **pre-experimental one-group pre-test and post-test design**, which enabled the comparison of participants' knowledge levels before and after the implementation of the structured teaching programme.

Setting of the Study

The study was conducted in a selected hospital located at Indore, Madhya Pradesh, which provides care to patients diagnosed with chronic respiratory conditions.

Population and Sample

The target population comprised adults diagnosed with chronic bronchitis. A total of **100 participants** were included in the study.

Sampling Technique

Participants were selected using a **non-probability purposive sampling technique**, based on predefined inclusion criteria such as confirmed diagnosis of chronic bronchitis, willingness to participate, and availability during the data collection period.

Tool for Data Collection

Data were collected using a **structured knowledge questionnaire** developed by the researcher. The tool consisted of items related to:

- Risk factors of chronic bronchitis
- Signs and symptoms
- Preventive measures
- Home care management practices

The tool was validated by experts, and reliability was established prior to data collection.

Intervention

The intervention consisted of a **structured teaching programme** focusing on:

- Identification of risk factors
- Importance of smoking cessation
- Environmental control measures
- Medication adherence
- Breathing exercises and lifestyle modifications
- Home care management and early recognition of complications

The teaching programme was delivered using appropriate teaching aids to enhance understanding.

Data Collection Procedure

Data collection was carried out in three phases:

1. **Pre-test:** Assessment of baseline knowledge using the structured questionnaire
2. **Intervention:** Administration of the structured teaching programme
3. **Post-test:** Re-assessment of knowledge after 7 days using the same questionnaire

Data Analysis

The collected data were analyzed using both descriptive and inferential statistics:

- **Descriptive statistics:** Frequency, percentage, mean, and standard deviation
- **Inferential statistics:** Paired *t*-test to evaluate the effectiveness of the intervention and chi-square test to determine the association between knowledge scores and selected demographic variables

6. Results

The findings of the study demonstrated a significant improvement in knowledge regarding risk factors and home care management of chronic bronchitis following the structured teaching programme.

Table 1: Comparison of Pre-test and Post-test Knowledge Scores (n = 100)

Test	Mean Score	Standard Deviation (SD)	Mean Difference	t-value	p-value	Significance
Pre-test	10.8	3.2				
Post-test	18.6	2.5	7.8	—	< 0.05	Statistically Significant

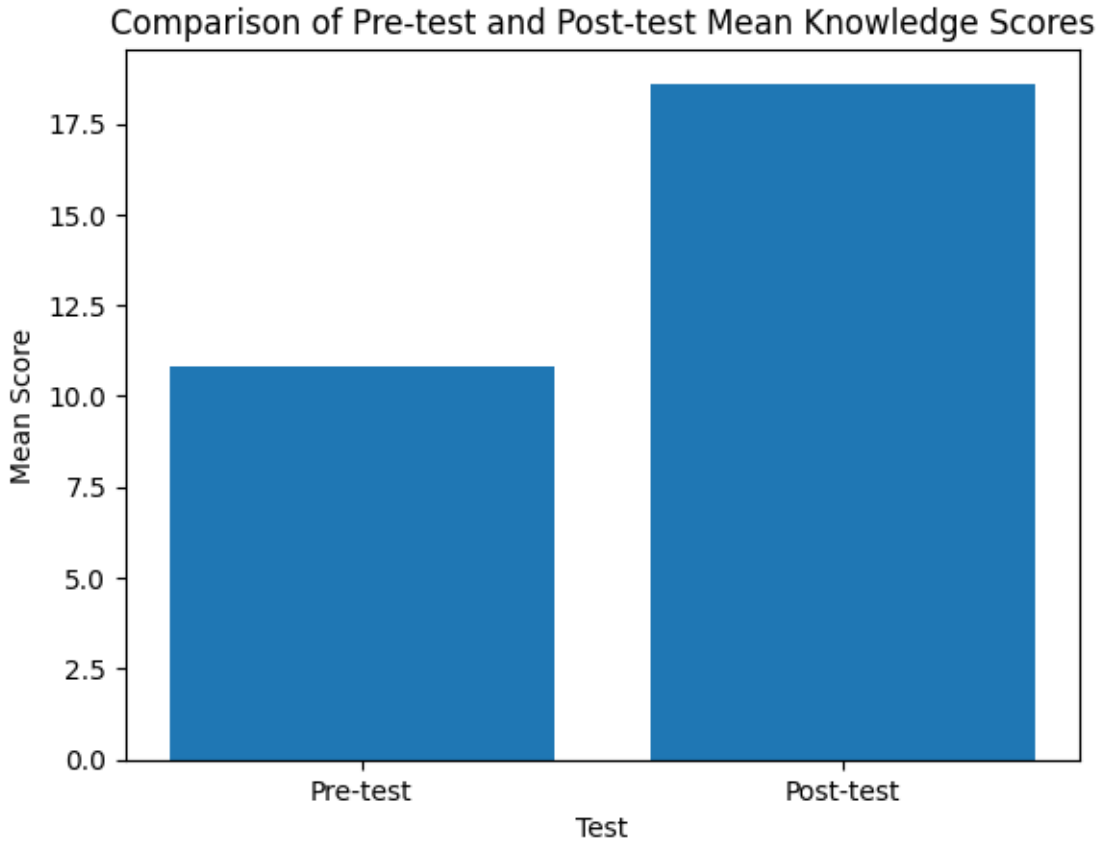

Table 2: Distribution of Participants Based on Knowledge Level

Knowledge Level	Pre-test (n=100)	Post-test (n=100)
Inadequate	40 (40%)	10 (10%)
Moderate	50 (50%)	30 (30%)
Adequate	10 (10%)	60 (60%)

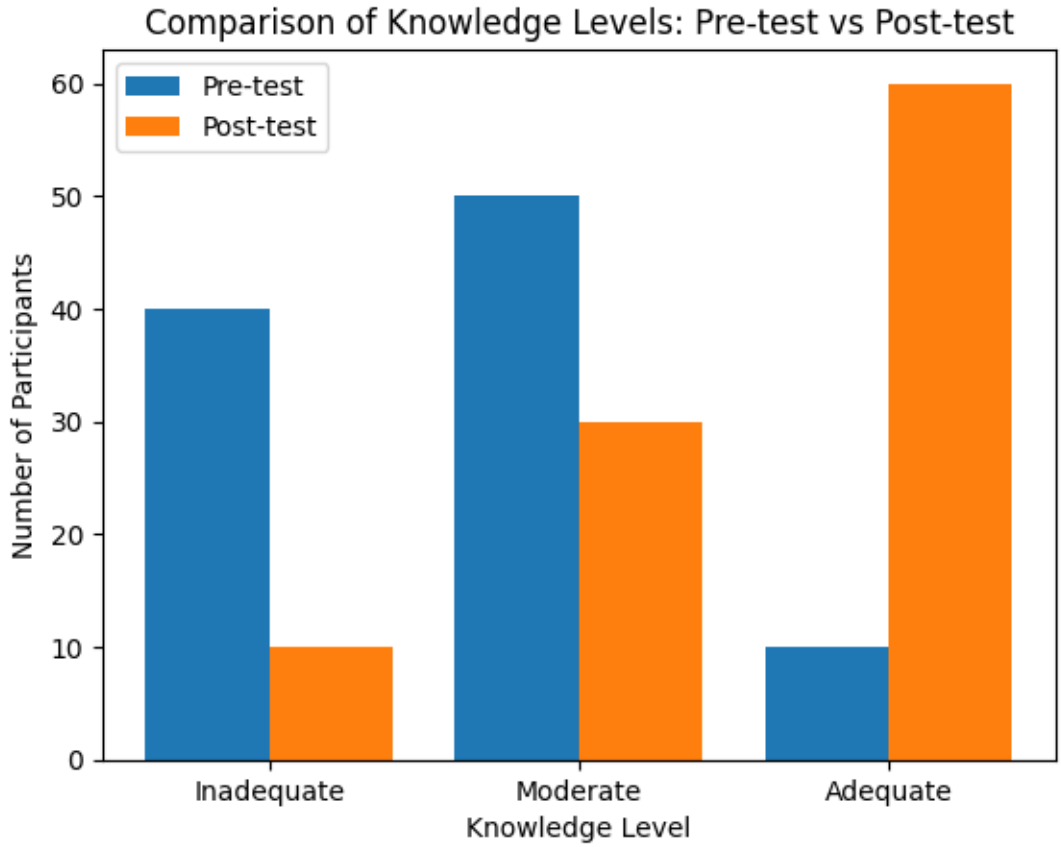

Table 3: Association Between Post-test Knowledge and Demographic Variables

Demographic Variable	χ^2 Value	p-value	Significance
Age	—	< 0.05	Significant
Gender	—	> 0.05	Not Significant
Education	—	< 0.05	Significant
Occupation	—	< 0.05	Significant

Interpretation

The mean post-test knowledge score (18.6 ± 2.5) was higher than the pre-test score (10.8 ± 3.2), with a mean difference of 7.8, indicating improvement after the intervention. The paired *t*-test showed that the difference was statistically significant ($p < 0.05$), confirming the effectiveness of the structured teaching programme.

Additionally, the proportion of participants with adequate knowledge increased markedly from 10% in the pre-test to 60% in the post-test. A significant association was observed between post-test knowledge scores and selected demographic variables such as age, education, and occupation.

7. Discussion

The findings demonstrate that structured teaching programmes are effective in improving knowledge among adults with chronic bronchitis. The improvement in post-test scores indicates that educational interventions play a crucial role in enhancing patient awareness and self-care practices.

These findings are consistent with previous studies highlighting the importance of patient education in managing chronic respiratory diseases. Improved knowledge can lead to better adherence to treatment, reduction in risk exposure, and improved quality of life.

8. Conclusion

The study concludes that structured teaching programmes significantly enhance knowledge regarding risk factors and home care management of chronic bronchitis. Integrating such programmes into routine nursing practice is essential for improving patient outcomes and reducing disease burden.

9. Recommendations

- Implement structured teaching programmes in hospitals
- Conduct similar studies with larger samples
- Use randomized controlled trials for stronger evidence
- Develop community-based educational interventions

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