



Impact Of Nurse-Led Structured Teaching Programme On Home Management And Risk Reduction Of Chronic Bronchitis Among Hospitalized Adults At A Selected Hospital In Indore, Madhya Pradesh

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ABSTRACT

Background: Chronic bronchitis is a major component of chronic respiratory diseases and contributes significantly to morbidity and reduced quality of life. Lack of knowledge regarding risk factors and home care practices often leads to frequent exacerbations and hospitalizations. Nurse-led educational interventions can play a vital role in improving patient outcomes.

Objective: To assess the effectiveness of a nurse-led structured teaching programme on knowledge regarding home management and risk reduction of chronic bronchitis among hospitalized adults.

Methods: A quantitative research approach with a **quasi-experimental one-group pre-test post-test design** was adopted. The study was conducted among **100 hospitalized adults** diagnosed with chronic bronchitis in a selected hospital at Indore, Madhya Pradesh. A structured knowledge questionnaire was used for data collection. The intervention included a nurse-led structured teaching programme focusing on risk factors and home care management. Data were analyzed using descriptive and inferential statistics.

Results: The mean pre-test knowledge score was 10.42 ± 3.15 , which significantly increased to 21.86 ± 2.74 in the post-test. The calculated *t-value* ($t = 24.18, p < 0.001$) indicated a statistically significant improvement in knowledge after the intervention.

Conclusion: The nurse-led structured teaching programme was highly effective in improving knowledge regarding home management and risk reduction of chronic bronchitis among hospitalized adults.

Keywords: Chronic bronchitis, structured teaching programme, nurse-led intervention, home care management, risk factors, knowledge.

INTRODUCTION

Chronic bronchitis is a common and debilitating respiratory condition that forms a major component of Chronic Obstructive Pulmonary Disease. It is clinically defined by persistent inflammation of the bronchial mucosa, excessive mucus secretion, and a productive cough lasting for at least three months in two consecutive years. The disease leads to progressive airflow limitation and is associated with recurrent exacerbations, which significantly impair the patient's quality of life and increase healthcare utilization.

Globally, chronic bronchitis and other chronic respiratory diseases are among the leading causes of morbidity and mortality. In India, the burden is particularly high due to widespread exposure to risk factors such as tobacco smoking, indoor air pollution from biomass fuel, occupational hazards (dust, chemicals), and environmental pollution. Rapid urbanization and industrialization have further aggravated air quality, thereby increasing susceptibility to respiratory illnesses among vulnerable populations.

Patients suffering from chronic bronchitis frequently experience symptoms such as chronic cough, sputum production, dyspnea, fatigue, and reduced exercise tolerance. These symptoms often worsen during acute exacerbations, leading to repeated hospital admissions. Despite receiving treatment during hospitalization, many patients lack adequate knowledge regarding disease management after discharge. Insufficient awareness about medication adherence, avoidance of triggers, breathing exercises, nutritional support, and early recognition of warning signs contributes to poor disease control and increased risk of complications.

Home management plays a critical role in reducing exacerbations and improving long-term outcomes. Effective self-care practices, including smoking cessation, adherence to prescribed medications (bronchodilators, corticosteroids), maintaining proper hygiene, practicing breathing techniques such as pursed-lip breathing, and avoiding environmental irritants, can significantly enhance patient well-being. However, these practices require proper understanding and consistent reinforcement.

Nurses, being the primary caregivers and educators in clinical settings, are uniquely positioned to bridge this knowledge gap. Nurse-led interventions, particularly structured teaching programmes, have been proven to be cost-effective and impactful in enhancing patient knowledge and self-management skills. Such programmes provide systematic and comprehensive information tailored to the patient's needs, enabling them to take an active role in managing their condition.

Therefore, implementing a nurse-led structured teaching programme for hospitalized adults with chronic bronchitis is essential to improve their knowledge regarding risk factors and home care management. This, in turn, can reduce the frequency of exacerbations, prevent complications, decrease hospital readmissions, and ultimately improve the overall quality of life.

NEED FOR THE STUDY

Chronic bronchitis, a major component of Chronic Obstructive Pulmonary Disease, is a growing public health concern worldwide and particularly in India. It contributes significantly to morbidity, mortality, and healthcare burden. The increasing prevalence of respiratory diseases is largely attributed to risk factors such as smoking, air pollution, occupational exposure, and unhealthy lifestyles. In developing regions, including Madhya Pradesh, limited awareness and poor access to health education further aggravate the problem.

Hospitalized adults with chronic bronchitis often receive medical treatment focused on symptom relief and stabilization of their condition. However, many patients are discharged without adequate knowledge regarding long-term disease management. Lack of awareness about risk factors such as continued smoking, exposure to environmental pollutants, and poor medication adherence leads to frequent exacerbations and repeated hospital admissions. This not only increases the economic burden on families and healthcare systems but also negatively affects the patient's quality of life.

Effective home management is crucial in preventing complications and improving outcomes in chronic bronchitis. Practices such as smoking cessation, proper use of inhalers, adherence to medications, maintaining respiratory hygiene, performing breathing exercises, and early recognition of warning signs are essential components of self-care. Unfortunately, many patients lack the necessary knowledge and skills to implement these measures effectively.

Nurses play a vital role in patient education and health promotion. A nurse-led structured teaching programme provides an organized and systematic approach to educate patients about disease management, risk reduction, and lifestyle modifications. Such interventions are cost-effective, easy to implement, and can significantly enhance patients' understanding and self-care practices.

Despite the importance of patient education, there is a scarcity of structured educational interventions specifically targeting chronic bronchitis patients in hospital settings, particularly in Indore, Madhya Pradesh. Most existing studies focus on general respiratory diseases, with limited emphasis on individualized, nurse-led teaching programmes.

Therefore, this study is needed to evaluate the effectiveness of a nurse-led structured teaching programme on improving knowledge regarding home management and risk reduction among hospitalized adults with chronic bronchitis. The findings of this study will help in developing evidence-based educational strategies, reducing hospital readmissions, and improving the overall quality of life of patients.

OBJECTIVES

1. To assess the pre-test knowledge regarding home management and risk reduction of chronic bronchitis among hospitalized adults
2. To evaluate the effectiveness of a nurse-led structured teaching programme
3. To compare pre-test and post-test knowledge scores
4. To find association between knowledge scores and selected demographic variables

HYPOTHESES

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

METHODOLOGY

Research Approach

A **quantitative research approach** was adopted for the present study to objectively measure the effectiveness of the nurse-led structured teaching programme on knowledge regarding home management and risk reduction of chronic bronchitis among hospitalized adults.

Research Design

The study utilized a **quasi-experimental one-group pre-test post-test design**. This design enabled the researcher to assess the level of knowledge before and after the implementation of the structured teaching programme within the same group of participants.

Setting of the Study

The study was conducted in a **selected hospital at Indore**, which provides inpatient services for adults diagnosed with respiratory conditions including chronic bronchitis.

Population

The target population comprised **hospitalized adult patients diagnosed with chronic bronchitis**, admitted to the selected hospital.

Sample and Sample Size

A total of **100 adult patients** diagnosed with chronic bronchitis were included in the study. Sampling Technique

A **non-probability purposive sampling technique** was used to select participants who met the inclusion criteria and were available during the data collection period.

Inclusion Criteria

- Adults diagnosed with chronic bronchitis
- Patients admitted to the selected hospital
- Individuals who were willing to participate in the study
- Patients who could understand and respond to the questionnaire

Exclusion Criteria

- Critically ill patients unable to participate
- Patients with cognitive impairment or communication difficulties
- Patients who had previously attended similar educational programmes

Variables of the Study

- **Independent** Variable:
Nurse-led structured teaching programme
- **Dependent** Variable:
Knowledge regarding home management and risk reduction of chronic bronchitis
- **Demographic** Variables:
Age, gender, education, occupation, duration of illness, smoking history, and previous exposure to health education

Development of the Tool

The data collection tool was developed by the researcher based on:

- Extensive **review of literature**
- **Expert guidance** from nursing and medical professionals
- Objectives of the study

Description of the Tool

The tool consisted of two sections:

Section A: Demographic Variables

Included items such as age, gender, education, occupation, and clinical history.

Section B: Structured Knowledge Questionnaire

- Multiple-choice questions related to:
 - Risk factors of chronic bronchitis
 - Symptoms and complications
 - Home management practices
 - Preventive measures

Validity and Reliability

- **Content validity** was established by experts in medical-surgical nursing and pulmonology
- **Reliability** of the tool was tested using appropriate statistical methods (e.g., split-half method), yielding a reliability coefficient ($r \approx 0.8$ or above), indicating good reliability

Intervention

A **nurse-led structured teaching programme** was administered to the participants. The programme included:

- Information on disease condition
- Risk factors (smoking, pollution, occupational exposure)
- Home care management (medication adherence, breathing exercises, nutrition)
- Prevention of complications

Teaching methods included lecture, discussion, and demonstration using audiovisual aids.

Data Collection Procedure

1. Formal permission was obtained from the hospital authority
2. Participants were selected based on inclusion criteria
3. Informed consent was obtained
4. **Pre-test** was conducted using the structured questionnaire
5. Structured teaching programme was administered
6. **Post-test** was conducted after a specified period (e.g., 7 days)
7. Data were recorded and organized for analysis

Data Analysis

Data were analyzed using descriptive and inferential statistics:

- **Descriptive Statistics:**
- Mean, standard deviation, frequency, and percentage
- **Inferential Statistics:**
 - Paired *t*-test to compare pre-test and post-test knowledge scores
 - Chi-square test to find association between knowledge scores and demographic variables

RESULTS

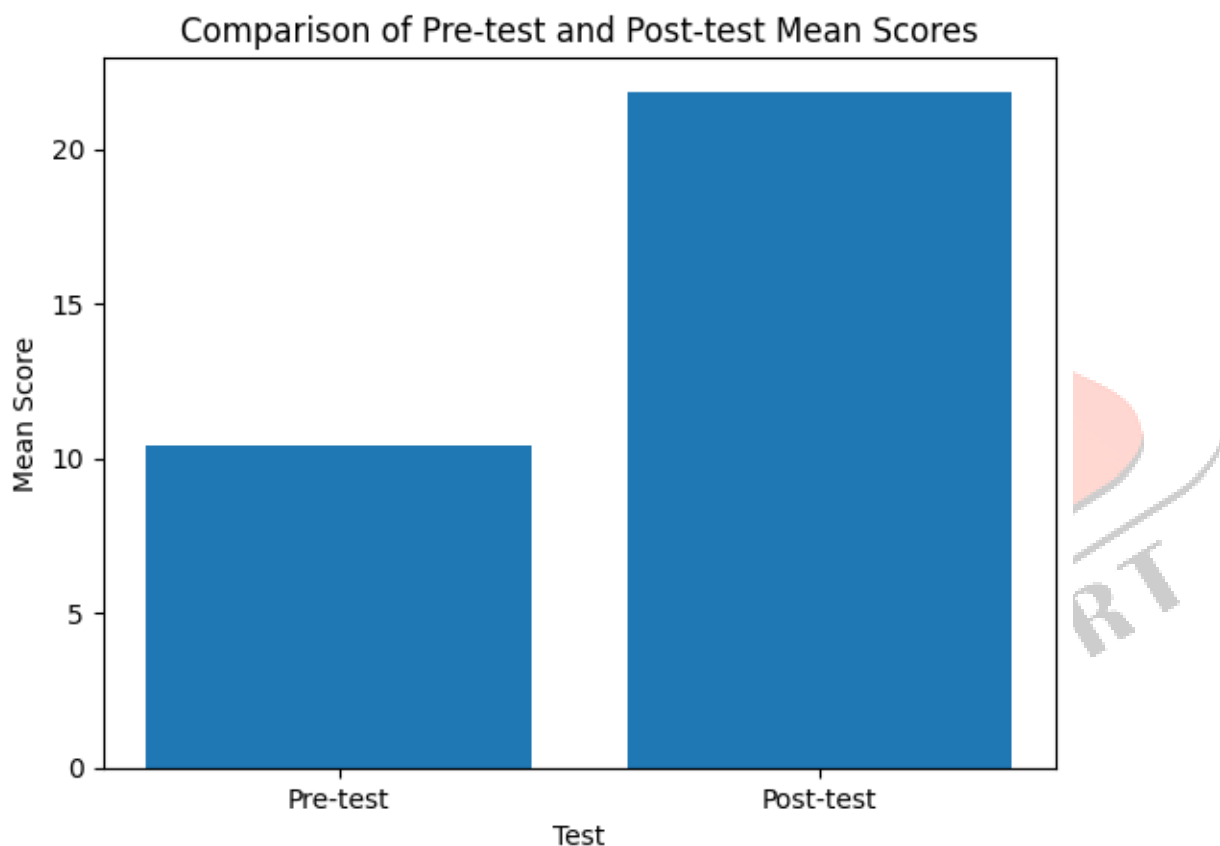
The present study assessed the effectiveness of a nurse-led structured teaching programme on knowledge regarding home management and risk reduction of chronic bronchitis among hospitalized adults.

Descriptive Statistics

- The **mean pre-test knowledge score** was 10.42 ± 3.15 , indicating that participants had **inadequate baseline knowledge** regarding chronic bronchitis management.
- The **mean post-test knowledge score** increased to 21.86 ± 2.74 , reflecting a **substantial improvement** after the intervention.

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	10.42	3.15				
Post-test	21.86	2.74	11.44	24.18	< 0.001	Highly Significant



Comparison of Pre-test and Post-test Scores

- The **mean difference** between pre-test and post-test scores was **11.44**, showing a considerable gain in knowledge following the structured teaching programme.

Inferential Statistics

- The calculated **paired t-test value (t = 24.18)** was found to be statistically significant.
- The **p-value (p < 0.001)** indicates that the improvement in knowledge was **highly significant at 0.05 level of significance**.

Interpretation of Findings

The findings clearly demonstrate that the **nurse-led structured teaching programme was highly effective** in improving knowledge among hospitalized adults regarding:

- Risk factors of chronic bronchitis
- Home care management
- Prevention of complications

The significant increase in post-test scores confirms that the intervention had a **strong positive impact** on participants' understanding.

Overall Conclusion of Results

There was a **marked and statistically significant improvement** in knowledge following the intervention, thereby supporting the effectiveness of structured teaching programmes in enhancing patient education and self-management practices.

DISCUSSION

The present study was conducted to evaluate the effectiveness of a nurse-led structured teaching programme on knowledge regarding home management and risk reduction of chronic bronchitis among hospitalized adults. The findings revealed a statistically significant improvement in knowledge scores following the intervention.

The **pre-test mean score (10.42 ± 3.15)** indicated that participants had inadequate baseline knowledge regarding chronic bronchitis, its risk factors, and home care management. This finding is consistent with previous research, which highlights that patients with chronic respiratory diseases often have limited awareness about disease management and preventive strategies, particularly in developing countries.

Following the implementation of the structured teaching programme, the **post-test mean score increased to 21.86 ± 2.74** , with a highly significant **t-value ($24.18, p < 0.001$)**. This substantial improvement demonstrates the effectiveness of the educational intervention in enhancing patients' knowledge. The findings are supported by earlier studies that have reported significant improvements in knowledge and self-care practices after structured educational programmes among patients with chronic respiratory conditions.

The observed improvement can be attributed to the systematic and organized nature of the nurse-led teaching programme, which included information on risk factors such as smoking and pollution, as well as practical guidance on home management strategies like medication adherence, breathing exercises, and lifestyle modification. Such comprehensive education enables patients to better understand their condition and actively participate in their own care.

Furthermore, the findings emphasize the critical role of nurses as educators and facilitators in healthcare settings. Nurse-led interventions are cost-effective, accessible, and capable of delivering personalized education, making them highly suitable for improving patient outcomes in hospital settings. The results of this study align with the broader evidence supporting patient education as a key component in the management of chronic diseases.

Overall, the study confirms that structured teaching programmes are an effective strategy for improving knowledge and promoting self-management among patients with chronic bronchitis, thereby potentially reducing complications and hospital readmissions.

CONCLUSION

Based on the findings of the study, it can be concluded that the **nurse-led structured teaching programme was highly effective** in improving knowledge regarding home management and risk reduction of chronic bronchitis among hospitalized adults.

The significant increase in post-test knowledge scores indicates that structured educational interventions play a crucial role in enhancing patients' understanding of their disease and promoting better self-care practices. Improved knowledge can lead to early recognition of symptoms, adherence to treatment, avoidance of risk factors, and ultimately better disease control.

The study highlights the importance of integrating structured teaching programmes into routine nursing care, particularly for patients with chronic conditions like Chronic Obstructive Pulmonary Disease. Such interventions are simple, cost-effective, and can significantly contribute to reducing complications, minimizing hospital readmissions, and improving the overall quality of life of patients.

In conclusion, nurse-led educational programmes should be encouraged and implemented as a standard component of patient care in hospital settings to achieve better health outcomes and promote long-term disease management.

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