



# A Study to Assess Knowledge and Attitude Regarding Smoking Cessation Among Chronic Bronchitis Patients in Selected Hospitals of Indore, Madhya Pradesh

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## ABSTRACT

### Background:

Chronic bronchitis is a major component of Chronic Obstructive Pulmonary Disease (COPD) and is strongly associated with long-term smoking. Smoking cessation is the most effective intervention to slow disease progression. However, knowledge and attitude toward smoking cessation among patients remain inadequate in many settings.

### Objectives:

1. To assess the knowledge regarding smoking cessation among chronic bronchitis patients.
2. To assess the attitude toward smoking cessation among chronic bronchitis patients.
3. To determine the association between knowledge and attitude scores with selected demographic variables.

### Methods:

A descriptive cross-sectional study was conducted among 100 chronic bronchitis patients in selected hospitals of Indore, Madhya Pradesh. A structured knowledge questionnaire and Likert attitude scale were used. Data were analyzed using descriptive and inferential statistics.

### Results:

The findings revealed that 58% of patients had moderate knowledge, 28% had inadequate knowledge, and 14% had adequate knowledge. Regarding attitude, 62% showed a favorable attitude, 25% moderately favorable, and 13% unfavorable attitude. A significant association was found between knowledge and education level ( $p < 0.05$ ).

### Conclusion:

The study concludes that although patients have a moderately favorable attitude toward smoking cessation, knowledge levels remain insufficient. Structured educational interventions are recommended.

**Keywords:** Chronic bronchitis, Smoking cessation, Knowledge, Attitude, COPD

## INTRODUCTION

Chronic bronchitis is a significant and progressive respiratory disorder characterized by persistent cough and sputum production for at least three months in two consecutive years. It is a major component of Chronic Obstructive Pulmonary Disease (COPD), which contributes substantially to global morbidity and mortality. The burden of chronic bronchitis is particularly high in developing countries like India, where exposure to risk factors such as tobacco smoke, environmental pollution, and occupational hazards remains widespread. The condition not only impairs pulmonary function but also leads to reduced quality of life, increased healthcare utilization, and economic burden on individuals and society.

Among the various etiological factors, cigarette smoking is recognized as the most important and preventable cause of chronic bronchitis. Tobacco smoke contains numerous toxic chemicals that damage the airway epithelium, leading to chronic inflammation, excessive mucus production, and narrowing of the airways. Over time, these pathological changes result in persistent airflow limitation and increased susceptibility to respiratory infections. Both active smoking and exposure to secondhand smoke significantly contribute to disease progression. Despite the well-established link between smoking and chronic bronchitis, a large proportion of patients continue to smoke even after diagnosis, which further exacerbates their condition.

Smoking is not merely a habit but a complex addiction influenced by behavioral, psychological, and social factors. Nicotine dependence makes cessation difficult, while lack of awareness, misconceptions about smoking risks, and cultural acceptance often hinder quitting efforts. In many cases, patients underestimate the severity of their illness or believe that cessation will not significantly improve their health outcomes. Additionally, inadequate counseling and limited access to smoking cessation programs further reduce the likelihood of successful quitting. These factors highlight the importance of assessing patients' knowledge and attitudes toward smoking cessation.

Smoking cessation is the single most effective and economical intervention for preventing the progression of chronic bronchitis and improving overall respiratory health. Evidence suggests that quitting smoking can slow the decline in lung function, reduce symptoms, decrease the frequency of exacerbations, and improve survival rates. Furthermore, smoking cessation has broader health benefits, including reduced risk of cardiovascular diseases, cancers, and other smoking-related conditions. Despite these benefits, many patients lack adequate knowledge about cessation strategies such as behavioral therapy, pharmacological interventions (e.g., nicotine replacement therapy), and support systems.

Attitude plays a crucial role in influencing an individual's readiness to quit smoking. A positive attitude toward cessation is associated with higher motivation, increased confidence, and better adherence to quitting strategies. Conversely, a negative or indifferent attitude may act as a barrier, even in individuals who are aware of the harmful effects of smoking. Therefore, evaluating both knowledge and attitude is essential for understanding patients' behavior and designing targeted interventions.

In the Indian context, limited research has been conducted to explore the knowledge and attitude regarding smoking cessation among patients with chronic bronchitis, particularly in regions like Madhya Pradesh. Socio-demographic factors such as age, education, occupation, and socioeconomic status may significantly influence patients' awareness and perceptions. Identifying these factors can help healthcare professionals develop customized educational programs and counseling strategies to promote smoking cessation.

Nurses and other healthcare providers play a pivotal role in educating patients, providing counseling, and supporting behavior change. Incorporating structured teaching programs, motivational interviewing, and follow-up support can significantly enhance cessation outcomes. Therefore, it is essential to assess the existing level of knowledge and attitude among chronic bronchitis patients to identify gaps and implement appropriate interventions.

In view of the above, the present study aims to assess the knowledge and attitude regarding smoking cessation among chronic bronchitis patients in selected hospitals of Indore, Madhya Pradesh. The findings of this study are expected to provide valuable insights for healthcare professionals and policymakers to design effective smoking cessation programs and improve patient outcomes.

## NEED FOR THE STUDY

### NEED FOR THE STUDY

Chronic bronchitis is a major public health problem and a significant contributor to the global burden of Chronic Obstructive Pulmonary Disease (COPD). It is characterized by persistent inflammation of the bronchi, leading to excessive mucus production, chronic cough, and progressive airflow limitation. The disease imposes a substantial burden not only on the affected individuals but also on healthcare systems due to frequent hospitalizations, long-term treatment requirements, and loss of productivity. In India, the prevalence of chronic respiratory diseases is increasing due to rapid urbanization, environmental pollution, and high rates of tobacco consumption.

Smoking remains the primary and most preventable cause of chronic bronchitis. It is estimated that a large proportion of patients diagnosed with chronic bronchitis have a history of long-term tobacco use. Despite widespread awareness campaigns and governmental policies aimed at tobacco control, smoking prevalence continues to remain high, particularly among adult males in India. The addictive nature of nicotine, combined with socio-cultural acceptance and lack of strict enforcement of tobacco control measures, contributes to continued smoking behavior even among individuals suffering from respiratory illnesses.

One of the most concerning issues is that many patients with chronic bronchitis continue to smoke even after being diagnosed with the disease. This behavior significantly accelerates the progression of the condition, leading to worsening symptoms, increased risk of complications, and reduced quality of life. Continued smoking not only diminishes the effectiveness of medical treatment but also increases the risk of acute exacerbations, hospital admissions, and mortality. This highlights a critical gap between awareness and actual behavioral change among patients.

Knowledge plays a vital role in influencing health-related behavior. Adequate knowledge regarding the harmful effects of smoking and the benefits of smoking cessation can motivate individuals to quit smoking. However, studies have shown that many patients lack comprehensive knowledge about the long-term consequences of smoking and the available methods for cessation. Misconceptions, such as believing that reducing the number of cigarettes is sufficient or that quitting at a later stage has no benefit, are still prevalent. Such gaps in knowledge hinder effective decision-making and delay smoking cessation efforts.

In addition to knowledge, attitude is another crucial determinant of behavior change. A positive attitude toward smoking cessation can significantly increase the likelihood of quitting, whereas a negative or indifferent attitude can act as a barrier. Factors such as low motivation, fear of withdrawal symptoms, lack of confidence, and social influences often shape patients' attitudes toward quitting smoking. Therefore, assessing both knowledge and attitude provides a comprehensive understanding of the factors influencing smoking behavior among chronic bronchitis patients.

Furthermore, there is limited region-specific data available regarding knowledge and attitude toward smoking cessation among chronic bronchitis patients in Madhya Pradesh, particularly in Indore. Most existing studies have been conducted in urban metropolitan settings or focus broadly on COPD patients without specifically addressing chronic bronchitis. This lack of localized evidence limits the ability of healthcare providers to design targeted interventions tailored to the needs of the population.

Healthcare professionals, especially nurses, play a key role in patient education and smoking cessation counseling. However, the effectiveness of such interventions depends on a clear understanding of patients' baseline knowledge and attitudes. Without this information, it becomes challenging to develop appropriate educational strategies and behavioral interventions. Identifying gaps in knowledge and negative attitudes can help in designing structured teaching programs, counseling sessions, and support systems aimed at promoting smoking cessation.

Moreover, smoking cessation is recognized as the most cost-effective intervention for reducing the burden of chronic bronchitis. Early cessation can significantly slow disease progression, improve lung function, reduce symptoms, and enhance overall quality of life. It also reduces healthcare costs associated with long-term treatment and hospitalizations. Therefore, promoting smoking cessation is not only beneficial for individual patients but also for public health and economic sustainability.

Considering the above factors, there is a strong need to assess the knowledge and attitude regarding smoking cessation among chronic bronchitis patients. Such an assessment will help identify existing gaps, misconceptions, and barriers to quitting smoking. The findings of the study will provide a scientific basis for developing targeted educational interventions and policies aimed at improving smoking cessation rates among this population.

Hence, the present study is undertaken to assess the knowledge and attitude regarding smoking cessation among chronic bronchitis patients in selected hospitals of Indore, Madhya Pradesh. The results are expected to contribute to improved patient care, enhanced health education strategies, and better management of chronic bronchitis.

## OBJECTIVES

1. To assess knowledge regarding smoking cessation among chronic bronchitis patients
2. To assess attitude toward smoking cessation
3. To find association between knowledge, attitude, and demographic variables

## HYPOTHESES

- **H<sub>1</sub>:** There is a significant association between knowledge and selected demographic variables
- **H<sub>2</sub>:** There is a significant association between attitude and selected demographic variables

## METHODOLOGY

### Research Approach

A **quantitative research approach** was adopted for the present study, as it enables objective measurement and statistical analysis of knowledge and attitude regarding smoking cessation among chronic bronchitis patients.

### Research Design

A **descriptive cross-sectional research design** was used to assess the existing level of knowledge and attitude at a single point in time without manipulation of variables.

### Setting of the Study

The study was conducted in **selected hospitals of Indore, Madhya Pradesh**, where a sufficient number of chronic bronchitis patients were available for data collection.

## Population

The target population comprised **patients diagnosed with chronic bronchitis** attending outpatient and inpatient departments of selected hospitals.

## Sample Size

The total sample size for the study was **100 chronic bronchitis patients**.

## Sampling Technique

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

## Eligibility Criteria

### Inclusion Criteria

Participants who:

- Were **diagnosed with chronic bronchitis**
- Had a **history of smoking**
- Were **available during the data collection period**
- Were **willing to participate** and provided informed consent

### Exclusion Criteria

Participants who:

- Were **critically ill**
- Had **cognitive impairment or communication difficulties**

## Description of Data Collection Tools

The data collection tool consisted of **three sections**:

### Tool I: Socio-Demographic Variables

This section was used to collect baseline information of the participants, including:

- Age
- Gender
- Educational status
- Occupation
- Duration of illness
- Smoking history

### Tool II: Structured Knowledge Questionnaire

- Comprised of **20 multiple-choice questions** related to smoking cessation
- Each correct answer was awarded **one mark**
- Total score ranged from **0 to 20**

### **Scoring Interpretation**

- **0–7** : Inadequate knowledge
- **8–14** : Moderate knowledge
- **15–20** : Adequate knowledge

### **Tool III: Attitude Scale**

- Consisted of **15 statements** based on a **5-point Likert scale** (*Strongly Agree to Strongly Disagree*)

### **Scoring Interpretation**

- **Unfavorable attitude**
- **Moderately favorable attitude**
- **Favorable attitude**

### **Validity and Reliability of the Tool**

- The tool was validated by **experts in medical-surgical nursing, pulmonary medicine, and community health nursing**
- Necessary modifications were made based on expert suggestions
- Reliability was established using appropriate statistical methods (*e.g., Cronbach's alpha for attitude scale*)

### **Ethical Considerations**

- Ethical approval was obtained from the **Institutional Ethics Committee**
- Permission was obtained from hospital authorities
- **Informed consent** was taken from all participants
- Confidentiality and anonymity of participants were strictly maintained

### **Data Collection Procedure**

- Formal permission was obtained from concerned authorities
- Participants were selected using purposive sampling
- The purpose of the study was explained to participants
- Written informed consent was obtained
- The structured questionnaire was administered to participants
- Average time taken per participant was **20–25 minutes**
- Data were collected over a period of **4 weeks**

### **Plan for Data Analysis**

Data were analyzed using **descriptive and inferential statistics**:

### **Descriptive Statistics**

- Frequency and percentage
- Mean and standard deviation

## Inferential Statistics

- **Chi-square ( $\chi^2$ ) test** was used to determine the association between:
  - Knowledge scores and demographic variables
  - Attitude scores and demographic variables
- Significance was set at  **$p < 0.05$**

## RESULTS

### Section I: Distribution of Knowledge Levels

**Table 1: Distribution of Knowledge Levels among Chronic Bronchitis Patients (n = 100)**

Knowledge Level	Frequency (f)	Percentage (%)
Inadequate	28	28%
Moderate	58	58%
Adequate	14	14%

#### Interpretation:

Table 1 reveals that the majority of the respondents (**58%**) had **moderate knowledge** regarding smoking cessation. About **28%** of the participants had **inadequate knowledge**, while only **14%** demonstrated **adequate knowledge**. This indicates that although some awareness exists, a considerable proportion of patients lack sufficient knowledge about smoking cessation.

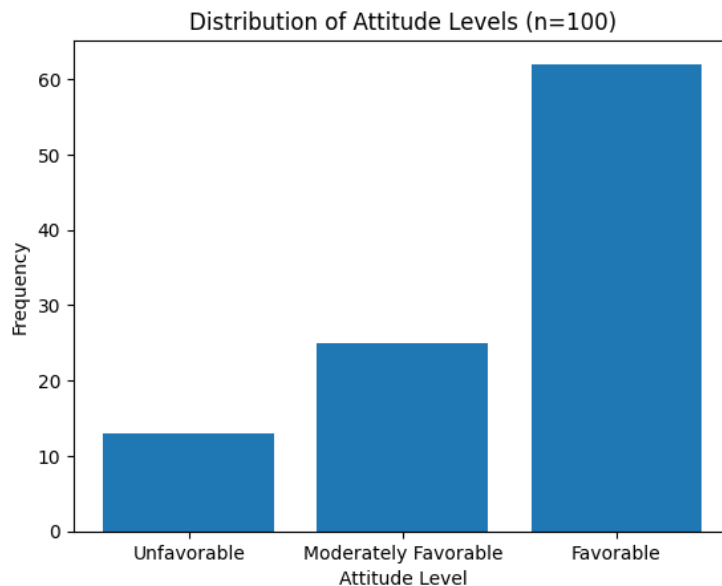
### Section II: Distribution of Attitude Levels

**Table 2: Distribution of Attitude Levels among Chronic Bronchitis Patients (n = 100)**

Attitude Level	Frequency (f)	Percentage (%)
Unfavorable	13	13%
Moderately Favorable	25	25%
Favorable	62	62%

#### Interpretation:

Table 2 shows that a majority of respondents (**62%**) had a **favorable attitude** toward smoking cessation. About **25%** exhibited a **moderately favorable attitude**, while **13%** had an **unfavorable attitude**. These findings suggest that most patients are positively inclined toward quitting smoking, despite gaps in knowledge.



### Section III: Association Between Knowledge and Selected Demographic Variables

**Table 3: Association Between Knowledge Level and Education (n = 100)**

Variable	$\chi^2$ Value	p-value	Significance
Education	6.85	0.03	Significant

#### Interpretation:

Table 3 indicates that there is a **statistically significant association** between **knowledge level and educational status** of the participants ( $\chi^2 = 6.85$ ,  $p = 0.03$ ). This implies that higher educational levels are associated with better knowledge regarding smoking cessation.

#### DISCUSSION

The study findings indicate that most patients possess moderate knowledge but still lack comprehensive understanding of smoking cessation benefits. The favorable attitude observed suggests readiness for behavioral change if proper guidance is provided.

Similar findings were reported in previous studies where education level significantly influenced knowledge and attitude. This highlights the importance of targeted health education programs.

#### CONCLUSION

The present study assessed the knowledge and attitude regarding smoking cessation among chronic bronchitis patients in selected hospitals of Indore, Madhya Pradesh. The findings revealed that the majority of participants possessed **moderate knowledge** regarding smoking cessation, indicating partial awareness but insufficient comprehensive understanding.

A significant proportion of patients demonstrated a **favorable attitude** toward smoking cessation, suggesting their willingness and readiness to quit smoking if appropriate guidance and support are provided. Despite this positive attitude, the gap in knowledge highlights the need for structured educational interventions.

The study also identified that **educational status had a statistically significant influence on knowledge levels**, indicating that higher education contributes to better awareness regarding the harmful effects of smoking and the benefits of cessation.

Overall, the findings emphasize that while patients are positively inclined toward quitting smoking, there is a critical need to enhance their knowledge through systematic and targeted educational strategies. Strengthening patient education can play a vital role in improving smoking cessation rates and reducing the burden of chronic bronchitis.

## RECOMMENDATIONS

Based on the findings of the study, the following recommendations are suggested:

- **Health Education Programs:**  
Regular health education sessions should be conducted to improve patients' knowledge regarding the harmful effects of smoking and benefits of cessation.
- **Smoking Cessation Counseling:**  
Hospitals should establish structured smoking cessation counseling services, including behavioral therapy and guidance on pharmacological interventions.
- **Family Involvement:**  
Family members should be involved in counseling sessions to provide emotional support and reinforce positive behavior changes.
- **Training for Healthcare Professionals:**  
Nurses and healthcare providers should be trained in smoking cessation techniques and motivational counseling.
- **Use of IEC Materials:**  
Information, Education, and Communication (IEC) materials such as pamphlets, posters, and audiovisual aids should be utilized.
- **Further Research:**  
Similar studies should be conducted with larger sample sizes and in different settings to enhance generalizability.

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