

## A Review on Patient Counseling for COPD

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### ABSTRACT

Chronic obstructive pulmonary disease (COPD) is a progressive lung disease characterized by airflow limitation and breathing difficulties. It primarily results from long-term exposure to harmful particles or gases, most commonly from cigarette smoke. The disease encompasses two main conditions: emphysema and chronic bronchitis. Symptoms often include cough, sputum production, and shortness of breath, significantly impacting quality of life. Early diagnosis and management are crucial for improving outcomes and slowing disease progression. Treatment options may include medications, pulmonary rehabilitation, and lifestyle changes, such as smoking cessation. Public health initiatives aimed at reducing smoking rates and improving air quality are essential in preventing COPD. Ongoing research continues to explore new therapies and interventions to enhance patient care and reduce the burden of this debilitating disease.

### I. INTRODUCTION

- **Challenges in Modification:** Modifying health-related behaviours is associated with significant potential health gains but presents substantial challenges for individuals with chronic conditions like COPD
- **Modifiable Behaviours:** In people with COPD, behaviours that can be modified to improve outcomes include smoking, diet and nutrition, activity profiles, sleep quality, medication adherence, and socialization.
- **Role of Counseling:** Counseling is suggested as a promising approach within complex interventions to facilitate, increase, and maintain these beneficial behaviour changes.
- **Defining Counseling:** There is currently no universally accepted definition for “Counseling” in this context. It is often used interchangeably

with terms like health coaching, advising, mentoring, or motivational interviewing.

- **Theoretical Basis:** In COPD management, counseling typically refers to processes based on various theoretical frameworks such as Self-Determination Theory or Stage of change Theory – and involves multiple behaviour change techniques (BCTs)

### II. REVIEW OF LITERATURE

The review article titled “Underrepresentation of Women in COPD Pharmacologic Trials Relative to Disease Burden: A Systematic Review and Meta Analysis” (2026) by Muhammed Umer et al. examines the participation of women in pharmacological clinical trials for chronic obstructive pulmonary disease (COPD). The authors highlight that although the prevalence and disease burden of COPD among women have been increasing globally, women remain significantly underrepresented in many clinical trials evaluating COPD medications. Through a systematic review and meta-analysis of published trials, the study compares the proportion of female participants with the actual disease burden among women. The findings reveal a noticeable gender disparity in clinical trial enrolment, which may affect the generalizability of treatment outcomes and therapeutic recommendations for female patients. The authors emphasize the importance of improving gender representation in future COPD clinical research to ensure more accurate evaluation of drug efficacy, safety, and treatment responses in both men and women

Investigates the economic and productivity benefits of preventing chronic obstructive pulmonary disease (COPD) among the working-age population in China. The researchers used dynamic life table models and national data to estimate productivity-

adjusted life-years (PALYs) and the potential economic gains from reducing COPD incidence between 2021 and 2030. The study found that eliminating new COPD cases could result in significant productivity improvements and contribute substantially to the national economy. The findings estimated that preventing COPD could generate more than two million PALYs and add over 100 billion dollars to China's GDP during the study period. Additionally, the research highlights that controlling major risk factors such as smoking and air pollution (PM<sub>2.5</sub>) could further improve productivity and reduce disease burden. The study emphasizes the importance of public health strategies focusing on COPD prevention to enhance workforce productivity and reduce economic losses associated with the disease.

This review summarizes a comprehensive study on the global, regional, and national burden of chronic obstructive pulmonary disease (COPD) and its risk factors from 1990 to 2021. The research utilized data from the Global Burden of Disease Study 2021 to provide updated estimates of prevalence, mortality, and disability-adjusted life years (DALYs). In 2021, an estimated 213.39 million prevalent cases of COPD existed globally, with higher age-standardized prevalence among males. While absolute case numbers increased since 1990, the global age-standardized mortality rate significantly declined by 37.12%. Similarly, the age-standardized DALYs rate saw a substantial reduction of 36.98% over the same thirty year period. High-income North America and South Asia recorded the highest age-standardized prevalence rates, both exceeding 3,000 cases per 100,000 people. Conversely, regions like East Asia and Eastern Europe experienced the most dramatic decreases in age-standardized mortality, both dropping by over 60%. Smoking was identified as the leading global risk factor, accounting for 34.8% of COPD DALYs. Other significant contributors included ambient particulate matter pollution (22.2%) and household air pollution from solid fuels (19.5%). Occupational exposures to gases, fumes, and particulate matter were also linked to 15.8% of the DALY burden. The study concludes that although some rates are improving, the overall burden remains high due to aging populations and persistent environmental exposures. Consequently, researchers emphasize the urgent need for targeted public health policies focusing on smoking cessation and pollution control.

Establishing the user's intent to review a specific project file, this review summarizes the findings of the study "Burden of Disease Analysis of

COPD Attributable to Occupational PGFs in the BRICS Countries, 1990–2021," published in the International Journal of Chronic Obstructive Pulmonary Disease. Between 1990 and 2021, the absolute numbers for deaths, disability-adjusted life years (DALYs), and years lived with disability (YLDs) from chronic obstructive pulmonary disease (COPD) linked to workplace particulate matter, gases, and fumes (PGFs) showed an overall increasing trend. By 2021, these absolute burdens reached 12.60 million DALYs and 585,451 deaths within the BRICS nations. However, there was a divergence in trends, as age-standardized rates (ASRs) for deaths and DALYs generally declined, while the ASR for YLDs actually increased. This rising absolute burden was primarily driven by significant population growth, which accounted for 85.2% of the increase in DALYs. Stratified analysis revealed that both absolute numbers and age-standardized rates were consistently higher in men than in women across the study period. Additionally, the elderly population, specifically those aged 65 to 79, bore the highest burden, accounting for approximately half of the total DALYs and deaths in 2021. Geographically, South Asia recorded the highest age-standardized rates for all disease indicators among the regions analysed. Low-Middle SDI regions were identified as critical areas for intervention due to their combination of high ASRs and rapid burden growth. The study utilized data from the Global Burden of Disease (GBD) 2021 database and employed decomposition and forecasting models to identify drivers and future trends. Ultimately, the authors conclude that despite some declining rates, the increasing absolute burden necessitates urgent workplace-focused interventions such as improved ventilation and engineering controls. These findings underscore the significant impact of rapid industrialization on public health in emerging economies.

### III. METHODS

The Counseling process is a two-way communication session involving the following steps and techniques:

- **Four-step Counseling process:**

- **Preparing for the Session:** The Pharmacist reviews the patient's case notes, treatment history, and Prescription details to provide individualized advice.
- **Opening the Session:** The Pharmacist introduces themselves, greets the

- patient by name, and uses open-ended or reflective questions to assess the patient's understanding of their disease and treatment.
- **Counseling Content:** The “heart” of the session covers the medication's name strength, purpose, administration instructions, potential side effects, and storage.
  - **Closing the Session:** The Pharmacist uses feedback questions to verify the patient's understanding and summarises key points.
  - **Communication Techniques:**
    - **Verbal Skills:** Counsellors should use simple, non-medical language and maintain a caring, reassuring tone at an appropriate speed and volume.
    - **Non-Verbal Skills:** Maintaining appropriate proximity (personal zone:45cm-1.2m), eye contact, and empathetic facial expressions are essential for building rapport.
  - **Documentation (SOAP Note):** Healthcare providers document counseling using the SOAP format: Subjective (patient's own assessment), Objective (vital signs and exam findings), Assessment (diagnosis and progress), and Plan (future treatment and education).

#### IV. RESULT

Effective patient counseling is aimed at producing the following outcomes:

- **Better Patient Understanding:** Improved knowledge regarding the illness and the specific role of each medication.
- **Enhanced Adherence:** Greater compliance with the prescribed treatment regimen.
- **Improved Safety:** Reduced incidence of medication errors and adverse effects.
- **Clinical Effectiveness:** More effective drug treatment and better management of medication-related side effects.
- **Quality of Life:** An overall improvement in the patient's quality of life and better professional rapport between the patient and the pharmacist.

#### Specific Counseling Content for COPD

Counseling for COPD patients specifically emphasizes:

- **Lifestyle Changes:** Strict avoidance of smoking and environmental triggers like dust or cold air.
- **Techniques:** Instruction on breathing exercises (e.g.; pursed-lip or diaphragmatic breathing) and the importance of rinsing the mouth after using steroid inhalers to prevent oral candidiasis.
- **Preventive Care:** Encouragement to receive annual influenza and pneumococcal vaccination.