

MANAGEMENT OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) NURSING CARE BASED ON SDGs AND WHO IN MR. H AT RSUP H. ADAM MALIK MEDAN IN 2025

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ABSTRACT

Chronic Obstructive Pulmonary Disease (COPD) is a progressive, irreversible respiratory disorder characterized by persistent airflow limitation that significantly affects patients' functional status and quality of life. Despite its incurable nature, COPD can be managed effectively through comprehensive and continuous medical and nursing interventions. This case study aims to implement and evaluate the medical-surgical nursing care provided to Mr. H, a patient diagnosed with COPD at H. Adam Malik General Hospital. A descriptive case study method was employed to explore the application of the nursing process, which includes assessment, nursing diagnosis, intervention planning, implementation, and evaluation. During the assessment phase, critical data were collected through interviews and physical examinations, revealing key symptoms such as shortness of breath, abnormal respiratory rate, use of accessory muscles, and decreased oxygen saturation. Based on these findings, three priority nursing diagnoses were established: ineffective airway clearance, ineffective breathing pattern, and activity intolerance. The planned nursing interventions were developed in accordance with the 2017 Indonesian Nursing Intervention Standards (SIKI), focusing on airway management, breathing support, and activity tolerance enhancement. These interventions were implemented over a three-day period and documented thoroughly. The evaluation process utilized the SOAP approach and showed partial resolution of all identified nursing problems, with noticeable improvements in the patient's respiratory status. However, continued nursing care and patient education are essential to maintain progress and prevent further complications. The findings of this study underscore the vital role of professional nursing care in managing COPD and emphasize the importance of a systematic approach in improving clinical outcomes and patient quality of life.

Keywords: Chronic Obstructive Pulmonary Disease, nursing care, nursing process

Introduction

Based on the Decree of the Minister of National Development Planning/Head of Bappenas No. 136/M.PPN/HK/12/2021 concerning the 2021–2024 National Action Plan for Sustainable Development Goals (SDGs), the government has designated the SDGs as the primary framework for national development, including in the health sector. This document encourages all stakeholders to use the SDGs as a reference in formulating policies and implementing programs, particularly in promotive, preventive, curative, and rehabilitative efforts. In the health context, SDG Goal 3 focuses on improving quality of life through the control of non-communicable diseases such as Chronic Obstructive Pulmonary Disease (COPD), while Goal 17 emphasizes cross-sector collaboration to support sustainable health services.

COPD is a progressive chronic disease characterized by irreversible airflow limitation. According to WHO (2023), COPD is the third leading cause of death globally. The 2023 Indonesian Basic Health Research (Riskesdas) reported a national prevalence of 5.6%. In North Sumatra, 188,565 cases were recorded, and at H. Adam Malik General Hospital, the number of COPD patients increased significantly from 153 cases in 2021 to 473 cases in 2023.

COPD greatly affects quality of life and increases the burden on health services due to frequent exacerbations. Mr. H, the patient in this case study, was hospitalized with severe COPD (GOLD stage 4), experiencing shortness of breath even during light activity and requiring continuous oxygen support. This condition underscores the need for structured nursing care. National regulations such as Law No. 38 of 2014 on Nursing, Minister of Health Regulation No. 26 of 2019, and Government Regulation No. 4 of 2022 reinforce the role of nurses in providing both independent and collaborative care, including in COPD cases.

Research Method

In this study, a descriptive case study method was used as the main strategy to achieve the research objectives and served as a guide throughout the entire research process. From a more specific perspective, the research design describes in detail the relationships between variables, data collection techniques, and the data analysis process. The study was conducted at Haji Adam Malik General Hospital in Medan.

Result

The sample selected by the researcher was one individual. Data were obtained from Mr. H, a 44-year-old male with a body weight of 50 kg and a height of 154 cm. He was admitted to the RA5 ward of H. Adam Malik General Hospital on April 22, 2025, with a diagnosis of Chronic Obstructive Pulmonary Disease (COPD). Upon assessment, the patient was found lying weakly in bed, receiving oxygen via nasal cannula and intravenous 0.9% NaCl in his right arm, and experiencing shortness of breath. His vital signs were: blood pressure 131/83 mmHg, heart rate 105 bpm, respiratory rate 28 breaths/minute, and temperature 37.5°C.

From the theoretical perspective, three nursing diagnoses were identified:

Ineffective breathing pattern related to decreased lung expansion, as evidenced by rapid and shallow breathing. Ineffective spontaneous ventilation related to respiratory muscle fatigue and inability to maintain adequate ventilation, as evidenced by irregular breathing. Ineffective airway clearance related to secretion accumulation and bronchospasm, as evidenced by increased respiratory rate.

However, in the actual case, the author identified three nursing diagnoses based on the data collected: Ineffective airway clearance related to airway hypersecretion, as evidenced by excessive sputum. Ineffective breathing pattern related to impaired respiratory effort, as evidenced by the use of accessory muscles. Activity intolerance related to an

imbalance between oxygen supply and demand, as evidenced by complaints of fatigue.

The data above revealed discrepancies between theory and practice. This occurred due to the absence of supporting data that met the standards of the Indonesian Nursing Diagnosis Standards (SDKI), in which major defining characteristics are required to validate a diagnosis. The interventions carried out by the researcher were based on the 2017 Indonesian Nursing Intervention Standards (SIKI). Nursing

Discussion

Assessment

The assessment data obtained by the researcher identified the patient as Mr. H (Medical Record No. 00808794), a 44-year-old male who was admitted to the hospital on April 31, 2025. The nursing assessment was carried out over three days, from May 1 to 3, 2025.

Nursing Diagnoses

Three nursing diagnoses were identified: Ineffective airway clearance related to retained secretions, as evidenced by the patient's complaint of shortness of breath for the past three days, complaints of coughing and difficulty expelling sputum, visible signs of dyspnea and restlessness, production of one cup of sputum, respiratory rate (RR) 28x/min, heart rate (HR) 105x/min, oxygen saturation (SpO₂) 89%, and the presence of wheezing breath sounds. Ineffective breathing pattern related to airway obstruction, as evidenced by the patient's complaint of difficulty breathing and worsening shortness of breath during activity, use of accessory respiratory muscles (abdominal muscles), tachypnea, prolonged inspiratory phase, SpO₂ 89%, RR 28x/min, HR 105x/min, and the use of a non-rebreather mask (NRM) with 5 L/min oxygen. Activity intolerance related to imbalance between oxygen supply and demand, as evidenced by the patient's complaint of fatigue and lack of energy during activity, complete dependence on family for daily activities, weakness, bedridden

care plans were developed to address the nursing problems identified in Mr. H based on the actual clinical findings. The interventions were implemented as planned over a three-day period. The evaluation stage, which serves as the final phase of the nursing process, aimed to assess the patient's health progress. Daily nursing evaluations began on... From May 1 to 3, 2025, the evaluation showed that by the third day, the three nursing diagnoses had been partially resolved, as documented using the SOAP format.

condition, IV line in the left hand, muscle strength level 3, use of nasal cannula, SpO₂ 89%, RR 28x/min, and HR 105x/min.

Implementation on Day Three

On the third day, the following nursing interventions were implemented: Airway clearance support: Identified the patient's ability to cough independently. Monitored for sputum retention—sputum production had decreased compared to previous days. Positioned the patient in semi-Fowler's position. Placed a kidney dish and underpad on the patient's lap. Disposed of secretions in the sputum container. Explained the purpose and procedure of effective coughing. Instructed the patient to inhale deeply through the nose for 4 seconds, hold for 2 seconds, then exhale through pursed lips for 8 seconds, repeating the deep breathing three times. Encouraged forceful coughing after the third deep breath; sputum was expelled during this maneuver. Collaborated in administering mucolytic (Ambroxol) and nebulizer treatments. Monitored breathing pattern (RR: 25x/min). Monitored for wheezing. Provided warm water to drink. Taught effective coughing techniques. Collaborated in administering bronchodilators, expectorants, and mucolytics. Collaborated in administering oxygen at 10 L/min. Activity tolerance support: Identified activity level deficit—the patient began showing ability to perform activities such as repositioning. Identified participation ability—muscle strength remained at level 3. Monitored physical activity—the patient had started eating

independently and walking to the bathroom, though still under supervision by family and nursing staff. Facilitated the selection of suitable activities and set realistic activity goals based on the patient's physical, psychological, and social conditions (e.g., simple ROM exercises). Explained methods for daily physical activities and recommended appropriate strategies. Collaborated with an occupational therapist for ROM exercises. Collaborated in administering IV fluids (NaCl 500 ml every 8 hours) to improve activity tolerance.

Conclusion and Suggestion

After providing medical-surgical nursing care to Mr. H, who was diagnosed with Chronic Obstructive Pulmonary Disease (COPD) in Room RA5 of RSUP H. Adam Malik, using the nursing process approach—comprising assessment, nursing diagnoses, interventions, implementation, and evaluation—all stages were carried out systematically to ensure the effectiveness of nursing care and improvement of the patient's condition. Therefore, it can be concluded:

Assessment: Important data were obtained through direct interviews and observations, including shortness of breath with a respiratory rate of 28 breaths/minute, heart rate (HR) of 105 beats/minute, oxygen saturation (SpO₂) at 89%, use of accessory abdominal muscles for breathing, difficulty expectorating secretions, and presence of wheezing. The patient appeared weak, anxious, and pale, indicating impaired oxygenation.

Nursing Diagnoses established: Ineffective airway clearance related to hypersecretion, as evidenced by excessive sputum. Ineffective breathing pattern related to airway obstruction, as evidenced by abnormal breathing patterns.

Nursing Interventions: Focused on effective coughing techniques, airway management, and activity therapy over a continuous three-day period (3x24 hours).

Evaluation (Day Three Only)

The patient reported a decrease in shortness of breath. Sputum production had reduced. RR: 26x/min. The patient was able to perform effective coughing independently. Problem: Partially resolved. Interventions continued by the ward nurse. The patient reported reduced shortness of breath. Observed signs of reduced dyspnea. RR: 25x/min. Problem: Partially resolved. Interventions continued by the ward nurse. The patient reported reduced shortness of breath and was able to perform light activities independently. Muscle strength showed improvement. Problem: Partially resolved. Interventions continued by the ward nurse.

Nursing Implementation: Carried out from April 1st to 3rd, 2025, in accordance with the planned interventions and further continued by the ward nurses. **Nursing Evaluation:** Evaluation using the SOAP approach showed improvement in the patient's condition following the provision of nursing care. **Suggestions For the Author** This research is expected to provide valuable experience in the direct implementation of nursing care for patients with COPD. For the Development of Nursing Science The results of this study are expected to serve as an additional reference for nurses in providing appropriate and targeted care for patients with COPD. For RSUP H. Adam Malik It is recommended to continue improving and maintaining the quality of nursing services, particularly in the management of COPD cases. For the Patient It is expected that the patient will apply the education provided during the nursing process, especially regarding interventions aimed at improving airway clearance to support the healing process.

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