

## NURSING CARE FOR OXYGENATION NEEDS DISORDER IN PATIENTS DIAGNOSED WITH BRONCHITIS IN THE JIMBARAN LAMA WARD

**Oom Komariyah<sup>1</sup>, Khaerunnisa Dwi Hikmatun<sup>2</sup>,  
Diana Sari<sup>3</sup>, Risma Fitriyani<sup>4</sup>, Dwiyanti Purbasari<sup>5</sup>**

Institut Teknologi dan Kesehatan Mahardika, Jawa Barat, Indonesia

E-mail: oomkomariyah0@gmail.com<sup>1</sup>, khaerunnisadwihikmatun@gmail.com<sup>2</sup>,  
dianasari0504@gmail.com<sup>3</sup>, rismafitriyani96@gmail.com<sup>4</sup>, dwiyanti.purbasari@gmail.com<sup>5</sup>

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### KEYWORDS

Oxygenation Disorders,  
Bronchitis, Effective  
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X.

### ABSTRACT

Ineffective airway clearance is one of the oxygenation disorders in patients with respiratory disorders (bronchitis). One of the practical nursing actions is to cough effectively to remove mucus in the respiratory tract. This study aimed to determine and analyze nursing care for impaired oxygenation needs in patients with a medical diagnosis of bronchitis in the old Jimbaran room. This research method uses a descriptive design as a nursing practice case study approach. The case study examines the respiratory rate (RR) of patients with respiratory disorders (bronchitis) after giving effective coughing measures for 3x24 hours. The results showed that the patient's RR before implementation was 24 x/min. In comparison, after being given an effective cough implementation for 3x24 hours, the RR was 20 x/min. In conclusion, nursing actions that need to be taken in patients with respiratory disorders (bronchitis) include assessing sputum production, effective coughing techniques, counseling regarding positioning, and collaborative oxygen or nebulizer administration. The implication of this study is the importance of effective coughing measures in managing bronchitis patients, including evaluation of sputum production, training in proper coughing techniques, education on proper positioning, and collaboration with oxygen or nebulizer administration as needed. Synchronization between research objectives and research conclusions. Present the research subject, research criteria, data collection methods, and data analysis.

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### INTRODUCTION

Oxygen is required for life processes. Oxygen is significant in the body's metabolic processes (Pamungkas et al., 2015). The problem of oxygen demand is a significant problem in fulfilling basic human needs (A. A. Hidayat & Uliyah, 2015). It has been proven that someone who lacks oxygen will experience hypoxia, and death will occur. Oxygen needs in the body must be met because if the oxygen needs are reduced, there will be damage to brain tissue, and if it lasts long, it will cause death (Cahyono & Yuniartika, 2020). The systems that play a role in the process of meeting needs are the respiratory, innervation, and cardiovascular systems (Sutanto & Fitriana, 2017).

In humans, the process of meeting oxygen can be done by administering oxygen through the respiratory tract, restoring and repairing respiratory organs to function normally, and

freeing the respiratory tract from obstructions that block the entry of oxygen (Riyadi et al., 2019). Given that oxygen is a basic human need, within the scope of nursing, nurses must be familiar with the manifestations of the fulfillment of oxygen needs in their clients and be able to overcome various problems related to meeting these needs (Fadilah, 2021). That is why nurses need to deeply understand the concept of oxygenation in humans (Sutanto & Fitriana, 2017).

The condition of insufficient oxygen fulfillment in the body due to oxygen deficiency or increased oxygen use at the cellular level is characterized by a bluish color on the skin (cyanosis), called hypoxia. (A. A. A. Hidayat & Uliyah, 2014). An ineffective breathing pattern is the inability of the respiratory system to process inspiration or expiration, which does not provide adequate ventilation. (A. A. A. Hidayat & Uliyah, 2014). According to (Indonesia 2016) an ineffective breathing pattern is a condition where inspiration and expiration do not provide adequate ventilation.

The causes of nursing problems of ineffective breathing patterns include anxiety, body position that inhibits lung expansion, bone deformity, chest wall deformity, decreased energy and fatigue, hyperventilation, hypoventilation syndrome, musculoskeletal damage, neurological immaturity, respiratory muscle fatigue, spinal cord injury (Alfian et al., 2020). Disturbed breathing patterns usually occur in patients with asthma, pneumonia, tuberculosis, CHF, COPD, and COVID-19 (Agreta et al., 2023).

Handling can be done to overcome the problem of ineffective breathing patterns in nursing by practicing breathing patterns and practical coughing exercises. Meanwhile, the treatment that can be done to overcome the problem of ineffective breathing patterns in medicine is by administering oxygen and collaborating to give bronchodilators to patients who experience breathing pattern disorders.

To the stated background, the purpose of this study is to determine and analyze nursing care for impaired oxygenation needs in patients with a medical diagnosis of bronchitis in the old Jimbaran room so that the benefit of this research is to provide deeper insight to health practitioners, especially nurses, in dealing with patients with oxygenation disorders such as bronchitis effectively and efficiently.

## **RESEARCH METHOD**

This research design is a descriptive case study to determine nursing practice problems in bronchitis patients who experience oxygen supply problems. The approach used is a nursing practice approach. To obtain detailed information about cases applied to nursing practice, evaluate nursing practice in bronchitis patients who experience problems with oxygen supply disorders. The research respondent in this study was one patient suffering from bronchitis with ineffective airway clearance problems. This research was conducted in the Old Jimbaran Room.

Interviews are a means of obtaining information (past medical history results including patient identity, chief complaint, current medical history, medical history, family history of illness, etc.). The source of data comes from the patient and family. Observation and physical examination were performed using the IPPA approach. The data collection tool uses a format for implementing care in bronchitis patients who experience ineffective airway clearance

problems. A detailed interview should be conducted to complete the data. Requires several resources, such as a notebook that records all conversations with data sources, observation sheets that record the results of the implementation of the interviewee, and cameras as documents. The procedure in this study uses the same nursing practice in patients with oxygenation problems. The data analysis of this study consists of analyzing the results of the application of patient data in the form of journals by comparing them with the results of other people's research or existing theories.

## **RESULT AND DISCUSSION**

Data was collected at Sumber Kasih Hospital, Jl Siliwangi No. 135 Kebonbaru Kec Kejaksan Cirebon City, West Java, a type C hospital. The assessment was conducted in the Jimbaran Lama room on November 4, 2023.

Nursing action on Mrs. T with bronchitis is known to have a nursing problem focus, namely ineffective airway clearance, with effective cough therapy being the focus of independent nursing action carried out for 3 24 hours. The results are as follows:

### **Assessment**

The assessment was carried out on November 03, 2023, and the results of the subjective data assessment said the patient had been coughing up phlegm for 2 weeks, accompanied by secretions. Objective data: The patient appears congested and coughs continuously; blood pressure is 140/90mmHg, body temperature is 36.6°C, pulse is 85 times/minute, and respiratory frequency is 24 times/minute.

The results of the physical examination of breathing were rapid breathing, sonorous percussion, and auscultation of rakh sounds.

**Table 1. Laboratory examination results.**

No.	Check	Results	Category
1	Hemoglobin	12,2	Normal
2	Leukocytes	10.360	Normal
3	Platelets	295	Normal
4	Hematocrit	35	Normal
5	Urem	37	Normal
6	Creatinine	0.9	Normal
7	SGOT	38 U/L	Increased
8	SGPT	38 U/L	Increased

### **Nursing Diagnosis**

Analyzing the research data is a formulation to determine the patient's nursing diagnosis. In Mrs. T's case, the researcher has found two diagnoses:

**Table 2. Nursing Diagnoses**

No.	Subjective data	Objective Data	Nursing Problems
1	The patient said that he had been coughing up phlegm for two months with secretions.	The patient appears breathless, continuously coughing BP: 140/90 mmHg N: 85 x/min R: 24 x/min S: 36,6 C	Ineffective Airway Clearance b.d Airway Hypersecretion d.d Presence of Sputum

No.	Subjective data	Objective Data	Nursing Problems
		SpO2: 98% O2 Nasal Cannula 3 Lpm	

### **Nursing Interventions**

Nursing interventions in this case study focus on diagnosing ineffective airway clearance. After taking nursing action for 3x24 hours, the goal is that the ability to clean the airway increases with the target criteria for average respiratory frequency and decreased sputum production. The primary intervention is airway management: (observation) monitoring breathing patterns, additional breath sounds, and sputum monitoring. (therapeutic) Give oxygen, place semi-fowler, give hot drinks, and provide chest physiotherapy. (education) Teach effective coughing. (joint) Administer bronchodilators, expectorants, and mucolytic agents as needed.

### **Nursing Implementation**

The case study nursing implementation applied by researchers focuses on caring for patients with bronchitis, focusing only on one nursing problem, namely ineffective airway clearance.

#### Implementation day 1

- a. Administer nasal cannula oxygen 3 lpm
- b. Positioning the semi fowler
- c. Teaching effective coughing
- d. Provide chest physiotherapy
- e. Collaborative nebulizer administration peroral medication N Acetyl Cysteine Paracetamol 500 mg

#### Implementation day 2

- a. Administer nasal cannula oxygen 3 lpm
- b. Monitor breath and sputum patterns
- c. Provide chest physiotherapy
- d. Teaching effective coughing
- e. Encourage warm drinking
- f. Collaborate on nebulizer combiven: pulmiart

#### Implementation day 3

- a. Administer nasal cannula oxygen 3 lpm
- b. Monitor breath patterns
- c. Positioning the semi fowler
- d. Monitoring sputum
- e. Teaching effective coughing
- f. Collaborative nebulizer administration peroral medication N Acetyl Cysteine Paracetamol 500 mg

### **Nursing Evaluation**

After implementing practical cough nursing 3x24 hours, breathing frequency decreased from 24 x/min to 20 x/min.

Nursing practice in this case study is designed to address the problem of ineffective airway clearance. Ineffective airway clearance therapy uses effective coughing (O'Donnell,

2022). Effective coughing is a nursing action to remove airway secretions. (Saraceni et al., 2022) Effective coughing emphasizes techniques inspired by stimulating the opening of the collateral system. (Agustina et al., 2022). Improve ventilation distribution. Increases lung volume; facilitates airway irrigation. Thus, effective coughing improves secretion mobilization and prevents the high risk of secretion retention (pneumonia, atelectasis, fever). Effective coughing helps patients to cough well to save energy and malaise and produce maximum sputum (Muttaqin, 2014).

The procedure for effective coughing in Mrs. T is as follows: (A) Inhale slowly and exhale slowly for 3 to 4 seconds. (B) Breathe slowly and comfortably through the diaphragm, and do not over-inflate your lungs. (C) After inhaling slowly, hold your breath for 3 seconds to control your breathing and prepare to cough effectively. (D) Lift the chin slightly and use the abdominal muscles to exhale with a sound of ha, ha, ha, or huff, huff, huff three times quickly, open the airways, and open the mouth. Exhale. (E) Control your breathing and then breathe out slowly twice. (F) Repeat the above coughing technique until the phlegm reaches the back of the throat. (G) Cough and then expel the phlegm.

The results of this study are supported by research (Iskandar et al., 2019) where in bronchitis patients who experience ineffective airway clearance problems after taking action by coughing effectively, the patient's breathing frequency is reduced to 22x/minute. (Kristanti & Nugroho, 2011) It has been shown that using an effective cough affects mucus clearance in patients with ineffective airway clearance. This excellent and effective cough facilitates sputum discharge in patients (Novitasari & Abdurrosidi, 2022). Effective coughing is essential to eliminate respiratory tract diseases due to the accumulation of secretions so that patients do not get tired of removing secretions (Muttaqin, 2014).

## **CONCLUSION**

Based on the results of a case study on nursing care for patients with ineffective airway clearance problems in the Old Jimbaran Room, Sumber Kasih Cirebon Hospital, it can be concluded that the results of the study showed that planned interventions, such as maintaining airway patency, semi-fowler position, giving warm drinks, performing chest physiotherapy, providing oxygen, teaching effective cough techniques, and collaborative drug administration, have provided satisfactory results. Evaluation of all indicators shows that the standard interventions successfully fulfill the oxygenation needs in patients with ineffective airway clearance problems.

Suggestions for further research are to conduct further research with a larger sample size and a more extended observation period. This can provide a more comprehensive picture of the effectiveness of interventions in nursing care for impaired oxygenation needs. This study implies that well-structured and well-planned interventions can significantly improve oxygenation needs in patients with ineffective airway clearance problems. It also emphasizes the importance of documenting nursing evaluations using the SOAP format to systematically monitor and evaluate nursing care's effectiveness.

## REFERENCES

Agreta, S. M. N., Purwati, N. H., Rayasari, F., & Azzam, R. (2023). Penerapan Pronasi dan Semi Fowler terhadap Peningkatan Saturasi Oksigen pada Pasien COVID-19. *Jurnal Keperawatan Silampari*, 6(2), 1000–1015.

Agustina, D., Pramudianto, A., & Novitasari, D. (2022). Implementasi Batuk Efektif Pada Pasien Pneumonia Dengan Masalah Gangguan Oksigenasi. *JKM: Jurnal Keperawatan Merdeka*, 2(1), 30–35.

Alfian, A. L. Y., Kurniawati, K., & Zuliani, Z. (2020). Asuhan Keperawatan Pada Klien Dengan Efusi Pleura. *Jurnal EDUNursing*, 4(2), 103–109.

Cahyono, Y. N., & Yuniartika, W. (2020). Efektifitas Active Cycle Of Breathing Pada Keluhan Sesak Nafas Penderita Tuberkulosis.

Fadilah, P. (2021). *Asuhan Keperawatan Gangguan Kebutuhan Oksigenasi Bersih Jalan Napas Tidak Efektif Pada Bapak S Keluarga Bapak S Dengan Bronkitis Kronis Di Desa Kota Gajah Kecamatan Kota Gajah Kabupaten Lampung Tengah Tahun*. Poltekkes Tanjungkarang.

Hidayat, A. A. A., & Uliyah, M. (2014). Pengantar kebutuhan dasar manusia Edisi 2. *Jakarta: Salemba Medika*.

Hidayat, A. A., & Uliyah, M. (2015). *Buku Ajar Kebutuhan Dasar Manusia*. Health Books Publishing.

Indonesia, P. P. N. (2016). Standar diagnosis keperawatan Indonesia. *Jakarta: Ppni*.

Iskandar, S., Utami, R. W., & Anggriani, J. (2019). Pengaruh Minyak Kayu Putih Dan Postural Drainase Terhadap Ketidakefektifan Bersih Jalan Napas Pada Balita ISPA. *Jurnal Riset Media Keperawatan*, 2(2), 34–39.

Kristanti, E. E., & Nugroho, Y. A. (2011). Batuk Efektif Dalam Pengeluaran Dahak Pada Pasien Dengan Ketidakefektifan Bersih Jalan Nafas Di Instalasi Rehabilitasi Medik Rumah Sakit Baptis Kediri. *Jurnal Penelitian STIKES RS Baptis Kediri*, 4(2), 210273.

Muttaqin, A. (2014). Pengantar Asuhan Keperawatan Dengan Gangguan Sistem Pernafasan. *Salemba Medika*, 4(2).

Novitasari, D., & Abdurrosidi, A. (2022). Asuhan Keperawatan dengan Gangguan Oksigenasi Bersih Jalan Nafas Tidak Efektif pada Pasien TB Paru. *Journal of Management Nursing*, 1(4), 125–132.

O'Donnell, A. E. (2022). Airway Clearance and Mucoactive Therapies in Bronchiectasis. *Clinics in Chest Medicine*, 43(1), 157–163. <https://doi.org/https://doi.org/10.1016/j.ccm.2021.12.004>

Pamungkas, P. N., Istiningtyas, A., & Wulandari, I. S. (2015). Manajemen terapi oksigen oleh perawat di ruang instalasi gawat darurat RSUD Karanganyar. *Jurnal Keperawatan*, Hlm, 3.

Riyadi, A. S., Indriyani, P., & Pertiwi, Y. R. (2019). Asuhan Keperawatan Pemberian Terapi Oksigenasi Pada Anak Usia Pra Sekolah Dengan Gangguan Pola Nafas Pada Asma Bronchial Dirumah Sakit Umum Daerah Prof. Dr. Margono Soekarjo Purwokerto. *Journal of Nursing and Health*, 4(2), 92–102.

Saraceni, M., Zabielska, J., & del Mar Rodriguez, M. (2022). Improving Nursing Compliance with Prescribed Respiratory Therapy in the PACU: Incentive Spirometry, Cough and Deep Breathing. *Journal of PeriAnesthesia Nursing*, 37(4), e20–e21. <https://doi.org/https://doi.org/10.1016/j.jopan.2022.05.054>

Sutanto, A. V., & Fitriana, Y. (2017). *Kebutuhan Dasar Manusia Teori dan Aplikasi dalam Praktik Keperawatan*. Yogyakarta: Pustaka Baru Press.