



SERVICE EXCELLENT" MEDICAL SURGICAL NURSING MANAGEMENT OF Mr. M WITH PLEURA EFUSION AT H. ADAM MALIK MEDAN HOSPITAL NORTH SUMATRA PROVINCE YEAR 2025

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ABSTRACT

Pleural effusion is a condition where fluid accumulates in the pleural lining of the lungs. This fluid can be either transudate or exudate, depending on the cause. This condition occurs when the body is unable to reabsorb the fluid. Some of the contributing factors include increased pressure in the subpleural capillaries or lymphatic vessels, increased capillary wall permeability, low blood plasma oncotic pressure, increased negative pressure in the pleural cavity, and impaired lymphatic drainage function. More permeable capillary walls allow fluid to escape easily, plus low levels of plasma protein that reduce the ability of blood to retain fluid, causing the lymphatic system to not be optimal in draining fluid from the pleural cavity. Based on WHO data (2021), the global prevalence of pleural effusion reached 37.5% or 828,136 cases. Of this number, 14.1% (116,792 cases) were caused by lung disease, 11.4% (94,420 cases) by pneumonia infection, 8.5% (70,391 cases) by heart failure, and 5.5% (45,547 cases) by cirrhosis hepatis. In Indonesia, according to the , the prevalence of pleural effusion reached 2.7% or around 1.39 million people. In North Sumatra Province, based on data from the Health Office (2021), the incidence rate has increased every year: 1.2% in 2019, rising to 1.5% in 2020, and 2.7% in 2021, with a total of 139 cases. At Haji Adam Malik General Hospital, there were 273 patients with pleural effusion in 2020.(Feni Fitriani, 2021)(Chairman Guideline Committee, 2022)(Supriantarini & Afifah, 2025)(Habas et al., 2024)

Keywords: Pleural Effusion, Cause, Prevalence

Introduction

Health development is one of the main focuses in the National Action Plan for Sustainable Development Goals (SDGs) 2021-2024 as stated in the Decree of the Minister of PPN No. Kep.136/M.PPN/HK/12/2021. Goal 3 of the SDGs specifically emphasizes the importance of ensuring healthy lives and promoting well-being for all ages.

However, achieving this target still faces various challenges in developing countries, including high maternal and child mortality rates and low quality of life due to limited access to health services, education and resources.(Audit Agency of the Republic of Indonesia, 2022)

Pleural effusion is a serious medical condition that contributes to morbidity and mortality, especially if not treated quickly



and appropriately. Pleural effusion is an abnormal buildup of fluid in the pleural cavity that can interfere with breathing, cause infection, and failure of vital organ function. The causes vary, ranging from infections (such as tuberculosis, pneumonia), chronic diseases (heart failure, hepatic cirrhosis), to malignancies. recorded a global prevalence of pleural effusion of 37.5%, with Indonesia recording a rate of 2.7% or around 1.39 million people (Riskesdas, 2021). In North Sumatra alone, pleural effusion cases show an increasing trend from year to year. H. Adam Malik General Hospital as a national referral hospital in North Sumatra recorded an increase in the number of patients with pleural effusion, with 273 cases in 2020. (Sustainable Development Goals (SDGs), 2020) (Gerhard F. M. J. Kimmin, 2022) (WHO, 2023)

Research Method

This type of research is descriptive research with a case study approach, which aims to describe the implementation of surgical medical nursing care in patients with pleural effusion at H. Adam Malik Hospital, North Sumatra Province. The focus of this research is on the nursing process which includes assessment, nursing diagnosis, intervention, implementation, and nursing evaluation. Place and Time of Research. The research was conducted at RSUP H. Adam Malik, a vertical hospital owned by the central government under the auspices of the Ministry of Health of the Republic of Indonesia, located on Jl. Bunga Lau No. 17, Medan Tuntungan, North Sumatra. RSUP H. Adam Malik also serves as a Teaching Hospital for the Faculty of Medicine of the University of North Sumatra and has been accredited in various types of health services. The implementation of the case study took place from February to May 2025, with the

nursing implementation process conducted on May 22-24, 2025. The series of research activities included title submission, proposal preparation, initial survey, case study implementation, to guidance and KTI trial. Research Subject The subject in this study was one male patient diagnosed with pleural effusion, as a representation of the population of patients with similar conditions treated at H. Adam Malik Hospital. The subject selection was done through direct identification in the hospitalization room based on medical diagnosis. (Eka Febri Astuti, 2023)

Results

The patient in this study was Mr. M, male, 63 years old, Protestant Christian, from the Simalungun Batak tribe, and lives on Jl. Bunga Rampai V No. 1, Simalingkar B, Medan. The patient was admitted since April 22, 2025 at 09.59 WIB at H. Adam Malik General Hospital. Information was obtained from the patient's wife, Mrs. R, who acts as a family caregiver and works as a civil servant. (Janah et al., 2024)

Current Medical History The patient complained of shortness of breath since two weeks before admission to the hospital which had worsened in the last three days. The complaint was accompanied by a cough with phlegm mixed with fluid, chest pain radiating to the back, and decreased activity ability. The patient looked pale, used breathing muscles, and appeared to grimace due to pain with a pain scale of 7. Physical assessment results: BP: 131/83 mmHg HR: 86x/min RR: 28x/min SpO2: 93% Wheezing (+) in the right lung. The right lung appears enlarged and asymmetrical. The patient uses a nasal cannula and has limited lower limb mobility (unable to move both legs since 2018 due to stroke). Previous Medical History The patient has a history of chronic diseases such as stroke, hypertension, type



2 diabetes mellitus, and congestive heart failure (CHF)., the patient underwent a PCI procedure for heart disease treatment and was treated at Murni Teguh Hospital. There was no history of allergies or immunizations. The patient is also known to be an active smoker.(Scott, 2023)(Syahruddin et al., 2022)

In the patient Mr. M, 63 years old, carried out nursing care for 1x24 hours based on four main nursing diagnoses found through a comprehensive assessment. The first diagnosis was ineffective airway clearance caused by increased secretions in the airway due to pleural effusion. The patient complained of coughing up phlegm and having difficulty breathing, with clinical signs of wheezing, enlargement of the right chest, and the use of breathing muscles. Nursing actions taken include monitoring breathing patterns, suctioning mucus, giving semi-Fowler position, and effective cough education. The expected results after the intervention were improvement in breathing frequency

Discussion

Discussion of Surgical Medical Nursing Care on Mr.M with Pleural Effusion in the Inpatient Room of H. Adam Malik Hospital 2025 Date April 22-May 1, 2025 researchers will compare with the theory and results of nursing care, diagnosis, intervention, implementation, and nursing evaluation. This study uses descriptive methods to determine and evaluate the effectiveness of nursing care provided.(Sembiring et al., 2025)

4.5.1 Nursing Assessment

Data obtained from Mr. M aged 63 years admitted to the hospital. M aged 63 years entered the hospital on April 22, 2025 with the diagnosis obtained "Pleural effusion" in the right chest area in the Hospitalization Room of H. Adam Malik

and rhythm, decreased sputum production and additional breath sounds, and decreased symptoms of orthopnea and dyspnea.(Syahruddin et al., 2022)

The second diagnosis is an ineffective breathing pattern caused by resistance to respiratory effort. The patient experienced increasingly severe shortness of breath, especially during exertion. Examination showed an increase in respiratory frequency, decreased oxygen saturation, and the use of respiratory muscles. Nursing interventions included auscultation of breath sounds, monitoring of oxygen saturation, identification of airway obstructions, and education on the use of artificial airways. It is expected that after the intervention, the symptoms of shortness of breath decrease, the use of assistive muscles decreases, and the quality of breathing improves.(Fadila et al., 2022)

The third diagnosis is acute pain associated with physiological processes in the right lung. The patient complained of chest pain

Hospital. At the time of the assessment, the patient was found to be short of breath, weak with a nasal cannula given 3 lpm, a 0.9% NaCl infusion was attached to the left hand, the level of consciousness at the time of admission was apathetic. Vital signs of blood pressure were found $2 = 131 / 83$ mmhg, pulse $86 \times / \text{min}$ RR: $28 \times / \text{min}$, Spo2 93 (Syifa & Tiala, 2024)

According to Herlia's Journal, 2020 patients with Pleural Effusion are caused by increased pressure in subpleural capillaries or lymphatic vessels, Increased capillary wall permeability, Decreased blood plasma oncotic pressure, Increased negative pressure in the pleural cavity, Impaired lymphatic drainage function in the pleural space or it can be explained that there is increased pressure in small blood vessels



that we often call capillaries under the pleura or lymphatic system so that the capillary walls become damaged. Nursing Diagnoses In the theoretical review of the PPNI book, 2017 obtained 7 nursing diagnoses, namely;(Health Sciences et al., 2024)

1. Ineffective airway clearance associated with increased secretions in the airway
2. Ineffective breathing patterns related to respiratory mechanism disorders
3. Acute pain is related to physiological factors that cause pain (inflammatory process, ischemia, or neoplasm).
4. Impaired physical mobility associated with musculoskeletal disorders.
5. Gas exchange problems or disorders
6. Ineffective peripheral perfusion
7. Knowledge deficits related to limited information about conditions and management.(Ningrum, 2024)

Whereas in the case that the author raises, there are 4 nursing diagnoses written down where there are problems that connect health problems in patients as evidenced by major data that must be appropriate so that they can raise the nursing diagnosis, among others:(Health Sciences et al., 2024)

1. Ineffective airway clearance b/d increased secretions in the airway (Pleural Effusion) d/d Subjective data the patient complained of coughing with mucus, Objective data found there was a buildup of fluid in the pleura, the patient seemed difficult to breathe, there was an additional sound of weezing, the right chest seemed enlarged. (Lia Ustami, 2023)
2. Ineffective breathing pattern b/d obstruction of breathing effort d/d subjective data: The patient complained that shortness of breath had been felt 2 weeks ago and the shortness of breath had worsened 3

days ago, the patient said the shortness of breath was experienced when doing activities such as walking d/d objective data: The patient looks weak, the patient appears to be using a nasal canula, the level of consciousness is apathetic, found Spo2 93, RR: 28x/min.(Lia Ustami, 2023)

3. Acute pain b/d physical injury agent (in the Right Lung) b/d Subjective data: the patient complained of pain in the chest, the patient said the pain radiated to the back d / d objective data: the patient looked pale, the patient looked grimacing, found a pain scale of 7, HR: 86x / min.(Lia Ustami, 2023)
4. Physical mobility disorders b / d musculoskeletal disorders (stroke) d / d Subjective data: The patient said he could not move his legs Objective data: The patient seemed to have difficulty moving his legs, the range of motion of the room decreased, the patient seemed to be assisted when doing activities. From the data above, there is a difference in one of the diagnoses between theory and case. This is because there is no supporting data that is in accordance with the standard nursing diagnosis in the Indonesian Nursing Diagnosis Standards book with major data that must match so that it can raise another nursing diagnosis Nursing interventions (Erina Lutfiah, 2022)

Based on Indonesian nursing intervention standards found problems in Mr. M's patients with Pleural Effusion, then planning is made to overcome the nursing problems experienced by Mr. M.

- a. In the diagnosis of ineffective airway clearance, the planned nursing intervention is airway management by giving semi-fowler psosi which can reduce tightness and increase comfort,



this is due to increased lung ventilation function.(Tika Herlina, 2020)

- b. In the diagnosis of ineffective breathing patterns, planned nursing interventions include: monitoring breathing patterns (frequency, depth, and breath effort), monitoring additional breath sounds (such as gurgling, wheezing, wheezing, and ronkhi), observing sputum (amount, color, and odor), positioning patients in semi-fowler or fowler teaching effective coughing techniques, and collaborating in the administration of bronchodilators, secretors, or mucolytics if needed.(Tika Herlina, 2020)
- c. Acute pain, Nursing Interventions that appear in Mr. M's patients given are Identification of location, pain characteristics, duration, frequency, quality, intensity, identification of pain scale, identification of non-verbal pain responses provide non-pharmacological techniques to reduce pain, facilitate rest and sleep, collaboration for analgesic administration Identification of other physical complaints, (Tika Herlina, 2020)
- d. Physical Mobility Disorders, nursing interventions that arise in Mr. M's patients are given identification of physical intolerance to ambulate, facilitate ambulation activities with assistive devices (eg, canes, crutches), facilitate other physical mobility, involve the family to assist patients in improving ambulation, explain ambulation goals and procedures.(Tika Herlina, 2020)

Nursing Implementation In the first diagnosis of airway clearance the actions given are monitoring breathing patterns including frequency, depth, and breath

effort observing additional breath sounds such as gurgling, wheezing, wheezing, and dry ronkhi, assessing the characteristics of sputum the amount of color and odor, auscultating breath sounds, monitoring oxygen saturation providing semi fowler position and providing oxygen therapy if needed.(Hospital et al., 2024)

In the diagnosis of ineffective breathing patterns, the implementation given is to monitor breathing patterns (frequency, depth, breath effort) monitor additional breath sounds (eg gurgling, wheezing, wheezing, dry rales), maintain airway patency, position semi fowler, provide oxygen if necessary, teach patients effective coughing techniques, monitor patient oxygen saturation.(Ambarwati et al., 2024)

In the third diagnosis of acute pain includes pain assessment of pain location, characteristics, duration, frequency, quality, and intensity of pain, pain scale, nonverbal response to pain, facilitating sleep needs and collaborative administration of analgesics.(Hidayati et al., 2024)

In the fourth diagnosis of Physical Mobility Disorders, check muscle strength in the upper extremities and lower extremities, carry out health promotion by providing education to the patient's family on how to carry out Rom and teach ambulation techniques by mika miki (Hidayati et al., 2024)

Evaluation of Nursing Care

Evaluation is the final process of the nursing process which aims to evaluate the patient's health development. Nursing evaluations carried out up to day three on diagnoses were carried out every day starting from April 22-April 24, 2025. From the results of the evaluation until day three on the first diagnosis, namely ineffective airway clearance, partially resolved, there is

still secretion and fluid in the pleura. The second diagnosis of ineffective breathing patterns is related to vapor resistance when breathing where the patient complains of shortness of breath, the patient seems to improve, the patient still uses breathing muscles. And in the diagnosis of acute pain associated with physiological injury agents (physical movement) is partially resolved, the patient still feels a little pain, namely on scale 2.(Anggarsari et al., 2020)

In the fourth diagnosis of Physical Mobility Disorders related to musculoskeletal disorders with the results of the evaluation the patient looks better, the family is able to know how to provide ambulation to the patient. The patient is assisted in performing ROM, the patient is able to ambulate using a wheelchair, the family is able to do mika miki, the family is able to understand how to perform ROM on the patient.(Anggarsari et al., 2020)

Conclusion and Suggestion

After three days of implementation of surgical medical nursing care in patients with pleural effusion disorders in the inpatient room of H. Adam Malik Hospital, through the stages of the nursing process which includes assessment, nursing diagnosis, intervention, implementation, to evaluation, the following conclusions are conveyed from the results of the evaluation of the development of the patient's condition

a) Assessment

At the time of the assessment of Surgical Medical Nursing Care in Mr.M with Pleural Effusion disorders in the Inpatient Room of H. Adam Malik Hospital in 2025 obtained according to theory.

b) Nursing Diagnosis

1. Ineffective airway clearance associated with increased airway

secretions (Pleural Effusion) the patient said coughing with mucus

2. Ineffective breathing patterns associated with resistance to effort when breathing patients complain of shortness of breath
3. Acute pain associated with a physical injury agent (pleural effusion) the patient said pain in the right chest radiating to the back.
4. Physical Mobility Disorders associated with musculoskeletal disorders (Stroke)

c) Nursing Interventions

In the preparation of the Medical Surgical Nursing care action plan for Mr. M with Pleural Effusion disorders. M with Pleural Effusion disorder in the Hospitalization Room of H. Adam Malik Hospital in 2025 data in accordance with the theory.

d) Nursing Implementation

1. Performing chest tube treatment (WSB) on patients in the hospitalization room of H. Adam Malik Hospital 2025.
2. Teaching about how to cough effectively in the hospitalization room of H. Adam Malik Hospital 2025.

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