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# APPLICATION OF SEMI FOWLER POSITION IN OVERCOMING THE PROBLEM OF INEFFECTIVE BREATHING PATTERN IN MRS. C WITH BRONCHOPNEUMONIA IN THE PRABU SILIWANG 3 ROOM, GUNUNG JATI RSD, CIREBON

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## Abstract

Lobular pneumonia is also called bronchopneumonia, which is an inflammation of the lung parenchyma that usually affects the bronchioles and also the alveoli. The cause of bronchopneumonia is staphylococcus aureus bacteria and haemophilus influenza bacteria. Bronchopneumonia is characterized by shortness of breath/dyspnea, nasal flaring, and cyanosis. The semi-fowler position can help overcome difficulty breathing, maintain comfort and facilitate respiratory function, with the head and chest position elevated at a 30-40 degree angle by utilizing gravity can increase intrapleural pressure and also intra-alveolar pressure at the base of the lungs, increasing oxygen in the lungs so that it relieves difficulty breathing. Objective: to determine the application of the semi-fowler position in overcoming the problem of ineffective breathing patterns in Mrs. C with bronchopneumonia in the Prabu Siliwang 3 room, Gunung Jati Hospital, Cirebon. Method: this scientific paper is in the form of a case study using a descriptive research method. Results: after being in the semi-fowler position for 3 days, shortness of breath decreased and oxygen saturation increased, this proves that the semi-fowler position greatly affects shortness of breath decreasing and oxygen saturation increasing. Conclusion: patient Mrs. C is no longer short of breath, the respiratory rate is 23x/minute, SpO2 94%, previously the respiratory rate was 24x/minute, SpO2 93% and in the second implementation before the semi-Fowler position was performed the respiratory rate was 23x/minute, SpO2 94%, after the semi-Fowler position was performed the respiratory rate was 20x/minute and SpO2 96%.

Keywords: Ineffective Breathing Pattern, Bronchopneumonia, Semi Fowler's Position.

## 1. INTRODUCTION

Respiratory disease is one of the most deadly diseases in the world. According to WHO after cardiovascular disease, the next deadly disease is respiratory disease. (Triatmanto, 2013). Respiratory disease is a health problem with the highest number in Indonesia, chronic respiratory diseases such as pneumonia, asthma, tuberculosis and Chronic Obstructive Pulmonary Disease (COPD) are high morality in Indonesia (Gautami, 2014).

According to Oktaviani and Nugroho, (2022) (WHO), from 2020, pneumonia was responsible for more than 808,000 deaths of children under 5 years of age, accounting for 15% of all deaths of children under 5 years of age. People at risk of pneumonia also include adults over 65 years of age and people with pre-existing health conditions. Bronchopneumonia is characterized by shortness of breath/dyspnea, nasal flaring, and cyanosis. These symptoms are an indication of an ineffective breathing pattern problem. If left untreated, an ineffective breathing pattern can cause difficulty breathing due to sputum or phlegm that cannot be expelled, and can even lead to respiratory failure or death.

According to Muhsinin, Kusmawardani, (2019) Shortness of breath is a thought of difficulty breathing that arises due to a combination of impulses (stimulation) to the brain and nerves that stop in the lungs, ribs, chest muscles, or diaphragm.

Actions that can be taken in patients with ineffective breathing patterns are very diverse, including administering drugs and respiratory aids. Treatment when the breathing pattern is ineffective can also be done by coughing effectively, a comfortable environment and what is often done when the patient is short of breath is to adjust the semi-fowler position. This method is effective and simple to reduce tension by adjusting the half-sitting position. The Semi-Fowler position is tilted 30-45 degrees, using gravity to help expand the lungs and reduce abdominal pressure in the diaphragm. The researcher's hope for the semi-fowler position action is to increase knowledge and can be applied to patients who have ineffective breathing patterns because this position is very effective in increasing oxygen saturation and can reduce shortness of breath. There are no contraindications for applying the semi-fowler position to the nursing diagnosis of ineffective breathing patterns.

According to Muhsinin and Kusumawardani (2019), the results of their study "the effect of applying the semi-fowler position on changes in respiratory rate in pneumonia patients" found that the respiratory frequency changed before and after. The semi-Fowler position was performed before the semi-Fowler position intervention was performed on 9 respondents with a respiratory rate of >24x/minute because the patient's position was below 30-40 degrees so that lung expansion was not optimal and after the half-Fowler position was performed. The position of 4 respondents with a respiratory rate of 16-24x/minute and 5 respondents with a respiratory rate of >24x/minute. Reduction in shortness of breath is also supported by the patient's cooperative attitude. The Semi-Fowler position is performed so that the head and chest are higher than the hips and legs, bending 30-45 degrees.

Based on the results of several studies, it was determined that the application of actions with a half-Fowler position can overcome respiratory problems ineffectively in pneumonia patients. So the author is interested in the study of semi-Fowler position actions, so the author raised the title: "Application of the Semi-Fowler Position in Overcoming Ineffective Breathing Pattern Problems in Bronchopneumonia Patients".

## 2. METHODOLOGY

This study is a type of case study research and descriptive research design to provide an overview of non-pharmacological management of patients with ineffective airways in bronchopneumonia in Prabu Siliwang Room 3 RSD Gunung Jati Cirebon. The subject of this case study research is one patient with the inclusion criteria of patients treated at Gunung Jati Hospital with ineffective breathing pattern disorders due to Bronchopneumonia where researchers focused on the management of ineffective breathing patterns is a series of treatments or processes given to patients with bronchopneumonia until inhalation and exhalation are adequate, ventilation is increased, which is carried out continuously until resolved. inefficient breathing pattern problems. which include assessment, nursing diagnosis, care plans, implementation, then evaluation, and documenting the results of nursing interventions carried out. Researchers also apply case study ethics by including informed consent, confidentiality, and anonymity without a name.

## 3. RESULTS

***Table 1.*** *Research result*

| No | Implementation | Evaluation | TTD |
|---|---|---|---|
| 1. | 15.00<br>April 04, 2024<br>positioning semi fowler | Before positioning semi fowler: RR 24x/minute SpO2 93%<br>After positioning semi fowler: RR 23x/minute SpO2 94% | Susi Sri Noviyanti |
| 2. | 16.00<br>05 April 2024<br>positioning semi fowler | positioning semi fowler semi fowler : RR 23x/ menit SpO2 94%<br>After positioning semi fowler : 22x/menit SpO2 95% | Susi Sri Noviyanti |
| 3. | Jam 11.20<br>06 April 2024<br>positioning semi fowler | positioning semi fowler semi fowler : RR 22x/menit, SpO2 95%.<br>After positioning semi fowler : RR 20x/menit, SpO2 96% | Susi Sri Noviyanti |

### 3.1 Assessment

DiscussionThe first information obtained is the client's age, based on an estimated age of 61 years for patients with lobular pneumonia or bronchopneumonia. Mulyana R (2019) stated that old age experiences various physiological changes related to the aging process, various factors contribute to the increased incidence of pneumonia in old age due to changes in the immune system in the innate immune system and the adaptive immune system. Mechanical barrier mechanisms, phagocytic activity, humoral immunity and T cells, as well as natural killer cells, macrophages, and neutrophils are impaired. With age, changes occur in the respiratory system. Lung elasticity decreases, chest wall stiffness increases, and chest muscle strength weakens. In addition, decreased respiratory cilia movement, cough reflexes and other physiological reflexes can increase the risk of lower respiratory tract infections.

Other data Mrs. C complained of shortness of breath and difficulty removing secretions, the results of the TTV examination showed a respiratory rate of 24x/minute, SpO2 94%, blood pressure 115/65 mmHg, pulse 83x/minute, temperature 36.1℃. This is in accordance with Herlina's statement (2020) that symptoms of shortness of breath in pneumonia patients can arise due to the accumulation of secretions in the respiratory tract, so that the flow of air in and out is disrupted and the respiratory tract is blocked.

Further information on supporting laboratory results of client Ms. C with a leukocyte count of 19,430/uL (increased), with normal values (normal 4,000 – 10,000/mm3). This is in accordance with the theory of Yuliza, Shifa, and Safitri (2022) that acute pneumonia causes changes in laboratory results, namely an increase in leukocytes or leukocytosis (≥10,000/$mm^3$).

### 3.2 Diagnosis

Based on the assessment findings, there is a nursing diagnosis of ineffective breathing patterns accompanied by respiratory effort obstruction as evidenced by signs and symptoms of dyspnea/upplasty, use of chest muscles. Client with RR 24x/minute and SpO2 93%. This is according to the book (SDKI DPP Tim Pokja PPNI, 2017: 26). The main signs and symptoms of an ineffective breathing pattern are shortness of breath, use of accessory respiratory muscles, and an abnormal tachypnea breathing pattern. The problem of an ineffective breathing pattern is identified as a diagnosis, because based on subjective and objective information the client's condition is shortness of breath, respiratory rate 24x/minute, shortness of breath, shallow breathing effort, chest contractions, breathing with chest muscles. . , SpO2 93%. . This is in accordance with the theory of Santoso, Abdarmoyo and Sari (2020). This change in breathing pattern is one of the respiratory disorders that makes it difficult for a person to meet the body's oxygen needs, usually in sufferers this condition causes changes in breathing rhythm, changes in pulse rate (frequency, rhythm and quality) and sensations. . tension. coffin Respiratory patterns generally refer to rhythm, respiratory rate, respiratory volume, and respiratory effort. Inefficient breathing patterns are accompanied by increased rhythm, rate, volume, and respiratory effort. Common changes in respiratory patterns include tachypnea, bradypnea, hyperventilation, hypoventilation, dyspnea, and orthopnea.

### 3.3 Intervensi

The nursing planning stage, the author prepares the expected nursing goals, outcome criteria and action plans to be carried out. So that it is easier to manage the next nursing care planning. The purpose of the nursing action, the author takes action for the problem of respiratory pattern disorders is that after being implemented for 3x24 hours, it is expected that respiratory pattern disorders will be resolved: there is a decrease in shortness of breath, improved breathing frequency, normal breathing depth.

### 3.4 Implementation

From the results of the study positioning semi fowler on Mrs. C obtained a Respiration rate of 23x / minute, SpO2 94% previously respiration rate 24x / minute, SpO2 93% respiration rate decreased 1 and SpO2 increased. In the second implementation of the implementation of the semi fowler position, the results of RR 22x / minute, SpO2 increased 95% previously RR 23x / minute, SpO2 94%. On the third day of implementation, the third day of implementation obtained

the results of RR 20x / minute, SpO2 96%. This is in line with the research of Yunus, Damansyah, and Mahmud (2024) on the effect of the semi-Fowler position on oxygen saturation before being given the semi-Fowler position, respondents had an average SPO2 of 89.20%, after implementing the semi-Fowler position, the average SPO2 was 94.87%, which means that the semi-Fowler or half-sitting position can reduce shortness of breath and increase SPO2 saturation.

### 3.5 Evaluation

Evaluation of the patient on the 07th based on the results of the implementation of the semi-Fowler position on Mrs. C with ineffective breathing pattern problems due to bronchopneumonia in the Prabu Siliwangi 3 Room, Gunung Jati Hospital, Cirebon on April 04, 2024 to April 06, 2024 in the Prabu Siliwangi 3 Room, Gunung Jati Hospital, Cirebon on April 04, 2024 to April 06, 2024, the following conclusions can be drawn:

The implementation that can be given is the semi-fowler position for the problem of ineffective breathing patterns. In providing implementation to Mrs. C from assessment to evaluation there are not many gaps in theory and field cases, the diagnosis that appears in Mrs. C is an ineffective breathing pattern related to respiratory effort obstruction characterized by the client's dyspnea, RR 24x / minute, SpO2 93%, there is chest retraction, shallow breathing depth, there are chest respiratory accessory muscles. Implementation in Mrs. C is a semi-fowler position, after two days of implementation with the results of RR 20x / minute, SpO 96%, no respiratory accessory muscles, normal chest retraction, normal breathing depth. Therefore, the implementation of the semi-fowler position is effective in nursing problems of ineffective breathing patterns

## 4. CONCLUSION

Based on the results of a case study of the implementation of the semi-Fowler position on Mrs. C with a nursing problem of ineffective breathing patterns due to bronchopneumonia in the Prabu Siliwangi 3 Room, Gunung Jati Hospital, Cirebon on April 4, 2024 to April 6, 2024, the author made the following decisions:

After the implementation of 3x24 hours, the results obtained were RR 20x/minute, SpO 96%, no respiratory accessory muscles, normal chest retraction, normal breathing depth. Therefore, the implementation of the semi-Fowler position is effective in the nursing diagnosis of ineffective breathing patterns.

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