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Semi fowler Position for Asthma Patient: Case Study

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Abstract: Asthma is a chronic inflammatory disease of the respiratory tract reversible characterized by increased response of the trachea and bronchi to various stimulation. Signs and symptoms of bronchial asthma can vary from individual to other individual based on severity and frequency of recurrence. Typical symptoms in sufferers include repeated shortness of breath, coughing, and wheezing. This case study aims to analyze care nursing for asthma patients. The author uses the analytical descriptive method in the form of a case study approach to nursing care for a patient which includes assessment, nursing diagnosis, nursing planning, nursing implementation, nursing evaluation, and the use of Evidence-Based Practice (EBP) interventions. Evaluation results can be resolved, this was indicated by a decreased complaint of shortness of breath in patients, improved respiration, increased saturation, no use of accessory muscles for breathing, and no nostril breathing. This showed that the semi-fowler position is a non-pharmacological therapy effective and proven to reduce shortness of breath in patients who experience respiratory problems such as asthma.

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Introduction

Bronchial asthma is a chronic inflammatory disease of the airways that causes periodic "attacks" of coughing, wheezing, shortness of breath, and chest tightness. The disease is characterized by bronchial hypersensitivity to stimulation and obstruction in the airway, leading to symptoms such as wheezing, shortness of breath, chest pain, and varying degrees of coughing (Papi et al., 2018; MF et al., 2023).

According to the World Health Organization (WHO), in 2016, there were 325 million people worldwide suffering from bronchial asthma, and the number continued to increase, with 383,000 people dying from asthma in 2015. In Indonesia, the prevalence of asthma ranges between 1-18%, with 4% prevalence according to Household Health survey data and 3.5% prevalence based on Basic Health Research (Riskesdas) in 2018 ((Kling & White, 2021; WHO, 2023; Mangundap & Malik, 2023).

Severe asthma attacks can cause respiratory failure, where the exchange of oxygen to carbon dioxide in the lungs is compromised, leading to the formation of carbon dioxide in the body's cells. This can result in complete closure of the airways, potentially leading to death if not promptly addressed (Kostakou et al., 2019; Shigemura et al., 2020).

Long-term control medications, such as inhaled corticosteroids, are the cornerstone of asthma treatment. These medications keep asthma under control on a day-to-day basis and make it less likely for individuals to have an asthma attack (Kostakou et al., 2019; (Liang & Chao, 2023). Additionally, bronchodilators, which relax the muscles around the airways, are used to treat the symptoms of bronchial asthma (Almadhoun, 2021).

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Non-pharmacological interventions, such as positioning, can be applied to help overcome congested breathing in asthma patients. The semi-fowler position, with a 45° slope, is considered the most effective position for clients with cardiopulmonary disturbances, as it can help improve oxygenation in the lungs and reduce congested breathing (Maria et al., 2019; Puspita et al., 2022).

Bronchial asthma is a prevalent and impactful disease that requires long-term control medications and non-pharmacological interventions to manage its symptoms and improve the quality of life for individuals suffering from this condition.

Method

The study utilized a descriptive case study approach and a literature review to investigate nursing care for asthma patients with respiratory pattern disorders. The patients in the study were asthma patients with impaired breathing patterns who were able to speak and be conscious. The signs and symptoms experienced by the patients during the assessment included complaints of shortness of breath, use of accessory breathing muscles, nostril breathing, RR 26X/min, and SPO2: 94%. The priority nursing problem identified was ineffective breathing patterns. The author used assisted fingertip Pulse Oximetry and recorded the data on the Nursing Care Form.

The semi-fowler position intervention was carried out in accordance with the planning guidelines of the Indonesian National Nurses Association (PPNI) using books such as SDKI, SLKI, and SIKI to determine nursing diagnoses, aims, and objectives, plans, and to evaluate the actions given to patients. The interventions included respiratory monitoring, oxygen saturation monitoring, and oxygen therapy. The author provided intervention by positioning the patient in a semi-fowler way for airway management to overcome the problems experienced by the patient and increase the patient's oxygen saturation. This intervention was implemented under the supervision of the nurse responsible for the patient (Tim Pokja SLKI DPP PPNI, 2022; (Tim Pokja SIKI DPP PPNI, 2018; Tim Pokja SDKI DPP PPNI, 2017)

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On November 26, 2022, at 08.10, an intervention was carried out in Zaitun Room 1 of Al-Ihsan Hospital, West Java Province, on a 67-year-old patient who was being treated in Zaitun Room I Al-Ihsan Hospital Bandung for asthma. The participants agreed to have their health data published anonymously.

Result and Discussion

The semi-Fowler position, performed according to evidence-based practice, produces positive results in asthma patients. In this case, the evaluation results showed a decrease in complaints of shortness of breath, improved respiration, and increased saturation from 94% to 98%. There was no use of accessory muscles for breathing and no nostril breathing.

The interventions were carried out in accordance with the Indonesian Nursing Intervention Standards (SIKI), which are evidence-based. The semi-fowler position intervention is supported by research, which shows that it can reduce congested breathing and help optimize respiratory rate in asthma patients. The average results of journals reviewed by the author showed that the semi-fowler position was effective in increasing breathing in asthma patients. The research results showed that the semi-fowler position had a significant influence on the patient's respiration rate, and it was effective in reducing congested breathing in asthma patients.

Previous research shows the effect of giving the semi-Fowler position in asthma sufferers by improving respiratory function. This was in line with some studies. Research by Chanif and Prastika (2019), explained that semi-fowler position was more effective in lowering the shortness of breath in COPD patients during nebulizer therapy. Another study by Maria, Hinsani & Agianto (2019), shows that the semi-Fowler position influences the respiratory stability of asthma patients ($p = 0.00$). This study employed a pre-experimental research design involving 30 respondents selected through a

simple random sampling technique. The intervention of the semi-Fowler position was administered to respondents experiencing shortness of breath, and an observation sheet was utilized to evaluate respiratory stability before and after the intervention. The analysis was conducted using the Wilcoxon test with an alpha level of 0.05. The findings indicated that the semi-Fowler position had a significant effect on the respiratory stability of asthma patients, with a p-value of 0.00. Furthermore, Study by Arifian and Kismanto (2018) shows that semi-fowler position gave positive effect on 42 patients with bronchial asthma at the Air Upas Ketapang Community Health Center (Chanif & Prastika, 2019; Maria et al., 2019; Arifian & Kismanto, 2018)

The semi-Fowler position is a proven effective non-pharmacological therapy that can lower congested breathing in patients who experience breathing disturbances such as asthma. The main nursing problem is ineffective breathing patterns, which can be resolved by increasing the expansion of the patient's chest, thereby increasing oxygen saturation. Research has shown that the semi-Fowler position can stabilize the breathing pattern of asthma patients and reduce shortness of breath. The position can also increase the effectiveness of breathing patterns and reduce shortness of breath in congestive heart failure (CHF) patients (Maria et al., 2019; Puspita et al., 2022).

Based on the findings from these studies, the implementation of the semi-Fowler position according to standard operating procedures (SOP) can be influential in reducing congested breath and controlling breathing patterns in asthma patients.

Conclusion

Nurses can provide the semi-Fowler position as an independent intervention to asthma patients, which has been found to be very effective as a non-pharmacological intervention. The role of body positioning in lung function and the clinical implications of this as a treatment priority are described in the literature, and the principles of therapeutic positioning for optimal gas exchange and lung function are investigated.

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