

## Application of Active Cough Techniques in Cases of Ineffective Airway Clearance in An.Q Patients with a Diagnosis of Acute Bronchopneumonia

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### Abstract

*Background: Bronchopneumonia can disrupt the function of the respiratory tract in the human body, which will later cause clients to experience symptoms of coughing up phlegm, shortness of breath, and can trigger accumulation of secretion production in the bronchial area and around the alveoli, resulting in problems with ineffective airway clearance. Objective: of this study is to identify the application of effective cough techniques for cases of ineffective airway clearance in pediatric patients with acute bronchopneumonia in the children's room at Sidoarjo Regional Hospital. Method: the method used in this final scientific work uses a method of providing effective cough techniques to patients with Results: the nursing evaluation based on progress notes shows that, after implementing effective cough techniques for 3 days of meetings, the indicators in the outcome criteria were fully achieved as evidenced by a decrease on sputum production, additional breath sounds and anxiety felt by the client, as well as improvement in respiratory frequency. Conclusion: The application of the cough technique is effective in overcoming airway clearance problems in pediatric patients with acute bronchopneumonia in the children's room at Sidoarjo Regional Hospital.*

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## 1. INTRODUCTION

Bronchopneumonia is still a dangerous disease for patients, especially pediatric patients. This is caused by an infection in the child's respiratory tract which results in pneumonia (Sinaga, 2022). Usually, children will experience spots on the infiltrate caused by bacteria, viruses, fungi, or foreign objects. In children, bronchopneumonia is often characterized by fever, difficulty breathing (tachypnea), cough with phlegm production, decreased appetite, decreased breath sounds, rapid breathing through the nose, chest wall retraction (Indri Damayanti & Siti Nurhayati, 2022)

Based on WHO data for 2021, pneumonia causes 14% of all deaths in children under 5 years with a total of 740,180 deaths. Riskesdas Indonesia data for 2020. Most of the problem of the death rate of children who experience bronchopneumonia can also be caused by a lack of knowledge, family awareness in maintaining environmental health and can also be caused by a history of comorbidities experienced by the patient (Pramono & Purwati, 2020). Thus, it is necessary to provide information to patients about how to treat shortness of breath from bronchopneumonia symptoms with effective cough interventions. An effective cough itself is useful for helping patients later in the process of expelling sputum around their airways (Puspitasari et al., 2022)

And accompanied by the results of observations in the room, effective cough techniques have been proven to reduce problems with ineffective airway clearance. However, this method is not completely successful, because it also requires a combination of medical therapy such as nebulizers, suction and chest physiotherapy according to certain indications. This statement is supported by the results of researchers who state that

providing medical therapy such as nebulizers has an effect in overcoming problems with ineffective airway clearance (Safitri & Suryani, 2022)

## 2. RESEARCH METHOD

This research method is a qualitative descriptive method in the form of a case study. This case management was carried out for 3 days starting from 02 March 2024 to 05 March 2024. The researcher carried out a research approach using a nursing care process approach, which includes the assessment stages, establishing nursing diagnoses, nursing planning, nursing implementation, as well as nursing evaluation.

At the assessment stage, the researcher conducted interviews to obtain information from the client regarding the history of the disease, symptoms felt and other trigger factors related to the client's clinical condition. A physical examination was also carried out by the researcher to evaluate the client's physical condition directly. The results obtained from this stage The assessment is used as a reference for preparing a nursing plan, where in this case the nursing plan used is an effective cough technique. Implementation of effective cough techniques). carried out in accordance with standard operational procedures (SOP). During the implementation process, nurses monitor the client's response to the intervention provided to make it easier for researchers to evaluate the effectiveness of implementing the intervention provided to reduce coughing in clients with bronchopneumonia.

## 3. RESEARCH RESULTS AND DISCUSSION

### 3.1. Case Analysis

After implementation and nursing evaluation, the results of the first day of implementation were obtained, where before being given effective cough technique therapy, the patient was still unable to produce secretions independently, whereas after being given effective cough technique therapy and evaluation, the patient was able to practice effective coughing. On the second day of the treatment period, the patient still received nebulizer therapy before being taught to cough effectively again. The result was that the patient was still unable to expel the secretions around his airway area. Then re-teach and evaluate the patient with an effective cough and the result is that he is only able to expel a small amount of phlegm from his respiratory tract. And on the third day, before being given effective cough therapy, the patient is first given education about effective cough techniques that are good and correct, and after that we give effective cough techniques again to the patient with the help of support from the family. The child is able to cough effectively well and has visible secretory bias. out more than before. This indicates that effective coughing techniques have a positive impact on clearing the airway by accumulation of secretions. This is in line with the results of previous researchers which stated that effective coughing techniques have a positive impact on patients with airway clearance problems because of the secretions that are retained around the airways such as the alveoli and bronchi. Because by pressing on the chest area and appropriate movements in the upper respiratory area, it can encourage secretions to flow through the airway area, so that the patient's airway returns to normal (Putri & Novitasari, 2022).

### 3.2. Intervention Analysis

The nursing action given to patients with ineffective airway clearance is an effective cough technique. In this analysis, it was found that there was an effect obtained by providing effective cough techniques in patients with bronchopneumonia. This explanation is in line with the results of previous researchers that effective coughing techniques are efficient for patients with ineffective airway clearance problems,

because they are easy to apply independently by the patient in an effort to expel secretions from the respiratory organs (Aryani & Argarini, 2023). This statement of results is also supported by the results of other researchers who also stated that this effective coughing technique is really needed by patients because it only requires understanding to practice it directly so that secretions can come out of the body and cause the airway to become patent again and complaints of shortness of breath and coughing in patients can be reduced. Intervention with effective cough techniques cannot work by itself, because patients also need treatment support with medication or other inhalation therapies to overcome the problem of ineffective airway clearance in patients. However, this action can be used directly without waiting for instructions if you experience problems with ineffective airway clearance. In line with the results of other researchers which stated that providing effective cough therapy was successful with the support of the medical therapy provided (Abdul Rahem, 2022)

#### 4. CONCLUSION

After providing effective cough therapy to patients with bronchopneumonia, the client's existing problems are resolved, such as: ineffective airway clearance, effective cough therapy is given, later the nursing problem of ineffective airway clearance can be resolved and the airway becomes patent again, with problems Initially, the patient was unable to produce phlegm, and finally the patient was able to practice this effective coughing technique properly and correctly within 3 x 24 hours after administering the therapy. So it can be concluded that the implementation of effective cough therapy was successful in improving the client's condition and overcoming the client's airway clearance problem.

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