


Efectiveness Of Effective Cough In Expelling Sputum In Chronic Bronchitis Cases

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Article Info	ABSTRACT
Keywords: Chronic Bronchitis, Effective Cough	Chronic Bronchitis is a condition associated with excessive tracheobronchial mucus production, causing coughing that occurs for at least three months in one year for more than two consecutive years. The purpose of this study was to determine the Effectiveness of Effective Cough in Expelling Sputum in Chronic Bronchitis Cases at Kediri District Hospital. The research design in this study was descriptive. The location of this study was at the Lung Polyclinic of Kediri District Hospital. While the sample consisted of 6 respondents with a sampling technique, namely quota sampling. The measuring instrument used an observation sheet. The results of this study were that sputum discharge before being taught effective coughing was mostly (67%) able to come out, a small portion (33%) did not come out. Meanwhile, after being taught effective coughing, most (100%) can come out. So the conclusion is that the effectiveness of effective coughing in expelling sputum in cases of chronic bronchitis after being taught effective coughing techniques, most can come out. In addition, clients must breathe properly and do not need to cough hard to expel sputum.
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INTRODUCTION

Bronchitis is one of the internal diseases that usually affects someone who has a smoking habit. This disease is accompanied by complaints of productive and long-lasting cough, but is not caused by tuberculosis or carcinoma (Hasanuddin, 2023). The World Health Organization (WHO) estimates that in 2005 5.4 million people died from smoking. Deaths due to smoking will increase to 8.3 million deaths per year by 2030. In the United States, 2007 data showed 10.1% in men 11.8% and women 8.5% (Ratih, 2013). The prevalence rate for each country ranges from 3.5-6.7%, including China with a case rate reaching 38.160 million people, Japan 5.014 million people and Vietnam 2.068 million sufferers. Meanwhile, in Indonesia it is estimated that there are 4.8 million sufferers with a prevalence of 5.6% (Pratomo, 2012). From the morbidity data of outpatients at the Kediri District Hospital, chronic bronchitis sufferers in 2014 were 279 people, 154 men and 125 women. While the number of new cases was 279.

Sputum in sufferers of this disease is usually transparent white. This sputum contains granulocytes and bacteria. Normal bronchial mucus is usually clear and free of germs. If the

mucus contains leukocyte bacteria, the sufferer may have a fever. (Gunawan & Handayani, 2023) The sufferer will certainly experience shortness of breath. When the sufferer experiences difficulty breathing, the sound of ronchi will be heard at the same time, namely the sound of expiratory breath that can be heard without a stethoscope (Abilowo et al., 2022)

His disease often causes the production (or changes in production) of sputum, the ciliary hairs of the bronchial epithelium that move continuously and move mucus from the bronchi and trachea towards the mouth will slowly become paralyzed and then there is an accumulation of mucus and bacteria that are not removed, this accumulation of mucus and bacteria will multiply and then build leukocytes to attack back (Hasanuddin, 2023). Purulent sputum will also be formed by a continuous productive cough (Sartiya Rini & Hasrina, 2023). Effective coughing is part of nursing actions for patients with chronic respiratory disorders and an effort to remove phlegm and increase lung expansion, secretion mobility, drain secretions and prevent side effects due to retained secretions (atelectasis and pneumonia) in addition to providing nebulizer and postural drainage actions (Sandra et al., 2022)

Good and correct effective cough can accelerate the expulsion of phlegm in patients with respiratory tract disorders. And provide a positive contribution to the expulsion of sputum volume to clean secretions in the respiratory tract (Yulianti & Astari, 2020). It is hoped that chronic bronchitis patients can understand the importance of effective coughing to expel phlegm (Lestari et al., 2020). Based on the background above, the author is interested in raising the problem of how "Effectiveness of Effective Cough in Exhaling Sputum in Cases of Chronic Bronchitis at the Kediri Regency Hospital".

METHOD

The design used in this study is "Descriptive research, a research method conducted with the aim of creating a picture of a condition objectively" (Setiadi, 2007). This study was conducted with the aim of examining the Effectiveness of Effective Cough in Sputum Expelling in Cases of Chronic Bronchitis at the Kediri District Hospital.

RESEARCH RESULTS

The specific data characteristics in this study are the Effectiveness of Effective Cough in Sputum Expelling in Chronic Bronchitis Cases at Kediri District Hospital.

Table 1. Characteristics of Sputum Exposure Frequency Before Effective Cough Therapy in Chronic Bronchitis Cases at Kediri District Hospital

No	Sputum Exposure	Frequency	Percentage (%)
1.	Go out	4	67

2.	Not Exiting	2	33
	Amount	6	100

Source: Observation Results August 2024

From the table above, sputum discharge before being taught effective coughing, most (67%) could come out, a small portion (33%) did not come out. Table 4.6 Characteristics of Sputum Discharge Frequency After Effective Cough Therapy in Chronic Bronchitis Cases at Kediri District Hospital

No	Sputum Exposure	Frequency	Percentage (%)
1.	Go out	6	100
2.	Not Exiting	0	0
	Amount	6	100

Source: Observation Results August 2024

From the table above, sputum discharge after being taught effective coughing, most (100%) can come out.

Discussion

Before Effective Cough Therapy is Performed

Based on the results of the study in table 1 Sputum Discharge Before Effective Coughing, most (67%) can come out, while a small portion (33%) does not come out. Phlegm is material that is released from the lower respiratory tract by coughing (Yanto, 2020). Coughing begins with deep inspiration followed by closure of the glottis, relaxation of the diaphragm and contraction of the muscles against the closing glottis. Coughing is triggered reflexively or intentionally as a self-defense reflex, coughing is influenced by the nerve pathway of diaphragm relaxation and muscle contraction against the closing glottis. (Maulana et al., 2021) The result will be positive pressure on the intrathoracic which causes narrowing of the trachea. Once the glottis is open, along with the narrowing of the trachea, it will produce a rapid flow of air through the trachea. This explosive force will sweep away secretions and foreign objects in the respiratory tract. Patients before receiving effective cough training were completely unable to expel maximum sputum, most of what was expelled was saliva, this was because the patient did not know how to cough effectively. They only coughed in the usual way so that they could not maximize their sputum excretion (Linda & Yusnaini, 2015).

After Effective Cough Therapy

Based on the results of the study in table 2. Sputum Expel After Effective Coughing (100%) can be released. Effective coughing is a method of coughing correctly, where patients can save energy so that they do not get tired easily and can expel phlegm optimally. (Novitasari & Putri, 2022) With effective coughing, chronic bronchitis sufferers do not have to exert a lot of energy to expel secretions. (Ruswadi et al., 2023)

Coughing begins with the inhalation of a certain amount of air, then the glottis will close and the pressure in the lungs will increase which is finally followed by the sudden opening of the glottis and the expiration of a certain amount of air at a certain speed. (Abilowo et al., 2022) The inspiratory phase begins with a short and rapid inspiration of a large amount of air, at this time the glottis is reflexively open. The volume of air inspired

varies greatly in amount, ranging from 200 to 3500 ml above the functional residual capacity. After the air is inspired, the compression phase begins where the glottis will close for 0.2 seconds. During this time, the pressure in the lungs and abdomen will increase to 50-100 mmHg (Novitasari & Putri, 2022). Researchers recommend that effective coughing is done by encouraging clients to drink warm water with rationalization to thin phlegm. In addition, deep inspiration is recommended. This was done by researchers twice. Then after the third inspiration, encourage the client to cough hard.

The effective coughing technique itself is not too complicated and very easy to do and there are many benefits that can be obtained, not only the process of expelling sputum but also training the respiratory muscles and also training clients to breathe properly. And the most important thing is that clients do not need to cough hard to expel sputum to the point of torturing themselves, with effective coughing the desired results are met and its effectiveness (Maulana et al., 2021). Chronic Cough Patients can understand the importance of effective coughing to expel phlegm (Yulianti & Astari, 2020) Based on the background above, the author is interested in raising the problem of how "Effectiveness of Effective Cough in Exhaling Sputum in Cases of Chronic Bronchitis at the Kediri Regency Hospital".

CONCLUSION

Effectiveness of Effective Cough in Sputum Expelling in Chronic Bronchitis Cases on August 11, 2015 to August 14, 2015, it was found that all respondents (100%) were able to expel sputum. The effective cough technique itself is not too complicated and is very easy to do and there are many benefits obtained not only the sputum expelling process but also, among others, training the respiratory muscles and also training clients to breathe in a good way. And the most important thing is that clients do not need to cough hard to expel sputum so that they torture themselves. With effective coughing, the desired results are met and its effectiveness has been tested in the research that has been conducted.

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