SLOW DEEP BREATHING INTERVENTION REDUCE FREQUENCY OF ASTHMA BRONCHIALE RECURRENCE

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ABSTRACT

Asthma is one of the problems that arise for people in various age and number of asthmatics is growing. Exercise have been widely used as complementary therapy people with Asthma Bronchiale. The purpose this research is to analyze effect of slow deep breathing intervention reduce the frequency of recurrence in patients with Asthma Bronkiale. This study used Pre Experimental Design with One Group Pre-Post Test. The samples in this study used purposive sampling technique with 10 respondents, while the instrument measured the frequency of recurrence in patients with Asthma Bronchiale checklist sheet and analyzed using the dependent sample t test (paired t test) with α 5%. The results showed that most respondents (60 %) of respondents experienced a decrease in the frequency of recurrence of Asthma Bronchial after intervening slow deep breathing. Based on analysis of Paired T Test on the frequency of recurrence of asthma ($p = 0.003$), so it can be concluded that there is effect of slow deep breathing with the frequency of recurrence of Asthma Bronchiale. Slow deep breathing in the lungs causing get plenty of oxygen will flow throughout the body so it can prevent asthma recurrence.

Keywords: Slow, Deep, Breathing, Recurrence, Asthma ,Bronchiale

INTRODUCTION

Asthma is one of the problems for the people who were raised in various ages. According to WHO, about 100 to 150 million people worldwide are persons with asthma. This number continues to grow as many as 180,000 people every year. In indonesia, the prevalence of asthma is not known for certain, but estimated 2-5% of indonesia's population suffer from asthma (moh, 2006). In 2005 estimated 400 million people worldwide suffer from asthma with added 180,000 annually. The prevalence of asthma morbidity and mortality recently reported increasing worldwide, despite various new drugs continue to be developed and used to treat this disease. (nugroho, 2009). In indonesia is estimated to 17% of the population suffer from asthma in its various forms (sahat, c, 2008). Various studies show that asthma pravalensi in indonesia estimated 3 to 8.0%. For people with asthma in east java in 2003 as many as 21 925 people. To assess the severity of disturbance can be

assessed by lung function tests that the inspection checks spirometri and peak expiratory flow (APE). Monitoring frequency of asthma recurrence is important to assess the weight of asthma, the degree of diurnal variation, the treatment response when an acute attack, detection of worsening asymptomatic before it becomes serious, the identification of the originator for example exposure to the working environment and the frequency of recurrence of asthma (guidelines for the diagnosis and management of asthma in indonesia, 2003). Proper asthma management among others are making near-normal lung function, prevent recurrence, control regularly and improve your fitness with exercise or exercise that is recommended (Nuari, 2014). Respiratory muscles is one of the interventions in patients with bronchial asthma. Many theories that explain how respiratory muscle training is expected nati can improve lung function one is to slow deep breathing techniques (Nuari, 2015)

Slow deep breathing is a yoga practice which concentrates more on breathing and can be

applied in patients with asthma. Slow deep breathing is beneficial to increase the maximum oxygen intake, and the circulation of blood to and from the lungs that can improve lung function (nadera, reyna, 2009). Research pramanik, et al. (2009) in adult patients found that respiratory bhasrika pranayamic in adults able to stimulate the frequency and duration of nerve impulses that activate the receptor pulmonary during tidal volume. It was able to increase vasodilation in blood vessels to lower peripheral resistance in the blood vessels so that it can lower blood pressure (Nuari, 2014), Bhargava research results r (1998), shows the slow deep influence on the autonomic nervous changes associated with breathing and increase vagal rhythm and reduce sympathetic changes. The novelty of this study is the implementation of the slow deep breathing is rarely applied by people with asthma and have not done much research in indonesia on slow deep breathing with asthma sufferers in indonesia. Therefore, it was necessary to examine the effect of slow deep breathing is the pulmonary function in patients with asthma and frequency of recurrence of the disease. The purpose of this study was to determine the effectiveness of the method of Slow Deep Breathing can decrease frequency of recurrence in patients with Bronchial asthma.

METHOD

The research design used in this research is to draft Pre Experiment Design One Group Pre-Post Test. This research was conducted in Puskesmas X region and time of the study started in January-August 2015. The population in this study were all patients with asthma bronchiale in Puskesmas X in January - July 2015. In this study, researchers set a number of samples of 10 people with a sampling technique by using purposive sampling. The instrument used was the observation sheet. Slow deep breathing intervention for 1 month and monitored by researchers. Within a period of 1 month later, researchers conducted a post test to measure asthma relapse frequency. Bivariate analysis was conducted to determine differences frequency of asthma relapse during the pre-test and post-test with statistical test dependent sample t test (paired t test)(0,05)

RESULT

Characteristics of Respondents

a.Age

Bronchial Asthma frequency distribution of patients by age, can be seen below:

Figure 1. Diagram Frequency Distribution Based Asthma Patients Age

Based on Figure 1 indicates as many as five respondents (50%) had 61-70 years of age, 3 respondents (30%) were aged 51-60 years, 10% aged 31-40 years and 10% of respondents aged 41-50 years.

b.Gender

Bronchial asthma patients the frequency distribution by sex can be seen below:

Figure 2. Diagram Frequency Distribution Based Asthma Patients Sex

Based on Figure 2. shows as many as nine respondents (90%) were female and 1 respondent (10%) male sex.

c. Long suffering Bronchial Asthma

Figure 3. Diagram Frequency Distribution Based Asthma Patients Sex

Based on Figure 3 shows as many as six respondents (60%) suffered from asthma for 6-10 years and 4 respondents (40%) suffered from asthma for 1-5 years.

d. Body Height

Figure 4. Diagram Frequency Distribution Based Asthma Patients Body Height

Based on Figure 4 shows as many as eight respondents (80%) have a height of 141-150 cm, one of the respondents (10%) have a height of 131-140 cm and 1 respondent (10%) have a height of 151-160 cm.

e. Weight

Figure 5. Diagram Frequency Distribution Based Asthma Patients Body Height

Based on Figure 5 shows as much as 6 respondents (60%) had a body weight of 31-40 kg, 3 respondents (30%) weight 41-50 kg and 1 respondent (10%) weight 61-70 kg.

f. The Frequency Of Recurrence Bronchial Asthma

Frequency of recurrence bronchial asthma in pre-test and post-test can be seen below:

Figure 6. Diagram frequency of recurrence during pre and post test on Asthma Patients

Based on Figure 6 shows prior to the intervention as much as 6 respondents (60 %) experienced a recurrence frequency 3-4x / month, a total of three respondents (30%) experienced a recurrence frequency 1-2x / month, and as many as 1 of the respondents (10%) experienced a frequency recurrence 5-6x / month. After the intervention Slow Breathing deep as 3 respondents (30%) to not relapse, 3 respondents (30%) had experienced a recurrence frequency 1-2x / month and 3 respondents (30%) experienced a recurrence frequency 3-4x / month.

Data Analysis

Normality test using Kolmogorov Smirnov test data analysis with statistical tests Paired t test showed that the obtained PEFR p value of 0.001 ($p < 0.05$), which means that there are differences in PEFR values before and after the intervention of slow deep breathing. While the frequency of recurrence of asthma was obtained $p = 0.003$ ($p < 0.05$), which means that there are differences in the frequency of recurrence of asthma before and after the intervention of slow deep breathing.

DISCUSSION

1. The Frequency of Recurrence Analysis Bronchial Asthma in Pre Test

The result showed that before intervention Slow Breathing deep as 6 respondents (60%) experienced a recurrence frequency 3-4x / month, a total of three respondents (30%) experienced a recurrence frequency 1-2x / month, and as many as 1 of the respondents (10%) experienced a recurrence frequency 5-6x / month.

Based on the characteristics of respondents by age is obtained as much as 50% of asthma patients aged 61-70 years. Most who develop asthma in adulthood. Based on the Report of the Basic Health Research (RISKESDAS) in 2007 found that the tendency of the prevalence of asthma has a tendency prevalence increases with age. The airways of asthmatics have distinctive properties that is very sensitive to various stimuli. Asthma attacks can occur at any age from children to adults (Sandaru, 2007).

Younger asthma patients under age 30 years of about 70% due to hypersensitivity. In patients with asthma who are older, the cause hypersensitivity to non-allergic irritants in the air such as dust, respiratory tract infection, fatigue, changes in weather and excessive emotional expression. Allergic reaction that occurs will stimulate the formation of abnormal IgE antibody in large quantities and these antibodies cause allergic reactions. This is consistent with the findings that most of the respondents have more than 30 years of age with the age in which individuals experience

hypersensitivity thus higher recurrence frequency becomes higher.

Based on the characteristics by sex obtained mostly female. This is consistent with the results RISKESDAS 2007 which states that the prevalence of asthma there were no differences by sex.

The results showed that as many as 8 respondents (80%) have a height of 141-150 cm and as much as 6 respondents (60%) had a body weight of 31-40 kg. Weight and height affect the respiratory muscle strength and lung function, these results are related to the theory that someone who has a high body large it will have the function of pulmonary ventilation is higher than the smallish. Inspiratory and expiratory function is affected by the height and weight as the ability to expand the chest will berbedapada every height and weight (Guyton & Hall, 2001).

2. The Frequency of Recurrence Analysis Bronchial Asthma in Post Test

The result showed that after intervention Slow Breathing deep as 3 respondents (30%) to not relapse, 3 respondents (30%) had experienced a recurrence frequency 1-2x / month and 3 respondents (30%) experienced a recurrence frequency 3-4x / month. Bhargava (1998), also showed Slow deep influence on the autonomic nervous changes associated with breathing and increase vagal rhythm and reduce sympathetic changes. Results were in line with this study that the autonomic nervous changes that will improve the lung function of patients.

Slow Deep Breathing reduce sympathetic activity and give relaxation response. Relaxation of skeletal muscle also increases lung expansion. During slow deep breathing patterns will increase bronchiale increasingly enlarge the blood perfusion to alveoli. It is able to support a controlled breathing patterns and help reduce sensitivity to allergens that come from the environment. This mechanism which can affect a decrease in allergic reactions that may decrease the frequency of asthma relapse.

Slow breathing in the deep causes the lungs to get oxygen and oxygen will flow throughout the body. If breathing is done regularly and concentrate, then the wave amplitude frequency bioelectrical energy fields in the body will take place slowly and steadily. This supports the activity of the cells and organs of

the body to be in sync and stimulate spending antibodies that work against a variety of sources of disease and stimulate spending hormone such as melatonin, endorphins that calm the nerves and the mind. This is what causes asthma patients bronhiale can avoid repeated asthma attacks because the mind relaxed and stress do not cause the patient could avoid the stressor or allergens trigger asthma attacks.

CONCLUSIONS AND RECOMMENDATIONS

The results showed that the method of Slow deep breathing can affect reduce asthma relapse frequency. Slow deep breathing easy to do and has many benefits so reduce the frequency of recurrence of asthma. Suggested Nurses can provide educate the patients to practice this method. It can be applied as one exercise that is easy and inexpensive that can be carried out continuously by patients with asthma bronchiale.

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