Application Of Asthma Exercise To Reduce Reccurence In Asthma Patients at Simpang Kawat Public Health Center Jambi City

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ABSTRACT

Asthma is a chronic respiratory disease that is a global health problem and affects 1-18% of the population in several countries. Asthma exercises, to increase muscle capacity related to respiratory mechanisms, increase capacity and efficiency in the respiratory process. This study aims to determine the frequency of recurrence in asthma patients at the Simpang Kawat Community Health Center, Jambi City. This research method is descriptive with a case study method. The number of subjects was one asthma patient using an asthma exercise observation sheet during which the asthma exercise was carried out for 3 meetings with asthma exercise lasting 30 minutes. Before the asthma exercise wa carried out, Mrs.F experienced a relapse once in 1 week and after the asthma exercise, Mrs.F did not experience a relape within 1 week after the asthma exercise was carried out. Based on the research results that have been conducted, the author can conclude the results regarding the application of asthma exercises to reduce relapses in asthma sufferers in the Simpang Kawat Health Center Work Area.
Key words: Asthma, Recurrence, Exercise.

INTRODUCTION

Asthma is one of the chronic non communicable diseases. Asthma has affected more than 5% of the world's population, and several indicators have shown that its prevalence continues to increase, especially in children. The epidemiological problems of mortality and morbidity of asthma disease still tend to be high, according to the World Health Organization (WHO) in collaboration with the world asthma organization, namely the Global Asthma Network (GAN), predicting that currently the number of asthma patients in the world has reached 334 million people, this figure is estimated to continue to increase by 400 million people in 2025 and there are 250 thousand deaths due to asthma including children(1).

Asthma is the type of disease that is most commonly suffered by the Indonesian people, so that by the end of 2020, the number of asthma sufferers in Indonesia was 4.5% of the total population of Indonesia or more than 12 million(2). Asthma is a chronic disease characterized by repeated attacks of shortness of breath(19). According to data from the Household Health Survey (SKRT) study conducted in various provinces in Indonesia, asthma is among the top 10 causes of morbidity and mortality in Indonesia(3).

Based on Basic Health Research in Indonesia data in 2018, the highest prevalence of asthma was in Yogyakarta (4.59%), East Kalimantan (40%) and Bali (3.9%), while in Central Java province it was 1.8% or around 130,565 cases. The results of the Basic Health Research (RISKESDAS) in 2013 obtained the results of the National prevalence for bronchial asthma for all ages of 4.5%, and in 2018 the prevalence was 57.5%, 2.3% men and 2.5% women. Data for the Jambi Province area, the prevalence of bronchial asthma sufferers for all ages in 2013 was 2.4% and in 2018 the prevalence was 1.7% of bronchial asthma sufferers in the Jambi Province(20). Based on data obtained from the Jambi City Health Office in 2021, the prevalence of Asthma was 1275 people. and in 2022, the prevalence of Asthma was 571. One of the Health Centers with an increase in the prevalence of Asthma is the Simpang Kawat Health Center. In 2021 there were 17 cases, and in 2022 there were 162 cases(21).

Prevention of further asthma complications needs to be done by reducing the frequency of shortness of breath in asthma sufferers(14). The frequency of shortness of breath in asthma can be influenced by several factors, including the severity of asthma, the treatment or medication consumed by the sufferer, and things that can trigger asthma(22). Each individual who suffers from asthma has a different level of shortness of breath frequency(15). If the frequency of shortness of breath in sufferers

does not decrease, it will greatly affect their daily activities. Therefore, efforts that can be made to reduce the frequency of shortness of breath are asthma exercises[5][27].

Preventive efforts of nurses by teaching breathing exercises, effective coughing to avoid allergy triggers, and also regular physical exercise such as asthma gymnastics[23]. Curative efforts of nurses in asthma sufferers by giving regular medication such as bronchodilator drugs, inhaled steroids, and so on[6][28]. Rehabilitative efforts are to maintain and restore conditions or prevent complications or worsening of the disease, the role of nurses in asthma sufferers is to advise them to always have regular check-ups, change their healthy lifestyle or do physical exercise in a relaxing way to reduce muscle tension[7][29].

Asthma exercise is a group of exercises aimed at improving the ability of muscles related to the respiratory mechanism, increasing capacity and efficiency in the respiratory process[16][30]. Asthma exercise can improve the ability of asthma sufferers to carry out daily activities, namely increasing breathing ability, increasing the efficiency of respiratory muscles, increasing air flow to the lungs so that more oxygenated blood flow, causing slower and more efficient breathing, reducing the rate of decline in lung function, reducing clinical symptoms, reducing the frequency of use of inhaled bronchodilators[8][25].

Based on research thi exercise can be done three 3-4 times a week with a duration of about 30 minutes[17]. Exercise will give results if done for at least 4-7 weeks. It is done by time series in the intervention group and control group, every 3 times a week for 4 weeks to reduce the frequency of recurrence of asthma patients at the Lombok Health Center. Shows that the frequency of recurrence in the intervention group was 2.75 ± 0.75 and after the intervention was 1.21 ± 0.42 while the control group showed that the frequency of recurrence in the control group was 2.52 ± 0.51 and after the intervention was 2.22 ± 0.42 with the conclusion that with asthma exercise there is a greater decrease in the frequency of recurrence compared to patients who do not do asthma exercise [26].

Application of asthma exercises to reduce relapse in asthma sufferers. Based on the description above, the author is interested in conducting further research on "Application of Asthma Exercises to Reduce Relapse in Asthma Sufferers in the Simpang Kawat Health Center Work Area, Jambi City".

METHODS

The design used in this research is a descriptive case study conducted to identify the frequency and distribution of a disease or health problem in humans based on the characteristics of the person suffering from it, the place of occurrence, and the time the disease or health problem occurred. Case studies are conducted using a nursing care approach consisting of assessment, establishing nursing diagnoses, formulating interventions, implementing and evaluating them.

The subject in the case that used this nursing care approach was 1 client with the following inclusion criteria

1. Have a history of Asthma
2. Can do activities
3. Asthma sufferers who have experienced an asthma relapse in the last 2 weeks

This research was conducted in the Simpang Kawat Community Health Center Working Area, Jambi City on June 3-21, 2024.Asthma exercises are performed 3 times with a duration of 30 minutes.

RESULTS

The nursing care process began with an assessment of Mrs. F, 52 years old, on saturday, June 8, 2024. She lives in Simpang Kawat RT 38, Payo Lebar Village. Mrs. F's daily job is a housewife. Mrs. F's husband works as a trader and RT head. Mrs. F and her husband have a husband and 2 children, 1 boy and 1 girl .

Based on the assessment, Mrs. F has had asthma since 2020. Mrs. F said that no other family members have asthma. Mrs. F said that her asthma often recurs when the weather is cold and when it rains. Mrs. F said that she experiences an asthma relapse once a week. The symptoms felt by Mrs. F when her asthma relapses are shortness of breath, feeling weak and tired easily, anxiety, and sweating . However, currently Mrs. F is not experiencing a relapse of her illness. When the

assessment was carried out, Mrs. F said that she could do daily activities such as selling at a shop near her house.

Mrs. F's general condition appeared good, compos mentis consciousness . The results of vital signs were 130/80 mmHg, pulse 88 x/minute, temperature 35°C, respiratory rate 24 x/minute, with a body weight of 83 kg and height 161 cm. During the physical examination, the client did not appear to be using accessory respiratory muscles, during auscultation, breath sounds were heard vesicular, regular breathing rhythm. Mrs. F also took symbicort budesonide / formotorol when her asthma relapsed. After the assessment was carried out, the researcher made a time contract with the respondent to do asthma exercises. The agreed time was tomorrow, Monday, June 10, 2024 at 11:00 WIB. Based on the results of the assessment of priority nursing diagnoses that the author made as the main problem in respondent Mrs. F, namely ineffective breathing patterns related to chest wall deformity. Asthma exercise was carried out for 3 days.

Table 1. Evaluation of Asthma Gymnastics Recurrence Before and After Performing Asthma Exercise

Respondent's name	Determining asthma recurrence before performing asthma exercises (3-9 June 2024)	Determining asthma recurrence after asthma exercises (15-21 June 2024)
Mrs. F	Relapse 1x	No relapse

Based on table 1 above, before the asthma exercise was carried out, Mrs. F experienced a relapse 1 time in 1 week, and after asthma exercise was carried out 3 times with a duration of 30 minutes, Mrs. F did not experience a relapse within 1 week after the asthma exercise was carried out.

DISCUSSION

The results of the study showed that the application of asthma exercises can reduce relapses in asthma sufferers. It is known that after asthma exercises were carried out, asthma relapses in clients decreased. This is reinforced by the results of Dewi's research (2023), regarding the application of asthma exercises can reduce the frequency of relapses in asthma sufferers at the 3rd meeting, stating that there was a decrease in the frequency of asthma relapses before asthma exercises were carried out, 1 time experiencing a relapse in 1 week, and no relapse in 1 week after asthma exercises were carried out.

At the first meeting before the action was taken with complaints of shortness of breath when the client felt tired, and the weather was cold, rainy, short of breath, feeling weak and easily tired, anxious, sweating when his asthma relapsed. With a physical examination, it was known that the pulse measurement results were 88 x / minute, breathing frequency 25 x / minute. After the researcher did the asthma exercise movements, the respondents were not yet able to do the asthma exercise movements properly.

At the second meeting before the asthma exercise was carried out, the respondent's breathing frequency was 24 x/minute, pulse 80 x/minute, then the researcher returned to doing asthma exercise movements and after the asthma exercise movements were carried out, the respondent was able to do asthma exercise but it was not good enough, the breathing frequency was 24 x/minute, pulse 80 x/minute.

At the third meeting, the respondent found that the client's breathing frequency decreased to 21 x/minute. The client said that he did not cough, and his breathing was normal, he did not get tired easily, he did not feel weak, and his sweating decreased.

The results of this study indicate that there is a difference before the asthma exercise was carried out, the client's breathing frequency was 25 x/minute, pulse 88 x/minute and after the asthma exercise was carried out, the breathing frequency decreased to 21 x/minute, pulse 80

x/minute, the relapses felt by the patient decreased, and did not feel weak, did not start to get tired again, and the feeling of sweating began to decrease and the breathing frequency was within normal limits.

The results of the research about the effect of asthma exercise training on oxygen saturation in the treatment group, the mean value for % SpO2 increased from 95.1 to 96.5. Using *Mann Whitney,* a p-value of 0.001 was obtained, this indicates that there is a very close relationship between increasing oxygen saturation in asthma sufferers[9]

This study is also supported by the results of researc at the Surakarta Lung Health Center showing that the results of the study showed that in the treatment group there was an increase in well-controlled relapses and a decrease in uncontrolled relapses. Based on the *Mann Whitney test* , a p-value of 0.008 was obtained, there is a very close relationship between reducing relapses in asthma sufferers[10].

Asthma exercise is a group of exercisesaimed at improving the ability of muscles related to the respiratory mechanism, increasing capacity and efficiency in the respiratory process[18]. Asthma exercise can improve the ability of asthma sufferers to carry out daily activities, namely increasing breathing ability, increasing the efficiency of respiratory muscles, increasing air flow to the lungs so that more oxygenated blood flow, causing slower and more efficient breathing, reducing the rate of decline in lung function, reducing clinical symptoms, reducing the frequency of use of inhaled bronchodilators [11][12].

This is in line with research conducted by Lungguh Tarenaksa (2018) on the effect of asthma exercises in reducing the frequency of relapse in asthma patients at the Lombok Health Center, showing that the frequency of relapse in the intervention group was 2.75 ± 0.75 and after the intervention was 1.21 ± 0.42, while the control group showed that the frequency of relapse in the control group was 2.52 ± 0.51 and after the intervention was 2.22 ± 0.42, with the conclusion that with asthma exercise there was a greater decrease in the frequency of relapse compared to patients who did not do asthma exercises[13].

The conclusion is that with asthma exercise there is a greater reduction in the frequency of relapse compared to patients who do not do asthma exercise.

CONCLUSIONS

Based on the research results that have been conducted, the author can conclude the results regarding the application of asthma exercises to reduce relapses in asthma sufferers in the Simpang Kawat Health Center Work Area, Jambi City.

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