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Rheumatic Exercise as a Nonpharmacological Therapy in Reducing Pain Rheumatoid Arthritis in the Elderly

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ABSTRACT

Changes that occur in the elderly include physical changes, including physical disorders such as Rheumatoid Arthritis (RA). RA can be triggered by several stress factors, such as surgery and trauma, and often appears suddenly. The highest incidence of rheumatism is in the elderly, this shows that rheumatism increases with age. One of the non-pharmacological therapies to reduce rheumatic pain is rheumatic exercise. Qualitative research type, descriptive design with case study. Number of samples in the study of 5 respondents with total sampling technique. The data was analyzed and presented in the form of a frequency distribution table. Results: Respondent characteristics based on age showed that the majority were over 60 years old (80%). All respondents were female (100%), and the majority worked as farmers (60%). The average highest pain scale before rheumatic exercise was 4.6 and the highest after 3 days of rheumatic exercise was 3.3. Rheumatic exercise therapy can reduce the pain scale in elderly patients suffering from Rheumatoid Arthritis.

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1. INTRODUCTION

Rheumatoid Arthritis (RA) is a chronic autoimmune disease that causes inflammation of the joints, often resulting in pain, stiffness, and limitations in performing daily activities. This common disease occurs in the elderly and has an impact on their quality of life, as prolonged pain can interfere with motor function. It is thought that environmental and genetic factors contribute to the development of RA.[1] Many factors affect RA such as age, gender, genetics, sex hormones, and immunity. This is not a physiological process that occurs in the elderly, but rather a pathological process where age is one of the factors causing rheumatoid arthritis. As many as 50% of patients say that they experience long-lasting episodic pain, which if not treated immediately can cause tissue damage, joint deformity, and even death [2] This disease is more common in older adults. The age range of 75 years and over (33%) and the age range of 65-74 years are the age groups that most often experience rheumatism, along with 25.2% of adults aged 55-64 years.

This shows that rheumatism increases with age. [3]. Based on the latest research results of [4] , the prevalence of rheumatic pain in Indonesia reached 25.6-35.8%. These results indicate that the high prevalence of this condition in Indonesia can reduce the country's productivity because sufferers cannot perform their own physical functions, which has an impact on their quality of life. [5] According to [6], problems caused by the aging process and degenerative diseases that reduce immunity are increasing along with the increasing life expectancy of the elderly. In the first place, the two biggest problems in the elderly are hypertension in the elderly in the first place, namely hypertension at the age of 55-64 years as much as 45.9% and the age of 65-74 years as much as 57.6%, for arthritis in the second place, namely the age of 55-64 years as much as 45% and the age

of 65-74 years as much as 51.9% [7] In the elderly, RA pain often occurs in the morning, disrupting their movement or activities.

Pain usually lasts for fifteen minutes or more and sometimes reduces range of motion. Those who are elderly experience pain that lasts a long time or is chronic so that they cannot do daily activities. Because this pain occurs frequently, the elderly will experience discomfort and feelings of insecurity every day. [2] To reduce pain and inflammation in the joints, rheumatic treatment can be done pharmacologically (eg analgesic and anti-inflammatory drugs) or non-pharmacologically (eg warm compresses, cold compresses, deep breathing, hypnosis, and rheumatic gymnastics). Decreased joint range of motion (LGS) is a result of decreased functional activity in old age. LGS is a movement in a part of the body carried out by muscles that move bones in joints with various patterns and ranges of motion. Muscles have external force. Muscles must be moved regularly to maintain normal LGS. To maintain soft tissue and joint movement, LGS activity is also recommended as therapy and to reduce contractures. [8]

Physical exercise to improve fitness is a preventive and promotive action that can help the elderly maintain and improve their functional status. Rheumatic gymnastics is a body movement technique that can help elderly people with rheumatism improve their functional status. Rheumatic gymnastics focuses on stretching and strengthening the muscles that support the joints.[8] Rheumatic exercise is one of the most basic and easy types of physical exercise for rheumatic sufferers. Rheumatic exercise is a collection of very logical, effective, and systematic movements that are carried out regularly and in a structured manner. Rheumatic exercise helps maintain the widest range of joint motion, reduces joint pain, and maintains physical joint health[9]. Bones become more flexible, muscles remain tight, blood circulation becomes smoother, blood fat levels remain normal, become more resistant to injury, and increase the speed of body cell reactions are additional benefits[10].

According to previous research, rheumatic exercise done three times a week for thirty minutes can reduce the average pain scale from 3.05 to 0.93 [1] Based on the results of a preliminary case study to the Prolanis team of Kasmaran Village, 11 elderly people experienced symptoms of rheumatoid arthritis in Kasmaran Village, namely 9 women and 2 men. Rheumatic gymnastics was chosen as one of the non-pharmacological therapies to reduce pain because this gymnastics is very easy to do anywhere and anytime, considering that it does not require expensive costs and does not require experts and the movements are easy to remember, therefore researchers are interested in conducting research on rheumatic gymnastics as one of the therapies to reduce symptoms of rheumatic pain in Kasmaran Village.

2. RESEARCH METHODS

Research with a *descriptive p approach case series* , namely a case study that aims to describe or provide action on the application of rheumatic exercises to reduce pain levels in elderly people with *Rheumatoid Arthritis. The sample in this study was* 5 elderly people with *rheumatoid arthritis* .

The case study will be conducted through interviews and observations on clients with rheumatoid arthritis. This case study invites respondents to undergo rheumatic exercises to reduce pain. Researchers will conduct interviews and observations of the rheumatoid arthritis pain felt by respondents. After that, respondents will explain the pain they feel. Furthermore, researchers will provide rheumatic exercises to respondents which are carried out according to the agreed time. The research data are displayed in the form of a frequency distribution table.

3. RESULTS AND DISCUSSIONS

This research is about the effect of rheumatic exercise on reducing joint pain in rheumatoid arthritis sufferers in Kasmaran Village, Pagentan District, which was carried out in February 2024. Respondents in this study were elderly people suffering from rheumatoid arthritis pain with a total of 5 respondents. The intervention was carried out for 3 meetings and the results of the study are presented in the following table.

Characteristics Respondents

Based on the **From the** results of pain scale measurements that have been carried out before and after doing rheumatic exercises, there are differences in the pain scales of the five subjects. In subject Mrs. B, the average pain scale before doing rheumatic exercises was 3, and after doing rheumatic exercises, the average pain scale was 2, with a difference of 1. While in subject Mrs. I, the average pain scale before doing rheumatic exercises was 3, and after doing rheumatic exercises, the average pain scale was 2, with a difference of 1. In subject Mrs. K, the average pain scale before doing rheumatic exercises was 4, and after doing rheumatic exercises, the average pain scale was 3.3, with a difference of 0.7.

Table 1, it is obtained that the age of the respondents is mostly over 60 years old, namely 80% and 20% are 50-60 years old. From the gender, 100% of respondents are female, and from the occupation, most are 60% farmers and 40% as housewives.

Based on the **Table 2**, The level of pain scale of respondents before and after the application of rheumatic gymnastics on 5 respondents for 3 days showed a decrease in the pain scale.

Based on **Table 3**, the average pain scale level shows a decrease in the pain scale level pain in 5 respondents.

From the results of pain scale measurements that have been carried out before and after doing rheumatic exercises, there are differences in the pain scales of the five subjects. In subject Mrs. B, the average pain scale before doing rheumatic exercises was 3, and after doing rheumatic exercises, the average pain scale was 2, with a difference of 1. While in subject Mrs. I, the average pain scale before doing rheumatic exercises was 3, and after doing rheumatic exercises, the average pain scale was 2, with a difference of 1. In subject Mrs. K, the average pain scale before doing rheumatic exercises was 4, and after doing rheumatic exercises, the average pain scale was 3.3, with a difference of 0.7.

Table 1. Characteristics Respondent

Variables	F	%
Age		
50-60	1	20%
>60	4	80%
Type Sex		
Woman	5	100%
Man	0	0%
Work		
housewife	2	40%
Farmer	3	60%

Table 2. Description of The Pain Level Scale Before and After Implementing Rheumatic Gymnastics

Name Respondent	**Scale painful day to 1**		**Scale painful day to 2**		**Scale painful day the 3rd**	
	Before	After	Before	After	Before	After
Mrs. B	4	3	3	2	2	1
Mrs. I	4	3	3	2	2	1
Mrs. K	5	5	4	3	3	2
Mrs. M	5	4	5	3	4	3
Mrs. N	5	3	4	3	3	1

Table 3. Differences in Pain Scale Before and After The Application of Rheumatic Gymnastics

Respondent's name	**Average pain before rheumatic exercise**	**Average pain after rheumatic exercises**	**Comparison difference**
Mrs. B	3	2	1
Mrs. I	3	2	1
Mrs. K	4	3.3	0.7
Mrs. M	4.6	3.3	1.3
Mrs. N	4	2.3	2.3

In the subject In the subject Mrs. M the average pain scale before doing rheumatic exercise was 4.6 and after doing rheumatic exercise the average pain scale was 3.3 with a difference of 1.3. And in the subject Mrs. N the average pain scale before doing rheumatic exercise was 4, and after doing rheumatic exercise the average pain scale was 2.3, with a difference of 1.7. From the results of measuring the pain scale of the five subjects, the application of rheumatic exercise to reduce the pain scale in the elderly suffering from rheumatoid arthritis pain.

The results of the study are supported by research that has been conducted [8]., with the research title " The Influence of Exercise Rheumatism To Decrease Scale Painful Joints On Elderly in the Village Well Subdistrict Penang Island Regency Lahat " with amount 50 elderly respondents obtained results after exercise rheumatism , 50 people aged 65 years or more experience decline level pain , with 34 (68%) of they experience painful light and 16 (32%) experienced painful medium . Results T test shows that level painful before exercise rheumatism elderly is 1.6200 , and after exercise rheumatism is 1.3200, respectively with standard deviation 0.49031 and 0.47121. This show that There is decline mark before And after exercise rheumatism elderly .

Based on research [2]entitled "Rheumatic Exercises to Reduce *Rheumatoid Arthritis Pain Scale* in the Elderly", the results obtained from 29 elderly people suffering from rheumatic pain were the average value

before... done exercise rheumatism on elderly with rheumatism is 4.00 with standard deviation 1.301 while after done exercise rheumatism on elderly with rheumatism to obtain average value of 2.00 with standard deviation 0.689. then can concluded that there is significant influence on average value before And after done exercise rheumatism on elderly with rheumatism.

4. CONCLUSIONS

This study shows that the female gender has a greater risk of developing rheumatoid arthritis than the male gender, as evidenced by the results of the study that most of the patients with rheumatoid arthritis are women. After doing rheumatic gymnastics for three meetings a week, there was a decrease in the joint pain scale in the elderly with rheumatoid arthritis, a decrease in the pain scale in the elderly with rheumatoid arthritis on the first day the highest scale was 4.6 and the lowest was 3, and on the last day after rheumatic gymnastics the highest pain scale was 3.3 and the lowest pain scale was 2, which shows a significant reduction in the pain scale. The community needs a Puskesmas and prolanis program provide a schedule for regular rheumatic gymnastics of at least 3 times a week with a duration of 15 minutes for community, especially for people with joint pain so that they can become support in lowering the scale in pain sufferers rheumatoid arthritis.

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