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The Effect of Elderly Exercise on Pain Scale in Patients with Rheumatoid Arthritis

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ABSTRACT

Background: Rheumatoid arthritis is the most common articular inflammatory disease in the elderly. Rheumatoid arthritis is a chronic, systemic disease that typically develops slowly and is characterized by recurrent inflammation of the diarthrodial joints and associated structures. According to the Ciamis District Office, from the entire Ciamis District Health Center, 17,492 cases of rheumatoid arthritis were diagnosed.
Objective: To determine the effect of elderly exercise on pain scale in patients with rheumatoid arthritis at the Ciamis Public Health Center
Method: this research method is a pre-experimental design in the form of one group One-Shot Case Study. The population in this study were the elderly aged 45-59 years as many as 129 people. The sampling technique in this research is accidental sampling. The sample in this study were the elderly aged 45-59 years as many as 56 people.
Result: the results of the study stated that there was an influence of elderly exercise on the pain scale in patients with rheumatoid arthritis at the Ciamis Health Center, with the significance value of the Wilcoxon test results showing (P = 0.029 <0.05). This means that rheumatoid arthritis can be reduced by doing sports, one of which is by doing elderly gymnastics. Exercise that is done regularly can strengthen the muscles around the joints, reduce pain or aches, improve balance and provide more energy in the body.
Conclusion: elderly exercise can affect the pain scale of rheumatoid arthritis sufferers

Keywords: elderly exercise, pain scale, rheumatoid arthritis

Introduction

According to WHO, patients with rheumatoid arthritis in the elderly worldwide have reached 355 million people, meaning that 1 in 6 people in the world suffers from rheumatoid arthritis. It is estimated that this figure will continue to increase until 2025 with an indication that more than 25% will experience paralysis. (Situmorang, 2017)

In Indonesia, Rheumatoid Arthritis is the most common disease compared to other diseases. The population with rheumatoid arthritis in Indonesia is 18.6 million (8.1% of the total population of 229 million). As many as 29% of them underwent a doctor's examination, and the rest or 71% took over-the-counter pain relievers. (Elderly et al., 2018)

Data from the West Java Provincial Health Office states that rheumatoid arthritis has become one of the biggest diseases since 2011. In this data observations were made from 2016 to 2017. Rheumatoid arthritis appeared in 2016 with a diagnosis rate of 17,671 cases, and in 2016. 2017 with an incidence of 50,671. (Dinkes Jabar, 2017)

Data from the Ciamis District Health Office in 2017 stated that rheumatoid arthritis had become one of the 10 biggest diseases since 2013. In this data, data were observed from 2016 to 2017. Rheumatoid arthritis appeared in 2016 and ranked seventh with a diagnosis rate of 18,964 cases and dropped to ninth with a diagnosis of 12,802 cases. Data from the entire Ciamis district health center with a case diagnosis of 17,492 cases (Dinkes Ciamis, 2017).

Rheumatoid arthritis generally affects elderly patients in weight-bearing joints, especially the knee, hip (coccal), lumbar and cervical joints. The knee is the joint most commonly encountered with arthritis of the many joints that can be affected by arthritis. Rheumatoid arthritis of the knee is the main cause of pain and disability compared to arthritis in other joints (Setyohadi, 2010).

The elderly population in general has experienced a lot of decline due to natural processes, namely the aging process with a decrease in physical, psychological, and social conditions that interact with each other. The problems that develop are related to changes in physical conditions that accompany the elderly. Changes in physical conditions in the elderly include a decrease in musculoskeletal abilities towards the worse. Decreased musculoskeletal function causes degenerative changes that are felt with complaints of pain, stiffness, loss of movement and signs of inflammation such as tenderness, accompanied by swelling which results in impaired immobility. It is estimated that by 2025 more than 35% will experience paralysis due to bone and joint damage.

Pain in rheumatoid arthritis is caused due to the demineralization process in the joints so that the joint shape is no longer smooth and results in inflammation, this is exacerbated by reduced activity in rheumatoid arthritis sufferers. One of the causes of pain attacks in arthritis sufferers is the occurrence of joint stiffness due to a lack of joint movement so that flexibility is reduced (Elderly et al., 2018).

The impact of joint pain in general is to reduce the quality of life of rheumatoid arthritis sufferers due to the limited range of motion, besides that it can have an effect on increasing the dependence of the elderly on the family and increasing the burden on the family. The decline in the quality of life in the elderly will ultimately worsen the level of health of the elderly, especially in an effort to prevent the occurrence of various problems related to the range of activities of the elderly (Elderly et al., 2018).

To reduce pain that occurs in joints affected by rheumatoid arthritis, it can be done by carrying out elderly exercise, through elderly exercise, the flexibility of the joints is maintained so that the joints are not stiff and painful when moved. Elderly exercise with moderate intensity

can provide other benefits for the elderly through various things, including cardiovascular status, risk of fracture, functional ability and mental processes. Exercise and exercise in the elderly must be tailored individually, and according to the individual's goals. Particular attention should be paid to the type and intensity of exercise, including the type of aerobics, strength, flexibility, and the condition of the participants when the exercise is given. Elderly people who understand have a great tendency to carry out elderly gymnastics (Elderly et al., 2018).

Based on a preliminary study with an interview technique on December 22, 2018 conducted on the elderly in the Ciamis Health Center Work Area, 3 patients with a diagnosis of rheumatoid arthritis were found. Two respondents always follow elderly gymnastics regularly 4 times a month, two respondents show a mild pain scale with symptoms that arise in the leg area and show a moderate pain scale with symptoms such as prickling. One respondent only participates in gymnastics once a month with moderate pain scale, symptoms such as being stabbed in the wrist area.

Objective

To determine the effect of elderly exercise on pain scale in patients with rheumatoid arthritis at the Ciamis Public Health Center

Method

The design of this research is a pre-experimental design with the form of one group One-Shot Case Study. With a population of 129 elderly people with rheumatoid arthritis at the Ciamis Public Health Center. Sampling used accidental sampling so that a sample of 56 people was obtained. Data processing using Wilcoxon test. The instrument used is a pain scale questionnaire sheet.

Results

Tabel 1 The Effect of Elderly Excercise on the Elderly Pain Scale in Rheumatoid Arthritis Patients

		Elderly Excercise			
No	**Pain Scale**	**Regularly**		**Irregular**	
		F	**%**	**F**	**%**
1	No Pain	33	77%	3	31%
2	Mild Pain	10	23%	8	54%
3	Moderate Pain	0	0	2	15%
4	Severe Pain	0	0	0	0
5	Uncontrolled	0	0	0	0
Jumlah		**43**	**100**	**13**	**100**

Characteristics of respondents based on gymnastic activities, most of the respondents are included in the category of participating in gymnastics regularly, as many as 43 respondents (76.8%). While those who follow gymnastics irregularly are 13 respondents (23.2%).

According to Arniyanti (2017) elderly exercise is a light exercise that is easy to do, not burdensome that is applied to the elderly. This sports activity will help the body to stay fit and fresh because it trains bones to stay strong and encourages the heart to work optimally. Elderly gymnastics is a series of tone movements that are regular and directed as well as planned which are followed by elderly people which are carried out with the aim of increasing the functional ability of the body. This is supported by research by Yuli Reny (2014) which states that elderly exercise is very useful for the elderly to keep the body fit and fresh in old age.

According to Debra (2015) rheumatoid arthritis pain can be reduced by doing sports, one of which is by doing elderly gymnastics. Exercise that is done regularly can strengthen the muscles around the joints, reduce pain or aches, improve balance and provide more energy in the body.

Based on the results of the research, the majority of respondents who follow gymnastics regularly as many as 43 respondents (76.8%), it's because the elderly have felt the benefits of elderly gymnastics, do not feel continuous pain. While the respondents who took part in gymnastics irregularly were 13 respondents (23.2%), the elderly who did not regularly follow the gymnastics because the distance to the health center was quite far, no one took them to the health center and limited means of transportation.

Characteristics of respondents based on the Pain Scale, the most respondents were no pain as many as 33 respondents (64.3%).

Based on the results of the study, the elderly who were included in the painless category were respondents who took part in elderly exercise activities regularly >3x a month, while the elderly who did not participate in irregular gymnastics <3x a month were in the category of mild pain and moderate pain.

People still have a wrong understanding of pain. Most people (especially the elderly) think that rheumatoid arthritis is synonymous with high levels of uric acid in the blood. In fact, not all causes of rheumatoid arthritis are gout. Rheumatoid arthritis is a disease that causes inflammation, and then causes pain, stiffness, and swelling in the joints. Rheumatoid arthritis is a disease that is often experienced by elderly people (Sari, 2017).

Based on the facts and opinions of the researchers above, there are theories related to pain. Pain is a personal, subjective experience, which is influenced by culture, a person's perception, attention and other psychological variables, which interferes with ongoing behavior and motivates everyone to stop the feeling (Judha, 2012). Pain is a protective mechanism for the body, arises when the tissue is damaged and causes the individual to react to relieve pain (Andarmoyo, 2013).This is in line with Arniyanti's research (2017) which explains that rheumatoid arthritis is a disease that is often experienced by the elderly.

From the results of the research above, the researchers concluded that the elderly exercise that was carried out regularly had a great effect on the rheumatoid arthritis pain scale. The results of the study from 56 respondents, as many as 33 respondents had no pain and 10 respondents had mild pain. Meanwhile, the elderly who did exercise regularly were 3 respondents with no pain, 8 respondents with mild pain, 2 respondents with moderate pain. It indicates that elderly exercise can reduce the level of rheumatoid arthritis pain, because exercise that is done regularly can strengthen the muscles around the joints, reduce pain or pain, improve balance and provide more energy in the body.

The results of the statistical test using the Wilcoxon test showed that the p-value was 0.029, which means that the p-value was <0.05 so that the hypothesis was accepted. This means that there is an effect of elderly exercise on the pain scale in patients with rheumatoid arthritis at the Ciamis Health Center.

Discussion

The results of the study stated that there was an effect of elderly exercise on pain scale in patients with rheumatoid arthritis at the Ciamis Health Center, with the value of significancy in the Wilcoxon test results showing (P = 0.029 <0.05).

The results of the research above show that the pain scale of the elderly who participate in elderly gymnastics activities regularly is in the no pain category as many as 33 people (77%), mild pain as many as 10 people (23%). While the pain scale of the elderly who participated in elderly gymnastics activities irregularly was in the no pain category as many as 3 people (31%), mild pain as many as 8 people (54%), moderate pain as many as 2 people (15%).

In this study, there was a decrease in rheumatoid arthritis pain after the elderly participated in irregular gymnastics, the elderly could explain the positive changes that occurred in their bodies, especially in the muscles and joints that previously felt stiff and painful. According to Budi (2015) the decrease in rheumatoid arthritis pain occurs because the elderly perform movements that can increase fluid in the joints, the fluid can avoid friction between joint cartilage when the joints move. So that this increase in fluid can reduce the risk of rheumatoid arthritis pain in the elderly.

Researchers argue that elderly exercise has an effect on the rheumatoid arthritis pain scale. From the results of research on elderly people who follow elderly exercise regularly, 33 people (77%) have no pain and 10 people have mild pain (23%). With elderly exercise someone who experiences rheumatoid arthritis pain will move the joints and body parts to reduce pain. This is in line with research (Andarmoyo, 2013) which states that elderly exercise can reduce pain in the elderly because the movements performed during elderly exercise are very useful for relaxing tense muscles and increasing joint flexibility.

Looking at the results of the research above, the researchers concluded that there was a significant influence between elderly exercise on the pain scale in patients with rheumatoid arthritis at the Ciamis Health Center. The results of the study from 56 respondents, as many as 33 respondents (77%) had no pain and 10 respondents (23%) had mild pain. While the elderly who do exercise regularly as many as 3 respondents (31%) have no pain, 8 respondents (54%) have mild pain, 2 respondents (15%) have moderate pain, with p-value = 0.029 <0.05 which means that the hypothesis from this research was accepted. Which means that the elderly who follow exercise regularly >3x a month can reduce the rheumatoid arthritis pain scale.

Conclusion

There is a significant effect of Elderly Gymnastics on Pain Scale in Rheumatoid Arthritis Patients at Ciamis Health Center, with p value = 0.029 <0.05.

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