
The Effect Of Rheumatic Exercises On The Ability Of The Elderly In Carrying Out Daily Activities In Kampung Baru Village

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ABSTRACT : Health problems in the elderly are increasingly becoming a major concern at global and national levels, along with increasing life expectancy. One of the most common health problems faced by the elderly is musculoskeletal disease, including rheumatism. This study aimed to determine the effect of rheumatic exercise on the ability of elderly individuals to perform daily activities. This study is a quantitative study using a quasi-experimental one-group pre-test and post-test design. The results showed that The results of the Wilcoxon rank test were $p = 0.000$, which was smaller than $\alpha = 0.05$. This study shows the effect of rheumatic exercise on the ability of the elderly to perform daily activities. This shows that rheumatic exercise is an effective intervention to support the ability of the elderly to face physical and psychological challenges due to aging and chronic diseases, such as rheumatoid arthritis.

Keywords: Rheumatic Gymnastics, Activity, Rheumatoid Arthritis, Elderly

1. INTRODUCTION

Health issues in the elderly are increasingly becoming a major concern at both the global and national levels, along with increasing life expectancy. Data from the World Health Organization (WHO) show that in 2021, the world's elderly population has reached more than 1 billion people and is expected to increase to 1.4 billion by 2030 (WHO, 2021). In Indonesia, the proportion of the elderly in 2022 will reach 10.48% of the total population, placing Indonesia in the aging population phase (Central Bureau of Statistics, 2022). One of the most common health problems faced by the elderly is musculoskeletal disease, including rheumatism. This disease not only causes pain but also limits the functional ability of the elderly to perform daily activities.

Rheumatism is a general term that encompasses over 200 different diseases, with the most common being rheumatoid arthritis (RA) and osteoarthritis. RA is an autoimmune disease that causes inflammation of the joints, whereas osteoarthritis is a degenerative disease caused by the breakdown of cartilage. Both conditions cause joint pain, swelling, stiffness, and limited range of motion and can lead to disability if left untreated (Hunter et al., 2020). Rheumatic diseases are one of the main causes of decreased quality of life in the elderly, particularly because of their significant impact on daily activities.

Globally, approximately 20% of the population has rheumatic diseases, with an RA prevalence of approximately 1% in adults (Hunter et al., 2020). In Indonesia, the 2018 Basic Health Research (Riskesdas) data recorded the prevalence of joint diseases in 7.3% of the total population, with a much higher prevalence in the elderly, reaching 21.39% in the age group

over 75 years (Ministry of Health of the Republic of Indonesia, 2018). In North Sumatra, especially Medan, the prevalence of rheumatic disease in the elderly has reached 30%, indicating that this disorder is one of the most dominant health problems (Nurhayati et al., 2019). Kampung Baru Village is one of the areas with a fairly high elderly population in Medan City. Based on an initial survey, most of the elderly in this area complained of joint pain and difficulty in carrying out daily activities such as bathing, dressing, or walking long distances.

The pain that appears makes sufferers afraid to perform activities, thus disrupting their daily activities and reducing productivity (Padilah, 2018). In addition, the pain experienced can make patients feel frustrated in their daily lives, thus reducing their comfort. Therefore, the main therapy aims to reduce pain (Lahemma, 2018). Rheumatic pain can be managed through pharmacological and non-pharmacological (Andri et al., 2019). Pharmacological approaches involve the use of analgesics. However, in the elderly, changes that occur due to the aging process, such as changes in pharmacodynamics, pharmacokinetics, and drug metabolism in the body, increase the risk of side effects of drugs (Mawarni & Despiyadi, 2019). In addition, the long-term use of drugs can trigger serious side effects, such as bleeding in the digestive tract, gastric ulcers, perforation, and impaired kidney function.

Rheumatic exercise is a non-pharmacological intervention that is effective in dealing with musculoskeletal health problems in the elderly. This activity aims to increase joint flexibility and muscle strength, and reduce pain symptoms (Akbar & Sari, 2021). Previous studies have shown that rheumatic exercise can increase mobility and improve the quality of life of rheumatic patients, particularly the elderly (Wang et al., 2017). However, the implementation of rheumatic exercise at the community level still faces various challenges, such as the lack of structured programs and low participation of the elderly community.

Rheumatic exercise can help improve the independence of the elderly in carrying out daily activities in a structured and systematic manner. One of the main benefits of rheumatic exercise is the ability to reduce joint pain and increase mobility. Research shows that this exercise can improve the walking ability of the elderly, which, in turn, improves their independence in moving or mobilizing (Swastika & Mayasari, 2017; Swastika & Hidayat, 2020). With specially designed movements, rheumatic exercise allows the elderly to practice without excessive pressure, so that they can stay active and involved in their daily lives.

Rheumatic gymnastics also contributes to improving balance and body coordination. Good balance is very important for preventing falls and injuries in the elderly. Research shows that by performing gymnastics regularly, the elderly can improve their body stability, thereby

reducing the risk of accidents. This not only increases physical independence, but also provides greater self-confidence for the elderly in carrying out daily activities (Susilowati, 2017).

Overall, rheumatoid exercises is an effective way to help older adults cope with the physical challenges they face as they age. These exercises can help seniors maintain their independence and improve their overall quality of life by relieving joint pain, improving muscle strength, and improving balance.

2. METHOD

This type of research is quantitative in nature. The design in this study uses a quasi-experiment with a control group and an intervention group. The sampling technique used in this study uses non-probability sampling, namely, Purposive Sampling. Purposive Sampling is when sample members are specifically selected based on research objectives, which are in accordance with existing inclusion criteria, with a sample size of 62 respondents. The sample in this study was observed first, and after treatment, it was observed again (Sugiono, 2010). Data collection tools used characteristic data instruments and activity implementation observation sheets.

Data were analyzed using univariate and bivariate analyses. Univariate analysis aims to explain or describe the characteristics of the study, such as age, sex, occupation, and marital status. These characteristic data were described using percentage measures. Bivariate analysis in this study was the Pre-Post Test in the intervention group and the control group, which were analyzed through SPSS using the T test, the test used is the Paired Samples T Test was used. This test was used to determine whether there was a difference between the intervention and control groups.

3. RESULTS AND DISCUSSION

The results of the pretest and posttest of the influence of rheumatic gymnastics on the ability of the elderly to perform daily activities in the Kampung Baru sub-district are as follows:

Table 1. Results of the elderly's ability level to carry out daily activities after rheumatic exercise intervention

Daily activities	<i>Group Intervention</i>			
	Mean	Median	Mode	SD
Pre Test	17.19	19	19	2.76
Posttest	18.87	20	20	2.21

Based on table 1, the results of the study showed that the average activity value before the rheumatic exercise intervention was 17.19. The results of the activity assessment before rheumatic exercise were the highest at 19. While the average activity value of the elderly after the administration of rheumatic exercise was 18.87, the highest activity value after the intervention was 20, the highest activity value after the intervention was 20, and the lowest was 12; thus, the actual standard deviation value was 2.21. It can be concluded that the average activity value of elderly patients performing rheumatic exercise is normal.

Table 2. The effect of rheumatic gymnastics on the ability of the elderly to carry out daily activities

	Mean	Mode	SD	α	P Value
Pretest	17.19	19.00	2.76	0.05	0,000
Posttest	18.87	20	2.21	0.05	0,000

Before analyzing the data, a Wilcoxon rank test was conducted with the activity value before the intervention reaching 0.000, whereas the activity value after the intervention was 0.000. With the decision taken, the activity value of the elderly before the intervention, which was 0.000, was smaller than 0.05 and the activity value after the intervention of 0.000 was also smaller than 0.005. This shows that the data distribution is not normal; therefore, an alternative test is needed, namely, the Wilcoxon Rank test.

The results of the Wilcoxon rank test showed $p = 0.000$, which is smaller than $\alpha 0.05$; therefore, it can be accepted. This indicates that this study demonstrates the effect of rheumatic gymnastics on the ability of the elderly to perform daily activities.

ADL refers to activities that are usually performed throughout the normal day, such as walking, eating, dressing, bathing, brushing teeth, and grooming, for the purpose of fulfilling and interacting with one's role as an individual in the family and community. Problems requiring assistance with ADL can be temporary, permanent, acute, chronic, or rehabilitative (Potter and Perry, 2005). Independence refers to not requiring supervision, direction, or active personal assistance. An elderly person who is reluctant to perform these functions is considered dysfunctional even though they are actually capable. Independence is the ability or condition in which a person can take care of or handle their own needs without help from others.

This study is in line with that of Marks (2018), who showed that a specially designed exercise program for the elderly with rheumatism can increase functional capacity by up to

30%. Planned exercise supports the elderly in maintaining or even improving their joint movements, which contributes to their ability to live their daily lives independently. In addition, Taylor and Johnson (2019) indicated that physical activity focused on the elderly can increase the Barthel Index score by up to 25% after the program has been running for three months. This score is an important indicator of the increase in independence of the elderly in carrying out daily activities.

Another benefit of rheumatic exercise is its ability to reduce pain and improve the quality of life. The movements performed during exercise stimulate the production of endorphins, which act as natural pain relievers, thus helping the elderly feel more comfortable. Gohar et al. (2020) showed that elderly people who participated in an exercise program experienced a decrease in joint pain of up to 40% compared to those who did not perform physical activity. In addition, the results of a previous study by Zhang et al. (2017) showed that elderly people who routinely perform structured physical activities such as rheumatic exercise reported lower levels of stress and depression than the control group.

Thus, the results of this study support the conclusion that rheumatic exercise is an effective intervention to improve the ability of the elderly to independently perform daily activities. This program not only has an impact on the physical aspect but also on the psychological well-being and quality of life of the elderly. Therefore, the implementation of rheumatic exercise should be prioritized as part of a holistic effort to improve the welfare of the elderly.

4. CONCLUSION AND SUGGESTIONS

Rheumatic gymnastics has a significant impact on the ability of the elderly to perform daily activities. Elderly individuals who regularly participate in rheumatic gymnastics programs experience improvements in flexibility, muscle strength, balance, and independence in performing basic daily activities. In addition, gymnastics have also been proven effective in reducing joint pain, improving mental well-being, and reducing the risk of falls. The increase in the Barthel Index score in elderly people who participate in gymnastics indicates an increase in their independence in daily activities.

This study suggests that rheumatic gymnastics can be integrated into elderly care programs in health facilities and communities to improve independence and quality of life. Elderly families also need to be educated to support the implementation of routine gymnastics at home so that the benefits can be sustained. It is hoped that further research will be conducted on diseases that are often experienced by older adults.

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