

Increasing Public Knowledge Through Leaflet Media to Prevent the Worsenal of Rheumatoid Arthritis in the Elderly

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ABSTRACT

Rheumatoid arthritis is one of the health problems experienced by the elderly. This disease is a chronic inflammation of the synovial lining in the joints that causes pain, stiffness, and swelling. This certainly interferes with the daily activities of the elderly, so educational efforts are needed for this population. The purpose of this study was to determine the increase in knowledge among the elderly after counseling about rheumatoid arthritis through leaflets in the Sikumana Community Health Center working area in 2025. This study used a one-group pretest-posttest design approach with 50 research participants. The sampling technique used was purposive sampling. Data analysis used the Wilcoxon Signed Rank Test to assess the difference in pretest and posttest levels of knowledge among the elderly after being given counseling. The results of this study showed an increase in the average knowledge score of the elderly before and after being given counseling by 2.14 points (pretest = 9.18; posttest = 11.32). Statistical testing showed a significant difference in the level of knowledge among the elderly before and after ($p\text{-value} = 0.000 < 0.05$) being given counseling through leaflets. Conclusion: Counseling for the elderly has been shown to have a positive impact, increasing knowledge about rheumatoid arthritis. Therefore, efforts are needed to continue educating the elderly and encouraging them to participate in all *Prolanis* activities.

Keywords: Knowledge, Rheumatoid Arthritis, Media Leaflet.

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INTRODUCTION

The elderly population is a group vulnerable to various changes, both physical, social, and psychological (Komalasari, 2020). Based on the categorization established by the Ministry of Health of the Republic of Indonesia (*Depkes RI*, 2013), the elderly are grouped into pre-elderly (aged 45-59 years), elderly (aged 60 years and above), and high-risk elderly (aged 60 years and above with deteriorating health conditions) (Mujiadi et al., 2022). Indonesia is facing the phenomenon of an aging population. Data from the 2023 Population Census shows a significant increase in the number of elderly people by 12% or around 29 million people. This trend is expected to continue, with projections reaching 20% or 50 million people by 2045. This increase in the number of elderly people requires serious attention, especially regarding the health problems that often accompany aging (Farihin & Fitria, 2024).

As they age, the elderly experience a natural decline in body functions, such as a weakened immune system, decreased muscle mass, and organ degeneration. This condition increases their risk of various chronic diseases. One of the most common health complaints experienced by the elderly is joint pain. This condition is often an early symptom of autoimmune diseases, such as Rheumatoid Arthritis (RA), or more commonly known as rheumatism (Purbasari & Soesanto, 2022). Rheumatoid Arthritis is a chronic joint inflammation caused by an autoimmune response, characterized by typical symptoms such as inflammation of the finger joints, morning pain, and symmetrical swelling on both sides of the

body (Junaidi, 2021). According to Maelani et al. (2022), Rheumatoid Arthritis causes pain, stiffness, swelling, and limited movement. This recurring pain can trigger stress responses, such as anxiety, increased heart rate, blood pressure, and respiratory rate (Setiyorini et al., 2018).

Although the exact cause of Rheumatoid Arthritis is unknown, the disease is strongly suspected to be linked to a complex interaction between genetic and environmental factors, including age, gender, socioeconomic status, hormonal factors, ethnicity, and lifestyle factors such as smoking, diet, and urbanization (Arini et al., 2020). The prevalence of RA among the elderly in Indonesia is quite high, with the incidence rate continuing to increase with age. Hitiyaut et al. (2024) and Tivalen Dwirara Anggraini et al. (n.d.) reported that the prevalence of Rheumatoid Arthritis sufferers aged 45-54 years reached 37.2%, and continued to increase to 54.8% in those aged 75 years and above. This high rate is often associated with the low level of knowledge among the elderly about Rheumatoid Arthritis. Research by Jamaluddin & Nugroho (2016) at the Gayamsari Community Health Center, Semarang, showed that only 44.4% of respondents had good knowledge, while the rest had sufficient (27%) or insufficient (28.6%) knowledge. This lack of understanding is a barrier to prevention and early treatment. This is reinforced by studies by Gurning et al. (2022) and Harsismanto (2020), which found a significant relationship between the level of knowledge among the elderly and the severity of pain and the management of Rheumatoid Arthritis.

Previous studies have highlighted the importance of knowledge in managing Rheumatoid Arthritis (RA) among the elderly. Jamaluddin and Nugroho (2016) found that only 44.4% of elderly respondents at the Gayamsari Community Health Center had good knowledge of RA, indicating a substantial knowledge gap that hinders early detection and proper management of the disease. Similarly, Gurning et al. (2022) reported a significant relationship between the level of elderly knowledge and the severity of RA symptoms, emphasizing that insufficient understanding can exacerbate pain and reduce adherence to effective treatment strategies. However, both studies primarily focused on assessing knowledge levels without implementing or evaluating targeted educational interventions for the elderly population.

Given the importance of knowledge in disease management, a strategic education program is needed. This effort can include disseminating information regarding the definition, symptoms, causes, and treatment of Rheumatoid Arthritis through various media. By increasing knowledge, it is hoped that the elderly will be able to recognize symptoms early, seek appropriate treatment, and ultimately improve their quality of life. Based on this need, I am committed to providing education about Rheumatoid Arthritis for the elderly in the Sikumana Community Health Center (*Puskesmas*) working area. This activity aims to improve the elderly's knowledge and skills in managing Rheumatoid Arthritis.

The aim of this research is to increase their knowledge of RA symptoms, causes, and management strategies, thereby enabling early recognition, appropriate self-care, and improved quality of life. The findings are expected to benefit the elderly by enhancing disease management skills, support healthcare providers in delivering effective community health education, and guide policymakers in designing elderly-focused preventive health programs.

METHOD

The expected goal of this activity is to increase public knowledge in the management of Rheumatoid Arthritis. This activity is expected to improve the community's ability to manage Rheumatoid Arthritis. To achieve this goal, the method used is health education for the community, especially the elderly.

This research design employed a quasi-experimental approach with a one-group pretest-posttest design, measuring the research subjects twice: before and after the intervention.

A sample of 50 participants was selected using a purposive sampling technique. The data collection tool used was a pre-designed questionnaire. After data collection, the data were analyzed descriptively and bivariately. Hypothesis testing used the Wilcoxon Signed Rank Test and the Mann-Whitney U Test.

RESULTS AND DISCUSSION

Table 1 Descriptive Statistics of Knowledge Variables

	N	Min	Max	Mean	Std. Deviation
Knowledge Pre-Test	50	3	15	9,18	3,008
Post-Test Knowledge	50	5	15	11,32	2,952

An activity to increase public knowledge about Rheumatoid Arthritis in the elderly in the Sikumana Community Health Center area was held on August 30, 2025. Fifty elderly participants attended. A pre-test was administered before the health education session, and a post-test was administered after the health education session. The results showed an average pre-test score of 9.18 and an average post-test score of 11.32. This indicates a 2.14 point increase in participants' knowledge after the health education session. The health education session focused on Rheumatoid Arthritis, including its definition, signs and symptoms, and management steps. The following is the statistical test data using the Wilcoxon Signed Rank Test.

Table 2. Statistical Test Results Using the Wilcoxon Signed Rank Test

Z	-4,824
Asymp. Sig. (2-tailed)	0,000***

The data above shows a p-value of 0.000 <0.005. Therefore, there is a difference in the level of knowledge of the elderly before and after health education. This suggests that education activities can improve the elderly's knowledge.

The results of the activities carried out, focusing on increasing public knowledge about Rheumatoid Arthritis in the elderly, indicate a 2.14-point increase in knowledge, with a p-value of 0.000 <0.05. This activity aligns with previous community service activities, which showed an increase in average knowledge scores before and after health education (Rosidin et al., 2021). Considering these results, the efforts undertaken are a highly appropriate strategy for addressing health issues in the elderly. These health education activities can increase the knowledge and understanding of the community, particularly the elderly, in managing

Rheumatoid Arthritis (Septiani et al., 2024). Increasing the elderly's knowledge and skills in managing Rheumatoid Arthritis will be a crucial factor in promoting clean and healthy living behaviors. Furthermore, this situation presents excellent potential for increasing community participation in improving public health.

The success of the implemented activities demonstrates an effort to improve the ability of older adults to manage their health problems. In achieving this goal, I received support from all parties, including the head of the community health center, health cadres, and community leaders. The health education program on Rheumatoid Arthritis management that has been implemented is an effort to increase the health knowledge of older adults suffering from the disease. The elderly are a vulnerable group to various diseases, therefore, increasing this knowledge is crucial. Many elderly individuals experience health problems throughout their lives. With improved knowledge, it is hoped that they will become more aware of how to manage their health problems independently and develop healthy lifestyle habits. According to Ariyanti et al. (2024), the elderly are a population group that requires special attention in implementing clean and healthy lifestyles, including in the management of Rheumatoid Arthritis.



Figure 1. Health Education Implementation Activities



Figure 2. Pre-Test and Post-Test Questionnaire Completion Activities

By participating in health education activities, seniors received information about Rheumatoid Arthritis and how to properly manage it. This information will enhance a person's knowledge and understanding of healthy living (Hamzah & Rafsanjani, 2022). The material presented was presented in a user-friendly manner, with easy-to-understand presentations. The education was conducted in a relaxed, engaging, and enjoyable manner, as seen in Figure 2 above.

The enjoyable learning environment motivated participants to pay attention to the health education material. Furthermore, participants actively asked questions during the Q&A session. This demonstrated that seniors were enthusiastic and engaged in the activities. Health education delivered in a fun and engaging manner, with participants actively asking questions, is crucial to the success of the activity (Utami et al., 2024). Another factor contributing to the success of this activity was the smooth and well-planned implementation of the health education activities. We also coordinated with relevant parties, such as the village, neighborhood unit (RW), community health center (Puskesmas), and health cadres. According to Azzahra (2024), support provided by village government officials, from planning to implementation and evaluation, is a crucial factor influencing the success of activities.

Improving the elderly's knowledge about Rheumatoid Arthritis management is crucial for developing healthy behaviors. According to L. Green's theory (Notoatmodjo, 2019), health behaviors can be influenced by predisposing, enabling, and reinforcing factors. Knowledge is one of the predisposing factors. With good knowledge, people are more likely to develop appropriate behaviors in managing Rheumatoid Arthritis. One way to increase knowledge is through health education (Suhendar et al., 2020).

The importance of Posbindu visits for people with Rheumatoid Arthritis is focused on developing healthy behaviors in their daily lives. At Posbindu, the community, especially the elderly, receive regular health checks. By regularly visiting Posbindu, the elderly will maintain their health attitudes and behaviors, including those related to the prevention and management of Rheumatoid Arthritis. This will help maintain community attitudes toward prevention efforts. Community attitudes are a driving factor for attending Posbindu (Putri, 2022). To foster these attitudes, it is necessary to increase community knowledge and understanding regarding the management of Rheumatoid Arthritis. This knowledge improvement is measured through pre- and post-test evaluations, as shown in Figure 3 below.

Having increased knowledge about Rheumatoid Arthritis among the elderly will improve their ability to lead a healthy lifestyle. Their current knowledge of Rheumatoid Arthritis will motivate them to share their experiences with others about the importance of regular health check-ups at Posbindu, the nearest healthcare facility. Because this activity demonstrates an increase in community knowledge, particularly among the elderly who participate, it is hoped that this program will continue to be implemented regularly by the Sikumana Community Health Center. It is hoped that the Posbindu PTM facilities will be planned and equipped with information on Rheumatoid Arthritis management procedures as an information resource for the entire community.

CONCLUSION

The conclusion of the community service activity with the theme of increasing public knowledge about Rheumatoid Arthritis is that there was an increase in public knowledge about Rheumatoid Arthritis by 2.14 points. For the follow-up to this activity, it is hoped that the Sikumana Community Health Center will continue to provide routine guidance to its community, especially to the elderly who have Rheumatoid Arthritis problems, and will always motivate its community to live healthily and independently. Additionally, it is recommended to develop educational materials, such as brochures or workshops, to further reinforce knowledge and promote long-term self-care practices.

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