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Implementation of Rheumatic Excercise in Reducing Joint Pain among Elderly with Rheumatoid Arthritis at Public Health Center

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ABSTRACT

Introduction: Rheumatoid arthritis is a musculoskeletal disorder characterized by pain in the extremities and joints. Rheumatic exercises are one of the effective methods to alleviate pain in individuals with rheumatoid arthritis.
Objective: This study aims to evaluate the implementation of rheumatic exercises in reducing joint pain among elderly patients with rheumatoid arthritis at the Maccini Sawah Makassar Community Health Center.
Method: A descriptive case study approach was conducted involving elderly participants meeting the inclusion criteria: willingness to participate, mild-to-moderate pain levels, and ability to engage in rheumatic exercises. Exclusion criteria included severe pain, stroke complications, or reliance on walking aids. The exercise regimen comprised warm-up, rheumatic exercises, and cool-down movements, lasting 25 minutes per session.
Results: Findings revealed that three consecutive days of rheumatic exercises reduced joint pain in two respondents.
Conclusion: Rheumatic exercises effectively reduce joint pain in patients with rheumatoid arthritis.

Keywords: joint pain, rheumatoid arthritis, rheumatic exercises

Introduction

The aging process is characterized by physiological changes that occur in several organs and systems, leading to a decline in the elderly's ability to perform daily activities. Alongside the increasing percentage of elderly individuals, there is a rise in chronic diseases due to decreased adaptability and frailty. Common illnesses include arthritis, hypertension,

respiratory issues, cardiovascular disorders, chronic sinusitis, and visual impairments. Rheumatoid arthritis is a major cause of severe joint pain, characterized by inflammation around the joints (Simbolon, 2021).

According to the World Health Organization (WHO), as of 2019, 20% of the global population suffers from rheumatoid arthritis, affecting approximately 335 million people worldwide. In Indonesia, around 69.43 million people suffer from rheumatoid arthritis. In South Sulawesi Province, data from health services reported 650 cases among 1,248,436 elderly individuals (Kemenkes RI, 2022; Nur, 2019).

Rheumatoid arthritis is a systemic, autoimmune, chronic inflammatory disease primarily affecting synovial joints. It leads to synovitis, hyperplasia of synovial tissue, excessive synovial fluid production, and pannus formation. These inflammatory processes often result in cartilage degradation, nerve damage, and joint ankylosis. Typical clinical features include symmetrical polyarthritis, morning stiffness, increased erythrocyte sedimentation rate, and autoantibodies targeting immunoglobulins, such as rheumatoid factor, in the serum (Faurzi et al., 2019).

Severe pain is an uncomfortable sensory and emotional experience (Ardiansyah et al., 2023). Pain is a significant health problem among the elderly, impairing their activities and quality of life. Pain is a chronic condition in older adults that disrupts daily activities, highlighting the importance of management strategies such as turbulent movement methods, known as rheumatic exercises (Caturrini et al., 2023).

Rheumatic exercises focus on maintaining joint flexibility and range of motion. They aim to improve movement function, muscular endurance, aerobic capacity, balance, biomedicine, joint function, and proprioception. By implementing rheumatic exercises, it is expected that the quality of life of the elderly will improve, enabling them to perform Activities of Daily Living (ADL) independently and reduce their dependency on others (Simbolon, 2021).

Research conducted by Simbolon (2021), titled *Efektivitas Senam Rematik terhadap Penurunan Nyeri Sendi pada Lansia Penderita Rheumatoid Arthritis*, analyzed a literature review of ten journals. It concluded that rheumatic exercises effectively reduce joint pain in elderly patients with rheumatoid arthritis. Another study by Yurniati et al. (2023), titled *Studi Kasus Penerapan Senam Rematik terhadap Penurunan Skala Nyeri pada Penderita Rheumatoid Arthritis*, revealed that implementing rheumatic exercises 12 times over four weeks, with sessions lasting 30 minutes, reduced pain scale by three levels. Therapeutic interventions like these can alleviate chronic pain in patients with rheumatoid arthritis. Based on this background, the researcher is interested in studying the implementation of rheumatic exercises to reduce chronic pain in elderly individuals with rheumatoid arthritis.

Objective

This study aims to evaluate the implementation of rheumatic exercises in reducing joint pain among elderly patients with rheumatoid arthritis at the Maccini Sawah Makassar Community Health Center.

Method

The design used in this research is a case study report. In this case study, the researcher conducted observations on two respondents. The respondents will be given a serum and undergo rheumatic exercise actions. This study was conducted in the Maccini Sawah Public

Health Center Work Area, Makassar City, South Sulawesi. The study was conducted three times within one week, from June 25, 2024, to June 27, 2024. The survey participants in this research are elderly individuals suffering from Rheumatoid Arthritis, aimed at relieving pain, with outcome criteria based on inclusion and exclusion criteria. The inclusion criteria are patients who are willing to participate, have Rheumatoid Arthritis, experience moderate pain (pain scale 4–6), are aged 60-70 years (elderly), and are female. The exclusion criteria include patients who are unwilling to participate, are taking pain medication, and those unwilling to perform movements. In this case study, the methods used were interviews and observations. Interviews were used to obtain direct information, while the observation method allowed the researcher to observe the changes that occurred in the respondents, who were then given interventions.

Result

Characteristics of responden

Respondent I (Mrs 'N')

Respondent I with the initials Mrs 'N' is a female with an age of 75 years, height 149 cm, weight 53 kg. Rerspondern I often feels pain in the left and right knees, pain when standing and often occurs in the morning, with a pain scale of 6. Assessment was carried out on 25 June 2024.

Respondent II (Mrs 'G')

Respondent I with the initials Mrs 'G' is a female aged 60 years, 151 cm tall, 46 kg weight. Rersponden I often feels pain in the left and right knees, pain when standing and often occurs in the morning, with a pain scale of 5. Assessment was carried out on 25 Juni 2024 to 27 Jurni 2024.

Table 1. Implementation of Rheumatic Excercise

Respondens	Day and date	Time	Pain Scale		Description
			Pre	Post	
Mrs. N	Tuesday, 25 June 2024	08.00-09.10	6	6	Not declining
	Wednesday, 26 June 2024	10.30-11.50	6	4	Declining
	Thursday, 27 June 2024	08.15-10.20	4	3	Declining
Mrs. G	Tuesday, 25 June 2024	10.30-11.50	5	5	Not declining
	Wednesday, 26 June 2024	08.00-09.15	5	4	Declining
	Thursday, 27 June 2024	11.00-12.30	4	3	Declining

Discussion

From the case study involving the implementation of rheumatic exercises for pain relief in the elderly with Rheumatoid Arthritis in the Maccini Sawah Public Health Center work area, Makassar City, involving two respondents, Mrs. 'N' and Mrs. 'G', conducted from June 25 to June 27, 2024, it was found that joint pain decreased.

At the first check-up on June 25, 2024, Mrs. 'N' reported a pain scale of 6, while Mrs. 'G' reported a pain scale of 5 due to her morning walking activities. After the implementation of rheumatic exercises, Mrs. 'N' still felt a pain scale of 6, while Mrs. 'G' reported a pain scale of 5. The pain was not reduced due to the respondents not fully understanding the movements, resulting in poor blood flow and discomfort. On June 26, 2024, after more focused implementation of the exercises, Mrs. 'N' reported a decrease in pain from a scale of 6 to 4,

while Mrs. ‘G’ experienced a reduction from a scale of 5 to 4. The pain scale continued to decrease as both respondents improved their understanding of the movements, leading to better blood circulation.By the third session on June 27, 2024, both Mrs. ‘N’ and Mrs. ‘G’ had reduced their pain levels to a scale of 1, with Mrs. ‘N’ at a scale of 4 and Mrs. ‘G’ at a scale of 3, indicating a better understanding and execution of the rheumatic exercises. This outcome aligns with the theory that rheumatic exercises are an effective and practical method for maintaining musculoskeletal health. The exercises are structured, efficient, and beneficial for individuals with rheumatoid arthritis (Dersmonika et al., 2022).

This is in line with the research conducted by Simbolon (2021), titled *Effectiveness of Rheumatic Exercises in Reducing Joint Pain in Elderly Patients with Rheumatoid Arthritis*, which included a literature review of 10 journals. The conclusion drawn was that the implementation of rheumatic exercises is effective in reducing joint pain in elderly patients with rheumatoid arthritis. Additionally, another study conducted by Yurniati et al. (2023), titled *The Effectiveness of Rheumatic Exercises in Reducing Pain Scale in Patients with Rheumatoid Arthritis*, found that implementing rheumatic exercises 12 times over 4 weeks, each lasting 30 minutes, reduced pain by 3 points on the pain scale. Therapeutic massage implementation can reduce chronic pain in patients with rheumatoid arthritis. Based on the patient's assurance, the signs and symptoms of rheumatoid arthritis, such as pain in the joints, frequent foot cramps, and pain when standing and walking, were no longer visible. The respondents were able to perform the movements, participate in the exercises, and appeared to feel better after the implementation of the rheumatic exercises. This indicates that rheumatic exercises are effective in reducing joint pain, as the movement of rheumatic exercises does not strain the muscles. This is supported by various research studies conducted by researchers showing that patients with rheumatoid arthritis can benefit from rheumatic exercises to reduce pain.

Conclusion

Based on the procedure of rheumatic napkin implantation with two patients experiencing pain in the Maccini Sawah Community Health Centre Work Area, Makassar City, South Sulawesi Province, it can be concluded that the implantation of the rheumatic serum for three days resulted in a reduction in pain scale in both respondents, Mrs. 'N' and Mrs. 'G'. This suggests that the implantation of the rheumatic serum is effective in reducing pain in patients with rheumatoid arthritis when conducted regularly and with proper care. It is hoped that this method can be independently applied by the community, particularly by patients with rheumatoid arthritis, and be used as a reference by healthcare professionals and students. Furthermore, this research is expected to serve as a foundation for future studies related to rheumatic serum implementation in elderly individuals with rheumatoid arthritis.

Conflict of interest

The researchers stated that there is no conflict of interest related to the implementation and publication of the results of this research. The entire research process, from planning, data collection, analysis, to report preparation, was carried out independently without any influence or pressure from any third party. A commitment to research ethics is upheld throughout the research process, ensuring transparency, accuracy and honesty in reporting results. Respondents' participation was voluntary with informed consent, and their confidentiality and privacy were maintained in accordance with applicable research ethics

standards. With this statement, researchers hope that the research results can be trusted and used as a valid reference for the development of science and health practices related to ethnomedicine and reproductive health.

Authors' contribution

Each author makes an equal contribution to all parts of the research. All authors have reviewed and approved the final draft critically and are responsible for the index and similarity of the manuscript.

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