

Improvement Of Knowledge About Range Of Motion (ROM) In Elderly Caregivers

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Article Info	ABSTRACT
<p>Keywords: Range of Motion (ROM) Elderly Caregivers Knowledge</p>	<p>Range of Motion (ROM) exercises are essential for elderly individuals with joint limitations, particularly in nursing homes where many residents experience joint stiffness. Caregivers, responsible for assisting these elderly individuals, often lack knowledge of ROM exercises, which are crucial in alleviating joint issues and preventing muscle and tissue degeneration. This study aims to ensure that elderly caregivers comprehend and can correctly teach ROM techniques, as well as understand their benefits for elderly individuals with physical mobility limitations. Additionally, caregivers should be able to implement ROM procedures and conduct evaluations to maximize the benefits for the elderly. This study uses a quantitative method with a pre-experimental approach to measure changes in caregivers' knowledge after receiving ROM training. Data were collected using pre-test and post-test questionnaires, assessing caregivers' understanding of ROM techniques and their benefits for the elderly. Observations were also conducted during the training to evaluate participant engagement. The data from the pre-test and post-test were analyzed using descriptive statistics, with frequency analysis to measure knowledge changes such as 30%, 20%, or 10% improvements, and identifying those with no improvement or decreased knowledge. The results show that The Training of Trainee (TOT) activity successfully improved caregivers' knowledge. Among the 20 participants, 7 (35%) showed a 20% increase in knowledge, 4 (20%) showed a 10% improvement, and 1 (5%) had a 30% increase. However, 4 participants (20%) showed no improvement, and 4 (20%) exhibited a decrease in knowledge. Despite some negative outcomes, the overall result indicates that the training effectively enhanced caregivers' understanding of ROM exercises and their role in improving the mobility of elderly individuals. The TOT activity successfully achieved its goal of enhancing the caregivers' knowledge of ROM techniques. The results suggest that further training is necessary to ensure continuous improvement in caregivers' skills, ultimately benefiting the physical mobility of elderly individuals.</p>
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INTRODUCTION

According to the WHO, elderly individuals are those who are 60 years old or older. The elderly stage represents the final phase in an individual's life, where they naturally undergo various changes in physical, mental, social, and spiritual balance after reaching the age of 60 (Ruswadi, 2022). The elderly refers to individuals over 60 years old who experience changes in their physiological, anatomical, and biochemical aspects (Setiyorini & Wulandari, 2018).

A preliminary study conducted over one week found that the elderly at Wisma Marfati suffer from various health issues, such as psychological disorders, musculoskeletal problems, physical mobility issues, vision problems, skin issues, hearing disorders, and hypertension. Most of the elderly at Wisma Marfati have limited activities, while some are still independent, and others require assistance due to physical mobility problems. Physical mobility issues are commonly experienced by the elderly, which is why the author focuses on this issue, with one of the interventions being the implementation of active and passive ROM exercises.

Physical mobility refers to limitations in body movement that often interfere with daily activities (Megawati & Sunarno, 2023). Mobilization is the ability of an individual to move freely, easily, and regularly with the goal of meeting the needs for a healthy life, slowing down the degenerative disease process, and achieving self-actualization. The loss of mobility can lead to dependence and requires nursing interventions (Basir et al., 2022). At Panti Wedha Marfati, the prevalence of elderly individuals with physical mobility problems shows that of 14 elderly people (70%) requiring total care, passive ROM exercises are performed, while 6 individuals (30%) requiring partial care undergo active ROM exercises.

Range of Motion (ROM) refers to the maximum movement that can be performed at a joint/muscle or the range of motion executed by a client to facilitate mobilization (Potter et al., 2021). Routine activities or tasks that individuals frequently perform in daily life, such as bathing, eating, writing, brushing teeth, and others involving muscles, are considered part of the range of motion (Kusumawaty et al., 2022). Generally, ROM exercises are categorized into two types: active and passive. Active ROM exercises are performed when the client moves the joints independently during the exercise, while passive ROM exercises occur when the client is unable to move the joints and requires assistance from another person. ROM exercises can also be implemented for stroke patients experiencing immobilization, requiring either active or passive ROM exercises. Clients with fractures of the upper and lower extremities or stroke conditions are better suited for ROM exercises, particularly active ones, as they accelerate muscle strength recovery (Potter et al., 2021).

According to a study by Ririn Purwanti (2021) on post-operative humerus fracture patients at RSUD Dr. Moewardi, the research found a significant impact of active Range of Motion (ROM) exercises on muscle strength (Siti Rahayuningsih, 2021). A study by (Hutagalung, 2021) which examined the effect of ROM exercises on mobilization changes in stroke patients in the Mawar B room at RSUD Dr. Harjono, concluded that ROM exercises significantly affected mobilization changes in stroke patients. In a study on the effect of ROM exercises on muscle strength in stroke patients by (Pradesti & Indriyani, 2020) the average muscle strength in the first group was 2.93, and in the second group was 4.20, with a standard deviation of 1.29. The significance level was 5%, with a 95% test power.

Providing ROM exercises for patients with physical limitations can help them achieve independence, as the movement exercises gradually restore the function of limbs and arms or bring them closer to normal, giving the patient strength to control daily activities. Without ROM exercises, muscle and joint stiffness can occur, leading to complete dependency on family members, making it difficult for the patient to meet daily needs (Purba et al., 2022).

Wisma Marfati Elderly Home is a social facility located in the city of Tangerang, divided into two sections: Graha Marfati 1 and Graha Marfati 2. Over the past three months, the total number of elderly residents at Graha Marfati was 72, with 17 male residents and 55 female residents. After conducting a one-week observation at Wisma Marfati, it was found that the caregivers at the facility lacked understanding of Range of Motion (ROM) exercises. This is mainly due to the fact that most of the caregivers did not have prior health education, which contributed to their limited knowledge of ROM. As a result, the caregivers' knowledge of ROM exercises remains low. Therefore, nursing students from Profesi Ners Universitas Yatsi Madani will conduct a Training of Trainers (TOT) program aimed at improving the caregivers' knowledge of ROM exercises, so they can implement ROM exercises daily for elderly residents with physical mobility issues at Wisma Marfati, Tangerang. The training of caregivers is crucial as they are the ones who assist the elderly on a daily basis (Pranata et al., 2019). A study by Lilik (2021) found a significant improvement in the level of activity of respondents after participating in ROM exercises. The research also highlighted the importance of caregivers' knowledge and skills in performing ROM exercises (Ismiah et al., 2023). The aim of this study is to ensure that elderly caregivers understand and can correctly teach Range of Motion (ROM) techniques, as well as understand the benefits of ROM for elderly individuals with physical mobility limitations. Caregivers are also expected to be able to implement ROM procedures and conduct evaluations afterward to ensure maximum benefits for the elderly.

METHODS

This study employs a quantitative method with a pre-experimental approach to measure the increase in knowledge of elderly caregivers after being trained on Range of Motion (ROM) exercises. The purpose of this research is to evaluate the change in caregivers' knowledge regarding ROM techniques and their benefits for elderly individuals with physical mobility impairments.

Data collection was carried out using a questionnaire consisting of two parts: a pre-test and a post-test. The pre-test was administered before the training to assess the caregivers' initial knowledge, while the post-test was conducted after the training to measure the change in knowledge. The questionnaire contained questions regarding the caregivers' understanding of ROM exercises, proper techniques, and the benefits of ROM for the elderly. Additionally, observations were made during the training to monitor participants' engagement and responses to the material presented.

The data obtained from the pre-test and post-test were analyzed using descriptive analysis techniques to describe the distribution of knowledge changes among participants. The comparison between pre-test and post-test results was calculated to determine the

percentage increase in knowledge. Frequency analysis was also conducted to categorize the changes in knowledge, such as a 30%, 20%, or 10% increase, as well as participants who showed no improvement or experienced a decrease in knowledge. This analysis aims to evaluate the effectiveness of the training in enhancing the caregivers' knowledge of ROM exercises.

RESULTS AND DISCUSSION

The Training of Trainee (TOT) activity was successfully implemented for the elderly caregivers (Care Givers) by providing health education on Range of Motion (ROM) exercises. The activity took place on Friday, October 18, 2024, from 14:30 to 15:30 WIB at Panti Werdha Marfati, Tangerang. A total of 20 participants attended, as recorded on the attendance list. The media used during the session included a laptop and an infocus projector, and the methods employed for the training included lectures, discussions, and demonstrations. The evaluation of the activity was conducted using pre-test and post-test questionnaires. Throughout the TOT session, no significant challenges were encountered, and the entire event proceeded smoothly.

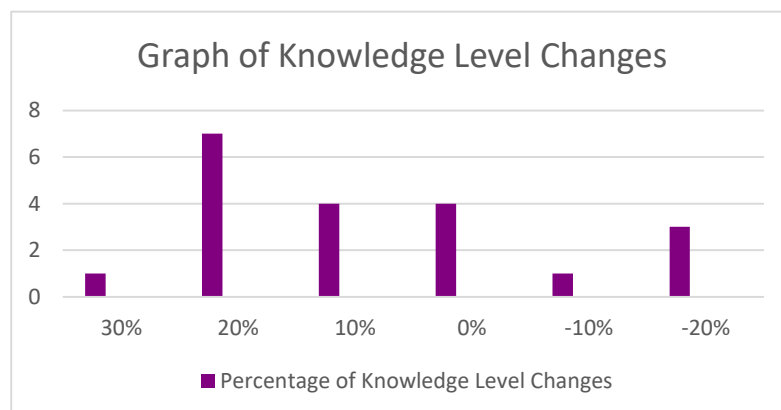


Figure 1. Graph of Knowledge Level Changes

Following the health education session, the evaluation results showed an improvement in knowledge among the caregivers. Specifically, 1 participant (5%) showed a 30% increase in knowledge, 7 participants (35%) had a 20% improvement, 4 participants (20%) experienced a 10% increase, 4 participants (20%) showed no improvement, 1 participant (5%) had a 10% decrease, and 3 participants (15%) showed a 20% decrease in knowledge. Based on the results, it can be concluded that the TOT session successfully enhanced the knowledge of the caregivers, particularly with a 20% increase in knowledge among 7 of the 20 participants. Therefore, it can be stated that the Training of Trainee (TOT) activity for the caregivers was a success.

The Training of Trainee (TOT) session conducted for elderly caregivers at Panti Werdha Wisma Marfati in Tangerang aimed to improve caregivers' knowledge regarding the Range of Motion (ROM) exercises. The results indicate that the TOT successfully enhanced caregivers' knowledge, as demonstrated by the improvements in their test scores following

the training. A significant portion of the participants (35%) showed a 20% improvement in knowledge, while others experienced varying degrees of improvement, stagnation, or decline. According to research by (Lukman et al., 2022) caregiver education, particularly on physical rehabilitation exercises, has been shown to significantly improve caregiving practices and enhance the quality of care provided to elderly individuals. Their study emphasizes that caregivers' knowledge of techniques like ROM exercises is crucial for improving physical mobility and preventing further complications in elderly patients. This aligns with the findings of the present study, which also show an increase in caregivers' understanding of ROM exercises. In a similar vein, (Rahmadani & Rustandi, 2019) explored the role of caregiver education in the improvement of elderly care in a nursing home. Their study revealed that after a training session on physical therapy techniques, caregivers showed a marked improvement in their ability to perform exercises such as ROM. This finding supports the results of the current research, which indicate a general improvement in caregivers' knowledge and skills related to ROM exercises. This suggests that providing caregivers with regular and structured education can significantly enhance their caregiving capacity.

Moreover, (Aini et al., 2020) conducted a study focusing on health education for elderly caregivers in a residential care setting. The results of their study highlight that a combination of lectures, discussions, and hands-on demonstrations, similar to the methods used in the current study, are highly effective in improving caregivers' practical knowledge and application of caregiving techniques, including ROM exercises. The positive outcomes from their research parallel the findings of the present study, where caregivers demonstrated increased awareness and capability in performing ROM exercises after participating in the training. A study by (Pranata et al., 2021) on caregivers' training for elderly care in nursing homes found that targeted training on physical exercises, such as ROM, was associated with better outcomes in terms of caregiver competence and patient mobility. This research confirms the value of structured caregiver education, which is reflected in the improvements observed in the current study, where participants displayed various levels of knowledge enhancement post-training.

The success of the TOT activity in this study underscores the importance of providing regular and systematic training to caregivers, as it leads to tangible improvements in the quality of care provided to elderly individuals, particularly in mobility-related exercises such as ROM. However, the study also notes that while most caregivers improved their knowledge, a small proportion showed no improvement or even a decrease in knowledge. This could be attributed to varying levels of prior knowledge, individual learning styles, or the need for more practical reinforcement. In conclusion, the Training of Trainee (TOT) session on ROM exercises for caregivers was effective in increasing their knowledge. The improvements in caregivers' ability to perform ROM exercises are consistent with findings from both national and international studies, indicating the importance of regular training and education for caregivers in enhancing elderly care. Future sessions could benefit from addressing the causes of knowledge stagnation or decline in some participants, ensuring that all caregivers receive the necessary support to fully benefit from such educational programs.

CONCLUSION

The conclusion of the Training of Trainee (TOT) activity is that the training provided to the elderly caregivers (Care Givers) on Range of Motion (ROM) exercises successfully enhanced their knowledge. Out of 20 participants, the majority showed an improvement in knowledge, with 7 participants (35%) demonstrating a 20% increase. Although some participants showed no improvement or even a decrease in knowledge, overall, the activity proved effective in providing a better understanding of the importance of ROM exercises for improving the physical mobility of elderly individuals. Therefore, it can be concluded that the TOT activity successfully achieved its objective of increasing the caregivers' knowledge about ROM techniques.

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