

Community-Based Intervention Improves Elderly Self-Efficacy and Quality of Life in Mataram

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ABSTRACT

The elderly are a vulnerable population facing health challenges associated with aging, including low self-efficacy, limited knowledge, reduced physical activity, and decreased productivity. This study evaluated the effectiveness of the Gempur Smart Elderly School program in improving self-efficacy, social participation, and quality of life among older adults. A one-group pre-test and post-test design involved 30 elderly participants receiving Group Activity Therapy from April to June 2025 at the GEMPUR SMART Elderly School in Mataram City, Indonesia. The intervention included exercise, walking activities, and sherbet-making training. Data were collected through interviews, observations, and standardized questionnaires. Before intervention, 43.3% of participants had low self-efficacy. After intervention, improvements were observed in self-confidence, social interaction, independence in managing joint pain, and quality of life.

Keywords: Community, elderly, group activity therapy, gymnastics, self-efficacy, sherbet

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BACKGROUND

Older adults are expected to enjoy a healthy, independent, active, productive, and dignified old age (Sausan, Angreni and Hamid, 2025). However, in reality, the aging process causes a decline in physiological functions, making older adults vulnerable to various degenerative diseases, especially joint problems and decreased self-efficacy (Anisia and Umam, 2020). Low self-efficacy in older adults causes them to lose confidence in performing optimal self-care, especially in managing chronic health conditions (Wilda L.O et. al, 2023). This contradicts the expectation of creating resilient and independent older adults in facing health challenges in old age.

Self-efficacy in older adults is greatly influenced by their ability to perform physical and social activities. Walking has been shown to increase self-efficacy through improved mobility and self-confidence. Research shows that walking exercises can activate endorphins, which make older adults feel happy and more confident, which is directly related to increased self-efficacy in terms of mobility (SaThierbach, 2020). High self-efficacy in older adults indicates good problem-solving and decision-making abilities, as well as providing internal motivation to increase physical activity (Sari, Putri and Fradianto, 2024). A study by Xie *et al.*, (2025) showed a significant correlation between exercise self-efficacy and physical activity in older adults.

Older adults with high self-efficacy will tend to be able to overcome difficulties and push themselves to benefit from exercise for older adults (Ximenes D., 2025). Self-efficacy has a significant relationship with participation in physical exercise, such as gymnastics, with research results showing that self-efficacy values reach 74.245 times that of physical exercise (Pratama A.J. et al., 2024). This shows that self-efficacy is the most dominant factor in encouraging older adults to participate in gymnastics activities that can improve their mobility.

The involvement of older adults in social entrepreneurship activities, such as making herbal drinks, not only provides economic benefits but also increases self-efficacy through positive social interactions (Al-Faras A.R.A, 2024). Empowering older adults through sociopreneur-based UMKMs can increase entrepreneurial motivation and managerial skills, which ultimately strengthen older adults' self-efficacy in the social dimension (Widiawati K and Shalahuddin, 2019).

According to WHO data, self-efficacy among older adults globally shows significant variation depending on the healthcare setting and population characteristics. A global study using the General Self-Efficacy Scale (GSES) showed an average score of 28.75 (26.66-30.83) for community-dwelling older adults, 28.83 (26.93-30.74) for hospitalized older adults, and 29.34 (28.19-30.49) for ambulatory older adults (Whitehall *et al.*, 2021). Research using the Self-Efficacy for Exercise (SEE) scale in Indonesia showed a distribution of 24% of older adults with high self-efficacy, 47% with moderate self-efficacy, and 29% with low self-efficacy, with an average score of 40.5 ± 12.1 (Juwita, 2022).

Health issues among the elderly have gradually increased, based on data from the 2023 Indonesian Health Survey (SKI), which shows that the prevalence of joint disease in Indonesia is 7.30% (Kementerian Kesehatan Republik Indonesia, 2023). In 2023, globally, joint disease (arthritis) among the elderly ranked second with a prevalence of 14.5%. In response to this situation, the Gempur Smart Elderly School was established in Pejanggik Village in 2023 as an effort to empower the elderly. This program has proven successful, with 28 elderly people graduating in 2024, showing a 92% increase in knowledge and a 95% service satisfaction index (Indonesia Ramah Lansia, 2025).

The Gempur Smart Elderly School Program integrates seven dimensions of resilient elderly people, which include spiritual, intellectual, physical, emotional, social, vocational, and environmental dimensions. These seven dimensions play an important role in shaping elderly

people who are healthy, independent, active, productive, and dignified (SMART) (BKKBN, 2024). The implementation of these seven dimensions of resilient elderly aligns with efforts to increase self-efficacy, where each dimension contributes to strengthening the confidence and adaptability of the elderly in facing the aging process (Apriyan *et al.*, 2024).

Health screening for older adults using the SKILAS (Simple Screening for Older Adults) instrument is an integral part of the evaluation of the 7 dimensions of resilient older adults. SKILAS aims to identify early risks of decline in the intrinsic capacity of older adults, including cognitive decline, physical mobility limitations, malnutrition, visual impairment, hearing impairment, and depression (Hayati and Kamso, 2024). This instrument measures six priority conditions used to determine the presence of intrinsic capacity decline in the elderly group, which can then be linked to the level of self-efficacy in each dimension of elderly life.

Group activity therapy has been proven effective in overcoming low self-efficacy and joint problems in the elderly (Sastrawati *et al.*, 2025). Physical activity in the form of walking can improve the quality of life of the elderly by activating endorphins and increasing self-confidence (Putri Agesti and Sonhaji, 2021). Exercise for the elderly has been shown to reduce joint pain and improve mobility (Huda *et al.*, 2022). Meanwhile, activities such as making crafts not only provide physical benefits but also mental benefits through cognitive and social engagement (Ma'ruf, 2024).

The Gempur Smart Elderly School Program in the Majeluk neighborhood has proven the effectiveness of this holistic approach, with 56% of elderly people becoming entrepreneurs (elderly entrepreneurs) and a significant increase in independence and quality of life (Indonesia Ramah Lansia, 2025). An evidence-based practice approach in gerontological nursing is crucial to the success of this intervention (Suyasa and Sutini, 2021), considering the comprehensive biopsychosocial-spiritual aspects of the elderly.

METHODS

This study is a one-group pre-test post-test quasi-experiment conducted at the Gempur SMART Elderly School, Majeluk, Mataram, NTB, from April to June 2025. The population consisted of all active participants of the senior citizens' school, with total sampling techniques applied to respondents aged ≥ 60 years, actively registered, able to communicate, and willing to participate in the intervention, resulting in ≥ 30 respondents according to the minimum sample requirement calculation. The intervention lasted three days and included health education, physical activities (gymnastics and walking), and social-productive training (making herbal drinks). The main variables were self-efficacy and quality of life, with instruments including the Elderly Self-Efficacy Scale (20 items, $\alpha=0.875$), a physical activity checklist, and a participation sheet. Data were collected through pre-tests, interventions, and post-tests, and then analyzed using paired t-tests or Wilcoxon signed-rank tests, accompanied by clinical effect and correlation calculations ($p < 0.05$). The study was approved by the INKES YARSI Mataram Health Research Ethics Committee, and all participants signed informed consent forms.

RESULTS

The demographic data and health conditions of elderly respondents at the Gempur Smart Lingkungan Majeluk Elderly School showed that the majority of respondents were female (96.7%) and most were in the elderly age group (60–74 years) at 33.3%, followed by the old age group (75–90 years) at 26.7%, and the middle age group (45–59 years) and very old age group (>90 years) at 20% each. The respondents' education levels varied, but were dominated by junior high school (36.7%) and high school (33.3%) graduates, while the rest were elementary school (16.7%), bachelor's degree (10%), and master's degree (3.3%) graduates. Most of the elderly did not work formally, and 86.7% were housewives, while 6.7%

were unemployed, and another 6.7% worked as traders. In terms of marital status, 53.3% of respondents were elderly people whose spouses had passed away, 33.3% were still married, and 13.4% were widowed due to divorce. In terms of health, the most common disease was joint disease (40%), followed by hypertension (26.7%), gout (20%), and diabetes mellitus (13.3%) (Table 1). These data show that most elderly people suffer from chronic health problems and have a social background that indicates the need for comprehensive and targeted community nursing interventions.

Table 1. Frequency Distribution of Characteristics of Elderly Respondents (n = 30)

Characteristics	Frequency (n)	Percentage (%)
Sex		
Man	1	3.3
Woman	29	96.7
Age		
45-59 years	6	20.0
60-74 years	10	33.3
75-90 years	8	26.7
>90 years	6	20.0
Education		
Elementary school	5	16.7
Junior High School	11	36.7
Senior High School	10	33.3
Bachelor	3	10.0
Master	1	3.3
Occupation		
Not working	2	6.7
Housewives (IRT)	26	86.7
Pedagang	2	6.7
Marital Status		
Married	10	33.3
Deceased Suppose	16	53.3
Widower/widow	4	13.4
Vital Statistik		
Hipertensi	8	26.7
Diabetes Mellitus (DM)	4	13.3
Asam Urat	6	20.0
Penyakit Sendi	12	40.0
Total	30	100

Table 1 describes the demographic characteristics and health conditions of elderly respondents at the Gempur Smart Elderly School in Majeluk. The majority of respondents were female (96.7%) and most were in the elderly age group (60–74 years) at 33.3%, followed by the old age group (75–90 years) at 26.7%, and the middle age group (45–59 years) and very old age group (>90 years) at 20% each. The respondents' education levels varied, but were dominated by junior high school (36.7%) and high school (33.3%) graduates, while the rest were elementary school (16.7%), bachelor's degree (10%), and master's degree (3.3%) graduates. Most of the elderly did not work formally, and 86.7% were housewives, while 6.7% were unemployed, and another 6.7% worked as traders. In terms of marital status, 53.3% of respondents were elderly people whose spouses had passed away, 33.3% were still married,

and 13.4% were widowed due to divorce. In terms of health, the most common disease was joint disease (40%), followed by hypertension (26.7%), gout (20%), and diabetes mellitus (13.3%). These data show that most elderly people suffer from chronic health problems and have a social background that indicates the need for comprehensive and targeted community nursing interventions.

Table 2. Types of Group Activity Therapy (TAK) Interventions Participated in by Elderly People (n = 30)

Characteristics	Frequency (n)	Percentage (%)
Gymnastic	19	63.3
Walking	6	20.0
Making Serbat	5	16.7
Total	30	100

Table 2 shows that the majority of elderly people participate in gymnastics (63.3%) as the main form of group activity therapy. The rest chose walking (20.0%) and making serbat (16.7%). Exercise is the most popular choice because it improves mobility, flexibility, and social interaction among participants. Meanwhile, crafting provides benefits in terms of productivity and increased self-confidence through tangible results.

Table 3. Distribution of Self-Efficacy in Older Adults Before and After Intervention (n = 30)

Characteristics	Before (%)	After (%)
Low Self-Efficacy	43.3	23.3
Moderate Self-Efficacy	36.7	40.0
High Self-Efficacy	20.0	36.7
Total	100	100

Table 3 shows that before the intervention, 43.3% of elderly people had low self-efficacy, 36.7% had moderate self-efficacy, and only 20% had high self-efficacy. After the Group Activity Therapy (GAT) intervention, there was an increase in self-efficacy, with the proportion of elderly people with high self-efficacy increasing to 36.7%, while low self-efficacy decreased to 23.3%. This shows that the GAT intervention had a positive impact on increasing the confidence and independence of elderly people in carrying out their daily activities.

DISCUSSION

The implementation of gymnastics for the elderly was a significant success, achieving a high participation rate of 19 individuals (63.3%), predominantly women (96.7%) with a middle-to-high school education, which facilitated their comprehension of instructions. Supported by various studies, this regular activity is proven to improve physical fitness, joint flexibility, and body balance, while simultaneously reducing depression and enhancing social participation (Wibisana, E, and Deswita, 2024; Baihaqi, 2025). The physical and psychological gains from regular exercise provide a critical 'mastery experience,' aligning with Bandura's theory of self-efficacy (Tri Murti and Kartika, 2022). Crucially, the quantitative data validate this impact, showing that 6 out of 13 elderly individuals who initially reported low self-efficacy successfully increased their scores to moderate or high levels after actively participating, demonstrating that gymnastics positively affects both the physical condition and the psychological self-efficacy of the elderly.

The leisurely walking program was participated in by 6 elderly individuals (20.0%) with a distance of ± 500 meters for 20 minutes. Although the number of participants was smaller than that of the exercise group, the characteristics of the respondents, who were mostly elderly

and had a history of chronic diseases (hypertension 50%, gout 30%, and diabetes mellitus 20%), indicated that the activity was appropriate for their physical condition. Research by SaThierbach (2020) shows that walking exercises can increase self-efficacy through increased mobility and confidence, as well as activating endorphins, which make the elderly more confident.

The leisurely walking model implemented is in line with literature recommendations that successful walking experiences can strengthen the self-efficacy of the elderly. A study conducted by Suarjana (2023) found that the perception of green spaces encourages elderly people with low self-efficacy to walk more often, which contributes to increased self-efficacy. The characteristics of the respondents, the majority of whom were housewives (86.7%), indicate that they have sufficient time to participate in walking activities that can be done flexibly.

American Heart Association (2024) states that an additional 500 steps per day can reduce the risk of cardiovascular disease by up to 14%, as well as increase self-motivation and positive perceptions of physical activity. In addition, 4 out of 6 walking participants who were previously in the low and moderate self-efficacy categories experienced a one-level increase in self-efficacy. This light activity, which they successfully did on their own, gave them a small sense of accomplishment that reinforced their positive perception of their abilities.

The activity of making herbal drinks was participated in by 5 elderly people (16.7%) as a form of non-physical intervention that focused on economic empowerment and increasing self-efficacy. The characteristics of the respondents, who were mostly women with a background as housewives (86.7%) and a secondary education level, were suitable for this activity because they were familiar with cooking and processing traditional foods/drinks. Research by Osira and Sriwanti (2024) shows that empowering the elderly through training in herbal drink making can provide productive activities for potential elderly people, as well as being beneficial for the health of the elderly and for increasing productive economic activity.

Although quantitative literature specifically on herbal drink making by the elderly is still limited, Self-Efficacy Theory and Social Cognitive Theory emphasize the importance of verbal persuasion and mastery experience in increasing self-confidence. The activity of making herbal drinks allows the elderly to feel capable of contributing, being valued, and being productive, which is in line with the empowerment process. This activity also supports the SMART (Healthy, Independent, Active, and Productive) concept for the elderly, which is the framework for elderly empowerment programs (Rahayu *et al.*, 2025) (Rahayu *et al.* 2025).

Hidayah, Bachtiar and Widiani (2025) in their research show that the economic empowerment of the elderly through craft training can increase the productivity of the elderly while also having a positive impact. Self-efficacy data show that of the five elderly people who participated in making serbat, three who previously had low self-efficacy experienced an increase to moderate levels. This activity not only had an impact on social and economic aspects but also had a positive effect on self-perception and confidence to take an active role in the community.

CONCLUSION

The implementation of community nursing interventions at the Gempur Smart Elderly School, specifically through health education and Group Activity Therapy (GAT), successfully and significantly improved self-efficacy and joint pain management skills among the elderly. Elderly participants who were previously passive and lacked self-confidence showed marked improvement in self-expression, group participation, and motivation to lead healthy, productive lives. Quantitatively, this success is clearly demonstrated by the change in self-efficacy levels: the number of participants in the low self-efficacy category decreased from 13 (43.3%) to 6 (20.0%), while the moderate and high categories increased from a combined 17

people (56.7%) to 24 people (80.0%) after three intervention sessions. This shift underscores that experiences of success, coupled with strong social support and participation in productive activities, effectively strengthen older adults' belief in their own capabilities. The findings are expected to serve as a vital resource for families to maintain joint health and social participation, for educational institutions to reference evidence-based community nursing practice, and for local governments and health workers (like those in Mataram City health centers) to adopt and sustain this empowerment model through supportive policies and adequate resources.

During the intervention process, the author encountered several obstacles, including difficulties in agreeing on a time for implementation that involved all cadres and elderly participants. In addition, the limited local literature discussing self-efficacy in the elderly in a community context posed a challenge in strengthening the theoretical basis and scientific discussion. The use of self-efficacy measurement tools was also limited to simple questionnaires, which may not fully reflect all aspects of self-efficacy.

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