

Elderly Assistance to Improve Quality of Life by Optimizing Movement and Function of Elderly Group at Posyandu Pelangi Nusantara

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ABSTRACT

Balanced environment Elderly folks are defined as those who have maintained their riches and raised their social status. Joint soreness has been linked to a negative quality of life for up to 64% of senior persons in partner sites. Furthermore, just 47% of elderly adults are familiar with methods for reducing joint discomfort. As a result, community service initiatives are implemented to reduce pain and enhance mobility and functional capacities in order to improve the quality of life for senior citizens. The participative action research methodology is used with the participatory rural appraisal approach. Activity stages include preparation, execution (training on joint pain reduction and exercise training to increase older people's mobility and function), mentorship, and cadreship. Including senior Posyandu Pelangi Nusantara cadres, 49 senior persons took part in this event. The community service program has the potential to enhance the older population's comprehension of joint discomfort relief; at present, 82% of the seniors possess proficiency in this domain. A Furthermore, from 85% to 60% fewer older persons reported having mild to moderate discomfort. Thus, the following dimensions impact the high quality of life that the elderly experience: psychological (57.12%), social relationships (63.3%), environment (75.5%), and health (61.2%).

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INTRODUCTION

In the Darmo sub-district, Posyandu Pelangi Nusantara is an aged health post that was founded on April 30, 2011, pursuant to an order that was directly received from Darmo Village, Wonokromo District, Surabaya. Posyandu for senior citizens In the Wonokromo District, Pelangi Nusantara is a joint senior health post located between RW 05 and RW 06 Darmo Village. The organizational structure of this senior health job consists of members, the secretary, the treasurer, the deputy chairperson, and the chairperson. The Jagir Health Center, Darmo Sub-district, oversees this senior health post. There are currently 100 older individuals registered, of whom 50 are actively involved in various activities. With an average age of 65, most of the elderly health post members are older women (82%). The majority of the senior citizens in this health post (75%), go about their regular lives cleaning the house, doing the dishes, and making meals (Mahasiswa Fisioterapi Angkatan 2021, 2023). The elderly rarely engage in other activities because they frequently have discomfort in one or more limbs. A sound system, microphone, weight scale, height measuring gadget, tension, chair, and fan are among the amenities offered in the posyandu. This old Posyandu regularly exercises aerobically under the direction of Posyandu cadres. The Health Center has not performed regular examinations for senior posyandu members. The proposal team worked with the elderly at Pelangi Nusantara Posyandu, Darmo District, Wonokromo Village, Surabaya, to analyze data in October 2023. According to the findings, 64% of senior citizens reported having pain that prevented them from performing their regular tasks as intended. This is also the cause of the senior citizens' lack of participation in senior citizen posyandu events. Elderly people experience pain in different places; 41% report having discomfort in their knees, 38% in their lower back, 15% in their wrists, and 6% in their head and neck (migraine). When measured using the NRS, the average pain value experienced by the elderly is 57 mm (Mahasiswa Fisioterapi Angkatan 2021, 2023). Additionally, this activity is conducted at the integrated health post because, in accordance with the findings of the IPTEK Bagi Masyarakat application in a village, which has been implemented in two partners, the second elderly integrated health post has a 5-table health service system, trained elderly cadres, medical equipment to conduct physical and mental health checks, and a basic laboratory as a facility used for early detection of diseases in the elderly. The conclusion is that IbM initiatives can broaden the availability of health services for the aged and facilitate the creation of senior integrated health posts that are tailored to their needs in order to enhance the elderly's quality of life (Harahap, 2021). The project team additionally carried out an investigation of the older population's degree of understanding regarding pain management. According to the findings, 47% of senior citizens lacked sufficient understanding about pain management techniques that can enhance their quality of life. The administration and residents of Pelangi Nusantara Elderly Posyandu, Darmo District, Wonokromo Village, Surabaya, were aware of this issue. The old posyandu has been making an attempt by doing gymnastics twice a week on Wednesdays and Sundays in front of the yards of the residents. However, the exercise is aerobic in nature and is meant to improve the elderly's cardiorespiratory performance; it does not target pain reduction or improving movement and function.

The aim of this practice is twofold: 1) to lessen the discomfort that the elderly at Posyandu Pelangi Nusantara feel, and 2) to improve their mobility and overall function. This allows partners to maintain acceptable health standards and allows the elderly to live well. By achieving IKU-2 (students get experience off campus), IKU-3 (lecturers take out activities off campus), and IKU-5 (the community uses the outcomes of lecturers' labor), these objectives assist the transformation of higher education. Students that participate in IKU-2 will have experience off campus through community service projects at partner sites. In order to learn about the issues that partners encounter and be prepared to offer answers, IKU-3 instructors participate in events off campus at partner locations. The study findings on pain-relieving activities produced by IKU-5 lecturers can be used by partners to address health-related issues. This project contributes to the primary focus area of health, which is one of the primary goals of community service. Because of the activity, the elderly at Posyandu Pelangi Nusantara will be able to live longer and in better health because their pain levels will be lower, which will provide them with more mobility and functional ability.

METHODS

The Participatory Rural Appraisal (PRA) strategy, which is focused on community empowerment, is used in conjunction with the Participatory Action Research (PAR) method to carry out community service. This methodology seeks to teach problem-solving skills through its procedure. The community service implementation team assists locals in resolving issues that arise in the community by serving as a facilitator (Afandi et al., 2022).

To enhance the quality of life for the elderly, this activity will eventually develop into a program at Posyandu Pelangi Nusantara aimed at elderly empowerment. The efforts that have been carried out are continued through mentoring and cadre formation.

Determining the needs of a spouse. At this point, partners' issues with the quality of their health are being identified. To conduct identification, partner observations and interviews are used. The outcomes of the problems that have been identified are then reviewed with PKM partners via Forum Group Discussions (FGD) to establish the problems' priority. Following the determination of the problems' priority, several training and mentorship initiatives are implemented in addition to cadre building with the goal of resolving partner issues.



FIGURE 1. PKM Programme

Partners must actively participate for the PKM grant program to be implemented. These partners are:

- In concert with partners who are engaged in identifying issues, coming up with solutions, and carrying out steps to address issues.
- During the activity, partners supply the location and facilities required by the community service implementation team.
- Partners serve as senior Posyandu cadres in the cadre building process.

Every step that has been completed is evaluated, including the stages of planning, carrying out, and reporting. To ensure that there are no barriers preventing community service from being implemented in

the field, the preparatory stage is evaluated. The implementation stage is then evaluated to ensure that partner benefits are maximized and that activities are executed optimally and on schedule. Reporting evaluation is done for publication activities and as an administrative responsibility of the implementation team. The following are the work procedures for this community service project (Picture 1):

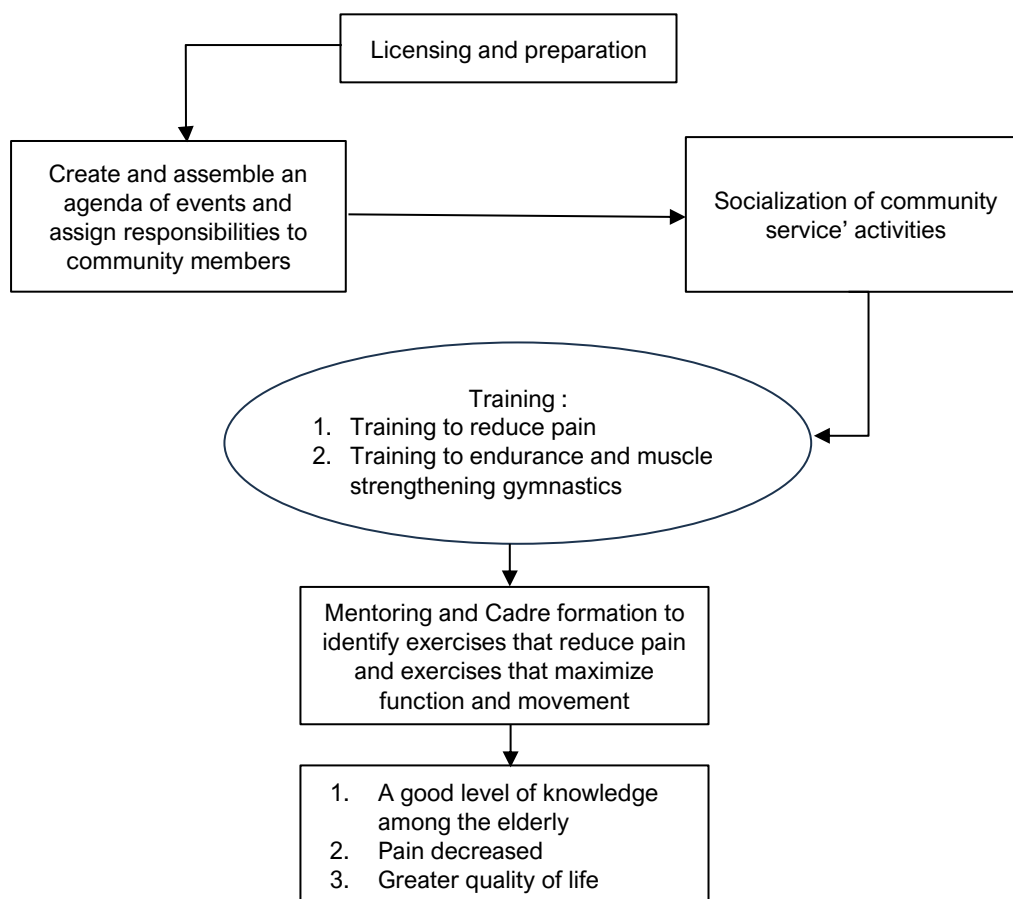


FIGURE 2. Work Procedures for This Community Service Project

1. The stage of preparation: Notify Posyandu Pelangi Nusantara, whose area is used as the place for community service activities, of the planned activities.
2. Create an agenda of events and assign responsibilities to community members.
3. Assemble an agenda of events and assign responsibilities to the implementation team members.
4. Socialization of community service activities to be carried out: The following exercise regimens are recommended to alleviate knee, lower back, wrist, head, and neck pain in compliance with the previous proposer's research. William Flexion Exercises for Lower Back Pain Relief: Exercises to Reduce Knee Pain Using Quadriceps Setting Exercises (Kisner, 2017). Exercises to reduce wrist pain using tendon gliding and medial nerve mobilization (Djoar & Martha, 2019). exercises to reduce headaches and neck pain (migraine) using massage and stretching (Djoar & Anggarani, 2020). After doing this exercise, the pain decreased as measured by NRS with a result of 0 (Kisner & Colby, 2016)
5. Training to be given to partners is
 - Training to reduce pain (knee, lower back, wrist, head, and neck (migraine))
 - Seniors can benefit from instructor-led gymnastics instruction to increase their function and mobility. The exercises are endurance and muscle-strengthening gymnastics. The elderly will be able to perform everyday tasks with greater quality of life as a result of pain relief, muscular

building, and endurance training (ACSM, 2018). Quality of Life in the Elderly is measured by WHOQOL BREF (World Health Organization Quality of Life Bref version) (Kiling & Kiling-Bunga, 2019).

6. Following training, partners engage in mentoring to enhance their comprehension of the material presented. This seeks to achieve a good level of knowledge (76–100%) among the elderly (Notoatmodjo, 2014)
7. Cadre formation to identify exercises that reduce pain and exercises that maximize function and movement.

RESULTS

TABLE 1. Respondent Characteristic

Information	Frequency (n=49) (%)			
Gender				
Male	8.2			
Female	91.8			
Education Level				
No School	4.2			
Elementary School	18.8			
Junior High School	25			
High School	45.8			
College	6.25			
Concomitant Diseases				
Cholesterol	66.67			
Uric Acid	25			
Sugar	8.3			
Pain Score				
Mild Pain	42.9			
Moderate Pain	42.9			
Severe Pain	14.2			
Quality of Life after training	Quite Good (%)	Good (%)	Very Good (%)	
Domain 1 (Health)	10.2	61.2	28.6	
Domain 2 (Psychological)	4.08	57.12	38.8	
Domain 3 (Social connections)	24.5	63.3	12.2	
Domain 4 (Environmental area)	18.4	75.5	6.1	

This activity was attended by 49 elderly including elderly cadres of Posyandu Pelangi Nusantara. According to table 1, most of the respondents were female (91.8%). Most of the respondents had comorbidities of high cholesterol (66.7%). As many as 64% of the elderly complained of joint pain where around 85% felt mild to moderate pain.

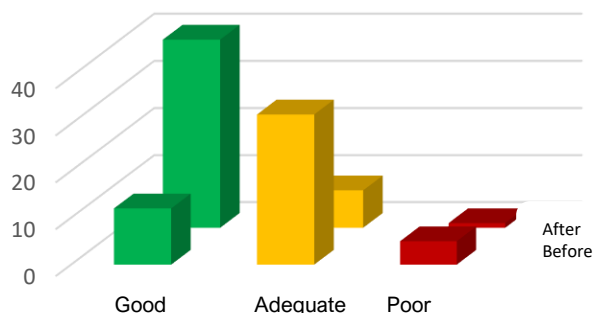


FIGURE 3. Respondents' Knowledge Level Before and After Training

Before taking part in health training, Figure 2 shows that 25% of respondents had an excellent level of knowledge, 65% had a adequate level of knowledge, and 10% had a poor level of knowledge. Following their participation in health training, respondents' knowledge levels increased: 82% had good knowledge, 16% had adequate knowledge, and 2% had poor knowledge. Additionally, most respondents reported having an excellent to very good quality of life following their participation in health training. Regarding the total domain, the majority of respondents reported having a good quality of life: 61.2% in the health domain, 57.12% in the psychological domain, 63.3% in the social connections domain, and 75.5% in the environmental area.

DISCUSSION

Preceding their involvement in the community service program, 75% of the older individuals possessed both adequate and inadequate knowledge. Aging causes a deterioration in memory in the elderly. In addition to their memory deteriorating, older people's experiences with health education have a significant impact on their comprehension of and performance on the knowledge quiz (Darsini et al., 2019). Most senior people have low levels of knowledge since they do not know how to avoid or treat joint discomfort. Following their participation in health training, the elderly's level of knowledge grew, with 82% of them having good knowledge. Age has an impact on knowledge; growing older can have an impact on the amount of knowledge acquired. The longer a person is, the better their mental development process is; age has an impact on human cognitive and mental development. They take in more knowledge as they get older (Maisarah et al., 2022). The degree of schooling is another influential element that shapes respondents' decisions to engage in certain behaviors by helping to shape their views. Family ties can be helpful when someone is in crisis since they are the ones who are closest to family members, so they can provide support when needed, in addition to age and educational attainment (Agustina & Pradana, 2022). The level of knowledge can be influenced by education, motivation, environment, and social school/education, there is economic development, it influences the individual's personality and increases the individual's level of intelligence (Notoadmodjo, 2012). Furthermore, respondent experiences and contextual elements can offer learning that expands knowledge. In this instance, most respondents had solid social relationships (63.3%) and have completed high school and college (51%). The elderly thus have positive social and familial relationships. Those with higher levels of education find it easier to integrate the knowledge they have learned into an attitude that they will use.

According to research conducted by (Pantiwati et al., 2023) A key factor impacting decision-making is knowledge. When faced with a dilemma, someone with greater insight will be able to make the proper choice more easily than someone with less understanding. Furthermore, research has shown that a person's lifestyle can be changed by knowledge through regular exercise, nutrition control, and leading a healthy lifestyle. A person's comprehension will enable them to comprehend the illness they are afflicted with and motivate them to alter their condition for the better. The primary factor influencing knowledge is the availability of information (Agustina & Pradana, 2022).

Up to 2% of people lack sufficient information. This is due to the fact that 49% of old individuals only completed elementary and junior high school. Seniors with low levels of education will also have poor attitudes in preserving their health. The elderly's discomfort decreased from 85% feeling mild to moderate pain to 60% feeling mild pain after taking part in the community service program, which involved training to alleviate joint pain. Exercises for the quadriceps can help with knee pain. Significant findings about the effects of quadriceps muscle training in individuals with knee pain have been reported in a number of prior research. A study on isometric quadriceps training utilizing the Randomized Controlled trial method revealed that, after 5 weeks of training, it significantly improved the muscle strength of the quadriceps and improved the functional performance of individuals with osteoarthritis. The study's findings also shown how patients with osteoarthritis might enhance their functional abilities and quality of life with quadriceps

strengthening activities. For obese patients experiencing knee pain, simple quadriceps workouts can help improve knee function. Exercises that strengthen the quadriceps muscles help patients with persistent osteoarthritis feel less symptomatic. Quad sets, hamstring sets, straight leg raises, bridging, knee extension, heel raises, and butt kicks are the movements in this exercise (Kisner, 2017). William Flexion Exercises help with lower back pain relief. This exercise aims to stretch the muscles and fascia in the dorsolumbar region, lessen the force of body weight on the facet joints (articular weight bearing stress), and improve poor posture. The focus of this exercise is on how to contract the lower back muscles to build strength and relaxation. This workout involves the following movements: partial sit-ups, standing, hamstring stretches, and pelvic tilting (Kisner & Colby, 2016). Exercises for mobilizing the median nerve, which increase nerve mobility and are useful for reducing pain and increasing LGS, are used to treat wrist pain. On the other hand, tendon gliding exercises are used to maintain and enhance extrinsic tendon mobilization and improve motor coordination. The use of a combination of these interventions resulted in a more significant reduction in pain in this group. Specifically, tendon gliding exercises and median nerve mobilization exercises helped restore venous return from the median nerve, lowering pressure in the epineurium and reducing pain (Djoar & Martha, 2019). While Swedish massage effluent movement exercises, which increase venous blood flow and hence lower venous pressure and enhance arterial circulation, can alleviate headaches and neck pain. While compression motions can improve circulation in local and peripheral blood vessels, kneading movements aid in venous return. The elderly with this illness can see a reduction in headaches or migraines (Djoar & Anggarani, 2020).

Following their involvement in this community service program, the respondents reported satisfactory quality of life in the following domains: 61.2% for health, 57.12% for psychological, 63.3% for social ties, and 75.5% for the environment. Medical factors that impact quality of life include the length of the disease, the state of the disease at the moment, blood pressure and blood sugar regulation, and consequences from the disease. In addition, worry, anxiety, and family support all affect one's quality of life (Dzakiyyah, 2019). Even with advanced age, some individuals still lead subpar lives. One potential reason for this is the high prevalence of diseases, particularly degenerative illnesses, which have a negative correlation with higher rates of morbidity and consequent decline in quality of life. In this Posyandu, most of the elderly people complain of pain. According to Wikananda's research (2017), older patients with chronic diseases have higher rates of morbidity if their conditions are not well managed. This lowers their quality of life and raises the risk of morbidity and mortality (Wikananda, 2017). According to earlier research and community service projects in 2021, spiritual-based ergonomic gymnastics was able to enhance older people's psychomotor abilities and knowledge of preventing and recovering from physical and emotional symptoms through education, the provision of health-related resources and information, and helping the elderly deal with health issues in order to improve their overall health status (Wardaningsih, 2021). Similar findings have been found in other studies, showing that a person with inadequate knowledge is 4.4 times more likely to have a bad quality of life. explains that a person's quality of life increases with knowledge (Sousa et al., 2016). When pain is lessened by adhering to this regimen, senior citizens may perform everyday tasks with ease, so improving their quality of life.

CONCLUSION

Programs for community service can increase senior citizens' understanding of joint pain relief; currently, 82% of seniors have good knowledge in this area. Along with it, older people's discomfort also decreased, going from 85% reporting mild to moderate pain to 60% reporting mild pain. As a result, the elderly have higher quality of life in the following domains: 61.2% for health, 57.12% for psychological, 63.3% for social ties, and 75.5% for the environment.

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