

## **Education on the Importance of Elderly Gymnastic to Improve Body Fitness at RW 11 Bentar Hilir Village, Sukamentri, Garut**

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### **Abstract**

Training that is suitable and safe for the elderly is exercise. The type of exercise that can be done by the elderly is gymnastics, gymnastic for the elderly is a sport that is simple and easy to do. Gymnastics helps maintain physical health, makes bone become strong, makes the heart work better, and eliminates free radicals in the body. The decline in the musculoskeletal system also happened especially in the elderly, so exercise such as gymnastics helps delay and prevent functional decline in old age. In addition, elderly gymnastics is one of the activities recommended by the Ministry of Health. The purpose of this activity was to provide health education to increase awareness of the importance of elderly gymnastics for body fitness at RW 11 Bentar Hilir Village, Sukamentri, Garut. The method used in this activity was lecture, question, and answer. The result showed that through health education, the elderly understood and knew about the importance of elderly gymnastics to improve body fitness. In conclusion, there was an increase in knowledge about the importance of elderly gymnastics to improve body fitness with 20.2 points.

**Keywords:** Body fitness, elderly gymnastic

### **INTRODUCTION**

The increasing number of elderly people is increasing from year to year. According to data from the Central Bureau of Statistics (Central Bureau of Statistics, 2020), the increase in the elderly population is estimated to reach 1.5 billion in 2050. From 2005 to 2010, the number of the elderly was equal to the number of children under the age of five. This equated to approximately 19.3 million (9%) of the total population. From 2020 to 2025, Indonesia was classified as the country with the highest number of elderly structures after China, India, and the United States. The average life expectancy was more than 70 years. This situation showed that Indonesia was moving toward an aging population, as more than 7% of the population was over 60 years old. Indonesia can be characterized as a country with a high percentage of the elderly population of 10% or more if the population is 60 years of age or older. This reflected the increase in the life expectancy of the Indonesian population (BPS, 2019). The increase in this life expectancy was largely due to Indonesia's success in controlling communicable diseases, pregnancy, new born and nutritional diseases. The increase in the aging population can have both positive and negative effects. The positive impact appears when the elderly are healthy, active, and productive. However, the negative impact is that the elderly have health problems, and the elderly face many health problems, so, fast and integrated treatment is needed. Prevention and care for the elderly with health problems are very important to make them happy and prosperous in their family and community.

The emergence of health problem caused by decreased physical function in the elderly results in a restriction on physical activity practice, which deteriorate their health. According to (Haiti et al., 2021) this was the result of a decrease in the body's physiological and biological functions, so the health of the elderly could be significantly affected, biological deterioration such as skin begins to sag and wrinkle, hair changing colour, teeth begin to fall out, hearing and vision begin to deteriorate, fatigue and behavior gradually becomes incoherent and flexible. The elderly also experienced cognitive decline, including often forgetting and losing orientation (time, space, place) (Irfan Permana et al., 2019). As a result, the elderly became less productive, more

susceptible to disease, and more dependent on others. The effect of decreased physical function that was often felt by the elderly affected the musculoskeletal system. This was caused by loss of muscle mass and function (sarcopenia) and loss of bone mass (osteopenia or osteoporosis), so the elderly tired easily and experienced leg pain and limited movement. The daily activity of the elderly included bathing, defecating, dressing, and moving places for elderly people who may experience obstacles due to limited movement. Disturbances in this activity affected the independence of the elderly. Apart from affecting the independence of the elderly, a lack of physical activity could also increase the risk of degenerative diseases such as hypertension, diabetes mellitus, and gout.

According to (Faridah, 2019) it was better for the elderly to increase their daily activity, such as exercising and walking. The exercise was gymnastic. According to (Nuraeni et al., 2019), elderly gymnastics was a series of regular, directed, and planned tone movements to improve physical function in the elderly. Regular exercise was an effort to maintain good physical fitness. Meanwhile, according to (Mardius & Astuti, 2017) maintaining and improving physical fitness could be achieved by doing 3-5 exercises regularly and exercising for at least 15-25 minutes once a week. According to (Sumarni et al., 2019), people who were physically active tend to have lower blood pressure, less hypertension, and stronger and more flexible muscle, joint, and organ. In contrast, people who exercise less had a higher heart rate, so their heart was heavier. Physical activity increased the body's energy beyond resting energy. The amount of energy needed depends on how hard the work was done. It was better for healthy people who were on a diet, as well as people who were not healthy, to try to do some light exercise because it could maintain a healthy body.

Exercise in the elderly was an organized series of leg movements, and guided activity undertaken by the elderly to improve physical function. The long-term practice could have led to repeated stimulus from the muscle fibre to the higher centre which helped in regulating the correct postural mechanism (Hetal & Ashok, 2020). One form of the exercise for elderly was gymnastics. Gymnastic for the elderly was an activity to achieve a healthy, active, and productive elderly population (Musri & Selviawati, 2018). Therefore, this sport was very important for the elderly to improve their physical function. The benefit of gymnastic for the elderly included slowing aging, increasing endurance, and improving sleep quality, as well as strengthening the body's muscle, bone and heart, helping them work more efficiently and eliminating free radical in the body (Puspita et al., 2020). This was supported by Wahyuni's research (2015) which showed that gymnastic physical activity had an impact on improving heart function and increasing muscle strength, balance, and endurance. On the other hand, Widiastuti, Wibawa, Handari, & Sri (2017) found in their research that gymnastic in the elderly could improve physical fitness. According to Ramadhani, Sapulete, & Pangemanan (2016), in addition to improving physical fitness and function, exercise in the elderly could also prevent degenerative disease such as diabetes mellitus and hypertension, especially by lowering blood sugar and blood pressure in people with hypertension. This physical exercise was suitable for the elderly and had the effect of increasing blood sugar level in the elderly. According to Aryani & Kusumawati (2018), in their research they found that this exercise affected blood glucose level in the elderly.

Elderly gymnastic was also effective for blood pressure, especially for people with high blood pressure. This case happened because gymnastic increased the work of the heart and improved circulation, which stabilized and lowered blood pressure (Efliani et al., 2022). This opinion was supported by research by Musri and Selviawati (2018) which revealed that blood pressure fell after exercise therapy in elderly. Meanwhile, Hernawan & Rosyid (2017) also stated in their research that exercise in the elderly had an effect on reducing blood pressure. Likewise, according to (Sumarni et al., 2019) good and regular physical activity would train the heart, muscle and peripheral resistance, which could prevent an increase in blood pressure. Therefore, it was important to do gymnastic for the elderly because it could improve physical fitness and muscle strength and served as a non-pharmacological intervention for non-communicable disease.

## METHOD

The target in this community service activity was the elderly at RW 11 Bentar Hilir Village, Sukamentri, Garut. This activity was carried out on Sunday. Activity in form of gymnastic for the elderly continued with health education about the importance of elderly gymnastic. The population involved in this activity were the elderly at RW 11 Bentar Hilir village, Sukamentri, Garut, as many as 25 people. The media used were lecture, discussion and demonstration. The preparation stage was assisted by professional students who were currently taking community station. With permission from the Guntur Health Centre, students conducted an introspective survey first to find out the problem that arise in the community. The result of the introspective survey found that there was 110 families, 96 of them were elderly. After the introspective survey result was obtained based on the result of deliberation with the village community, it was agreed that elderly health problem was a priority, because there were already three elderly who had suffered stroke at RW 11 Bentar Hilir Village, Sukamentri, Garut.

Method of providing education and health promotion to the pre-elderly and the elderly was: a) pre-activity; preparing a meeting place and teaching media. b) Implementation, namely promotion and education, executors conducted lecture on gymnastic and how to train muscle, balance and coordination of body movement. c) Discussion, at the implementation stage, a question and answer session was carried out with the participant, followed by direct practice of muscle exercise. This learning method aimed to make it easier for the elderly to understand what was conveyed and to practice immediately, as well as provide video playback that was intended to make what was presented easy to understand and remember. d) Evaluation, where the participant was given a questionnaire contained question related to gymnastic for the elderly.

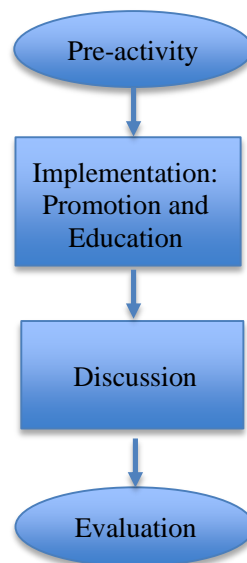


Figure 1. Stage of Implementation

## RESULT

Based on the result of a survey conducted at RW 11 Bentar Hilir Village, Sukamentri, Garut, it was found that the prevalence of PTM was still quite high. As many as 34.5% or 38 of 110 families had a family history of hypertension, 9.1% or 10 had early hypertension, and 36% had diabetes mellitus. 22.3% were in the pre-hypertension category and 23.7% were in the stage 2 of hypertension category. This was influenced by lifestyle, exercise and the consumption of food that high in salt and lacquer. Also, most people with high blood pressure did not take medication regularly and did not monitor their blood pressure regularly. According to the result of interview and observation, it was found that there were still many people who did not know the benefit of healthy exercise for people with hypertension, and there were still many people whose behaviour

was unhealthy. Others already had sufficient knowledge regarding healthy exercise (27.3%) but still did not have enough will to adopt a healthy lifestyle. How to increase public knowledge about healthy exercise after health education about healthy exercise then. Elderly gymnastic was a physical activity that had a rhythm and could be done to improve physical fitness and physical condition in the elderly so it could increase muscle strength, endurance, speed, skills, joint flexibility and synergy of motion. The activity of the contracting muscle could maintain and improve the muscle, so the stability and balance of the body also increase.

This health promotion and education activity was carried out smoothly even though there were several elderly people who could not attend for various reason. This activity was attended by 25 elderly people and their children or grandchildren. The participant was enthusiastic in this activity proved by the elderly did not move from their place while sitting during the activity. Evaluation of activity was carried out by looking at the result of the pre-test and post-test that had been carried out. The pre-test result consisted of 10 questions obtained the smallest score that was 55.2 and the largest score was 65, and the post-test result obtained the smallest score that was 78.4 and the largest was 85.2, there was an increase in knowledge before and after health education with an increase of 20.2 poin. In conclusion, there was an increase in the knowledge of gymnastic among the elderly.

## DISCUSSION

One of the effects of aging was a decrease in physical function in the elderly. This decrease in physical function was at risk for fall in the elderly. Fall occurred as a result of balance disorder in the elderly, where collagen, bone, skin, tendon, cartilage, and connective tissue experienced significant irregular stretching. When this collagen change, the elderly would experience decreased flexibility, pain, decreased ability to build muscle strength, difficulty in moving, and difficulty in daily life. The effect of changes in muscle morphology included decreased strength, decreased flexibility, increased reaction time, and decreased muscle function. To prevent further changes, the elderly could do exercise to maintain muscle mobility. If the elderly's body balance was not controlled to maintain body balance in various position, it could cause major problem in the elderly quality of life, such as: loss of confidence in activity because of a fear of falling, broken bone, head injury/accident, or other tendency to fall. Fall that was a direct result of balance problem could be minimized by knowing the risk factor for this problem. These factors included age, physical activity, mental disorder, the use of certain medication, and the presence of cardiovascular disease such as heart disease and orthostatic hypotension. Poor posture and balance due to muscle weakness could be corrected by exercise that help maintain muscle function and good posture. Avoid or reduce these effect by providing exercise to keep the body moving. Exercise, such as gymnastic, helped slow and prevent functional decline in the elderly.

According to (Haiti et al., 2021), elderly gymnastic activity could increase muscle endurance, balance, body coordination and improve sleep quality. Meanwhile, according to (Puspitasari Ika Dian et Al., 2017) elderly gymnastic was one of the physical activity that could be carried out and had an effect on the elderly's health and quality of life. While the result of Yurintika's study (2015) in (Jehaman et al., 2022) showed that the elderly gymnastic had an impact on facilitating the transportation of nutrient to body tissue so they can maximize melatonin secretion, beta endorphin and help increase physical activity in the elderly. Effect of elderly gymnastic in addition to increasing fitness, it had a psychological impact so the elderly could calm down, feel more comfortable and sleep even more soundly (Widiyawati, 2015). Walking, especially in the morning, was very beneficial for blood pressure, maintaining muscle strength and endurance, increasing vitamin D absorption, improving blood circulation, and lowering blood pressure. According to (Makawekes et al., 2020) physical inactivity increased the risk of hypertension.

In Indonesia, gymnastic was usually done with the help of music. The recommended gymnastic movement and phase for the elderly were as follows: movement must be in accordance with the three gymnastic phase: warming up, enveloping, and cooling down 1) Warming up, the purpose

of this phase was to prepare the elderly physically and psychologically to start training. While warming was also used to stretch muscle and joint, avoid shock due to movement, reduce the risk of injury or exacerbate joint disease, if any. For the elderly, there were some classified warm-up.

2) There were several gymnastic movements. To stretch the muscle in your arm, shoulder and hip. The trick was to spread your feet shoulder-width apart, arms together and stretched out in front of your left palm, thumbs crossed. Look straight ahead and wait on the count of eight, place your hand in front of your chest, palm facing down • Relax your neck muscle. The main phase of this exercise was building strength and tone and improving balance. • Hand Extension: This exercise involved walking in place with your arm outstretched and your finger outstretched to your side. Count to eight, walk in place, cross your arm over your chest, and make your fist inward. • Tap the head gently. The trick was to stay in place while snapping your finger overhead. Slowly lower your hand to a count of six, place your hand by your side, and press your finger down. While counting to eight, fold your arm so they were parallel to your side. Exercise for extruded thigh and hip. The trick was to bring your right toe slightly in front of your left foot, move your left hand to the right in front of your body, then return to its original position. Repeat in the opposite direction.

3) Cooling down. This gymnastic for the elderly aimed to lower body temperature, heart rate and blood pressure. This exercise was a muscle stretch similar to a warm-up or slow walk.

Safe sport tips for elderly, prepared to avoid injury by following these safe sport tips, at least you can avoid the risk of injury. Appropriate clothing must be worn, including sweat-absorbing material and comfortable shoes. Because these factor could improve health during physical activity, starting slowly for the elderly, it was important to start physical activity slowly in a sequence of warm-up, core work, and cooling-down. This would allow your body to move easily. Instead of stopping when your body hurt, you should consider recognizing the sign that your body was tired from activity. If you notice the first sign of fatigue, such as shortness of breath or dizziness. Stop physical activity immediately.



**Figure 2.** Elderly gymnastic activity at RW 11 Bentar Hilir Village, Sukamentri, Garut

## CONCLUSION

Elderly gymnastic was light exercise and could be done very easily. Elderly gymnastic could help keep the body healthy and fresh, keep the bone strong, stimulate the heart to work optimally, and eliminate excess free radical in the elderly's body. The recommended intensity and duration of physical activity for the elderly was around 150 minutes per week. The component of balance that was trained in elderly gymnastic was muscle strength, joint movement, and synergy of motion. The activity of the contracting muscle could maintain and improve the muscle so the stability and balance of the body also increased.

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