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A Comparison of Memory and Physical Fitness Between Urban and Rural Elderly Using Therapeutic Recreational Sports Activities

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Abstract:
The research objectives were to compare the level of physical fitness with the memory of the elderly in the Jetis Village, Wonosari, Gunung Kidul, Yogyakarta, and the urban elderly in Bausasran, Danurejan, Lempuyangan, Yogyakarta city, after being treated with therapeutic recreational sports activities and increase knowledge about the comparison of the level of physical fitness and memory of the elderly in Jetis Village, Gunung Kidul, Wonosari, Yogyakarta, with the level of fitness and memory of the elderly in the Bausasran, Danurejan, Lempuyangan, Yogyakarta city, after being treated using therapeutic recreational sports activities. The research design used a quasi-two-way experiment with pretest and posttest. The sampling technique used *random sampling* with the criteria of rural and urban elderly aged 60-75 years. The research sample consisted of 30 elderlies in Jetis Village, Wonosari, Gunung Kidul, Yogyakarta, and 30 elderlies in Bausasran, Danurejan, Lempuyangan, Yogyakarta city. Furthermore, the measurement of physical fitness of the elderly used a *six-minute walk*; meanwhile, the measurement of memory used a *Stroop test*. The conclusion showed that the elderly in Jetis Village, Gunung Kidul, Wonosari, Yogyakarta city, had a higher or better score on physical fitness and memory levels than the elderly in urban areas after being treated with therapeutic recreational sports.

Keywords: memory, physical fitness, the elderly, therapeutic recreational sports

1. INTRODUCTION

The influence of aging is caused by the interaction of many causes in life, such as heredity, environment, culture, diet, exercise and recreation, health conditions, past diseases, and many other factors (Bccampus, 2018). There is no way to predict precisely how a person will age, whereas the changes in adolescence can be predicted in the next few years. Several body systems begin to age in the early 30 years old. The effects of aging and several aging symptoms experienced by most people during their lifetime, including *frailty*, namely loss of muscle mass and mobility, which affects movement activity, decreases as much as 25% of the elderly over the age of 65 years (Fried, 2001). Moreover, *atherosclerosis* is classified as an aging disease, which is caused by cardiovascular disease (*e.g.*, stroke and heart attack), which globally is the most common cause of death (Wang, 2012). Cognitive decline occurs starting at the age of 30 years (Desjardins *et al.*, 2012; Finkel *et al.*, 2013).

Muscle atrophy is a change that occurs in old age. Loss of muscle mass begins at the age of 30 years old. The main changes associated with aging are muscle atrophy, estimated to be around 8% per decade until 70 years old, increasing to 15% per decade (Kim *et al.*, 2013). Shifts in muscle fiber composition occur in the elderly with a rapid decline in large *glycolytic* fibers (*Type II*) (Fielding *et al.*, 2011). Decreased motor neurons are damaged in motor control (Joseph *et al.*,

2016). Loss of muscle mass is a multifactorial and not fully understood condition in the elderly and some systemic diseases (Bonaldo and Sandri, 2013). All declines are due to reduced physical activity of the elderly, hormonal, genetic changes, loss of appetite, and lack of water intake and nutrition. It causes the aging process, which is considered normal.

Physical activities or sports for the elderly are not the same as youth sports. Richard (2013), in his book '*Recreational Sport Programming*,' says that recreational sports include physical activity, recreational programs, intramural sports, and physical recreation. There are four critical subjects in recreational sports, namely health, leisure, recreation, and sports. Recreational sports are also called sports that are carried out for various purposes, especially for fun and entertainment in spare time. Based on the explanation above, it can be seen that recreational sports can be done by anyone, anywhere, anytime, and with any activities. Recreational sports are not limited by a person's age, gender, and condition. Recreational sports can be done indoors or outdoors without being tied to a particular time. Recreational sports activities can be made in various models of motion activities according to age. Anyone can do recreational sports without special requirements because every recreational sport activity is made according to the needs and has a fun goal, is easy to do, and positively impacts health and fitness.

The brain is an organ that can regulate learning and memory. The parts of the brain that regulate consist of the hippocampus, limbic system, cerebellum, prefrontal cortex, and other parts of the cerebral cortex. The hippocampus plays a vital role in declarative memory, namely memories of people, places, things, facts, and specific events. At the same time, the cerebellum has a vital role in procedural memory. Memory involves motor skills obtained from continuous practice over and over again. The prefrontal cortex in the brain has an essential role as temporary storage and executive function that allows a person to decide what to do. The prefrontal cortex part that plays a significant role in integrating complex thinking skills related to working memory is the association prefrontal cortex (Sherwood, 2014).

Memory is the storage of acquired knowledge and can be recalled (Badeeley. A, 2009: 564). Learning and remembering are the basis for individuals to adapt their behavior to a particular external environment (Sherwood, 2014). In general, what is stored in the memory is a concept, not verbatim information. The information storage is divided into short-term information, medium-term information, and long-term information. This short-term information lasts for a few seconds or at most for a few minutes. This memory can be converted into long-term memory; medium-term information may be retained for days to weeks but then lost; and long-term information can be retained for years (Physiology, 2014). One of these classifications divides memory into declarative and skill memories (Physiology, 2014). Memory loss is a symptom that often appears in the elderly, especially after 40 years old, but it can also occur at a young age. Memory decline is caused by brain fatigue or stress, which will affect memory decline. In general, memory loss is due to some brain cells, especially the *dentate gyrus* cells that slowly begin to die, and reduced elasticity of blood vessels. Brain cell death will not be followed by regeneration, so it causes a person to easily forget (Susanto, Djojosoewarno, & Rosnaeni, 2009).

Decreased memory can generate dementia caused by decreased brain tissue function. The decline in function begins in middle age and will appear cognitive decline and other brain functions. Senile dementia can be caused by vascular disease and other disorders. Individual cognitive abilities vary, depending on a person's physical and psychological activity, especially in the elderly. Memory is influenced by several factors, namely individual factors, object

factors that are remembered, and environmental factors. Individual factors are a process of remembering influenced by the individual's body, such as learning styles, food, age, and spiritual and physical conditions. Good physical condition can be obtained by exercising. Physical exercise can improve memory with light exercises, such as leisurely walking, jogging, swimming, cycling, and regular recreational sports (Susanto *et al.*, 2019).

Exercise turns out to not only make the body fit and healthy but can increase the brain's ability to build new cells, namely *dentate gyrus* cells. Exercise can help blood circulation throughout the body, including the brain so that the supply of nutrients and oxygen to the brain will be distributed appropriately. The result can improve memory and minimize memory decline. The type of exercise that can improve memory is cardiovascular exercise (The Ministry of Health of the Republic of Indonesia, 2019). Examples of cardiovascular exercise include brisk walking, gymnastics, and swimming. This cardiovascular exercise positively affects the performance of several cognitive tasks, especially tasks that require executive control involving the brain's frontal areas (Roig, Nordbrandt, Geertsen, & Nielsen, 2013). Muscle work during cardiovascular exercise can increase oxygen consumption, dilate muscle blood vessels, increase venous return and cardiac output (Susanto *et al.*, 2019). Twenty minutes of exercise time and intensity, type and model of exercise, and quality of movement positively affect the memory of the elderly (Andessa Chrintyne, 2021: 833-827). Adults and the elderly must carry out physical activity regularly in a week and are multi-component or varied, such as fun recreational sports, to improve brain function in remembering, maintaining and improving physical fitness, and maintaining body balance so as not to fall quickly (Kwan RY. 202:1-7).

The therapeutic sports model is one of the elderly sports that can be done with pleasure and not burdensome because the age of the elderly has decreased anatomically, physiologically, physically, and psychically. To increase self-confidence, work ethic, and enthusiasm for life as well as independence, it is necessary to carry out sports activities regularly, measurably, and continuously. The elderly are often perceived as people who cannot produce anything anymore. An older adult can still be productive. This group has another advantage, namely having the advantage of experience. The government needs to make efforts so that the elderly can live productively by empowering them. The aging process in humans is an unavoidable natural event at the beginning of human life, and changes from one stage to another are evolutionary towards the stage of perfection, both emotional and functional organs of the body. On the other hand, in old age, there is a decline in following the laws of nature. This change or setback is known as aging or the aging process. The aging process is generally understood as a process of cell division, which is an endogenic factor and cannot be stopped. Human cells are limited in age. After dividing 50-100 times and then stopping, the cells become old, causing a person to experience physical and mental decline.

One of the efforts to inhibit the aging process is physical movement or exercise. A person does not want to move because he is old, but he grows old because he does not want to move.

Therapeutic sports with recreational characteristics can understand and meet the needs of each individual with memory decline (*cognitive function*) with various physical activities consisting of six activities, namely 1) *balloon dancing*, the elderly pair up facing each other by pinching the balloon in the stomach and dancing to music while smiling for three minutes; hopefully, the balloon will not fall. These activities aim to train the muscles, increase muscle flexibility, train cooperation, stimulate facial muscles, stimulate sensory integrity and improve

balance and the appropriate sportsmanship; 2) *balloon fan*, the elderly move the balloon from the *start* line to the *finish* line with a distance of three meters by applying air pressure using a bamboo fan. The movement aims to stimulate the function of the ancient brain, which can stimulate attention alertness and train muscle strength in the arms, thighs, and back; 3) *throwing small balls* from colorful plastic with a determined color into the basket, throwing distance of 1.5 meters, the elderly take turns taking balls that have been determined by color and then throwing them into the basket five times. The purpose of the movement is to train the memory, arm muscles, the grip of the fingers, sensory sense of sight, coordination of movement, and leg muscle strength; 4) *transferring water* using a rag or napkin, the elderly move water from one pot to another quickly by dipping a cloth into a pot with water into an empty pot by squeezing and doing this three times. The distance between the pots is 1.5 meters. This activity aims to train hand muscle strength and grip and stimulate cardiovascular function; 5) *the elderly took marbles* with a predetermined color and number and repeated them three times. This activity aims to train the memory of the elderly about the color and number of marbles that must be taken. Therapeutic recreational sports consist of health sports that prevent the decrease of brain function (Isabel B. Rodrigues, 2021:886-899).

2. METHOD

The initial study was carried out in mid-July 2018 by examining with *Par-Q*, namely an examination of the health condition (measuring body weight, pulse, body temperature, and blood pressure) of the elderly as a condition for carrying out a physical fitness test with a *six-minute walk*. This research was *observational* research with a *cross-sectional* approach. The research design used a quasi-two-way experimental with pretest and posttest to compare the improvement in physical fitness and memory of the elderly after being treated with therapeutic recreational sports activities.

Participants

The samples used were 30 elderly people in Jetis Village, Wonosari, Gunung Kidul, Yogyakarta, and 30 elderly people in Bausasran, Danurejan, Lempuyangan, Yogyakarta city, who passed the *Par-Q* test with an average age of 60-70 years. *Random sampling* was used to determine the elderly were in good health and fit or not. Before being given a fitness test and therapeutic recreational sports activities, technical explanations related to the implementation procedures were comprehensively given. The data collection test was conducted at the Youth Organization (*Karang Taruna*) Building at RW.03, in Bausasran, Danurejan Sub-district, Lempuyangan; Yogyakarta, Indonesia.

Instruments

The measurement of physical fitness of the elderly used the *six-minute walk test* (the elderly walked as far as possible for six minutes). If they felt tired, they could rest and be resumed if time was still available. The tools used were a distance meter, a flat track with 25 meters, and writing instruments to take notes.

Table 1. The Classification of the Six-Minute Walking Test (Female)

Categories	**Mileage** (*meter*) **Age Appropriateness** (*years old*)						
	60-64	65-69	70-74	75-79	80-84	85-89	90-94
Insufficient	450 m	400 m	350 m	300 m	250 m	200 m	150 m
Deficient	500 m	450 m	400 m	350 m	300 m	250 m	200 m

Sufficient	550 m	500 m	450 m	400 m	350 m	300 m	250 m
Good	600 m	550 m	500 m	450 m	400 m	350 m	300 m
Excellent	650 m	600 m	550 m	500 m	450 m	400 m	350 m

(**American Lung Association**, *Six-Minute Walk Test*, 2020)

The memory was measured using a *Stroop test*. The elderly said numbers sequentially (3 4 5 6 7) and repeated in reverse order (7 6 5 4 3). The assessment took a maximum of two seconds.

Table 2. The Classification of the Stroop Test

Categories	**Time in Seconds**
Insufficient	3.5- 4 seconds
Deficient	2.6- 3 seconds
Sufficient	2- 2.5 seconds
Good	1.5- 1.9 seconds
Excellent	>1 second

Therapeutic recreational sports activities were used to provide treatment consisted of five activities (balloon dancing, balloon fan, throwing balls, moving water, and picking up marbles), carried out twice a week for two months

Procedure

Before data collection, all procedures were approved by the Faculty of Sport Sciences, the State University of Yogyakarta, Head of Jetis Village, Wonosari, Gunung Kidul, and Head of Bausasran, Danurejan, Lempuyangan, Yogyakarta, and Primary Health Care for each village and city as well as the elderly who were the research subjects. All procedures were carried out in the order of licensing and research activities in the field. Researchers collected data collection officers to be given instructions on how to work during the *Par-Q* examination, physical fitness tests, measuring memory, and how to do therapeutic recreational sports activities.

The elderly was gathered, briefed, and examined using *Par-Q* to determine their weight, age, body temperature, pulse, and blood pressure. The elderly who passed the examination were gathered and explained to take the physical fitness test by walking for six minutes on a 25-meter flat line, and those who did not pass the *Par-Q* examination were not allowed to take part in the fitness test. After doing a fitness test and knowing the results, the elderly did a memory test by mentioning the different colors of the writing from the sentence and mentioning the numbers that were not sequentially shown for two seconds. The elderly had to remember the numbers as a pretest.

Then, the procedure was continued by giving treatment or intervention using therapeutic recreational sports consisting of five activities a week, two times for three months. After three months, the fitness status and the memory of the elderly were measured in a posttest.

Statistical Data Analysis

Data analysis in the research was based on the results of comparative test analysis with the *Mann-Whitney test* to determine the difference in the median of the two independent groups if the data scale

of the dependent variable was ordinal or interval or ratio but not normally distributed and had p >0.05. The improvement of memory and physical fitness of the elderly in Jetis Village, Wonosari, Gunung Kidul, Yogyakarta, and the elderly in Bausasran, Danurejan, Lempuyangan, Yogyakarta, was observed by using quasi-pretest and posttest experiments.

3. RESULTS

The research subjects involved 30 elderly in rural areas and 30 elderly in urban areas, which had an age range of 60-74 years old. Characteristics of age and gender of research subjects can be seen in the following table:

Table 3. Characteristics of Research Subjects by Gender

Gender	**Elderly in Jetis Village**		**Elderly in Bausasran City**	
	Quantity	*%*	*Quantity*	*%*
Male	13	43.3	11	36.7
Female	17	56.7	19	63.3
Total	30	100.0	30	100.0

Table 3 shows that the research subjects in Jetis Village and Bausasran City had more female than male research subjects. The number of female research subjects from Jetis village was 56.7%, while female research subjects from Bausasran city were 63.3%. At least, the number of male research subjects came from the Bausasran city.

Table 4. Characteristics of Research Subjects by Age

Age	**Elderly in Jetis Village**		**Elderly in Bausasran City**	
	Quantity	*%*	*Quantity*	*%*
60-64 years	8	26.7	13	43.3
65-69 years	19	63.3	11	36.7
70-74 years	3	10	6	20
Total	30	100.0	30	100.0

Table 4 shows that most research subjects from Jetis village were 65-69 years old and 19 or 63.3%, at least in the age range 70-74 years at least as much as three or 10%. Meanwhile, the research subjects from Bausasran city were mainly in the age range of 60-64 years old, namely 13 or 43.3%. Then, the least was in the age range 70-74 years old, namely 6 or 20%.

Table 5. The Results of Measuring the Elderly's Memory in Jetis Village with the Elderly in the Bausasran City after being given Therapeutic Recreational Sports Activities

Memory	**Jetis Village Elderly Subjects**	**Memory**	**Bausasran City Elderly Subjects**		
	Quantity % *Description*		*Quantity* % *Description*		

24 - 47	6	20	Not good	24 - 47	3	10.0	Not good	
48 - 71	9	30.0	Pretty good	48 - 71	8	26.7	Pretty good	
72 - 95	11	36.7	Good	72 - 95	12	40.0	Good	
96 -120	4	13.3	Excellent	96 - 120	7	23.3	Excellent	
Total	30	100.0			30	100.0		

Based on Table 5, the memory of the elderly in Jetis village after being treated with therapeutic recreational sports activities had the highest score in good condition, namely 11 (36.7%) elderly out of a total of 30. In contrast, the lowest score was in the excellent condition, namely four elderly (20%).

Table 6. The Results of the six-minute Mileage Measurement for the Elderly in Jetis Village and the Elderly in Bausasran City after being given Therapeutic Recreational Sports Activities

Mileage (*meter*)	**Elderly in Jetis Village**		**Mileage** (*meter*)	**Elderly in Bausasran City**	
	Quantity	*%*		*Quantity*	*%*
409-449	1	3	381-406	5	17
450-490	9	30	407-432	9	30
491-531	20	67	433-458	16	53
Total	30	100.0		30	100.0

The two groups of elderly had different comparisons of fitness levels and memory after being treated with therapeutic recreational sports. The elderly from Jetis Gunung Kidul village walked six minutes to cover the furthest distance of 528 meters and the shortest 409 meters. Meanwhile, the elderly of Bausasran city walked for six minutes. The farthest was 458 meters, and the shortest was 381 meters. There was a meter difference in the ability to walk for six minutes. The elderly in Jetis Gunung Kidul village mostly walked between 491 meters and 531 meters, while the elderly in Baurasran city mostly walked between 433 meters and 458 meters.

The memory of the elderly in Jetis, Wonosari, Gunung Kidul, Yogyakarta, had the mean score of 102. In contrast, the elderly in Bausasran, Danurejan, Lempuyangan, Yogyakarta, had a mean score of 98. There was a difference in the value of 4. It can be said that the elderly in Jetis village had a little better memory than the elderly in Bausasran city. Differences in memory and fitness between the elderly in Jetis village and the elderly in Bausasran city were occurred after being treated with therapeutic recreational sports activities

Table 7. Calculation Results of Pretest and Posttest with Therapeutic Recreational Sports Treatment

	Memory							**Fitness**						
Participants	**Pretest**				**Posttest**			**Pretest**				**Posttest**		
	N	*Score*						*N*	*Score*					
		Max	∑	%	*Category*	∑	% *Category*		Max	∑	%	*Category*	∑	% *Category*
Elderly in Jetis Village	30	120	73	61	B	87	73 B 85 SB	30	120	89	74	B	102	

Elderly in Bausasran City	30 120 66 56 CB 89 74 B 30 120 35 29 KB 86 72 B

Table 7 shows the results of the percentage calculation of memory before being given therapeutic recreational sports activities (*pretest*) for the elderly Jetis Village, Wonosari, Gunung Kidul, Yogyakarta, by 61% in the good category. The percentage value increased after being treated with therapeutic recreational sports activities (*posttest*) to 73 % with good category. Meanwhile, the memory pretest score of the elderly in the Bausasran City, Danurejan, Lempuyangan, Yogyakarta, was 56%, in the good category. Then, in the posttest, it increased to 74% in the good category.

Calculating the percentage of physical fitness pretest in the Jetis village, Wonosari Gunung Kidul, was 74% or in the good category. The posttest increased to 85% in the excellent category. However, in the elderly of Bausasran City, Danurejan, Lempuyangan, Yogyakarta, the pretest value was 29% in the poor category. The posttest increased to 72% in the good category.

Table 8. Differences in Memory between the Elderly in Jetis Village, Wonosari, and the Bausasran City, Yogyakarta

Participants	**Memory**				**Fitness**			
	Mean	SD	P	*Conclusion*	*Mean*	SD	P	*Conclusion*
Elderly in Jetis Village	359.92	29.91	0.026	*Ho was rejected*	367.32	30.87	0.031	*Ho was rejected*
Elderly in Bausasran City	323.81	18.72			334.40	24.95		

Based on the results of the calculation of elderly data in the Jetis Village, Wonosari, Gunung Kidul, Yogyakarta, the ability to walk for six minutes had an average distance of 367.32 meters, and the standard deviation was 30.87. Meanwhile, the average elderly in Bausasran, Danurejan, Lempuyangan, Yogyakarta, could walk six minutes to cover a distance of 334.40 meters and a standard deviation of 24.95. Based on the calculation of the *Mann-Whitney statistical* test analysis also showed a significant difference in the level of memory between the elderly in the Jetis Village, Wonosari, Gunung Kidul, Yogyakarta, and the elderly in the Bausaran City, Danurejan, Lempuyangan, Yogyakarta, with a value of $p = 0.026$ ($p < 0.05$). Meanwhile, the statistical test of memory showed a significant difference between the elderly in Jetis Village and the elderly in Bausasran City with $p = 0.031$ ($p < 0.05$). The hypothesis was that H_o was rejected, which meant differences in memory and fitness levels between the elderly in Jetis village, Gunung Kidul, Wonosari, Yogyakarta, with Bausasran City, Danurejan, Lempuyangan, Yogyakarta. The results showed that the elderly in Jetis village, Gunung Kidul, Wonosari, Yograkarta, had better memory and fitness levels than the elderly in Bausasran Danurejan, Lempuyangan; Yogyakarta.

4. DISCUSSION

Aging is a natural process that humans go through. The aging process

takes place continuously and will experience a decrease in the ability and function of the entire body. Normal aging will decrease brain work overall brain function, which causes a decrease in cognitive function in the elderly (Boraxbekk, 2016). However, it can be minimized by doing lots of physical activity and good lifestyle habits. Physical activity delays and improves the structure of brain function throughout life (Benedict. C. *et al.*, 2013). Living an active life such as walking recreation, which is done regularly, will waste approximately 1000 calories and improve the quality of the elderly's life (Tian *et al.*, 2014). Physical activity benefits the physical fitness and cognitive function of the elderly (Heyn P. *et al.*, 2014).

The research was conducted on 30 elderly in Jetis village and 30 elderly in Bausasran city, which were 60-74 years old and had the same characteristics. According to Devi (2014), the elderly aged 60-80 years have experienced a *musculoskeletal decline* due to lack of physical activity. The research data analysis on the memory of the elderly in Jetis Village, Wonosari, Gunung Kidul, Yogyakarta, before being treated with therapeutic recreational sports showed reasonably good conditions, then, after being treated with therapeutic recreational sports activities, the results remained good. The research results on the memory of the elderly in the Bausasran City, Danurejan, Lempuyangan, Yogyakarta, were sufficient before being treated with therapeutic recreational sports and after being treated with therapeutic recreational sports activities. These results aligned with the opinion (Toole T., 2015) that physical activity and fitness had a significant relationship. The fitter the elderly, the more their cognitive function increases.

The research results on the memory of the elderly in the Jetis village, Wonosari, Gunung Kidul, with the elderly in Bausasran City, Danurejan, Lempuyangan, Yogyakarta, had differences. The elderly in the Jetis village had better results than the elderly in the Bausasran City, who had sufficient results before being given therapeutic recreational sports activities. After being given therapeutic recreational sports activities, the elderly in Jetis Village and the elderly in Bausasran City had good results. Factors that affected memory in the elderly included age, gender, nutritional intake, nicotine consumption and smoking, physical activity (sports), blood pressure, social and economic factors, neurological disorders, and psychological factors (Nelson C., 2014). A study conducted by scientists at the *University of Barcelona and Pompeu Fabra University* revealed that elderly living in rural areas had better mental health than elderly people living in cities. The elderly in rural areas did much physical activity in carrying out their daily lives that were not intentional, such as walking, social relations often carried out between neighbors and work activities that used physical activities a lot. It was supported by the theory of the *scaffolding* mechanism, which explains that the many diverse activities will activate additional networks so that the brain network becomes more efficient (Anggraeni *et al.*, 2020). The research results from Nurmah (2011) also explained that the more activities carried out by the elderly, the less likely the elderly would experience a decline in cognitive function.

Based on the results of the comparative test analysis with the *Mann-Whitney test*, the elderly in the Wonosari Village and the elderly in the Bausasran City compared their memory and physical fitness after being given therapeutic recreational sports activities. The difference in walking distance of six minutes for the elderly in Wonosari village had more distance than the elderly in Bausasran. The fitness level of the elderly in Wonosari village before being given therapeutic sports activities was in good condition, and after being given therapeutic recreational sports activities was excellent. While the fitness level of the elderly in Bausasran City before being given

therapeutic recreational sports activities was in poor condition and after being given therapeutic sports activities, it was good. It followed the opinion of Heyn P. *et al.* (2014) that physical activity has benefits on physical fitness and cognitive function of the elderly.

The memory of the elderly in Wonosari village had a good category before and after being treated with therapeutic recreational sports activities. In contrast, the elderly in Bausasran city, before being given therapeutic recreational activities, had a sufficient category. After being given therapeutic recreational sports activities, it increased to good. There was a comparison of fitness level conditions between the elderly in Wonosari village and the elderly in Bausasran city.

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Conflicts of Interest
The authors declare that there are no conflicts of interest.

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