

Influence Of Elderly Gymnastics To Reduce Depression In Elderly

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ABSTRACT: Depression can cause the decrease of elderly's life quality. Elderly exercise is a psychological therapy that can reduce depression. This study is quasi-experimental design, conducted in the health care centers for elderly in Sidosermo and Margorejo. The sample technique using to collect data from the test subjects is total sampling and random sampling taken from a control group. Each sample consists of 13 respondents. To the two control groups, pretest and post-test are given in order to measure level of the depression using the Geriatric Depression Scale (GDS). The result of the analysis on the variable for depression is also tested using t-test to acquire $P = 0.011$. The conclusion of the study confirms that elderly gymnastics can reduce depression in elderly individuals. So it suggested that gymnastics program routines used minimum of 3 times per week by way of cross - sectoral cooperation.

Keywords : Gymnastics, Elderly, Depression

1 INTRODUCTION

Elderly is not kind of disease, although it can cause social problems. In some countries, especially in developed countries life expectancy has been increasing longer so that citizens over the age of 65 years also increased. Signs of elderly is accompanied by setbacks workability senses, organs impaired function, changes in psychology and their various diseases. This phenomenon will obviously bring some consequences, among others, the onset of physical problems, mental, social and health care needs (Nugroho, 2014). The number of elderly in the world, according to estimates of the World Health Organization (WHO) until 2050 will increase \pm 600 million to 2 billion elderly and Asia is the region most experienced changes in the composition of the population, and the next 25 years the elderly population will increase approximately 82 percent (Darmojo & Boedhi, 2014). The number of elderly in Indonesia is increasing every year, this is according to a survey conducted by the United States Bureau of Census 1993, the elderly population in Indonesia is projected in the year 1990 to 2023 will rise 41.4%, a highest figure worldwide and on 2020, Indonesia will occupy the fourth number of the elderly at most after China, India, and America (Kaplan, 2010). Central Statistics Agency (CSA) in 2013 showed that the elderly population in Indonesia on 2000, as many as 14.439.967 people (7.18 percent), then in 2010 increased to 23.992.553 people (9.77 percent). In 2020 the predicted number of elderly people reached 28.822.879 people (11.34 percent). Indonesia is currently included as a country whose population structure as the provisions of the agency's parent, because the number of elderly people has reached more than 7 percent. Indonesia also ranks fourth in the world with 24 million elderly people. The provinces in Indonesia with the high population of elderly people are the most elderly people in Yogyakarta (12.48 percent), East Java (9.36 per cent), Central Java (9.26 percent), Bali (8.77) and West Java (7, 09). The number of elderly in Indonesia tends to increase or occur booming elderly so-called elderly century (the era of population aging) (Azizah, 2014). The aging process is resulted the changes in the field of organo-biological and psycho-social. Changes in the field of psycho-social where after the dusk turns the temperament "mood" or emotionally volatile. Maudlin or too explode because of a small matter, expect get the physical pity because had re-treated. One easy mental disorders arising in the elderly is depression and is more common in men than women. Some-

one who is depressed will feel "sad" without knowing correctly what dejected, life feels "gray" and often feel lonely even though he was in public life crowded (Notosoeirdjo, 2013). Depression in the elderly differs from depression in younger because the symptoms of depression often mingle with somatic complaints. Risk factors of depression in the elderly affects more women than men, elderly people who have poor health status, living alone, functional disability, somatic illness, social isolation, emotional disturbances and personality, level of education, death and others (Azizah, 2014). The development of the elderly is particularly felt by developing countries compared with developed countries in the world. The prevalence of depression in elderly in the world ranges from 8-15% and the meta-analysis results of countries in the world to get the average prevalence of depression in the elderly is 13.5% with a ratio of women and men was 14.1:8.6. Epidemiological studies on depression among elderly people in the community reported that levels vary widely, from 2 to 44% of elderly depressed, depending on where the study and the criteria used to define depression and the methods used to evaluate it (Stenley & Beare, 2006). In Indonesia, the prevalence of depression in people over the age of 65 years is 15% of the general community, 25% of patients in the doctor's office and \geq 30% in housing, which is in line with the statement of Dr. PetrinRedayani L. Sugijanto, SpKJ, secretary of the Section of Psychotherapy, Mental Specialist Doctors Association (PDSKJI) to bee-health which says that depression is a mental problem that is most common in the elderly (Nanda, 2001). World Health Organization (WHO) states that depression is on the order of four diseases in the world. Approximately 20% of women and 12% men, at some time in their lives have experienced depression. Although antidepressant drugs already are widely available today. The prevalence of depression and suicide rates remain high. Approximately 15% of patients with depression die by suicide, 20% - 40% had attempted suicide, and 80% had suicidal ideation (Nurmiati A, 2005). The impact of depressive disorders in the elderly come from biological, psychological and social harm to interact and worsen the quality of life and productivity of work in the elderly. (Kaplan, 2010). Preliminary studies conducted by researchers, of 18 elderly found 10 elderly (55%) were depressed. According Kuntaraf (1992), exercise can improve heart rate and autonomic systems of the body that is needed to cope with stress. Sports can be a cure for a variety of psychiatric symptoms; can re-

duce anxiety, depression, fatigue and confusion. Based on the above data and ideas, the researchers wanted to see the extent to which elderly exercise can reduce depression that occurs in the elderly.

2 MATTER AND METHOD

This study used a quasi-experimental design, Non-Randomized Control Group Pre Test - Post Test Design. The population in this study were all elderly with depression, did not have a physical disability and dementia in the elderly Health centre of Margorejo total of 14 people and the elderly in Sidosermo public health centre as many as 13 people. The sampling technique used in the treatment group sample using total sampling technique whereas for the control group using random sampling techniques. Samples in this study as follows in Health centre of elderly Margorejo as many as 13 elderly and Sidosermo Public Health Centre as many as 13 elderly who experience depression. The independent variable is the dependent variable while the elderly Gymnastics is depression in the elderly. Criteria of Drop out (DO) if the participation of the elderly who are depressed, following the exercise less than 2 times per week. To determine the elderly who did not have dementia advance in check by using the Short Portable Mental Status Questionnaire (SPMSQ), furthermore, the treatment group performed gymnastic elderly (low aerobic Impacts) 3x /week for 4 weeks. While for the control group did not do gymnastics elderly. Data collection procedures in the treatment group will be given a low impact aerobic exercise, physical fitness, gymnastics instructor guided by trained and have mastered the elderly gymnastics. Gymnastics performed 30 minutes including warm-up, core gymnastics and cooling. The research was conducted from March to June 2015. Data processed by T-Test Test in order to determine the significance of the effect of exercise to decrease depression in elderly, using a computer program (SPSS).

3 RESULT

Depression changes that occurred in the treatment group and the control group after administration of gymnastics elderly and regular meetings are described in the table below.

Table 1 Distributions Based On Elderly Depression Treatment Group and Control Group April - May 2015.

Depression	Group			
	Experiment		Control	
	Pre	Post	Pre	Post
No Depression	0 (0%)	7 (53.85%)	0 (0%)	2 (15.38%)
Low Depression	7 (53.85%)	6 (46.15%)	11 (84.62%)	9 (69.23%)
Medium Depression	6 (46.15%)	0 (0%)	2 (15.38%)	2 (15.38%)
High Depression	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Totally	13 (100%)	13 (100%)	13 (100%)	13 (100%)

Table 1 shows elderly depression prior to the intervention in the treatment group are 53.85% or 7 people with mild depres-

sion, but after treatment the number of elderly people with mild depression as much as 46.15% or 6 people. While the elderly who are not depressed previously id not exists, after treatment obtained 53.85% or 7 people. In contrast to the control group of elderly who have mild depression amount no significant change as many as 84.62% or 11 people fell to 69.23% or 9 people. While initially depressed elderly were to remain unchanged, namely 15:38% or 2 people. Elderly depression was not originally there was no increase to 15:38% or 2 people.

Table 2 Depression in Treatment Group and Control Group Before and After Cast Gymnastics Elderly and Ordinary Meeting on Elderly Months from April to May 2015.

Group	Pre Test		Post Test		p	Change in Score	
	\bar{X}	SD	\bar{X}	SD		\bar{X}	SD
Experiment	9.31	±2.394	4.46	±3.126	0	4.85	±0.000
Control	7.38	±2.022	6.31	±1.932	0.007	1.07	±0.506
P	0.037					0.011	

Table 2 shows the average depression in the treatment group before the gymnastics was given a score of 9:31 while the elderly have after attending gymnastics elderly increased the score to 4:46 resulting in decreased depression in the elderly amounted to 4.85, this happened after the elderly exercisers given as many as 12 times during one month by researchers. T test results showed that there are significant differences between the levels of depression before and after exercise elderly (p = 0.000). Whereas in the control group explained that the average depression scores 7.38 and the scores turn out to be 6:31 or decrease depression in the elderly \$ 1.07, this occurs after the elderly following the regular meeting 12 times during one month by researchers. T test results showed no significant difference between the elderly decreased depression before and after exercise elderly (p = 0.007). Results of statistical tests using test Independent sample t test get the value of p = 0.037 <α (0.05) it can be concluded that there is a difference in depression between the treatment group and the control group with gymnastic elderly and groups with regular meetings before getting intervention. Results value - average posttest in the treatment group and the control group amounted 4:46 6:31. Statistical test results using t-test was obtained p = 0.011 <α (0.05) thus concluded that there are significant differences with gymnastic elderly depression group and the group with regular meetings after a given intervention. Based on the analysis of both the table above it can be concluded that there is influence elderly gymnastics to decrease frequency of depression in the elderly exercise 12 times for 1 month

4 DISCUSSION

Results of the study is described the mean depression in the treatment group before the gymnastics was given a score of 9:31 while the elderly have after attending gymnastics elderly increased the score to 4:46 resulting in decreased depression in the elderly amounted to 4.85, this happened after the elderly exercisers given as many as 12 times during one month by researchers.T test results showed that there are significant differences between the levels of depression before and after exercise elderly (p = 0.000) in the control group whereas explained that the average depression scores 7.38 and the scores turn out to be 6:31 or decrease depression in the elder-

ly \$ 1.07, it This happened after the elderly following the regular meeting 12 times during one month by researchers. T test results showed no significant difference between the elderly decreased depression before and after exercise elderly ($p = 0.007$). Results of statistical tests using test Independent sample t test to get the value of $p=0.037 < \alpha (0.05)$ it can be concluded that there is a difference in depression between the treatment group and the control group with gymnastic elderly and groups with regular meetings before getting intervention. Results value - average posttest in the treatment group and the control group amounted 4:46 6:31. Statistical test results using t-test was obtained $p = 0.011 < \alpha (0.05)$ thus concluded that there are significant differences with gymnastic elderly depression group and the group with regular meetings after a given intervention. Based on the results of the second table above it can be concluded that there is influence elderly gymnastics against a decrease in the frequency of depression in the elderly exercise 12 times for 1 month. A decrease in the level of depression is due to changes in the pattern of activity of respondents who previously never gymnastics now there are 3 times a week gymnastic activities are conducted in the morning which lasted from 07.00 to 07.30 pm and carried out on the porch hall used RW routine activities in health centre of elderly, The results are consistent with that obtained investigators that elderly depression prior to the intervention in the treatment group are 53.85% or 7 people with mild depression, but after treatment the number of elderly people with mild depression as much as 46.15% or 6 people. While the elderly who are not depressed previously did not exist, after treatment obtained 53.85% or 7 people. In contrast to the control group of elderly who have mild depression amount no significant change as many as 84.62% or 11 people fell to 69.23% or 9 people. While initially depressed elderly were to remain unchanged, namely 15:38% or 2 people. Elderly depressions were not originally there was no increase to 15:38% or 2 people. By following the elderly gymnastics minimal effects are elderly feel happy, always excited, sleep better, keep the mind fresh (Warta G, 2013). Supported by research Dimeo et al (2001) of the 12 patients that consists of 5 men and 7 women with major depression based on DSM IV depressive episode. After participating in a regular exercise for 30 minutes each day in the 10 consecutive days showed significant results against a decrease in depression. Conditions of depression levels in the study subjects allegedly also affect the outcome of treatment provision gymnastics elderly. Besides of environmental conditions are also expected to affect the outcome of treatment administration of sports in this study. Gymnastics elderly provides benefits to the formation of a better mood conditions so that the elderly regularly follow sports activities will always be in a state of feeling comfortable. Conditions of cozy feeling makes individuals can optimize the functioning of mental processes and also affect the individual's ability to cope with any problems that can cause depression. Gymnastics stimulus for the elderly with depression can help the elderly to develop social skills and if people do gymnastics it will be smooth blood circulation and increase the amount of blood volume in the body so that it will be able to lead a process of endorphins which can give rise to a sense of joy, the pain disappeared, addiction (addiction motion) and able to reduce the level of depression suffered by the elderly (Warta G, 2013). Music is one of the components in the activities of gymnastics, where the music was also influenced by the depression in the elderly because the music is therapeutic. The influence of

some kind of frequency, tone and a certain vibe to the physical body of the flow of appropriate music and knowledge of music can be used to ward off sadness and depression (Mucci & Kate, 2002). Supported by research AyuFitriya R (2011) which states that popular music therapy affects the level of depression in patients with social isolation. Harmonization of tone and rhythm of the music affects the internal bodies, if harmonization is equivalent to the body's internal rhythm, music will give a pleasant impression otherwise if harmonization is not equivalent to the body's internal rhythm music will give the impression of a less pleasant (Setiadarma, 2005).

CONCLUSIONS

Conclusion of this study namely there is influence of elderly Exercise to decrease depression in elderly.

SUGGESTION

Suggestions of this study are:

1. Further Research

Need to do deeper research on elderly exercisers who is independent in the execution Of gymnastics without music to reduce depression.

2. For Elderly

To actively participate in the activities organized by the elderly gymnastics in Health centre of Elderly IHC. Gymnastics program routines used minimum of 3 times per week. Once a week which is an option in Health centre of elderly by way of cross - sectoral cooperation, especially in Sidoserma Public Health Centre.

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