


The Effect of Physical Activity on Depression Levels in the Elderly in Purbayan Village, Baki District, Sukoharjo Regency

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Article Info	ABSTRACT
<p>Keywords: Physical activity, Depression level, Elderly</p>	<p>An elderly person's health condition will decrease either naturally or due to illness. To anticipate this, a plan is needed with preventive efforts with the intention of keeping away from increasingly severe incidents including mental disorders. Activity the less will not be make physique and psychology elderly people experience penurement, activity the good one For elderly that is daily activities which does not require energy big, tet a pi can provide for the elderly fitherating. The method used is a quantitative method. The purpose of this study was to determine the effect of physical activity on the level of depression in the elderly in Purbayan Village, Baki District, Sukoharjo Regency. The type of research in this study is pre- experimental before after study. The sample in this study was 30 elderly with the criteria of elderly who can communicate well, elderly who are not senile. The sampling technique was random sampling/probability sampling. Data collection in this study used a demographic data questionnaire and GDS (Geriatric Depression Scale), with 15 items. Data analysis used was descriptive and sample t-test. The results of the sample t-test, the significance value (two-tailed) showed the number (0.000). The conclusion is that there is an influence between physical activity on the level of depression in the elderly in Purbayan Village, Baki District, Sukoharjo Regency.</p>
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INTRODUCTION

Depression is a mental disorder that affects It significantly contributes to the burden of morbidity and is associated with inadequate quality of life and normal functioning of patients (World Health Organization, 2015). Depression is a feeling of sadness, helplessness, and pessimism associated with self-directed suffering or deep feelings of anger. Depression can occur spontaneously or as a reaction to changes in my life, such as mental or mental disability that causes dependence on others, a sad atmosphere, and the death of a partner (Gama L.K, Redana.IM and Harini IGA, 2013). According to WHO, depression is the second most prevalent disease after ischemic heart disease in 2020. According to the Communicable Diseases Control (CDC) in 2007-2010, the prevalence of depression sufferers was high in the 40-59 age range, which was 9.45%, the second highest figure was in the 18-39 age group, which was 8%, and then the 12-17 age group

at 6.3% (Communicable Diseases Control and Prevention, 2012). Depression in the elderly in Indonesia is 11.6% (Ministry of Health, 2012). The results of the 2013 Basic Health Research report, the prevalence of elderly people aged 55-64 years who experienced depression was 15.9%, in the elderly aged 65-74 years it was 23.2%, and in the elderly over 75 years it was 33.7% (Ministry of Health, 2013). Elderly is part of the process of growth and development, developing from babies, children, adults, and finally becoming old with predictable physical and behavioral changes that occur in everyone when they reach a certain chronological stage of development. Azizah (2011).

Elderly people are a group of people aged 60 years and over (Nurwahidah, 2010). Problems that arise in the elderly are the natural aging process that causes physical, mental, and social problems. The mental health of the elderly often adds to the burden on families and society. Some types of mental health that are commonly found are dementia, delirium, and depression. Depression in the elderly is a condition of impaired function in a person, related to feelings such as sadness and other accompanying symptoms. Depression is a condition of impaired feelings such as feelings of sadness, feeling alone, low self-esteem, easily discouraged, and there are signs of psychomotor retardation or sometimes agitation, withdrawal and vegetative disorders such as insomnia and anorexia (Novayanti et al., 2020). Depression is a collection of complex symptoms with various manifestations, and those that are often encountered are insomnia, constipation, accompanied by a decline in health conditions. The results of the 2013 Riskesdas report, obtained the results of the prevalence of elderly people who suffer from depression are elderly aged 55-64 years of 15.9%, elderly aged 65-74 years of 23.2%, and elderly over 75 years of 33.7% (Ministry of Health of the Republic of Indonesia, 2018). The prevalence of elderly in Central Java who experience depression is 12%. The prevalence of depression in the elderly aged 55-64 years is 14.2%, in the elderly aged 65-74 years of 18.0%, and elderly aged > 75 years of 28.7% (Santoso, B; Sulistiowati, E; Sekartuti; L, 2013)

Physical activity is an activity that moves body parts that requires energy and is good for mental health. Based on the 2018 Riskesdas, the elderly (aged ≥ 60 years) are included in the top 3 age groups with low physical activity in Indonesia at 47.9%. The prevalence of lack of physical activity in South Kalimantan reached 33.7% of the overall average in Indonesia of 33.5%. Physical activity in the elderly can be in the form of walking, jogging, cycling, or household activities such as washing and sweeping. Mentally, physical activity can improve mood, increase self-confidence, reduce symptoms of depression and loneliness. Shvedko et al (2018) stated that physical activity can replace lost social relationships by improving social relationships through conversations with others, thereby reducing loneliness. Based on the observation results, several elderly people looked sad and worried. The purpose of the study was to identify the effect of elderly exercise on the level of depression in elderly patients.

METHODS

The method used is a quantitative method. The purpose of this study was to determine the effect of physical activity on the level of depression in the elderly in Purbayan Village, Baki

District, Sukoharjo Regency. The type of research in this study is *pre-experimental before after study*. The sample in this study was 30 elderly with the criteria of elderly who can communicate well, elderly who are not senile. The sampling technique was *random sampling/probability* sampling. Data collection in this study used a demographic data questionnaire and GDS (Geriatric Depression Scale), with 15 items. Data analysis used was descriptive and sample t-test.

RESULTS

Distribution of Subject Characteristics Based on Overall

Here is an overview of the general characteristics of the study subjects based on age, gender,

Table 1. Respondent Characteristics

	Characteristics	Frequency	Presentation
Gender			
a.	Man	4	13.3
b.	Woman	26	86.7
Age			
a.	60-65 years	12	40
b.	66-70 years	6	20
c.	71-75 years	4	13
d.	76-80 years	8	26.7

Table 1 describes that the majority of respondents are female, namely 26 people (86.7%), and male respondents are 7 people (13.3%). This is similar to research conducted by Bhayudkk (2014) in the Karang Asam Community Health Center work area. The incidence of depression in elderly women tends to be higher, there is an increase in depression rates that go hand in hand with increasing age. This is because women have a higher stress threshold than men (Colangelo, 2013). In this study, researchers assume that depression is more common in women, depression in the elderly is related to high sensitivity of feelings so that they are more easily offended besides feeling more vulnerable to the problems faced. Depression occurs in women due to the influence of hormonal changes experienced, namely menopause. It is undeniable that elderly people who are menopausal will experience hormonal changes that affect emotions so that they are easily stressed and depressed.

The most common age is 60 - 65 years, namely 12 respondents (40%), 66 - 70 years old, namely 6 respondents (20%), 71 - 75 years old, namely 4 respondents (13%), and 76 -80 years old, namely 8 respondents (26.7%). The results of this study are not in line with Puspasari's (2017) research conducted at the Tresna Werdha Social Home in Jakarta. Efendi (2009) stated that the elderly are an advanced phase of a life process that begins with a decrease in the ability of body parts to adapt. Researchers assume that age in the elderly in this study shows no relationship between age and depression. This can be caused by several factors, including: the elderly who live with their families usually feel warmer

when gathering with their families, the elderly can also channel the feelings they face to be conveyed to the family so that good communication is established, this can reduce the impact of the form of problems faced so that it can reduce the emergence of symptoms of depression.

Table 2. Pre-Test and Post-Test Values

Level of Knowledge	<i>pre test</i>		<i>post test</i>	
	f	%	f	%
Normal	1	3.3	1	3.3
Mild depression	15	49.9	27	90
Moderate	14	46.8	3	6.7
Depression				
Low value (Min)		4		4
High value (Max)		15		10
Average (Mean)		9.20		7.60

Table 2 describes that the level of depression of respondents before physical activity during the pretest consisted of normal 1 (3.3%), mild depression 15 (49.9%), and moderate depression 14 (46.8%). Psychosocial changes that occur in old age due to cognitive changes, disease conditions, loss of social roles that can result in changes in the self-concept of the elderly which ultimately becomes a stressor for the elderly, therefore the elderly are susceptible to experiencing common psychological problems, namely depression (Putri & Fitriyani, 2016).

Furthermore, the results of the values after physical activity therapy were normal 1 (3.3%), mild depression 27 (90%) and moderate depression 3 (6.7%). From the frequency of distribution, the lowest value of respondents before physical activity was 4 and the highest 15 ; After physical activity, the lowest value was 4 and the highest value was 10. The elderly who were respondents after doing gymnastics looked laughing and happy. Physical exercise is very beneficial for improving health and fitness, as well as for mental health. Physical exercise, one of which is gymnastics, can increase the synthesis and secretion of serotonin hormone both in serum and in the central nervous system. Serotonin release is closely related to improved mood, so it will improve emotions in conditions of depression (Rostika, 2015)

Table 3. Single Sample T-test

Group	Mean	Std. Deviation	Sig. (2-tailed)
Pre Test	9.20	2,250	0,000
Post Test	7.60	1,589	0,000

Table 3 Based on the results of the t-test sample test , the significance value (two-tailed) shows the number (0.000). indicating a significant difference between the initial and final variables. This indicates that there is a significant influence on the differences given to each variable. In addition, it can be concluded that there is an influence between physical activity and the level of depression in the elderly in Purbayan Village, Baki District,

Sukoharjo Regency. Based on previous research, elderly gymnastics is a form of physical activity for the elderly that can reduce blood pressure in the elderly. It is said that the more active the elderly are, the more normal their blood pressure will be (Iswahyuni, 2017). Someone who experiences depression can be due to a lack of serotonin or norepinephrine in the brain, the hormone adrenaline will be released and then increase blood pressure through arterial contraction (vasoconstriction) and heart rate will increase. Continued stress will cause blood pressure to remain high so that the person will experience hypertension (Suoth et al., 2014). Elderly gymnastics itself is a type of sport that is easy for the elderly to do because it has light movements. The existence of elderly gymnastics can reduce depression and can even control emotions and increase happiness because they meet friends of the same age. Therefore, this elderly exercise movement will be able to overcome stress experienced by the elderly and depression, because the movements or activities carried out by the elderly can smooth the distribution of nerves or brain neurotransmitters into the brain. Even able to increase norepinephrine, dopamine, and serotonin in the brain.

CONSLUSION

The characteristics of the influence of age on depression show that the age of the elderly in Purbayan village the most are 60 - 65 years old, namely 12 respondents (40%), 66 - 70 years old, namely 6 respondents (20%), 71 - 75 years old, namely 4 respondents (13%), and 76 - 80 years old, namely 8 respondents (26.7%). Characteristics of the relationship between gender and depression show that the gender of the elderly in Purbayan Village, the most respondents are female respondents, namely 26 people (86.7%), and male respondents, namely 7 people (13.3%). from the results of the study describes that the level of depression of respondents before physical activity at the time of the pretest consisted of normal 1 (3.3%), mild depression 15 (49.9%), and moderate depression 14 (46.8%). Furthermore, the results of the value after physical activity therapy were normal 1 (3.3%), mild depression 27 (90%) and moderate depression 3 (6.7%). From the frequency of distribution, the lowest value of respondents before physical activity was 4 and the highest 15; After physical activity the lowest value was 4 and the highest value was 10. Based on the results of the t-test sample test, the significance value (two-tailed) shows the number (0.000). indicating a significant difference between the initial and final variables. This shows that there is a significant influence on the differences given to each variable. In this study, it shows a significant influence of physical activity on the level of depression in the elderly in Purbayan Village, Baki District, Sukoharjo Regency. There was a significant change in the level of depression in the elderly before and after being given physical activity to the elderly in Purbayan Village, Baki District, Sukoharjo Regency, with the results of the t-test sample statistics. (2-tailed) of (0.000). Furthermore, this study provides suggestions that to continue further research on the level of depression in the elderly using different methods and a longer period of time. This follow-up study can provide additional contributions to improving family understanding

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