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Research Article

## Effects of Group Activity Therapy: Planting and Drawing on Decreasing Depression Rates In the elderly with Non-Communicable Diseases (NCDs)

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### Abstract

**Background:** The elderly experience physical and psychosocial changes that result in non-communicable diseases. The impact of the elderly experiencing a health problem causes depression. Elderly with NCDs who experience depression need tertiary prevention. Level prevention that can be done aims to improve the quality of life.

**Objectives:** The purpose of this study was to determine the effect of group activity therapy on reducing the level of depression in the elderly with non-communicable diseases.

**Methods:** This research method used a quasy experimental pre & post test design in one intervention group. The sampling technique used was simple random sampling with a total of 58 respondents. The statistical test used is the Wilxocon test.

**Results:** The results showed that there was a significant effect before and after being given group activity therapy by planting and drawing on a decrease in the level of depression in the elderly with a p-value = 0.001 ( $p \leq 0.05$ ).

**Conclusion:** There is an influence between group activity therapy by planting and drawing on a decrease in the level of depression in the elderly. The implications of the results of this study are group activity therapy carried out on the elderly with NCDs can be carried out periodically through monthly activities in the community.

**Keywords:** activity therapy, elderly, gepression, NCDs

## Introduction

The elderly is someone who has reached the age of over 60 years, the elderly are someone who has entered the age group of the last stage of the life phase.<sup>1</sup> Elderly is a process of growth and development that will be experienced by every human being. The aging process is a natural process experienced by every human being accompanied by a decrease in physical, social, and psychological conditions that can affect the process of interaction with others.<sup>2</sup> The aging process can cause a decline in cognitive abilities as well as a decrease in memory. The most prominent condition of the elderly can be seen in physical changes that cause deterioration in the function of elderly organs such as sagging skin, toothless teeth, bleached hair, deteriorating vision, reduced hearing, and slow movement. Increasing a person's age will affect a change that occurs in the person either physical, social, or psychosocial changes.<sup>3</sup>

Psychosocial according to the Ministry of Health of the Republic of Indonesia is a dynamic relationship between psychological and social aspects, where each of them interacts and influences each other continuously. The psycho aspect leads to the internal aspects of the individual such as feelings, thoughts, values, and beliefs held by the individual and the social aspect leads to the external aspect, namely the relationship between the individual and the surrounding environment.<sup>4</sup> Psychosocial problems are included in mental and emotional disorders such as anxiety, excessive worry, loneliness, low self-esteem, feelings of anger or aggression, and depression. The elderly group is a group at risk of disease because physiological function decreases due to the degenerative process (aging) so Non-Communicable Diseases (NCDs) appear in many old ages. Non-communicable diseases (NCDs) are one of the health problems in the elderly which increases every year and is the largest contributor to global mortality. Non-communicable diseases consist of four main types of diseases, namely cardiovascular disease, cancer, chronic respiratory disease, and diabetes.<sup>5</sup> Non-communicable diseases (NCDs) are a group of various chronic diseases that are not communicable, tend to last a long time, and are the result of a combination of genetic, physiological, environmental, and behavioral factors.<sup>6</sup> Non-communicable diseases can cause incompetence in sufferers, and the healing process requires treatment for a long time so many elderly people experience depression.<sup>7</sup>

Depression according to WHO, is expected to become the disease with the second largest global burden in the world after ischemic heart disease by 2020. Depression in the United States reaches an incidence of more than 23 million each year, with a prevalence of 1: 4, while the prevalence of depression in Indonesia is estimated at 3.7% of the total population of about 9 million people who experience depression out of a population of 250 million people.<sup>8</sup> Depression is an emotional condition that is usually characterized by very deep sadness, feelings of meaninglessness, withdrawal from others, sleeplessness, loss of appetite, and interest and pleasure in usual activities. Factors causing depression in the elderly include biological factors, genetic factors, and psychosocial factors. The psychosocial factors that cause depression in old age include environmental stressors, personality types, and family support.<sup>9</sup> Depression based on results Badan Pusat Statistik (2018), shows that depressive disorders have begun to occur since the age range of adolescents 15 to 24 years with a prevalence of 6.2%. Depressive disorders will increase with age, the highest depression occurs at the age of 75 years and over by 8.9%, 65-74 years by 8.0%, and 55-64 years by 6.5%. Depression is more common at the age of over 65 years. Numerous studies show that elderly depressed patients have double the risk of death.<sup>7</sup> Depression is a mental disorder that occurs in society, starting from stress that is not overcome, a person can fall into a depressive phase. This disease is often overlooked because it is considered that it can go away without treatment. Depression is a mental health problem that must be treated as early as possible, this requires the role of nurses in efforts to prevent and overcome mental health problems, one of which is depression.<sup>10</sup>

The role of nurses in the increasing problem of depression is towards promotive and preventive efforts both in healthy and sick individuals, especially with the elderly who

experience non-communicable diseases (NCDs) is the focus of mental health preventive efforts, especially the prevention of feelings of depression. Early detection of feelings of depression in the elderly is very important to do in primary care. The role of nurses is very important in efforts to detect early feelings of depression felt by the elderly.<sup>7</sup> Efforts that can be made to reduce feelings of depression in the elderly are such as doing physical activity. Mentally, physical activity can improve mood, increase self-confidence, replace lost social relationships by improving social relationships through conversations with others, and reduce symptoms of depression. Some types of therapy to reduce depression such as cognitive behavioral therapy, reminiscence therapy, and group activity therapy.<sup>11</sup>

Group activity therapy is one of the important therapies used to reduce anxiety or depression.<sup>12</sup> This activity can improve the health of the elderly. Plant and drawing therapy has several benefits, including increasing social interaction, reducing stress, reducing feelings of depression, and increasing feelings of calm. The selection of planting and drawing therapy as an effort to overcome the level of depression in the elderly has several advantages, including having no side effects for the elderly and this therapeutic activity is easy to do.<sup>13</sup> Plant and drawing therapy is very useful effective and efficient, planting therapy activities will make the elderly feel happy because they are close to nature and can interact with other elderly. Psychological problems in the elderly if not treated immediately will cause an influence that can later damage the physical and spiritual aspects of the elderly besides that it can also cause other health problems.<sup>14</sup> Group activity therapy is often used in mental health practice, even group activity therapy is an important part of therapeutic skills in nursing.<sup>15</sup>

The results of a preliminary study on the level of depression in ten elderly people in Mangunsari Village, Tegowanu District who have been given Center for Epidemiologic Studies Depression Scale (CESD-R) depression level questionnaires obtained data on the prevalence of the number of depressed elderly as much as 80% and the prevalence of the elderly who do not experience depression as much as 20%. Depression in the elderly can occur at any time and cannot be predicted when a person will experience feelings of depression. The elderly can experience feelings of depression anywhere, especially when they feel alone and do not have friends to share stories or feelings. Feelings of depression make the elderly feel alienated, excluded, and feel different from others. The reason the elderly more often feel depressed is because they think their family or people around them ignore them. With these various problems, it will affect the quality of life felt by the elderly. One intervention to overcome the level of depression in the elderly is with Plant and Drawing Therapy. This therapy is carried out from March to April 2023 with a routine of at least once a week for 60 minutes in Plombokan village. Based on the formulation of the problem, the researcher can formulate a research problem on "How is the Effect of Group Activity Therapy: Planting and Drawing on Reducing Depression Levels in the Elderly with NCDs?"

Based on this, researchers are interested in examining the problem of the effect of group activity therapy by planting and drawing. Researchers wanted to know the level of depression in the elderly in the community. The purpose of this study was to determine the effect of group activity therapy by planting and drawing on the level of depression in the elderly who experience Non-Communicable Diseases (NCDs).

## Methods

This study uses a type of Pre-Experimental research with the design of "One Group Pre-post test design", which is a design used to reveal causal relationships by involving one group of subjects. Inclusion criteria in this study are elderly aged 60 years and over, willing to be respondents, and elderly with NCDs. Exclusion criteria for elderly people with visual and hearing impairments, unwilling to fill in informed consent. The questionnaire used in this study was The Center for Epidemiologic Studies Depression Scale Revised (CESD-R). The questionnaire consists of 20 items with a Likert scale, which consists of 0 to 3

points to measure depressed feelings or behaviors. Implementation Phase Researchers identify respondents based on inclusion and exclusion characteristics. Researchers fill out the pre-test questionnaire sheet by asking the questions on the questionnaire to respondents. Prepare tools for intervention and standard operational sheets of group activity therapy procedures. Post-test measurements were measured after the intervention was carried out to determine whether after treatment there was an influence on the level of elderly depression.

The population in this study is the elderly in the Plombokan sub-district who have NCD disease as many as 120 elderly. This study uses Probability sampling, namely Cluster sampling. Cluster sampling is a sampling technique on an object to be studied that is very broad, for example, city residents. The sampling technique with a cluster sampling approach in this study uses 2 stages, namely, the first stage determines the elderly cluster in the Plombokan sub-district, then the researcher and enumerator determine respondents according to the inclusion criteria selected into cluster samples using random sampling techniques. The research was conducted in the Plombokan sub-district, North Semarang District. Data collection will be carried out from March 27 – April 20, 2023.

The analysis used in this study was univariate analysis. The purpose of univariate analysis is to describe the distribution of each variable under study.<sup>16</sup> This univariate analysis will describe the condition of the elderly which includes: age, sex, marital status, level of education, and non-communicable diseases which will be presented in the form of a frequency distribution table. Bivariate analysis is performed using the Wilcoxon test because the data is abnormally distributed. Researchers wanted to find out the comparison of depression levels in the elderly before and after Group Activity therapy by planting and drawing in the same group, namely the elderly. Data is displayed in the form of the Wilcoxon Signed Rank Test pre and post-level depression scale. It is said to have a significant relationship if  $H_a$  is accepted with a significance of  $<0.05$  while  $H_o$  is rejected if the significance is  $>0.05$ .

## Results

**Table 1.** Respondent Demographic Frequency Distribution Table (n=58)

Variable	Categories	Frequency	Percentage
Age	60 - 74 years (Elderly)	42	72,4
	75 - 90 years (Old)	16	27,6
Gender	Man	9	15,5
	Woman	49	84,5
Marital Status	Married	31	53,4
	Widow	22	37,9
	Doubt	5	8,6
Education Level	Elementary School	16	27,6
	Middle School	18	31,0
	High School	20	34,5
	Bachelor	4	6,9
Non-Communicable Diseases (NCDs)	Heart	4	6,9
	Hypertension	31	53,4
	Stroke	1	1,7
	Diabetes	9	15,5
	Rheumatism	9	15,5
	Kidney	4	6,9

Based on [table 1](#) the majority of respondents aged 60 years – 74 years (Elderly) with a percentage (72.4%), female (84.5%), married marital status (53.4%), with the majority of high school education (34.5%) and non-communicable diseases suffered are hypertension (53.4%).

**Table 2.** Test Results of the Effect of Pre-Test and Post-Test Depression Level Group Activity Therapy: Planting and Drawing in the Elderly with NCDs (Wilcoxon Test) (n = 58)

Variable	Mean Rank	Positive Rank	Negative Rank	Ties	With	P Value
Scale Depression Before	21,50	42	0	16	-6,481	0,001
Scale Depression After	21,50					

Based on the [table 2](#) the effect of elderly depression levels with NCDs found that the mean rank of depression levels before was 21,50. Meanwhile, after the intervention, the mean rank was 21,50. The statistical results obtained a p-value = 0.001, meaning that at alpha 5% there was a significant difference in the level of depression in NCDs before and after group activity therapy interventions.

### Discussion

The results showed that the majority of respondents who experienced depression aged 60–74 years (Elderly) with a percentage (72.4%), female sex (84.5%), married marital status (53.4%), with the majority of high school education (34.5%) and non-communicable diseases suffered were hypertension (53.4%). Elderly who experienced depression before Group Activity Therapy were carried out as many as 58 respondents with a percentage (100%). The elderly who did not experience depression after Group Activity Therapy by planting and drawing obtained the results of 42 respondents with a percentage (72.4%).

Health problems in the elderly often occur due to various decreases in body and psychiatric functions. Not only that, geriatric syndrome can also occur due to socioeconomic problems to drastic changes in the surrounding environment. Several factors greatly affect the mental health of the elderly. There are several factors faced by the elderly that greatly affect their mental health such as deterioration in physical condition, decline in body functions, changes in psychosocial aspects, and changes in social roles in society.<sup>17</sup> Increasing age will be accompanied by the onset of various diseases, decreased body functions, body imbalances, the risk of falling, not having social support from family or friends to care for them, and lack of physical exercise will tend to affect psychological and social problems in the elderly.<sup>18</sup> Non-communicable diseases or referred to as chronic diseases are persistent diseases, that cause incapacity in sufferers, and for healing require treatment for a long time.<sup>19</sup>

Based on the results of the study Fitriana et al. (2021)<sup>2</sup> with the title "Improving the Social Skills of Mental Patients in the Community with Group Activity Therapy" in the Kejobong Health Center area, Purbalingga Regency. The average social skills score obtained in the group before the intervention was (53.12) and in the group after the intervention was (62.72) while in the control group before the intervention (52.64) and after the intervention (53.24). It can be concluded that there is a significant difference in social skill scores before and after treatment in the intervention group and the control group given activity therapy for kale planting groups. With a p-value of 0.01 (<0.05) in the intervention group while in the control group, there was no significant difference in social skills scores before and after with a p-value of 0.15 (>0.05). Research conducted by Alhawari and Pratiwi (2021)<sup>3</sup> entitled "Study Literature Review: The Effect of the Effectiveness of Group Activity Therapy on the Level of Depression in the Elderly". The results showed a p-value of 0.01 (<0.05), meaning that there was an effect of group activity therapy sensory stimulation on the level of depression in the elderly.

In the life of the elderly to maintain a healthy physical condition, it is necessary to align physical needs with psychological and social conditions. An elderly person must be able to manage his way of life well, for example eating, sleeping, resting, and working in a balanced manner. The decline in physical and psychological function of the elderly must get treatment, one of which is by getting group activity therapy by planting and drawing.<sup>20</sup> Group activity therapy (NCDs) is one of the important therapies used to reduce anxiety or depression.<sup>12</sup> The purpose of group activity therapy carried out on the elderly is to increase self-esteem and help individuals achieve self-awareness and self-understanding to recover feelings of powerlessness and hopelessness to improve the social interaction skills of the elderly.<sup>21</sup> Depression is a person's psychiatric reaction to the stressor he is experiencing. Physical illness is a form of psychosocial stressor. Stress that can cause depression includes heart disease, lung disease, stroke, cancer, hardening of the liver, and so on.<sup>10</sup> Mood disorders (depression) are the diagnosis most often associated with suicidal behavior, as many as 40% of people with depression have the idea of committing suicide.<sup>22</sup>

This is in line with research conducted by Taesar Hawajj et al (2021) which says that gardening activities can reduce depression, anxiety, and stress and can increase the level of spiritual well-being and physical activity of the elderly.<sup>23</sup> Farming activities can be used as an intervention technique and closeness to nature which is used as a therapy and rehabilitation program. Group activity therapy makes the elderly work in groups by interacting and compromising to work together in achieving goals. Data collection was carried out not only by filling out questionnaires but also by providing planting and drawing interventions so that the data obtained was more objective. This study used the Center for Epidemiologic Studies Depression Scale Revised (CESD-R) questionnaire to measure depression screening in the elderly which has high accuracy. The questionnaire was filled out by the researcher and carried out together with the respondent who was accompanied by the researcher to explain how to fill out the questionnaire. Limitations the research carried out by researchers was only carried out on elderly people who had non-communicable diseases and had psychosocial problems, whereas the research was not conducted on elderly people who did not have non-communicable diseases and had no psychosocial problems or respondents who had chronic diseases.

### **Conclusion**

The results of the analysis show that elderly respondents who experienced depression in Plombokan Village, North Semarang District before (pre-test) carried out Group Activity Therapy by planting and drawing, the majority of elderly people experienced depression and the results of the research showed that after (post-test) carrying out Group Activity Therapy by planting and drawing the majority No. experiencing depression. The results of the research show that there is a significant effect of implementing Group Activity Therapy by planting and drawing on the level of depression in elderly people with non-communicable diseases using the Wilcoxon test showing a p-value of 0.001 or p-value <0.05.

### **Conflict of Interest Declaration**

Declaration no potential conflict of interest relevant to this article is reported.

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