

The Reminiscence Therapy Effects in the Elderly Cognitive Function

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Abstract—Aging is a natural process that occurs in every person. In each of these processes, his body and mind experience changes that affect the various abilities and functions he once had. The elderly are healthy adults who become weak and vulnerable as a result of a lack of physical resources and are more susceptible to many disorders and the end of life. Age, smoking, consuming alcohol, lack of social support, history of mental stress and lack of physical activity are factors that cause cognitive impairment in the elderly. **Objective:** The aim of this research is to determine the effect of reminiscence therapy on cognitive function in the elderly. **Methods:** This type of research uses experimental research methods, a pre-experimental design using a One-Group Pre-Test and Post-Test Design. There were 16 respondents in this study. With a sampling technique, namely total sampling. The instrument used is the MMSE questionnaire. Univariate and Bivariate Analysis with Prerequisite Tests which are divided into "Normality Test, Homogeneity Test and Hypothesis Test". **Results:** Based on research results during the pre-test, the average score for cognitive function was 69% and the average score during the post-test was 63%. The results of the Parametric T-Test Hypothesis Test showed a P value of 0.000, which means H_a was accepted and H_o was rejected. **Conclusion:** There is an influence of reminiscence therapy on cognitive function in the elderly.

Keywords—Reminiscence Therapy; Cognitive Function; Elderly.

I. INTRODUCTION

Aging is a natural process that occurs in every person. In each of these processes, his body and mind experience changes that affect the various abilities and functions he once had. According to Astriani et al., (2021), the elderly are healthy adults who become weak and vulnerable as a result of minimal physical resources and are more susceptible to many disorders and the end of life.¹

Dewi et al., (2022) said that a person is considered elderly by the WHO (World Health Organization) if they are 60 years old or more. According to Widiawati & Sari (2020), aging is not a disease but a gradual process characterized by cumulative changes that cause the body to shrink due to a reduction in the number of existing cells which ultimately causes a gradual decline in function.²

According to the United Nations (2020), there were 703 million elderly people in the world aged 65 years or over in 2019. It is estimated that by 2050 the number of elderly people will double to 1.5 billion. Globally, the proportion of people aged over 65 years has risen from 6% in 1990, to 9% in 2019. By 2050, the proportion is expected to increase to 16%, so that people aged 65 years will become one in every 6 people worldwide.³

According to a study from the Central Statistics Agency (BPS), the elderly population in Indonesia will reach 10,48% in 2022. When compared with the previous year, namely 10,82%, this figure decreased by 0,34%. The dependency ratio also falls to 16,09% in 2022, which coincides with a decrease in the proportion of elderly people. This indicates that 100 people of productive age support 16 elderly people. Meanwhile, young elderly aged between 60 and 69 years make up 65,56% of the elderly population. Between the

ages of 70 and 79 years or middle age, there are 26,76% elderly. Meanwhile, the remaining 7.69% are elderly or aged 80 years and over.⁴

Based on information from the Central Statistics Agency in 2019, there were 4.760.000 elderly people living in West Java.⁵ According to data from West Java Open Data, there were 2.830.000 elderly people living in West Java in 2020.⁶ Data from Databoks shows that in 2021, there will be 4.940.000 elderly people in West Java.⁷

According to Info Datin, the Ministry of Health of the Republic of Indonesia (2020) states that Bogor Regency is the area with the largest number of elderly people.⁸ The area of Bogor Regency reaches 7,6% of the area of West Java and is inhabited by 5.430.000 million people or 11,24% of the total population of West Java. The number of elderly residents in Bogor Regency is also the largest in West Java, namely 253.040 people.⁹

In the elderly there is an aging process which causes the elderly to experience a decline in the function of their body organs and anatomy. There are many declines in function that occur in old age, for example loss of hearing, vision and other functions.¹⁰ With increasing age, cases continue to increase due to the process of decreasing physiological function, one of which is a kind of decline in cognitive function.¹¹

Pranata et al., (2021) say that cognitive is an environmental component that includes several aspects such as memory, executive function, psychomotor function, perception, attention and language. Decline in cognitive function is one of the health problems associated with increasing age. Age, smoking, consuming alcohol, lack of social support, history of mental stress and lack of physical activity are factors that cause cognitive impairment in the elderly.¹¹

As a result of physical changes in the innervation of the elderly, such as brain weight decreasing (atrophy) by 10-20% with increasing age and decreasing every day due to a decrease in the number of brain cells, then there is a decline in cognitive function in the elderly, namely the inability to carry out activities. every day so that elderly people become dependent on other people to take care of themselves.¹¹

Based on research conducted by Unferzagt, it was found that there was an increase in the number of cases of cognitive decline among elderly African Americans from 19,2% to 38%.¹² According to information collected from the Central Statistics Agency in 2020, around 5% of the elderly population in Indonesia aged over 60 years is estimated to face decreased function cognitive and prevalence figures are estimated to continue to increase to close to 20%.¹¹

According to Handajani (2020), decline in cognitive function in the elderly usually appears in the form of difficulties in remembering, searching for information, concentrating and making decisions. Eni & Safitri, (2019) said that a decline in cognitive function affects a person's abilities in terms of judgment, language, memory, visuospatial abilities and dynamics which are comparable to current conditions. According to Zakiah & Fitri (2020), the initial stages of mild decline in cognitive function, such as forgetfulness, are usually characteristic of elderly people who experience decreased cognitive function. When this condition becomes more severe, the elderly will experience dementia.¹³

Brain abilities such as forgetfulness, difficulty concentrating, calculating, returning attention, making decisions, giving reasons and thinking abstractly can decrease due to decreased cognitive function.¹¹ Management of elderly people who experience decline in cognitive use One of the things that can be done to improve the cognitive function of elderly people is reminiscence treatment.¹⁴

Reminiscence therapy is a type of psychotherapy that can be applied to the elderly. The mechanisms used in this therapy are to help people remember things from their lives. This therapy is often used as a therapeutic tool to treat depression, improve behavioral and psychological symptoms associated with dementia, and improve the mood of the elderly. Reminiscence is characterized by remembering important events in the past and this can occur individually or in groups.¹⁵

Based on the results of research conducted by Sofia Rhosma Dewi in 2018 entitled The effect of reminiscence therapy on the cognitive function of elderly people at UPT PSTW Bondowoso, show that reminiscence therapy has been proven to have an effect on increasing the cognitive function of the elderly. So, the results obtained from the analysis before and after the reminiscence treatment showed that the cognitive status of the elderly was at an average of 12,80 with a minimum value of 10 and a maximum value of 15. On the other hand, after the reminiscence treatment the average cognitive status of the elderly was 14,10. with a minimum score of 10 and a maximum score of 17 as well The Wilcoxon test results show a p value of 0,009, which is smaller than 0,05, so H0 is rejected, meaning that there is an effect of reminiscence therapy on increasing cognitive function in the elderly.

Based on these data, researchers are interested in conducting research with the title "The Effect of Reminiscence Therapy on Cognitive Function in the Elderly".

II. MATERIALS AND METHODS

The research design uses a quasi experimental pretest and posttest with control group design. The population in this study is the elderly in Kp. Kebon Kelapa RT 05 RW 04 Cimandala Village, Bogor Regency, as many as 16 elderly people. In this research, to determine the required sample size using a formula based on Federer's formula, 16 respondents were found. The sampling technique used in this research was total sampling. The research was carried out on June 1 - 14 2024. The research instruments used in this research were SOP (Standard Operating Procedure) for reminiscence therapy and the MMSE questionnaire related to cognitive function. Reminiscence therapy is carried out in accordance with the SOP consisting of 7 meetings (6 sessions) held for 30-60 minutes per respondent. Categories of cognitive impairment are grouped into:

- a) Severe cognitive function impairment, if the score is 0-17
- b) Mild cognitive dysfunction, if the score is 18-23
- c) Normal, if the score is 24-30

Data were analyzed using the Parametric Paired Sample T-Test Hypothesis Test with a confidence level of 95%.

III. OBSERVATION AND RESULTS

TABLE 1. Distribution of Respondent Characteristics based on Age, Gender, Occupation, Education

S.No.	Respondent Characteristics	Frequency	Percentage (%)
1	Age		
	60-69 years old	8	50
	70-79 years old	5	31
	≥ 80 years old	3	19
2	Gender		
	Man	6	37.5
	Woman	10	62.5
3	Work		
	Doesn't work	13	81
	Trader	2	13
	Retired	1	6
4	Education		
	elementary school	11	69
	junior high school	4	25
	high school	1	6

Table 1 shows that most of the respondents were aged 60-69 years. Based on gender, the majority of respondents were female (62,5%). Most of the respondents' jobs were not working, namely 81%. Most respondents had elementary school education (69%).

TABLE 2. Frequency Distribution of Cognitive Function Before Reminiscence Therapy

S.No.	Cognitive Function	Frequency	Percentage (%)
1	Heavy	4	25
2	Light	11	69
3	Normal	1	6

Based on table 2, the frequency distribution of cognitive function before being given reminiscence therapy from 16 respondents during the pre-test, there were 11 (69%) respondents with mild cognitive function impairment.

TABLE 3. Frequency Distribution of Cognitive Functions After Reminiscence Therapy

S.No.	Cognitive Function	Frequency	Percentage (%)
1	Heavy	1	6
2	Light	10	63
3	Normal	5	31

Based on the frequency distribution table of cognitive function after being given reminiscence therapy, of the 16 respondents at the post-test there were 10 (63%) respondents with mild cognitive function impairment.

TABLE 4. Hypothesis Test Results

Category	Mean	SD	95%CI		P value
			Lower	Upper	
Pretest-Posttest	-2,938	1,289	-3,625	-2,250	0,000

Table 4 shows the average pretest-posttest cognitive function score for elderly people is -2,938 with a standard deviation of 1,289. The results of the Paired Sample T-Test showed that the p value was (0,000) > (0,05), so H_a was accepted, which means there was a difference in the cognitive function of the elderly before and after being given reminiscence therapy.

IV. DISCUSSION

a. Cognitive function before being given Reminiscence Therapy to the elderly

Based on the results of table 2 above distribution frequency cognitive function before being given reminiscence therapy Of the 16 respondents during the pre-test, there were 11 (69%) respondents with mild cognitive dysfunction.

This is in line with research conducted by Pande Putu Setianingsih (2018) with the title "The Effect of Reminiscence Therapy on Cognitive Function in the Elderly at UPT. Abiansema Community Health Center 1". The results obtained from cognitive function scores before being given Reminiscence Therapy from 14 respondents showed that 14 respondents (100%) experienced mild cognitive function impairment.¹⁶

According to Pramudita and Pudjonarko (in Putu Thrisna 2022), there are factors that influence cognitive function, namely: Age, Gender, Education, Occupation, Life Review Therapy.¹⁷

According to the researchers' analysis, it was found that mild cognitive function was dominant, where the factors that influenced cognitive function were one of them, namely age, education and employment. The dominant age of the elderly is 60 – 69 years, whereas age increases, the brain and biochemical changes in the Central Nervous System (CNS) will change, which causes a decline in cognitive function. Apart from that, the final level of education of the elderly is predominantly elementary school, where the group with low education will always be lower than the group with high education. And also the occupation of the elderly is predominantly unemployed, where Work that continuously trains brain capacity can help prevent a decline in cognitive function.

b. Cognitive function after being given Reminiscence Therapy to the elderly

Based on the results of table 2 above frequency distribution cognitive function after being given reminiscence therapy Of the 16 respondents at the post-test, there were 10 (63%) respondents with mild cognitive dysfunction.

This is in line with research conducted by Rahel Kayang (2018) with the title "The Effect of Reminiscence Therapy on Improving Cognitive Function in the Elderly at the Tresna Werdha Samarinda Social Home". The results obtained from cognitive function scores after being given Reminiscence Therapy from 15 respondents showed that 5 respondents (33,3%) experienced mild cognitive function disorders.¹⁸

One factor that influences cognitive function is reminiscence therapy. Reminiscence therapy is a therapeutic tool for treating dementia, depression, improving behavioral and psychological symptoms related to cognitive function and improving the mood of elderly people.¹⁹

According to the researchers' analysis, it was found that mild cognitive function was dominant, where one of the factors that influenced cognitive function was: gender and occupation. The gender of the elderly is predominantly female, where decline in cognitive function occurs more often in women. This is because changes in endogenous function are influenced by sex hormone levels in the body.

c. The Effect of Reminiscence Therapy on Cognitive Function in the Elderly

Based on table 3 Hypothesis Test results Parametric T-Test in the table above, obtained a P value = 0.000. So, if the P value < 0.05 (H_0 is rejected, H_a is accepted) which means there is an influence Reminiscence Therapy on Cognitive Function in the Elderly in Kp. Kebon Kelapa RT 05 RW 04 Cimandala Village, Bogor Regency.

This is supported by research conducted by Sofia Rhosma Dewi (2018) with the title "The Effect of Reminiscence Therapy on the Cognitive Function of the Elderly at UPT PSTW Bondowoso". The population of this study was 81 elderly with a sample of 20 elderly using Purposive Sampling technique. Data collected using a questionnaire before and after being given the questionnaire was analyzed using the Wilcoxon statistical test with a significance level of $\alpha < 0,05$. The results obtained were P value = 0,009, indicating the effect of Reminiscence therapy on improving the cognitive function of the elderly.²⁰

According to Pramudita and Pudjonarko (in Putu Thrisna 2022), reminiscence therapy can affect the cognitive function of the elderly. Reminiscence Therapy which means a therapy that uses mechanisms to help someone remember events that can be given to the elderly for overcome psychosocial problems by exchanging experiences that occurred in the past and motivating them in a more positive direction.¹²

Cognitive function is the working process of the mind which uses all sensory input, including orientation, language, attention, memory calculations, construction and reasoning and receives all sensory input appropriately.²¹

Based on the results of research on pre-test and the post-test concluded that taking action on the influence of reminiscence

therapy on cognitive function is the right method to improve cognitive function, remembering past events (memories) that were pleasant in the past and increasing feelings of joy and confidence in the elderly.

V. LIMITATIONS OF STUDY

Mood changes that occur in the elderly cause respondents to sometimes delay attending therapy. Therefore, researchers cannot conduct research at the same time every day.

VI. CONCLUSION

There is an effect of reminiscence therapy on cognitive function in the elderly. Thus, reminiscence therapy can be used as an alternative non-pharmacological therapy to improve cognitive abilities in the elderly.

Conflict of Interest: None

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