

Effectiveness Of Reminiscence Therapy And Brain Gym On Elderly's Conitive Function

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ABSTRACT

Introduction :Elderly is the last stage of human life development, stage that experiences many changes and risk of experiencing illness due to the aging process. The aging process experienced by the elderly causes several changes, both changes in the physical aspect and changes in the psychological aspect. One of the changes experienced by the elderly is cognitive abilities. The cognitive abilities of the elderly are needed to help the elderly live their lives productively. Conversely, if the elderly experience cognitive impairment, it will make the elderly experience obstacles in carrying out their daily activities. **Objective** : To determine the effectiveness of reminiscence therapy and barain gym on the cognitive function in elderly. **Methodology**: This research used experimental research design with pre and post tests using 2 intervention groups study. Brain gym reminiscence therapy conducted in difference group, **Result**: Based on the test, the p value of 0.632 is greater than 0.05, so it can be concluded that the cognitive level of the elderly with Reminiscence therapy is not better than the elderly who receive Brain Gym therapy. **Conclusion**: Brain gym therapy is proven to be more effective in dealing with cognitive impairment problems in the elderly compared to reminiscence therapy

INTRODUCTION

The population in the elderly age group has increased in numbers in almost all developing countries, one of which is Indonesia. Elderly is defined as someone who has reached the age of 60 years and over. The definition of elderly is still divided into three age categories, namely the young old group, which is the age group of 60-74 years, the middle old group which includes the ages of 75-84 and the old old, which is 85 years and over (Keliat, 2023). Elderly is the last stage of

development of human life, the elderly have a developmental task to achieve complete self-integrity. The focus in this writing is what is meant by the elderly is the age group of 60 years or more as of the date of birth.

The elderly are a burden for the productive age group, because the elderly are an age stage that experiences many changes and is at risk of experiencing illness due to the aging process (Djamhari et al., 2020). Indonesia is currently one of the countries that is demographically

aging. It is estimated that elderly data will increase by 25% in 2050 (BPS, 2019). This condition will certainly affect population productivity. (Ministry of Social Affairs, 2020) states that currently 12.9 million elderly people live in the lowest economic conditions. Poor economic conditions are one of the causes of the elderly not being healthy. In addition to the above, the elderly also experience a significant decline in physical function and ability. Complaints of pain usually occur in the elderly in general considering that the elderly experience an aging process. This complaint for some elderly people is not a problem, but for some other elderly people it will be a source of stress, especially if the elderly do not understand the concept of aging that is happening to them (Nugroho & Febriyatin, 2019). Changes in the elderly also affect the cognitive abilities of the elderly. The elderly experience a decrease in cognitive function due to the lack of nutritional intake, free radicals and a reduced number of cells (Putri, 2021).

Health complaints are not just one thing experienced by the elderly in general. Other complaints include psychological changes also felt by the elderly (Keliat, 2023). Psychological disorders experienced by the elderly are caused by the elderly experiencing changes in their lives. Changes experienced by the elderly

include socio-economic decline, retirement, limited physical abilities, chronic pain or other complaints that require care from others. These conditions make the elderly unable to be independent. Apart from the above factors, other supporting factors, such as loss of spouses and friends. The elderly need sufficient social support to maintain their quality of life (Cahya et al., 2019). Quality of life is also affected by the cognitive function of the elderly (Putri, 2021). The many factors that affect the quality of life of the elderly above, health efforts are needed to help the elderly in general achieve complete self-integrity so that the quality of life of the elderly can be achieved.

One way that can be done is by practicing reminiscing about the past regarding psychological and social functions, this method can increase self-esteem and reduce stress in the elderly. This is in reminiscence therapy. Reminiscence therapy provides training for the elderly to remember good memories of the past which helps patients remember life stages, activities and family-only sessions (Macleod et al., 2021). Reminiscence therapy is able to improve mood and abilities in social interaction and cognitive abilities of the elderly (Moon & Park, 2020). The cognitive function can also be applied with other therapies, namely brain gym, which is a light and funny movement that can be used to improve the cognitive

function of the elderly (Pranata et al., 2021). Brain gym therapy is easy to do and cheap to do because it doesn't require special training to do it. Based on the two benefits, the writer intends to examine the effectiveness of brain gym and reminiscence therapy on the cognitive function of elderly.

METHODS AND MATERIALS

This type of research is using an experimental research design with pre and post tests using 2 intervention groups. The implementation of this study will measure the cognitive ability of the 2 groups. The first group used reminiscence therapy and the second group used the brain gym. After the action was taken, the level of effectiveness of each therapy was measured.

The population of this study were all elderly people living in the 'Aisyiyah Surakarta nursing home and the Dharma Bakti Surakarta social home. The sample in this study used a total sampling technique with the following inclusion criteria:

1. Elderly who are able to communicate actively
2. Elderly who are willing to be research respondents

Exclusion criteria :

1. Elderly with a disease that limits movement.

This research used questionnaire is the MMSE (mini mental state examination)

instrument which is a questionnaire to determine cognitive function. for intervention actions using standard operating procedures guidelines for reminiscence therapy and brain gym exercises. The ethical principles used by researchers include: Autonomy, giving respondents the freedom to decide whether to become a respondent or not. If the respondent agrees, then fill in the informed consent sheet. Confidentiality means that researchers will remove identities such as the subject's name and address and then replace them with a certain code. This is to maintain confidentiality and protect the patient's rights. Protection from discomfort, the researcher ensures that the respondent is free from discomfort due to the research. If the respondent feels uncomfortable during the research process, the respondent has the right to stop participating in this research. Justice (justice), principle of fairness in this research is that each respondent receives the same treatment, namely observation is carried out by the enumerator and given a questionnaire sheet.

RESULTS AND DISCUSSION

A. RESULT

1. Cognitive abilities of the elderly before brain gym therapy

Based on the results of observations when the research was carried out, the results of the cognitive abilities

of the elderly before brain gym therapy were carried out were as follows:

Table 1. Frequency distribution of the cognitive ability of the elderly before doing the brain gym

No	Category	f	(%)
1	Normal	8	30
2	Mild cognitive impairment	12	44
3	Moderate cognitive impairment	7	26
4	Severe cognitive impairment	0	0
	Sum	27	100

Based on the data above, it was found that most of the elderly experienced mild cognitive impairment of 44%.

2. Cognitive abilities of the elderly after brain gym therapy

Based on the results of observations when the research was carried out, the results of the cognitive abilities of the elderly after brain gym therapy were carried out were as follows:

Table 2. Frequency distribution of elderly cognitive abilities after brain gym

No	Category	f	(%)
1	Normal	13	48
2	Mild cognitive impairment	3	11
3	Moderate cognitive impairment	11	41
4	Severe cognitive impairment	0	0
	Sum	27	100

Based on the data above, it was found that after brain gym therapy, most elderly people's cognitive abilities became normal by 48%.

3. Cognitive abilities of the elderly before reminiscence therapy

Based on the results of observations during the research, it was found that the cognitive abilities of the elderly before reminiscence therapy were carried out were as follows:

Table 3. Frequency distribution of elderly cognitive abilities before reminiscence therapy

No	Kategori	f	(%)
1	Normal	0	
2	Mild cognitive impairment	11	41
3	Moderate cognitive impairment	12	44
4	Severe cognitive impairment	4	15
	Sum	27	100

Based on the data above, it was found that the majority of elderly people experienced moderate cognitive impairment 44%.

4. Cognitive abilities of the elderly after reminiscence therapy

Based on the results of observations during the research, it was found that the cognitive abilities of the elderly after reminiscence therapy were carried out were as follows:

Table 4.4 Frequency distribution of elderly cognitive abilities after reminiscence therapy

No	Kategori	f	(%)
1	Normal	0	
2	Mild cognitive impairment	12	44
3	Moderate cognitive impairment	4	15
4	Severe cognitive impairment	11	41
	Sum	27	100

Based on the above data it was found that most of the elderly after carrying out reminiscence therapy experienced mild cognitive impairment of 44%.

5. The effectiveness of reminiscence therapy and brain gym on the cognitive abilities of the elderly

Table 5. Results of bivariate analysis of the effect of brain gym therapy and reminiscence therapy on the cognitive abilities of the elderly

Post Test - Pre Test	Z	Sig. (2-tailed)
Brain Gym	-4,573	0,000
Reminiscence	-4,389	0,000

Based on the above results it is known that the value of Asymp. Sig. (2-tailed) is 0.000. Because the value of 0.000 is less than 0.05 ($0.000 < 0.05$), it can be concluded that both therapies are effective in improving the cognitive function of the elderly, however there are differences in the Z value between the two.

Table 6. The effectiveness of brain gym therapy and reminiscence on the cognitive abilities of the elderly

	Score
Mann-Whitney U	337,000
Wilcoxon W	715,000
Z	-,479
Asymp. Sig. (2-tailed)	,632

a. Grouping Variable: Type of Therapy.

Based on the output table above, it is known that the Asymp value. Sig. (2-tailed) is 0.632. Because the value of 0.632 is greater than 0.05 ($0.632 > 0.05$) it can be concluded that the cognitive level of the elderly with Reminiscence therapy is not better than the elderly who receive Brain Gym therapy

B. DISCUSSION

1. Cognitive abilities of the elderly before brain gym therapy

Elderly is an age stage that experiences many changes, both changes in terms of physical abilities as well as changes in terms of psychological and social abilities. These changes in the elderly will make the elderly vulnerable to experiencing stress.

Based on the measurements, it was found that most of the elderly experienced mild cognitive impairment, namely as much as 44%. Cognitive changes in the elderly are common, this is due to other contributing factors such as depression or organic brain disorders. However, cognitive impairment in the elderly is not always related to this. Elderly who are stressed, lost interest in activities, depressed and feel worthless are things that can make the elderly experience a decrease in cognitive function (Keliat, 2023); (Stuarts, 2021). Research from Ramli & Fadhillah (2020) states that the elderly who experience cognitive impairment are caused by a lack of physical activity. This physical activity can make the elderly stimulate nerve growth and inhibit cognitive function decline. Even so for the elderly to do physical activity requires extra effort and not a few elderly

people limit their activities because they think there are no benefits or feel heavy in doing so.

2. Cognitive abilities of the elderly after brain gym therapy

The results of measurements after brain gym therapy were carried out there were differences in cognitive abilities. All respondents experienced changes in cognitive ability after brain gym therapy. After doing gym bran therapy, as many as 48% of the elderly had cognitive abilities in the normal category. This indicates that brain gym therapy can improve the cognitive abilities of the elderly. This is in accordance with research from (Pranata & Fari, 2020) which states that by doing a brain gym the elderly will learn about alertness, movement speed, concentration exercises, remembering, problem solving and creativity. Through these activities the cognitive function of the elderly will be stimulated and there will be an increase in the cognitive function of the elderly. In addition to improving cognitive function. This brain gym exercise can also reduce signs and symptoms of dementia (Wulandari, Fatmawati & Sari, 2020). Brain gym exercises are exercises with simple movements aimed at improving fine motor skills as well as cognitive

abilities. Elderly who do brain gym therapy is proven to be able to improve cognitive abilities.

3. Cognitive abilities of the elderly before reminiscence therapy

In the second group the measurement of cognitive abilities before reminiscence therapy was carried out found that as many as 44% of the elderly had moderate cognitive impairment.

This condition is not much different from group 1, cognitive impairment in is a change that occurs in a person's mind including a person's memory, as in the elderly usually complaints that often arise are memory problems. If this memory problem is not taken seriously it will cause other problems in the quality of life of the elderly (Hartin, Tien. Ni Made Riasmini, 2019). Individuals who experience cognitive impairment are not only caused by brain damage due to the aging process, but can also be caused by disease, exposure to poisoning and abuse of psychoactive drugs. In this study, the respondents used were the elderly, so the cause of cognitive impairment that could be identified was cognitive impairment due to the aging process.

4. Cognitive abilities of the elderly after reminiscence therapy

Based on the results of the study, it was found that after the reminiscence therapy was carried out, there were changes in the cognitive abilities of the elderly. Changes occurred in the normal elderly group, before therapy there was no normal elderly group and after reminiscence therapy there were 30% of the elderly in the normal category. Other groups also experienced an increase, for the category of mild cognitive impairment there was an increase of 4% after reminiscence therapy was carried out. Meanwhile, the elderly group with moderate cognitive abilities experienced a decrease of 18%. The data collected above shows that reminiscence therapy for some people can improve the cognitive abilities of elderly people.

Reminiscence therapy is a therapy that contains about remembering the past in the elderly, through this therapy the elderly will remember pleasant events in the past so that the elderly feel comfortable and happy. This feeling of pleasure and comfort is one of the psychological protections for the elderly to replace current unmet needs. These needs can be in the form of feelings of worthlessness, stress, depression, etc. (Keliat, 2023).

5. The effectiveness of reminiscence therapy and brain gym on the cognitive abilities of the elderly

Based on the results of bivariate analysis, it was found that the p value of 0.632 was greater than 0.05 ($0.632 > 0.05$). It can be concluded that the cognitive level of the elderly with Reminiscence therapy was not better than the elderly who received Brain Gym therapy. Based on the data above, it can be indicated that between the two therapies, both reminiscence and brain gym therapy are both alternative therapies that can be used to help elderly overcome cognitive impairment problems. However, more specific conclusions can be drawn that brain gym therapy is more capable of reducing cognitive impairment.

In brain gym therapy according to (Dennison et al., 2004) and applied in subsequent research by (Siroya et al., 2020); (Al-Finatunni'mah & Nurhidayati, 2020) The elderly are given several forms of training including:

- a. Lazy 8's movement: this movement is a hand movement that forms the letter 8 sleep. The benefit of this movement is to activate and integrate between the right and left eyes. In addition, this movement is used to activate both sides of the

brain, namely the right brain and left brain to be able to work together simultaneously

- b. The elephant movement: this movement is almost the same as the lazy 8's movement, it's just that the ear is brought closer to the shoulder then the hand is stretched out as if this hand is an elephant's trunk, then forms the letter 8.
- c. Neck rolls movement: in this movement rotate the neck while taking a deep breath, the benefit of this movement is to increase relaxation and improve the ability to see, speak, speak and relax the brain of course
- d. Belly breathing: This movement is intended to increase central nervous relaxation, as well as to improve blood circulation to the brain.
- e. Cross movement: in this movement the right and left hands perform different movements simultaneously. The purpose of this movement is to stimulate the receiving and responding part of the brain. This needs to be trained so that the brain gets used to accepting new things.

Various kinds of movements displayed in the above brain gym are able to help the elderly to improve cognitive function. Meanwhile, reminiscence therapy is more

focused on remembering past events by remembering. As stated by (Gati et al., 2016); Pearl et al., 2020 (Cuevas et all, 2020) The implementation of reminiscence therapy is divided into 5 therapy sessions, namely: Session 1: remembering memories about childhood, this session focused on games that were liked and friends that were liked during childhood. Session 2: In session two, the elderly remember their memories when they were teenagers. This session focused on hobbies that were carried out with peers and recreational experiences with friends when they were teenagers. Session 3: session 3, the elderly remember their experiences when they were adults, this memory includes their favorite work and food. Session 4: in this session, the elderly remember memories about family experiences, about celebrating religious days, associating with neighbors they like. Session 5: In this session, the elderly share experiences regarding the activities carried out from sessions 1-4. Based on this research, reminiscence therapy is not optimal to help overcome cognitive problems, although reminiscence therapy is effective for dealing with stress and self-integrity in the elderly. Reminiscence therapy according to Gultom et all., 2021): (Alfiah et all., 2021) shows a positive effect on preventing dementia patients. Through reminiscence therapy, patients are exposed to pleasant memories and also train the elderly to

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remember and activate cognitively, this allows the elderly not to experience dementia.

CONCLUSIONS AND SUGGESTIONS

A. CONCLUSIONS

1. Most of the elderly before reminiscence therapy had moderate cognitive abilities, namely 44%
2. There is a change in the percentage of elderly who experience cognitive impairment after reminiscence therapy, namely the majority are in the category of mild cognitive impairment of 44%.
3. Some of the elderly before brain gym therapy were in the category of mild cognitive impairment, namely 44%
4. There is a change in cognitive abilities after brain gym therapy, namely 48% of the elderly are in the normal category
5. Brain gym therapy is proven to be more effective in dealing with cognitive impairment problems in the elderly compared to reminiscence therapy

B. SUGGESTIONS

Suggestion for the elderly and care givers : Brain gym therapy can be applied as a way to maintain the ability of the elderly to remain in optimal condition. For further research : As a basis for developing other research to address the problem of cognitive impairment in the elderly

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