

# PUZZLE MODALITY THERAPY TO REDUCE DEMENTIA IN THE ELDERLY

*By Nety Mawarda Hatmanti et al*

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## PUZZLE MODALITY THERAPY TO REDUCE DEMENTIA IN THE ELDERLY

Nety Mawarda Hatmanti<sup>1\*</sup>, Ratna Yunita Sari<sup>1</sup>, Yurike Septianingrum<sup>1</sup>, Difran Nobel Bistara<sup>1</sup>, Choitotussanijjah<sup>2</sup>

<sup>1</sup> Nursing Department, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, East Java Province, Indonesia

<sup>2</sup> Department of Biochemistry, Faculty of Medicine, Universitas Nahdlatul Ulama Surabaya, East Java Province, Indonesia

\* Correspondence

Nety Mawarda Hatmanti  
Nursing Department, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, East Java Province, Indonesia  
Jalan SMEA No.57, Surabaya City, East Java Province, Indonesia, 60243  
Email: [nety.mawarda@unusa.ac.id](mailto:nety.mawarda@unusa.ac.id)

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### ABSTRACT

The condition of the COVID-19 pandemic has changed all arrangements in society, including activities at the Posyandu Lansia. Posyandu Lansia which is held once a week is no longer held considering that the elderly are one of the vulnerable groups. Currently the condition is starting to improve, so it is necessary to do refresher for both cadres and members of the Posyandu Lansia. The purpose of this activity is to increase the knowledge and skills of Posyandu Lansia cadres in providing modality therapy, especially puzzle therapy to reduce the incidence of dementia. The method used in this community service activity is participatory educational approach that is providing health education and demonstrations about puzzle therapy. Furthermore, the Posyandu Lansia cadres apply to the Posyandu Lansia in their area. This activity was carried out for two months and was attended by ten elderly health cadres. Knowledge and skills of cadres in conducting health education about modality therapy was observed by questionnaire. As for the application of puzzle therapy, it was observed using the MMSE (Mini Mental State Examination) questionnaire. The results of community service show that the knowledge and skills of elderly health cadres in implement good health education. The results of puzzle therapy showed that there was a decrease in dementia scores.

Keywords: COVID-19, Elderly, Elderly Health Cadres, Puzzle Therapy, Dementia

## INTRODUCTION

Posyandu is a forum for activities in the form of community empowerment, which will running well and optimally when there is a process leadership, organizational processes, the presence of group members and cadres as well as availability of funding. The Posyandu for the elderly will run optimally if the cadres have good knowledge and skills so that they can achieve optimal service quality. And to achieve good health services, training on knowledge and skills of elderly cadres is needed. (Akbar, Darmiati, Arfan, & Putri, 2021) The continuity of the activities of the Elderly Posyandu is certainly influenced by the involvement of competent and skilled cadres. The skills of elderly health cadres are obtained through high knowledge. (Septianingrum, Khafid, Hatmanti, Bistara, & Gumilang, 2022).

Elderly aged >65 years are at risk of developing dementia (senile). This disease can be experienced by everyone regardless of gender, social status, race, nation, ethnicity or ethnicity. Education for health workers, cadres is very important in an effort to provide nursing care for the elderly to avoid the incidence of dementia. One of the modality therapy activities to avoid dementia is puzzle therapy. Puzzle therapy can be used to slow the incidence of cognitive decline in the elderly (Hatmanti & Yunita, 2017).

Most of the elderly when they are sick will use public health facilities. The Wonokromo Health Center is one of the best health centers in Surabaya with one of the programs, namely the Elderly Posyandu. This program can be said to be a

superior program. The COVID-19 pandemic has caused this activity to stop because the elderly is one of the high-risk groups for infection. The elderly health cadres who are the driving force of this program are also temporarily not holding activities. Several cadres stated that they had forgotten how to carry out health checks such as measuring blood pressure, checking temperature and some of the knowledge they had received from the Puskesmas. They also said that many elderly people want more Posyandu activities but in open spaces, but the cadres still don't have the courage.

## OBJECTIVES

### *General Purpose*

This training activity aims to improve the knowledge and skills of elderly cadres about modality therapy, especially puzzle therapy.

### *Special Purpose*

After the training activities are carried out, it is hoped that the elderly will be able to:

1. Increase knowledge of cadres about modality therapy especially puzzle therapy through offline health education
2. Improve the skills of cadres to do puzzle therapy and evaluate the results of the MMSE questionnaire by demonstrating and practicing directly.

## PLAN OF ACTION

### *Strategy Plan*

The method used in this community service activity is a participatory education

approach which will be held from April to June 2022 at Campus A UNUSA and in the Posyandu Lansia area. The participants were 10 elderly health cadres in RW 03 and RW 08 Kel. Wonokromo, Kec. Wonokromo, Surabaya.

### Implementation

#### 1. First Week



Figure 1. Implementation on First Week

At this stage the elderly posyandu cadres are given health education about modality therapy for the elderly. The content of the material is about: definition, purpose of modality therapy, benefits for the elderly and types of modality therapy, one of which is puzzle therapy.

Elderly cadres are given the opportunity to discuss, among therapy modalities, which ones have been applied in their area. Elderly are also practiced how to later practice puzzle therapy at the Elderly Posyandu. Elderly cadres were also given leaflets compiled by the community service team about puzzle therapy.

Elderly cadres were also given a pre-test and post-test about knowledge of modality therapy which included puzzle therapy. Furthermore, they were also taught about identifying the cognitive function of the elderly using the MMSE (Mini Mental State Examination) questionnaire and how to measure the MMSE from a completed

questionnaire and interpreting the results of the questionnaire.

#### 2. Second Week

Elderly cadres along with a team of lecturers and students prepare the place and equipment that will be used to apply modality therapy. The things prepared include: invitations, permits, attendance lists, leaflets, MMSE questionnaires, puzzles, door prizes for the elderly.

#### 3. Third Week



Figure 2. Implementation on Third Week

Elderly cadres and their team carry out activities, where elderly cadres provide education about modality therapy to elderly posyandu members who are given pre and posttest questionnaires about modality therapy.

Furthermore, the elderly cadres perform puzzle therapy to each elderly by distributing pre and posttest MMSE (Mini Mental State Examination) questionnaires.

### Setting

This community service was held from April to June 2022 in 2 places, namely Campus A UNUSA, Jalan SMEA No. 57 Surabaya, East Java, Indonesia and at Balai

RW 08 Wonokromo Village, Surabaya. Training on health education and modality therapy is carried out at UNUSA because there are facilities and infrastructure to support activities, including adequate rooms, LCD screens and locations that are easily accessible by cadres. The application is carried out at Balai RW 08 because the place is wider and open for activities so that it meets the health protocol requirements.

*Target*

The training participants are 10 elderly health cadres (9 women and 1 man) and the puzzle therapy participants are elderly in RW 03 and RW 08 Kel. Wonokromo, Kec. Wonokromo, Surabaya.

**RESULTS AND DISCUSSION**

The results of the knowledge of elderly health cadres about modality therapy in the elderly before and after training are as follows:

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**Table 1.** Results of pre-test and post-test

Score	Mean	SD	Min-Max	<i>p</i>
Pre-test	5.40	1.07	-5.549 to -1.851	0.001
Post-test	9.10	1.85		

Source: Primary Data 202

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Based on table 1 above, it shows that there is a significant difference in knowledge about before modality therapy and after modality therapy training (*p* = 0.001). This shows that the cadres increased after being given training.

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From the results of observations after being given health education and offline training, the knowledge and skills of cadres in demonstrating independently to the elderly showed that almost all cadres were good and could apply modality therapy,

especially puzzle therapy for dementia reduction in the elderly in accordance with standard operating procedures.

Cadres must have good knowledge to obtain maximum health services. The lack of knowledge and skills possessed by cadres is one of the causes of the lack of success of services at Posyandu (Akbar et al., 2021). Knowledge of health cadres is very important as the main guideline for cadres in carrying out their roles in order to provide good health services (Septianingrum et al., 2022).

Cadres are tasked with assisting posyandu activities or other elderly community movements. Cadres are expected to monitor the health of the elderly in an area. Cadres are also expected to educate the elderly regarding disorders that can be experienced by the elderly and how to prevent and treat them. If the management of dementia is delayed, the elderly can become independent people. Although the knowledge of cadres about dementia and its management is important, it has not been widely studied. Existing research shows a relationship between the level of knowledge and prevention of dementia. The research shows the importance of cadres' knowledge about dementia and modality therapy in the form of a puzzle (Aemelia et al., 2022).

The results of application of puzzle therapy were observed using the MMSE (Mini Mental State Examination) questionnaire are as follows:

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**Table 2.** Results of pre-test and post-test

Score	Mean	SD	Min-Max	<i>p</i>
Pre-test	2.6	0.503	0.165 to 0.635	0.002
Post-test	2.2	0.410		



Based on table 2 above, it shows that there is a significant difference in application about before puzzle therapy and after puzzle therapy training ( $p = 0.002$ ).

The results of the research above that elderly people who have been given the application of modality therapy with puzzles by cadres have decreased dementia scores which have been measured according to the MMSE questionnaire.

Based on research conducted by Pillai et.al (2011) said that puzzles can be used to slow the onset of cognitive decline in the elderly. According to research conducted by Pillai et.al (2011) said that crossword puzzles can be used to slow the onset of decline in cognitive function in the elderly.

In a previous study conducted by (Hatmanti & Yunita, 2019) with 35 respondents, 51.4% experienced a severe decline in cognitive function before the elderly exercise therapy and puzzle therapy were carried out. After being given the intervention, the results showed that 18 elderly people who followed puzzle therapy showed 66.7% had moderate cognitive decline.

Puzzle modality therapy has been shown significantly improve test results which stimulate the brain by providing adequate stimulation to maintain and improve the remaining cognitive functions of the brain. The brain will work when taking, processing, and interpreting the images of information that has been absorbed, and the brain works in retaining the messages or information obtained. This is supported by Hee-Young (2011), Tuppen (2012) and Thomason (2012) that elderly dementia with mild range is highly recommended to follow this modality therapy according to the program of the National Institute for Clinics and Health in America. One of the modalities of therapy

used is by playing puzzles (Nurleny et al., 2021).

A puzzle is an image that is divided into pieces with the aim of sharpening thinking power, practicing patience, and getting used to sharing and thinking skills. In addition, puzzles can also be used for educational games because they can sharpen the brain and train the speed of the mind and hands (Misbach, 2010).

## CONCLUSION

In this section, the authors are expected to write about the final conclusions of the implementation of community service activities that have been carried out by the authors. This part can be the achievement of these activities.

Based on the results of offline health counseling about modality therapy, especially puzzle therapy for elderly health cadres, it was found that the results of increasing the knowledge and skills of elderly health cadres in implementing modality therapy, especially puzzle therapy.

Based on the results of the evaluation of the MMSE questionnaire on the application of puzzle modality therapy to reduce dementia in the elderly, it can be said that there was a decrease in the mmse score after being given therapy with a  $p$  value of 0.002 ( $\alpha 0.05$ ).

The results of this community service are expected to optimize the role of cadres as drivers of elderly health services. The therapeutic modality, especially puzzle therapy that has been taught can be used as an alternative to exercise and can be done regularly to reduce dementia in the elderly.

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