



SUPPORTING COGNITIVE FUNCTION IN THE ELDERLY WITH BRAIN GYM EXERCISES

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Received: December 11th, 2025 ; Revised: December 22nd, 2025 ; Accepted: December 23rd, 2025

ABSTRACT

WHO (World Health Organization) classifies the elderly as individuals aged 60 years and over in many developing countries. At this time, humans begin to experience a decline in body organ function because cells experience aging. Although cells become larger and older, they lose the ability to divide and reproduce normally. Not only a decline in physical and cellular function, a decline in cognitive function also occurs in the elderly. Maintaining cognitive function in the elderly (parents) is very important for their well-being. Cognitive activities carried out routinely are thought to be able to maintain excellent cognitive function in the elderly. Community Service with the theme of supporting the cognitive function of the elderly with brain gym exercises has been carried out in Ringinsari Village, Kandat District, Kediri Regency. On August 7, 2024, at 08.00 WIB. Located at the Elderly Posyandu, Ringinsari Village, Kandat District, Kediri Regency. The purpose of this community service activity is to improve cognitive function in the elderly, especially in Ringinsari Village, by practicing Brain Gym. The cognitive function in question is to maintain the balance of brain activity, prevent dementia, and improve memory in the elderly. Brain Gym involves dynamic body movements, which stimulate all parts of the brain to work together. This movement helps optimize blood and oxygen flow to the brain. Brain gym movements can help improve memory function and recall abilities. Brain gym helps improve focus and concentration in the elderly. The implementation of this activity goes through several stages, first submitting a request to the PPK, Bangkesbangpol to the village. In the process of implementing Brain Gym exercises, 41 elderly people attended.

Keywords: Brain Gym, Cognitive Function, Daily Activities, Elderly, Elderly Posyandu

INTRODUCTION

According to the Big Indonesian Dictionary, "old age" is defined as the time in a person's life after their function as a member of society has completed its development (KBBI, 2016). Old age, or senior citizen, is a phase of life that begins when a person reaches 60 years of age and above, during which the aging process causes a decline in organ function (WHO, 2020; Indonesian Ministry of Health, 2022). During this phase, body cells enlarge, age, and lose their ability to divide and regenerate normally (Guyton & Hall, 2016).

According to the Indonesian Central Bureau of Statistics, the number of elderly people (people aged 60 and over) in Indonesia in 2021 reached 29.3 million, or approximately 10.8% of the total population (Central Bureau of Statistics, 2021). Projections also indicate that the proportion of elderly people will continue to increase to 19.9% by 2045 (Babel Antara News, 2022). In 2023, the number of elderly people is estimated to reach around 27.1 million people or almost 10% of the total population, and it is reported that the proportion of elderly people in Indonesia in 2023 will reach 11.75% (Detik.com, 2023).

Not only does physical and cellular function decline, cognitive function also occurs in the elderly (Guyton & Hall, 2016). Maintaining cognitive function in the elderly is crucial for their well-being, as the aging process can affect memory, attention, language, and thinking skills (WHO, 2020). Regular cognitive activity is thought to maintain optimal cognitive function in the elderly (Yahya, Purwaningsih, & Makhfudli, 2020). Therefore, it is important to examine

differences in cognitive function between groups of elderly who engage in cognitive activity regularly and those who do not, as cognitive stimulation has been shown to improve cognitive function (Septiarini, 2024). Cognitive decline can make daily tasks more challenging and increase the risk of developing conditions such as dementia and Alzheimer's disease (Ministry of Health of the Republic of Indonesia, 2023). Research also shows significant differences in cognitive function in aspects of attention, language, and memory between elderly who engage in cognitive activity regularly and those who do not (Kartika, Kumboyono, & Kristianingrum, 2024). Cognitive decline in the elderly can lead to dependence on others for daily activities (Directorate of Health, Ministry of Health, 2023).

There are various ways to apply cognitive therapy to the elderly, but in this application, the presenter chose Brain Gym. Brain Gym involves dynamic body movements that stimulate all parts of the brain to work together and help optimize blood and oxygen flow to the brain (Dennison & Dennison, 2002). Brain Gym movements can help improve memory function and recall (Hasanah, 2021). Furthermore, brain gym has been shown to help improve focus and concentration in the elderly (Silvana & Ilham, 2025).

This community service is supported by research conducted by Ramayanti (2020), which showed that of 20 elderly people, 14 (70%) experienced frequent forgetfulness, and the rest experienced mild cognitive impairment. This research was conducted in the Pojok sub-district of Kediri City. Some of the brain gym movements involve hand-foot coordination, changes in body position,

and visual and auditory activities. This also underlies researchers to carry out community service by providing brain gym cognitive therapy to the elderly.

OBJECTIVES

General Purpose

To improve cognitive function in the elderly, especially in Ringinsari Village, Kandat District, Kediri Regency.

Special Purpose

Brain gymnastics aims to maintain balanced brain activity, prevent dementia, and improve memory in the elderly.

PLAN OF ACTION

Strategy Plan

Before conducting community service, the author searched for journal references related to the topic. Afterward, the researcher compiled a community service proposal and submitted it to the Community Empowerment and Development Institute (LPPM). After the proposal was approved, the author requested permission from the Family Welfare Movement (PKK) to conduct brain gym exercises for the elderly. After the PKK's approval, the author obtained permission from the Sidoarjo Bangkesbangpol (Health and Community Empowerment Agency), followed by the provincial Bangkesbangpol. Once the Bangkesbangpol letter was issued, the author officially obtained permission from the PKK through the Ringinsari Village, Kandat District, Kediri Regency.

Implementation

The implementation will be divided into several responsibilities: leaders, co-leaders, observers, facilitators,

and documenters. The brain gym exercise for the elderly in Ringinsari Village, Kandat District, and Kediri Regency took place on August 7, 2024, at the Ringinsari Village Integrated Health Post (Posyandu), Kandat District, Kediri Regency. The activity was opened by the village representative/ representative. The event was attended by village officials, senior community health post (Posyandu) cadres, and senior citizens in Ringinsari Village. The event was followed by an opening ceremony and explanation from the facilitator on duty. Once the senior citizens were present and ready to participate in the Brain Gym exercises, the facilitator demonstrated the Brain Gym exercises for the elderly. The Brain Gym exercises lasted for 15 minutes. The senior citizens in Ringinsari Village were very enthusiastic about participating in the movements demonstrated by the facilitator.

Setting

The Brain Gym exercise activity was held at the Elderly Posyandu (Posyandu for the Elderly) in Ringinsari Village, Kandar District, Kediri Regency.

Target

The target for this community service program was all senior citizens in Ringinsari Village.

RESULTS AND DISCUSSION

The community service program proceeded smoothly, and the elderly participants were very enthusiastic. The venue for the Brain Gym exercises was very adequate, with sound systems available to play the music used for the exercises. Furthermore, throughout the

entire process, from the permitting process to the actual implementation, the Ringinsari Village administration was very helpful and open to our scheduled activities.

However, the Brain Gym exercise was slightly delayed due to the absence of several elderly individuals. Consequently, the activity could only begin at 8:30 a.m., instead of the scheduled 8:00 a.m. The elderly participants were very enthusiastic, as evidenced by the fact that they all followed every movement demonstrated by the facilitator. Furthermore, all of the elderly participated in the Brain Gym exercise from start to finish.

The elderly understood the benefits of the Brain Gym exercise, as evidenced by the enthusiastic questions they asked the facilitator and their ability to perform the Brain Gym movements independently when asked to repeat the movements.

CONCLUSION

The community service program in Ringinsari Village went smoothly. The participants were elderly people in Ringinsari Village. The elderly practiced the Brain Gym exercises well. Furthermore, the facilitators also left posters of the Brain Gym exercises for the elderly Posyandu cadres and leaflets of the Brain Gym exercises for the elderly who attended, hoping that they would practice the exercises independently at home. Considering the benefits of brain gym exercises are to maintain cognitive function in the elderly.

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