

COGNITIVE STIMULATION AS AN EFFORTS TO PREVENT BRAIN FUNCTION DECLINE IN ELDERLY PEOPLE IN NURSING HOMES

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ABSTRACT Cognitive decline in the elderly is a major problem in the aging process. Therefore, providing cognitive stimulation to the elderly is expected to prevent cognitive decline in the elderly. One of the cognitive stimuli provided is memory games, where these games can prevent cognitive decline in elderly in nursing homes. This psychoeducation is carried out in three stages: the initial stage is planning, preparation, and implementation, where the final stage consists of delivering material and practicing simple memory games such as Susun kata kan matching games. The results of this study showed that all 25 participants were enthusiastic about participating in psychoeducational activities to increase their understanding of the importance of cognitive stimulation in old age. Overall, this activity not only provides educational benefits but also plays a significant role in efforts to prevent cognitive decline through memory games.

KEYWORDS: *Cognitive Stimulation, Prevention of Brain Function Decline, Elderly*

1. INTRODUCTION

Cognitive decline is a natural part of the aging process, with individuals experiencing a slowdown in information processing speed, a slight decline in short-term memory, or mild word-finding difficulties. However, in some older adults, this decline can progress to more serious conditions, such as Mild Cognitive Impairment (MCI), which is a bridge between normal aging and dementia, or even progress to dementia itself. Dementia, a syndrome characterized by progressive

cognitive decline severe enough to interfere with daily activities, drastically impacts older adults' quality of life, their independence, and significantly increases the burden on families and the healthcare system (Prince et al., 2013; Alzheimer's Association, 2023).

Amid this trend of population aging, nursing homes (or social care homes) play an increasingly important role as residential and care settings for the elderly. Many elderly in nursing homes lack adequate family support or require more intensive care due to physical or cognitive health conditions. However, nursing home environments often lack the capacity to provide varied and adequate environmental stimulation. Compared with elderly living in the community who may be more socially active or involved in various activities, elderly in nursing homes are at higher risk of experiencing more rapid and significant cognitive decline due to a lack of exposure to mental challenges and stimulating social interactions (UGM Psychology Bulletin, 2017).

The monotony of routine, the lack of meaningful activities, and limited opportunities for interaction can accelerate the process of cognitive degeneration in this population. Indonesia is experiencing a significant demographic shift, marked by a rapid increase in the number of elderly people. The latest data from the Central Statistics Agency (BPS) indicates that by 2023, the percentage of elderly people in Indonesia will reach 10.74% of the total population, a figure that officially places Indonesia in the category of countries with an aging population structure (BPS, 2023).

This phenomenon, known as population aging, reflects the success of health programs and improvements in the quality of life, which directly impact life expectancy. However, behind this success, various complex challenges arise, particularly related to the health and well-being of the elderly. One crucial issue that stands out is cognitive decline. The impact of brain decline in the elderly extends beyond cognitive aspects. Difficulties with memory, concentration, problem-solving, and decision-making directly threaten the functional independence of the elderly, making them more dependent on others for basic daily activities. Furthermore, this condition often triggers psychological problems such as depression, anxiety, frustration, and social isolation, all of which negatively impact the emotional well-being of the elderly (Alzheimer's Association, 2023).

For nursing homes and caregivers, caring for the elderly with cognitive impairment requires greater effort, resources, and specialized training, significantly increasing the care burden. Therefore, finding and implementing effective prevention and early intervention strategies to maintain and improve brain function in the elderly is an urgent need. In this context, cognitive stimulation has emerged as one of the most promising non pharmacological approaches. Cognitive stimulation is a series of structured interventions specifically designed to activate and train various

cognitive domains in individuals, including memory, attention, language, reasoning, and executive function (Woods et al., 2012).

Numerous clinical studies and meta-analyses have consistently shown that cognitive stimulation programs, whether delivered individually or in groups, have significant potential to slow the rate of cognitive decline, improve cognitive performance, and even delay the onset of dementia in older adults, both those with normal cognitive function and those already showing symptoms of mild cognitive impairment (Gureje et al., 2020; Spector et al., 2003).

In nursing homes, cognitive stimulation programs can be integrated through a variety of activities tailored to the capacities and interests of older adults. Examples include educational games such as puzzles, chess, or cards; group discussions on relevant, thought-provoking topics; reminiscence therapy, which involves revisiting life experiences to activate memories; brain gymnastics, which combines physical movement with mental activity; and arts and crafts activities that require planning and creativity (Abdimas Medika Journal, n.d.; MEDIKA Journal, 2023; Vitamin & ResearchGate Journal, n.d.).

These programs not only provide a means of brain training but also create a more interactive, engaging environment that supports the psychosocial well-being of older adults in nursing homes. Given the vulnerability of the elderly population in nursing homes to accelerated cognitive decline, as well as the significant potential benefits and scientific evidence supporting the effectiveness of cognitive stimulation, further research and the implementation of structured, sustainable programs in these settings are crucial. Preventive efforts through cognitive stimulation are not only aimed at maintaining brain function, but also at increasing functional independence, improving mood, reducing the risk of social isolation, and ultimately, improving the overall quality of life for older adults.

Therefore, focusing on cognitive stimulation as a preventative measure for brain decline in nursing homes is a crucial investment in creating a more dignified and quality aging for the older generation in Indonesia. Furthermore, technological advances and lifestyle changes also influence the dynamics of aging and the need for more adaptive approaches to caring for the elderly. Recent studies have shown that the integration of technology into cognitive interventions, such as the use of digital applications based on memory games and virtual reality (VR)-based brain training, is beginning to yield promising results in improving or maintaining cognitive function in the elderly (Rizzo et al., 2024).

This approach is considered effective because it can increase the emotional engagement and motivation of the elderly in participating in brain training programs, especially in confined environments such as nursing homes. However, the challenges of implementing technology in

elderly care are also significant, particularly related to digital literacy and infrastructure limitations. Therefore, a hybrid approach that combines conventional methods (such as traditional games, group discussions, and brain exercises) with simple digital methods can be an effective transitional solution to optimize cognitive intervention outcomes.

Furthermore, attention also needs to be directed to training nursing home staff to ensure they are able to implement cognitive stimulation programs consistently and based on scientific evidence. Involving families and communities as part of the elderly care ecosystem is also a crucial aspect that has not been widely developed in Indonesia. Considering the increasing aging trend, the complexity of the needs of the elderly, and the potential for innovative technology-based interventions, it is time for strategies to improve cognitive function in the elderly to not only be the responsibility of social institutions, but also become a national issue involving cross-sectors from health, education, technology, to public policy.

2. METHOD

The aim of this psychoeducation is to determine the effectiveness of a memory games based psychoeducation program designed according to the cognitive abilities of the elderly to help the elderly in preventing cognitive decline with simple techniques, such as brain gymnastics, memory games, social activities, and others. This psychoeducational intervention aims to help the elderly, especially those in nursing homes, maintain and prevent the decline in their cognitive function with an easy-to-do approach by stimulating their thinking, remembering, and problem-solving abilities through simple memory game-based activities because if this cognitive stimulation is carried out regularly, it will help the elderly delay the decline in brain function that is often experienced by the elderly as they age. This psychoeducational activity was carried out at a nursing home. The steps involved in this psychoeducational activity were:

- a) Planning. The committee discusses the theme and location for the psychoeducational activities. They then consult with the lecturer regarding the games to be provided to the elderly. After obtaining approval from the lecturer, the committee develops a schedule for the psychoeducational activities.
- b) Preparation. The committee conducted a site survey to ensure the venue was ready for the activity and also requested permission from the nursing home owner to conduct psychoeducation at the facility.
- c) Implementation. This psychoeducational activity was held on Wednesday, June 25, 2025. The activities began with an opening by the MC, a welcoming speech by one of the group members,

a brief presentation of the material using a lecture method by the speaker, then the implementation of memory games , and finally documentation with the elderly.



Figure 1. Implementation of Activity

3. RESULT AND DISCUSSION

3.1 Results

This community service activity aims to help seniors in a nursing home with cognitive stimulation to prevent brain decline. Psychoeducation took place at the nursing home on Wednesday, June 25, 2025. Twenty-five seniors participated in the activity. All seniors played games in their groups with enthusiasm and focus throughout. Prior to the activity, preparations were made. These began with an initial survey of the activity location. Following this, observations and interviews were conducted regarding issues that could be addressed within the psychoeducational theme to be implemented at the shelter.

Once an appropriate theme was identified, coordination regarding activity implementation with the shelter management was conducted. On the day of the event, the event was opened by a host and continued with a presentation. The material covered cognitive processes in the elderly, the causes of cognitive decline, and how to address it. Participants listened attentively and showed considerable enthusiasm, as evidenced by the number of questions raised by the elderly. Following the presentation, participants were directed to play games focused on stimulating the cognitive abilities of the elderly. The games provided include matching and word puzzles.

Matching games are card games designed to improve focus and attention. These games require a set of picture cards to be matched in pairs. Word puzzles aim to sharpen the memory of older adults. These games require seniors to construct word answers to given questions based on

scrambled letters. Both games can help reduce cognitive decline in older adults when played regularly.

3.2 Discussion

Psychoeducation is an effective approach to increasing older adults' understanding of cognitive stimulation as a way to prevent brain decline. According to Prahasasgita & Lestari (2023), stimulation involves providing stimuli to individuals according to their needs. These stimuli can originate from the environment, which then triggers specific behavioral responses. Providing cognitive stimulation based on memory games using simple techniques like brain gymnastics, memory games, and social activities can help older adults prevent brain decline. Simple memory-based activities can help stimulate older adults' thinking, memory, and problem-solving abilities.

This psychoeducational activity provides an understanding to the elderly regarding several benefits of memory games that are practiced during the activity, namely increasing brain capacity, improving brain memory, reducing the risk of dementia, increasing concentration, and improving memory. Overall, this activity not only provides educational benefits but also plays a crucial role in preventing cognitive decline through memory games . The social interactions created during the game also enhance necessary cognitive stimulation, especially for the elderly. It is hoped that the understanding and positive habits developed through this activity can be applied in daily life to maintain and improve cognitive function and overall quality of life.



Figure 2. Documentation of Activity

4. CONCLUSION

Psychoeducational activities conducted in nursing homes have successfully increased the elderly's understanding of the importance of cognitive stimulation in old age. Games such as word puzzles and matching games have been shown to stimulate thinking, memory, and problem-solving

skills. Furthermore, the social interactions that occur during psychoeducation enhance brain stimulation and support the emotional well-being of the elderly. Therefore, it can be said that regular cognitive stimulation can be an alternative in preventing brain decline.

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