

ANALYSIS OF GERONTOLOGICAL NURSING CARE FOR ELDERLY PATIENTS WITH DEMENTIA AT THE BINJAI REGIONAL TECHNICAL IMPLEMENTATION UNIT (UPTD) FOR THE ELDERLY IN 2025

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ABSTRACT

Objective: The common problem that occurs in the elderly is dementia, which involves a decline in memory, thinking, behavior, and the ability to perform daily activities. This study aims to provide gerontic nursing care for Mrs. P with dementia at the Technical Implementation Unit (UPTD) for the Elderly in Binjai in 2025. **Methods:** The research method used a case study approach conducted over three days involving assessment, nursing diagnosis formulation, intervention planning, implementation, and evaluation. **Results:** The assessment results showed that Mrs. P (78 years old) experienced frequent forgetfulness, disorientation of time, and difficulty recognizing new people. Cognitive assessment using the MMSE scored 18 (moderate cognitive impairment) and the SPMSQ scored 4 (mild intellectual impairment). Based on these data, three nursing diagnoses were established: memory impairment, communication impairment, and acute confusion. Nursing interventions were implemented using memory training and brain gym therapy. The evaluation after three days of care indicated that all three nursing problems were partially resolved, characterized by the patient's ability to concentrate, perform some brain gym movements, and recall the nurse's name. **Conclusion:** Brain gym therapy can be utilized as an effective intervention to improve cognitive function in elderly patients with dementia.

Keywords: *Dementia, elderly, cognitive function, nursing care, brain gym*

INTRODUCTION

The objectives of sustainable development in Indonesia, particularly concerning the SDG 3.4 target, emphasize the necessity of reducing premature mortality from non-communicable diseases (NCDs) by one third, alongside promoting mental health and well-being. Comprehensive treatment strategies for conditions like dementia are crucial, as they encompass education, cognitive interventions, and psychological support, which align with the broader goals of mental health promotion outlined in the WHO's Comprehensive Mental Health

Action Plan Achieving these targets requires concerted efforts, including tobacco control, dietary modifications, and improved healthcare access, as highlighted (Frieden et al., 2020). Furthermore, integrating NCDs into the sustainable development agenda presents an opportunity to enhance policy coherence and mobilize resources for vulnerable populations, thereby addressing the social determinants of health and reducing inequalities.

Caregiver empowerment education is crucial for enhancing the quality of care provided to elderly individuals, particularly those suffering from dementia and Alzheimer's disease. Various studies highlight the importance of equipping caregivers with knowledge and skills to improve their caregiving capabilities. For instance, research indicates that structured educational interventions significantly increase caregivers' understanding and skills related to dementia care, as evidenced by pre- and post-test improvements in knowledge scores (Nurbaiti et al., 2023). Additionally, empowerment frameworks emphasize the role of caregivers as essential partners in managing Alzheimer's disease, where their empowerment correlates positively with patient outcomes (Lv et al., 2025). Programs like Indonesia's Global STRIDE initiative further support caregiver training and community health education, aiming to foster sustainable healthcare practices (Sya'diyah et al., 2024). Overall, these educational efforts not only enhance caregiver competence but also contribute to better health outcomes for the elderly population (Nur Iszakiyah et al., 2025).

Dementia, often perceived as a natural aspect of aging, is a complex, multifactorial condition that significantly impairs cognitive function and daily living activities in older adults. Symptoms such as forgetfulness, difficulty concentrating, and limited social skills are prevalent, with Alzheimer's disease being the leading cause, accounting for 60-80% of dementia cases (Testo et al., 2024). Research indicates that many elderly individuals exhibit symptoms of dementia without formal diagnosis, highlighting the need for timely screening and intervention (Yan et al., 2024). Factors influencing cognitive decline encompass a wide range, including physical, social, and psychological elements, which interact in complex ways (Seifert et al., 2022). Innovative solutions leveraging technology, such as IoT and machine learning, are being developed to enhance early detection and management of dementia (Addae et al., 2024). Effective screening tools, like the brief dementia test, have shown promise in identifying cognitive decline in community settings (Lunardi & Lim, 2025). Thus, understanding and addressing dementia's multifaceted nature is crucial for improving outcomes in the aging population.

According to the World Health Organization, dementia affects approximately 50 million people globally, with projections indicating a rise to 82 million by 2030 and 152 million by 2050, particularly in low- and middle-income countries (LMICs) where about 60% of cases are found (Marinaro et al., 2023). In Indonesia, the STRiDE program revealed a dementia prevalence rate of 27.9% among individuals aged 65 and older, suggesting over 4.2 million people may be affected, yet only a small fraction had received a formal diagnosis (Farina et al., 2023). This highlights a significant gap in healthcare access and awareness, as the majority of dementia cases remain undiagnosed (Farina et al., 2023). The increase in dementia cases correlates with population aging and growth, emphasizing the urgent need for public health strategies to address this rising burden ("Estimation of the global prevalence of d...", 2022) ("Forecasting the prevalence of dementia", 2022).

The prevalence of dementia among the elderly population in North Sumatra, where

22% of surveyed individuals were diagnosed with dementia, aligns with global trends indicating that dementia incidence significantly increases with age, particularly among those

aged 65 and older. Research shows that dementia rates double approximately every five years within this age group, highlighting the urgent need for effective gerontic nursing care for affected individuals. Additionally, the challenges faced by caregivers of dementia patients are substantial, as caregiving can lead to increased emotional and financial burdens (Ho-yin Lai, 2023).

The co-occurrence of dementia with other serious illnesses further complicates care, impacting healthcare utilization and costs (Nothelle et al., 2023). Therefore, implementing tailored nursing interventions, such as those applied to Mrs. P, is crucial for improving the quality of life for both patients and their caregivers (Nothelle et al., 2023).

METHODS

The application of gerontic nursing care for elderly patients with dementia, such as Mrs. P, emphasizes a comprehensive, systematic approach that integrates assessment, diagnosis, intervention planning, implementation, and evaluation. This method aligns with findings from various studies highlighting the importance of tailored care strategies. For instance, nurse practitioner-led models have shown effectiveness in managing cognitive vulnerability through collaborative interventions with occupational therapists, enhancing the quality of life for patients and their families (Fortinsky & Ladda, 2022). Additionally, research indicates that the severity of dementia significantly impacts the ability to perform personal activities of daily living (P-ADL), necessitating ongoing assessment and adaptation of care plans (Johansen et al., 2020). Furthermore, family-centered approaches have been recognized for their role in promoting functional recovery and well-being, underscoring the need for active family involvement in care processes (Boltz & Flanagan, 2022). Overall, these insights advocate for a holistic, person-centered care framework that addresses both medical and psychosocial needs of individuals with dementia (Austrom et al., 2018) (Pennbrant et al., 2020).

RESULTS AND DISCUSSIONS

The assessment of Mrs. P (78 years old, female) revealed clinical symptoms of frequent forgetfulness in placing items, inability to remember the current day and date, and difficulty recognizing new people. Cognitive assessment using the SPMSQ resulted in 4 errors, indicating mild intellectual impairment, while the MMSE score was 18 out of 30, showing moderate cognitive impairment with significant deficits in orientation and calculation. The BDI score was 4, indicating no depression. Based on data analysis, three actual nursing diagnoses were established: memory impairment related to the aging process, communication impairment related to neuromuscular impairment, and acute confusion related to dementia. Interventions focused on intensive memory training and brain gym therapy executed over 3x8 hours.

CONCLUSIONS

The implementation of gerontic nursing care for Mrs. P over three days indicates that all three nursing problems—memory impairment, communication impairment, and acute confusion—were partially resolved through structured memory training and brain gym therapy. Brain gym therapy successfully enhanced the patient's concentration, motor retention of

exercises, and short-term recollection of names and locations. For educational institutions, it is suggested to expand access to scientific research journals regarding advanced gerontic interventions. For nursing students, it is recommended to optimize the routine use of non-pharmacological interventions like brain gym when managing dementia. For the UPTD Social Services in Binjai, it is advised to institute institutional routines ensuring that elderly dementia patients receive regular, intensive brain gym exercises both in group activities and individualized counseling sessions to systematically address cognitive decline.

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CONFLICT OF INTEREST AND FUNDING DISCLOSURE

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AUTHOR CONTRIBUTIONS

Iin Nina Hastuti Padang: conceptualization, investigation, methodology, writing original draft; Erika: methodology, supervision, writing review and editing; Nurcahya Lumbantoruan: data curation, investigation; Clara Cintya Pane: formal analysis, resources; Aida Wani: validation, visualization; Tahan: methodology, supervision, writing review and editing

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