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Email : editorijhess@gmail.com

Nursing Care For Memory Disorders In Patient A With Alzheimer's Type Dementia At Iryou Houlin Aiwa Kai Ikeda En Japan

Atika Wulandari[1)],Mariah Ulfah[2)],Madyo Maryoto[3)]
[1,2,3)] Nursing Study Program, Undergraduate Program, Faculty of Health
Harapan Bangsa University

*Corresponding Author
Email : atikaw777@gmail.com

Abstract

Alzheimer's dementia is a global health problem with increasing prevalence along with the aging population, characterized by memory impairment that interferes with independence. This study aims to describe nursing care for memory impairment in Patient A through the nursing process. The type of qualitative descriptive case study was conducted at Iryou Houlin Aiwa Kai Ikeda En Japan, September 2025. The population of elderly with Alzheimer's dementia (91 patients), a purposive sample of one patient (Mrs. A, MMSE 19). Instruments include MMSE-J, assessment sheets, reminiscence media; source triangulation analysis and case-theory. The results showed that the diagnosis of memory impairment and risk of injury were partially resolved after 3x24 hours of reminiscence therapy (MMSE score increased 19→20), long-term memory improved but short-term memory was limited, and the risk of falls was controlled. It was concluded that reminiscence therapy is effective in maintaining the cognitive function of the elderly in a supportive manner.

Keywords: Alzheimer's Disease, Dementia, Memory Disorder, Nursing Care, Reminiscence Therapy.

INTRODUCTION

Alzheimer's-type dementia is a global health phenomenon that is becoming increasingly prominent as the elderly population increases. This condition is characterized by a progressive decline in cognitive function, particularly memory impairment, which interferes with daily independence (Hatmanti & Yunita, 2019; World Health Organization, 2023). The overall prevalence of dementia has reached more than 55 million cases worldwide, with a projected increase to 78 million by 2030. In Indonesia, approximately 4.2 million people are affected, and the prevalence of Alzheimer's disease reaches 27.9% (Tati Nuryati & Handayani, 2024). In Japan, the country with the world's highest elderly population, with 29% aged 65 and over, the number of dementia sufferers was nearly 5 million in 2015 and is projected to reach one in five citizens by 2025 (Ishihara et al., 2024).

This phenomenon is further complicated by the fact that memory impairment in elderly individuals with Alzheimer's dementia is often accompanied by self-care deficits, such as forgetting hygiene routines that can lead to skin or dental infections, as well as total dependence on caregivers (Rosmin et al., 2024).

Memory impairment is a major problem in patients with mild to moderate Alzheimer's dementia, where patients have difficulty recalling recent events (short-term memory) even though older memories are relatively intact, leading to time disorientation, errors in daily routines, and a decrease in MMSE scores below 24 (Sidarta et al., 2025). This condition is exacerbated by comorbidities such as impaired vision, hearing, and mobility due to osteoarthritis, which increases the risk of falls and physical injury in elderly people in care facilities such as Rojin Home in Japan (Lestari Prasetiya, 2020).

The problem is compounded by psychosocial impacts such as behavioral changes (anger, apathy), impaired verbal communication, and the burden on family caregivers with minimal professional support, especially in developing countries like Indonesia where dementia awareness is low and care infrastructure is limited (Syifak Noventi, 2023).

This problem is increasingly crucial because without appropriate non-pharmacological interventions, dementia progression accelerates dependence and secondary complications such as aspiration pneumonia or urinary tract infections (Iwatsubo, 2021).

This study aims to describe nursing care for memory disorders in patient A with Alzheimer's type dementia at Iryou Houlin Aiwa Kai Ikeda En Japan through a nursing process approach including assessment, diagnosis, planning, implementation of reminiscence therapy, and evaluation (Sakurai et al., 2024). The urgency of this research lies in the need for early intervention amidst the global explosion of dementia cases that burdens the health system, especially in Japan and Indonesia with high prevalence (World Health Organization, 2023). The novelty of this study is the application of reminiscence therapy based on the Japanese cultural context (song stimuli and past photos) which has been shown to improve long-term memory and quality of life, as supported by a recent meta-analysis despite the limited case studies in rojin home facilities (Cammisuli et al., 2022).

RESEARCH METHODS

Types and Design of Research

This study used a descriptive case study design with a nursing process approach that includes assessment, nursing diagnosis, planning, implementation, and evaluation to systematically describe nursing care for memory impairment in patients with Alzheimer's dementia. This design aligns with the qualitative post-positivism paradigm, where the researcher acts as the primary instrument to capture natural phenomena holistically and in-depth, as described in qualitative research methods that emphasize factual descriptions without variable manipulation (Sugiyono, 2021). The descriptive case study approach is effective for single cases in the context of geriatric nursing, allowing for in-depth exploration of clinical phenomena such as memory impairment in older adults in Japanese nursing facilities (Creswell & Poth, 2021).

Data Analysis Instruments and Techniques

The main research instruments included a nursing process assessment sheet, the Mini-Mental State Examination-J (MMSE-J) to measure cognitive function, and reminiscence therapy aids such as photos, music, and familiar objects from the past. The researcher served as the key instrument for in-depth interviews, observations, and medical record documentation studies. The data analysis technique was descriptive qualitative through source triangulation (interviews, observations, documentation) and theory-case comparison to identify diagnoses, interventions, and evaluations. Primary data from patients and secondary data from medical records were interpreted narratively (Emzir, 2021). This analysis involved data reduction, narrative presentation, and verification through confirmation with supervisors, ensuring validity in the dementia nursing case study (Sudaryono, 2021).

Population and Sample

The study population was all elderly people with Alzheimer's dementia at Iryou Houlin Aiwa Kai Ikeda En Japan, with a total of 91 patients, of which approximately 72 suffer from the condition, treated on the 2nd and 3rd floors. The sample was selected purposively with the following inclusion criteria: elderly people aged over 60 years, a diagnosis of mild-moderate Alzheimer's dementia (MMSE score 11-26), compos mentis awareness, and voluntary informed consent, resulting in a single case subject (Patient A/Mrs. A) who was representative for an in-depth study (Sugiyono, 2021). This single sample selection is in line with the principle of qualitative case studies that prioritize quality over quantity for contextual exploration (Creswell & Poth, 2021).

Research Procedures

The procedure began with ethical approval (anonymous and confidential informed consent), an initial assessment on September 17-20, 2025, through interviews, physical observation, and MMSE-J at the Iryou Houlin Aiwa Kai Ikeda En, Japan, followed by a diagnosis and planning of a

3x24-hour reminiscence therapy intervention. Implementation was carried out in stages, with past memory stimulation using Japanese cultural media, daily monitoring, and collaboration with nursing staff, followed by evaluation through a comparison of pre-post MMSE scores and observation of memory behavior (Emzir, 2021). The entire process adhered to nursing ethics principles such as honesty, accountability, and fairness, with a strict schedule from data collection to narrative presentation to answer the problem formulation (Sudaryono, 2021).

RESULTS AND DISCUSSION

Assessment

A nursing assessment was conducted on Mrs. A, a geriatric client with a complex medical history, who was diagnosed with Alzheimer's type Dementia since 2020. The client's assessment was conducted in 2 stages, the first stage of the assessment on August 15, 2025, examined the client's identity, family and background. While the second stage of the assessment was conducted on September 17, 2025, where data collection focused on three main areas: cognitive, functional/sensory, and behavioral. Cognitively, the client showed significant deficits characterized by an MMSE score of 19 at the time of the assessment, which is clinically categorized as mild mental impairment. These deficits manifested in daily behavior, where the client often forgot to eat and had difficulty engaging in meaningful conversations. This condition was exacerbated by functional and sensory factors, namely blindness in the right eye and hearing loss in the right ear, as well as limited mobilization due to osteoarthritis of the knee and a history of previous femoral fractures. These data indicate that the client is at high risk for secondary complications in addition to cognitive decline, particularly those related to safety and social interaction.

The results of the assessment on Mrs. A conducted on September 17, 2025 after being compared with the theory are as follows:

Table 1. Comparison of Theory and Cases

No	Theory	Case
Signs and Symptoms related to Nursing Problems		
	Decreased ability to remember new events (short-term memory)	The client forgets easily, including the client's complaint that he forgot he had eaten.
	Cognitive function decline/Orientation	The client has a medical diagnosis of Alzheimer's dementia. The Mini Mental State Examination (MMSE) score was 19, indicating mild impairment in mental function.
	Communication impairment	The client exhibits difficulties in verbal communication, including difficulty responding and an inability to engage in meaningful conversation. The client sometimes fails to respond to conversations.
	Changes in behavior or affect	The client shows behavioral changes, namely being easily irritated, having a tense facial expression, and having a slow response.

Based on the comparison of the study data above, it can be concluded that:

Mrs. A's memory impairment was strongly demonstrated and fully consistent with the theoretical clinical manifestations of Alzheimer's dementia. Forgetfulness (including forgetting when she'd eaten) is a hallmark of short-term memory impairment, predominant in the early to mid-stages of the disease. The severity of this problem is supported by objective data from the MMSE 19, which validates that cognitive impairment has reached a mild level.

Symptoms of behavioral changes (irritability, tension) and impaired verbal communication found in clients are secondary manifestations of cognitive dysfunction (temporal and frontal lobes) that interfere with information processing and emotional regulation.

Nursing Diagnosis

According to Indonesian nursing diagnosis standards, establishing a nursing diagnosis must be supported by defining characteristics (major and minor data) and related to the underlying etiological factors of the problem. In Mrs. A's case, the primary nursing problem established is memory impairment (D.0062), which is defined as the inability to remember or retain information and skills. Factors causing memory impairment include disease processes (such as Alzheimer's dementia), neurological disorders, head injuries, or changes in sleep patterns. The defining characteristics of this diagnosis can include difficulty remembering factual information, forgetting to perform scheduled behaviors, forgetting to have done an activity, and decreased cognitive test scores.

The characteristics that have been met in Mrs. A's case clearly support this diagnosis, namely a decrease in cognitive test scores (MMSE) indicating mild mental impairment, and forgetting to do an activity (the client forgets to have eaten). Although other characteristics such as difficulty learning new skills or changes in communication patterns are also present (such as difficulty responding to conversations), these two major data are sufficient to establish the diagnosis. The author formulated a nursing diagnosis of memory impairment related to the disease process (Alzheimer's type dementia). Pathophysiologically, Alzheimer's patients have memory impairment due to abnormal Beta-amyloid and Tau proteins that cause the formation of plaques and neurofibrillary tangles in the brain. This damage is most significant in the hippocampus, the part of the brain that plays a major role in forming new memories (short-term memory), so that the client shows primary symptoms of easily forgetting new events.

In addition to cognitive impairment, the authors also established a diagnosis of risk of injury (D.0136), defined as being at risk of experiencing physical harm or damage that makes a person unsafe or threatened. This diagnosis was established based on identified risk factors, including visual impairment (blindness in the right eye), musculoskeletal disorders (osteoarthritis and a history of left femoral fracture), and cognitive impairment (dementia). According to fall prevention theory, the risk of injury in the elderly is multifactorial. In this case, the risk is compounded by visual impairment and movement impairment due to osteoarthritis, which makes it difficult for the client to maintain balance, compounded by dementia, which reduces the client's ability to assess hazards and plan safe movements. Therefore, this diagnosis is a high priority because it carries the potential for life-threatening complications clinically.

The additional diagnosis, verbal communication disorder (D.0119) related to cognitive decline, was also validated by the client's characteristic limitations, such as difficulty responding and inability to engage in conversation. This is due to cognitive decline that interferes with the client's ability to process incoming verbal information (receptive) and difficulty forming words to respond (expressive), which is common in dementia patients.

Based on the data found, all established diagnoses have met the SDKI requirements, with etiologies directly linked to the Alzheimer's dementia disease process and its physical comorbidities, thus providing a strong basis for developing interventions.

Nursing Interventions

Nursing intervention planning is prepared based on two priority diagnoses with reference to SLKI and SIKI. For the diagnosisdisturbanceFor memory (D.0062), the expected outcome is improved memory (L.09062), and the selected intervention is memory training (I.06188). This intervention focuses on more sustainable reminiscence therapy (recalling past experiences) in dementia patients, using occupational (beautician) and family as the main topics. In addition, education is also planned for families to use visual memory cues. Meanwhile, for the diagnosis of injury risk (D.0126), the expected outcome is a decrease in the level of injury (L.14136) (no falls), so the selected intervention is fall prevention (I.14537). This intervention is designed to mitigate risk factors by focusing on

environmental modifications (ensuring low beds and dry floors) and full assistance during client mobilization to compensate for the client's sensory and musculoskeletal disorders.

Nursing Implementation

Student A implemented the nursing intervention for three days, from September 18 to 20, 2025, according to the established action plan. The intervention for memory disorders included structured reminiscence therapy, where clients were facilitated to share their work history.

On the first day, the client was facilitated to recall experiences from childhood and adolescence. The students used stimuli in the form of songs popular during the client's youth, including songs by the 1960s Japanese singer Misora Hibari. The purpose of providing these stimuli was to trigger emotional memories related to past experiences. During the session, the client appeared calmer, displayed smiling expressions, and was able to recount experiences from school. However, the client still had difficulty recalling recent events, such as what was on the menu for breakfast that day.

On the second day, reminiscence therapy focused on adult experiences and family life. The client was able to state that she had three children, but still needed help with cues to name them completely. The emotional response she elicited when discussing her marital experiences indicated that the client's long-term memory was still relatively intact.

Theoretically, in Alzheimer's dementia, short-term memory impairment occurs earlier than long-term memory (Alzheimer's Association, 2023). This is consistent with the results of client assessments, which show a better ability to recall past experiences than recent events.

On the third day, the family was involved in therapy using family photos labeled with names and timestamps as a memory cueing technique. This approach helped the client connect visual information with stored memories. The client appeared more cooperative and was able to correctly name lunchtime, although orientation to dates and days was still not entirely accurate.

Objective evaluation was conducted using the Mini Mental Status Examination Japan (MMS-J). Results showed an increase in scores from 19 before intervention to 20 after. This improvement occurred in the aspect of time orientation. Although the increase was only one point, this change still indicates a response to cognitive stimulation.

According to research by Woods et al. (2018), reminiscence therapy can have a positive impact on cognitive function and psychological well-being, although improvements in cognitive scores are often not significant over a short period of time. Therefore, a one-point improvement over a three-day period can still be considered a realistic outcome and consistent with the progressive characteristics of Alzheimer's dementia.

Meanwhile, implementation for injury risk focuses on fall prevention with daily actions ensuring the client's room environment is safe (low bed, no obstructions) and providing close assistance every time the client mobilizes, including when using a wheelchair to move from room to room.

Students identify risk factors, organize the room environment for safety, ensure the bed is low, and remove obstacles around mobility paths. Clients are accompanied during every wheelchair transfer. Education is also provided to families regarding the importance of environmental monitoring and modification.

During the implementation period, no falls or injuries were reported. This demonstrates that the fall prevention interventions implemented were aligned with geriatric nursing principles, which emphasize a preventive approach and family involvement (Potter et al., 2021).

Evaluation

A nursing evaluation was conducted after the implementation of a 3x24-hour reminiscence therapy intervention on a client diagnosed with memory impairment (D.0062). Based on the evaluation results, the nursing problem was partially resolved. This was demonstrated by an increase in the client's ability to recount past experiences more clearly and in a structured manner compared to before the intervention. The client appeared more cooperative during the interaction, able to recount her work

history and youth experiences with a more coherent storyline, and demonstrated positive emotional responses such as smiling and maintaining eye contact.

However, the client still has difficulty remembering information or recent events, such as daily activities, meal schedules, and the current date. The client still requires repetition of information and cueing from nurses and family to assist with orientation. The results of the Mini Mental Status Examination Japan (MMS-J) also showed an increase in score from 19 to 20, especially in the aspect of time orientation, although visuospatial abilities (copying images) remained unchanged.

These results indicate that reminiscence therapy has a positive impact on long-term memory recall, but is not yet effective in significantly improving short-term memory function. This condition aligns with the pathophysiological theory of dementia, which explains that damage to the hippocampus causes disruption in the formation of new memories (anterograde amnesia), while long-term memory is relatively more persistent. Therefore, stimulation that focuses on past autobiographical experiences is more easily accessible to clients than new information that requires the encoding and storage processes of intact memories.

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Based on theoretical review, ideally, reminiscence therapy should be conducted continuously in seven sessions over fourteen days to provide optimal long-term memory stimulation (Puput Nugraha et al., 2025). However, in the case study conducted on Patient A, the intervention was carried out for three consecutive days with a duration of 30-60 minutes per session. This time limitation is one of the factors that caused the problem of memory impairment not to be fully resolved, although there was an increase in the score on the indicator of the ability to remember factual information and events from a score of 2 (moderately decreased) to a score of 4 (moderately increased). This is in line with the research of Zahro et al. (2025) which stated that the consistency and duration of therapy administration greatly determine the level of effectiveness in maintaining the cognitive function of the elderly with Alzheimer's.

Compared with research findings (Zahro et al., 2025), reminiscence therapy aims to maintain memory function and improve the emotional well-being of older adults through a structured and systematic recall process. This study showed that older adults retained clear memories of the past after the programmed intervention. This aligns with findings in clients, where there was an improvement in the ability to recall past experiences, but no significant changes in the ability to recall new information.

Furthermore, in a study (Puput Nugraha et al., 2025), reminiscence therapy was administered in seven sessions over fourteen days, with a longer duration and carried out continuously, thus showing more optimal results for the psychological condition of the elderly. Compared with the intervention in this case, which was only carried out for three days, the difference in duration and number of sessions is one of the factors that influence the effectiveness of the therapy results. Reminiscence therapy is an intervention that requires consistency, repetition, and a strong therapeutic relationship to produce more significant changes.

Thus, the suboptimal resolution of the client's nursing problems does not indicate a failure of the intervention, but rather reflects the fact that reminiscence therapy is supportive and functionally maintaining, rather than curative. The short duration, limited frequency of sessions, and the progressive nature of the client's cognitive impairment are the primary reasons why the memory impairment has not been fully resolved. Overall, the intervention provided is in line with theory and

evidence-based practice, but requires a longer implementation period and a sustainable approach to achieve more optimal results.

In contrast, for the injury risk diagnosis (D.0136), the problem was declared resolved (risk under control). Objective evaluation showed that the outcome target was achieved with a score of 5 (None) on the injury/fall incident criteria, meaning no falls occurred during the 3-day treatment period.

Overall, the evaluation results show that the intervention provided had a positive impact on both the cognitive aspects and the physical safety of the client, although in the diagnosis of memory disorders, follow-up and ongoing therapy are still required to achieve more optimal results.

Research Limitations

This study used a case study design, thus describing only the condition and nursing care of one patient with Alzheimer's dementia. Several variables theoretically included in the discussion of Alzheimer's dementia, such as specific supporting examinations (biomarkers, advanced neuroimaging) and long-term evaluation of the effectiveness of nursing interventions, could not be included in this study due to procedural limitations beyond the researcher's control. Therefore, the results of this study cannot be generalized and are expected to serve as a basis for further research with broader designs and scope.

CONCLUSION

This study found that the implementation of comprehensive nursing care with reminiscence therapy for 3x24 hours in Patient A with Alzheimer's type dementia successfully improved long-term memory recall ability and time orientation, indicated by an increase in the MMSE-J score from 19 to 20, as well as positive emotional responses such as cooperation and smiling when reminiscing about the past. The diagnosis of memory impairment was partially resolved because short-term memory was still limited, while the risk of injury was completely controlled thanks to fall prevention through environmental modification and assistance, confirming the effectiveness of Japanese culture-based non-pharmacological interventions in maintaining the cognitive function of the elderly.

The study's limitations include the single-case study design, which limits generalizability, the short intervention duration (only 3 days), and the lack of further supporting examinations such as neuroimaging, which makes the results contextually descriptive. Suggestions for future research include multi-domain longitudinal studies with larger samples and controls, as well as practical implications such as the integration of routine reminiscence therapy in Indonesian nursing homes to sustainably improve the quality of life for elderly people with dementia.

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