

IMPACT OF REMINISCENCE THERAPY ON COGNITIVE FUNCTION IN THE ELDERLY

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ABSTRACT

Cognitive decline in older adults is a global health issue that affects independence, quality of life, and increases the burden on families and healthcare systems. Reminiscence therapy, a non-pharmacological intervention, is known to be effective in stimulating long-term memory and maintaining cognitive function. This study aims to evaluate the effect of reminiscence therapy on the cognitive function of elderly people in Kampung Tua Dapur 12, Batam City. This study used a pre- experimental design with a one-group pre-test and post-test approach without a control group. A total of 24 elderly people aged ≥ 60 years were selected using purposive sampling. The intervention consisted of four sessions of reminiscence therapy based on Focus Group Discussions (FGD) over a two-week period. The Mini Mental State Examination (MMSE) was used to measure cognitive function before and after the intervention. Data were analyzed using a paired sample t-test. The results showed there was a significant improvement in cognitive function after the intervention (p -value = 0.000).

Keywords: Cognitive function, elderly, reminiscence therapy

INTRODUCTION

The increasing number of elderly individuals worldwide has become a major public health concern. According to the World Health Organization (WHO, 2023), the global elderly population is projected to reach 2.1 billion by 2050. In Indonesia, the proportion of elderly people continues to rise from 10.48% in 2021 to 11.75% in 2023 (BPS, 2023). One of the main health problems faced by the elderly is the decline in cognitive function, which affects their independence and overall quality of life.

Several studies have shown that cognitive decline can be slowed through non-pharmacological interventions, one of which is Reminiscence Therapy. Chen et al. (2022) reported that reminiscence therapy enhances long-term memory and reduces depressive symptoms among older adults. Similarly, Sari and Putri (2023) found a significant increase in Mini-Mental State Examination (MMSE) scores after elderly participants engaged in regular reminiscence sessions. However, most of these studies were conducted in institutional settings such as nursing homes, while research within community contexts remains limited.

In Kampung Tua Dapur 12, Batam City, many elderly individuals have not yet received structured psychosocial interventions. This condition highlights the need for a simple, cost-effective, and culturally relevant approach to maintaining cognitive function in the elderly. Therefore, this study seeks to address that research gap by assessing the effectiveness of Reminiscence Therapy in improving cognitive function among community-dwelling elderly individuals.

Accordingly, the objective of this study is to determine the effect of Reminiscence Therapy on the cognitive function of elderly individuals in Kampung Tua Dapur 12, Batam City.

MATERIALS AND METHODS

Research Design

This study employed a quantitative approach with a pre-experimental design, specifically a *one-group pre-test and post-test without control* model. Participants underwent an initial cognitive function assessment (pre-test) prior to the intervention and a final assessment (post-test) following the completion of reminiscence therapy. The purpose was to evaluate the extent to which reminiscence therapy influenced the cognitive function of the elderly.

Population and Sample

The study population consisted of elderly individuals aged 60 years and above residing in Kampung Tua Dapur 12, Batam City, totaling 50 persons as of May 2025. A sample of 20 elderly respondents was selected using *purposive sampling* based on specific inclusion and exclusion criteria.

Inclusion criteria:

- Aged 60 years and above
- Able to communicate verbally
- Willing to participate until the end of the intervention
- Experiencing mild to moderate cognitive impairment

Exclusion criteria:

- Hearing impairment or advanced dementia
- Severe cognitive impairment or Alzheimer's disease
- Absence from any therapy session
- Individuals experiencing social isolation or inability to engage in group interaction

Location and Study Period

The research was conducted in Kampung Tua Dapur 12, Sei Pelunggut Subdistrict, Batam City, Riau Islands Province, from June 24 to July 3, 2025.

Instruments and Data Collection Techniques

Mini-Mental State Examination (MMSE)

Cognitive function was measured using the *Mini-Mental State Examination (MMSE)* questionnaire consisting of 11 items covering orientation, personal history, short- and long-term memory, and arithmetic ability. Correct responses scored "1" and incorrect responses "0," yielding a total score ranging from 0 to 30. Higher scores indicated better cognitive function, with interpretation categories as follows:

- 25–30: Normal cognitive function
- 21–24: Mild impairment
- 10–20: Moderate impairment
- <9: Severe impairment

Observation

Direct observation was performed throughout the reminiscence therapy sessions to document participants' engagement, interaction, and emotional responses during group and individual activities.

Instrument Validity and Reliability

The validity of the MMSE instrument was confirmed through expert judgment to ensure item relevance to the measured construct. Reliability was tested using Cronbach's Alpha, with values above 0.70 indicating acceptable internal consistency.

Procedure

Prior to data collection, ethical approval was obtained from the Health Research Ethics Committee of Universitas Awal Bros Batam (Approval No. 786/UAB1.01/PN/KPS/06.25). After securing research permits, participant recruitment was conducted based on inclusion criteria, followed by informed consent procedures.

The study procedure consisted of:

1. Pre-test (June 24, 2025): Baseline cognitive assessment using MMSE.
2. Reminiscence Therapy Sessions:
 - *Session 1 (June 24)*: Group discussion about childhood memories.
 - *Session 2 (June 26)*: Individual reflection on school experiences.
 - *Session 3 (July 1)*: Sharing stories about early career experiences.
 - *Session 4 (July 3)*: Discussion of marriage and meaningful life events.

3. Post-test (July 3, 2025): Reassessment of cognitive function using MMSE.

Data Analysis

Data were processed using editing, coding, entry, and cleaning procedures to ensure completeness and accuracy. Analysis was performed using statistical software.

- Univariate analysis was used to describe the frequency and percentage distributions of respondent characteristics and cognitive function levels.
- Bivariate analysis examined the difference in pre- and post-test cognitive scores using the Paired Sample t-Test, assuming normal data distribution. A significance level of $p < 0.05$ was considered statistically significant.

Ethical Considerations

The research adhered to ethical principles, including:

- Informed consent: Participants were fully informed about the study's objectives, procedures, and benefits before signing consent forms voluntarily.
- Anonymity and confidentiality: Personal identities were coded, and all data were treated as confidential.
- Justice: All participants were treated fairly and equally.
- Non-maleficence: The study ensured no physical or psychological harm occurred during participation, and participants could withdraw at any time.

RESULTS AND DISCUSSION

Table 1. Effect of Reminiscence Therapy on Cognitive Function in the Elderly at Kampung Tua Dapur 12

Variable	Treatment	Mean	Std.Deviation	<i>p</i>
Cognitive function	Before	20,10	2,208	0,000
	After	23,95	3,818	

Results

After four reminiscence therapy sessions conducted over two weeks, there was a marked improvement in the cognitive function of elderly participants. The mean MMSE score increased from $20.10 \pm SD$ before intervention to $23.95 \pm SD$ after intervention. The Paired-Sample t-Test showed a p-value of 0.000 ($p < 0.05$), indicating a statistically significant effect of reminiscence therapy on cognitive function.

Discussion

The findings demonstrate that reminiscence therapy effectively enhances cognitive function among the elderly. This improvement occurs as recalling meaningful life experiences stimulates memory centers, strengthens neural connections, and supports emotional well-being. These results align with previous studies (Gultom et al., 2021; Pérez-Sáez et al., 2021), which confirmed that reminiscence therapy improves memory, attention, and orientation through repeated activation of autobiographical memory. Given its simplicity and non-invasive nature, reminiscence therapy can be integrated into community-based elderly care programs to support healthy cognitive aging.

CONCLUSION

Based on the results and discussion, it can be concluded that Reminiscence Therapy is effective in improving cognitive function among older adults. This is evidenced by an average increase of 3.85 points in cognitive function scores after the intervention and a p-value < 0.05 , indicating a statistically significant improvement.

These findings demonstrate that reminiscence therapy serves as an effective non-pharmacological intervention to enhance cognitive performance and emotional well-being among the elderly. The results also contribute to the development of nursing science and geriatric care, particularly in promoting community-based interventions that support healthy cognitive aging.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this article. All research activities were conducted independently without any financial, commercial, or personal relationships that could influence the outcomes.

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