The effectiveness of cognitive-reminiscence therapy on loneliness and depression in cognitively intact older adults

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Original Article

Abstract

BACKGROUND: Aging is a significant public health concern. While reminiscence interventions are known to benefit psychological well-being in older adults with dementia, their effects on cognitively intact older adults remain unexamined. The current study aims to evaluate the existing evidence on the effects of cognitive-reminiscence therapy on loneliness and depression in cognitively intact older adults.

METHODS: This quasi-experimental study followed a pretest-posttest design with a control group. A sample of 30 elderly people were selected using the purposeful sampling method at Saraie Fereshtegan nursing home, in District 3 of Shiraz City, Iran, from September to November 2022 (15 people assigned to the experimental group and 15 to the control group). Eight 60-minute sessions of expressive cognitive-reminiscence therapy were carried out in the experimental group, and the control group received no training. To collect data, the UCLA Loneliness Scale (UCLA-LS) (version 3) and Geriatric Depression Scale (GDS) were used. The multivariate analysis of variance (MANOVA) test using the SPSS software was used for data analysis. The results were considered statistically significant below the threshold of 0.05.

RESULTS: According to the findings, the variables of depression (F = 23.17, P < 0.001) and the feeling of loneliness (F = 20.32, P < 0.001) were obtained significantly. In addition, the highest effectiveness of cognitive-reminiscence therapy was related to the variable of depression (Effect Size = 0.801).

CONCLUSION: Older cognitively intact adults experienced significant reductions in depression and loneliness after cognitive-reminiscence therapy. Such a non-pharmacological approach can be recommended for older adults at the community level.

KEYWORDS: Psychosocial Intervention; Loneliness; Depression; Cognition; Intact; Older Adults

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Introduction

The phenomenon of demographic aging has brought such remarkable changes and

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implications that it is believed to have become one of the most important social transformations of the twenty-first century.[1] Population aging is a growing global concern, posing significant challenges to human health and socioeconomic development, especially in Iran.[2] The population aged 65 and older is

projected to be 22 percent (over 20 million) and those aged 80 and older 3.8 percent (around 3.5 million) in 2050, which are almost four times the corresponding figures in 2015. Data on the speed of population aging show that Iran's population is aging at the second-fastest rate globally, surpassed only by South Korea by a narrow margin (less than 0.01%) in the percentage point increase of individuals aged 60 and over between 2015 and 2050.[3]

In recent years, loneliness, exacerbated by pandemic-era social distancing, has become a public health crisis and is often described as an epidemic.[4] An individual feeling lonely is similar to experiencing thirst or hunger pangs when faced with perceived social isolation. The intensity, duration, and frequency of loneliness vary, and it is categorized either as emotional loneliness or social loneliness, respectively, based on feelings of emptiness and a perceived lack of belonging to a larger network/group/community.[5] Alun and Murphy outlined some recent research linking loneliness and isolation to significant chronic diseases such as cardiovascular disease (CVD) and type II diabetes, as well as mental health disorders such as anxiety and depression, cognitive disorders, and dementia. Isolation has also been shown to compromise recovery after acute cardiac events, being associated with increased hospital readmission and premature death. Loneliness is linked to poorer physical and psychological health, including dementia, depression, anxiety, and CVD.[6] A previous systematic review, conducted by Syed Elias et al., found that loneliness could be a risk factor for depression.[7]

Older adults with depression manifest low mental energy, low spirits, sadness, and misery as a negative emotional response to external and internal environmental stimuli.[8] Depression is currently the third-largest contributor to the global disease burden and is projected to become the leading cause by 2030, while ranking second among all psychiatric disorders.[4] Depression arises because of a complex interaction of social, psychological, and biological factors.[9] Depressive symptoms in older adults can be a risk factor for depression, other serious illnesses, and suicide.[8] These problems may become chronic or recurrent, significantly impairing daily functioning.[10] Depression is particularly lethal for older adults, who exhibit the highest suicide rates closely linked to depression across all age groups.[11]

Today, however, health researchers and clinicians across specialties recognize these variables as social determinants of health, which influence overall health outcomes. Depression in older adults can be treated with both medication and therapy. Many studies have shown that pharmacological treatment has many side effects, such as weight gain, the risk of heart disease, and so forth.[12] Social workers often use psychosocial methods as a key intervention strategy to address older adults' depression symptoms because of their standardized operating procedures, minimum harm and side effects, and cost-effectiveness.[13] While reminiscence interventions benefit older adults with dementia, their effects on cognitively intact older adults remain unevaluated.[10] Therapy that uses reminiscences to help people recall past events is called reminiscence therapy. As a therapy tool, it is frequently used to treat depression, calm behavioral and psychological symptoms of dementia, or affect the mood of the elderly. It can be done in groups or individually, or with the help of technological devices like mobile devices and robots. It is marked by remembering notable events from the past.[14] For example, Satorres et al. showed that the treatment group displayed significantly improved self-positive functions of problem-solving and death preparation, and these effects were kept even after the intervention.[15] Moreover, a significant reduction in depressive symptoms and improvement in life satisfaction

were revealed from the reminiscence-based intervention among cognitively intact older adults. The reminiscence-based intervention has been effective in enhancing self-esteem and promoting psychological well-being and happiness.[10] Therefore, this study aims to evaluate existing evidence regarding the effects of cognitive-reminiscence therapy on loneliness and depression among cognitively intact older adults.

Methods

The present study was quasi-experimental with a pre- and post-test with a control group design, in which the loneliness and depression variables under reminiscence-based intervention were evaluated on 30 elderly people in Shiraz City, Iran, in 2022. A total of 67 elderly patients at Saraie Fereshtegan nursing home, located in district 3 of Shiraz City, were purposefully selected for this study based on the entry criteria, and 30 of them participated in the study by throwing dice in two groups of 15 (n = 15 individuals per each group) (Figure 1). The sample size was selected using G*Power software with a test power of 0.95, an effect size of 1.27, and a significance level of 0.05. To qualify, candidates needed to spend a minimum of three months at Saraie Fereshtegan nursing home, have a minimum age of 65, score at least five on the elderly depression questionnaire, score at least sixty on the loneliness questionnaire, not be taking antidepressants, be able to understand and speak Farsi, and be willing to participate in therapy. A cognitive disorder or physical condition that seriously prevented participation in group therapy was the criteria for leaving the study.

An experimental group under the reminiscence intervention participated in eight 60-minute sessions each week. In this study, the reminiscence intervention protocol was performed based on the instructions in table 1.[16] A summary of the sessions of the training programs is provided in table 1. In contrast, the control group did not undergo any intervention during the study. It was the therapist of the clinical psychologist who conducted the intervention protocol. After filling out the informed consent forms, the participants completed the UCLA Loneliness Scale (UCLA-LS) (version 3) and Geriatric Depression Scale (GDS) in the pre-test stage. The participants were also ensured of the confidentiality of the results. As most subjects were illiterate or had low literacy, detailed explanations about completing the questionnaires were given first, followed by oral completion of the questionnaire by the researcher.
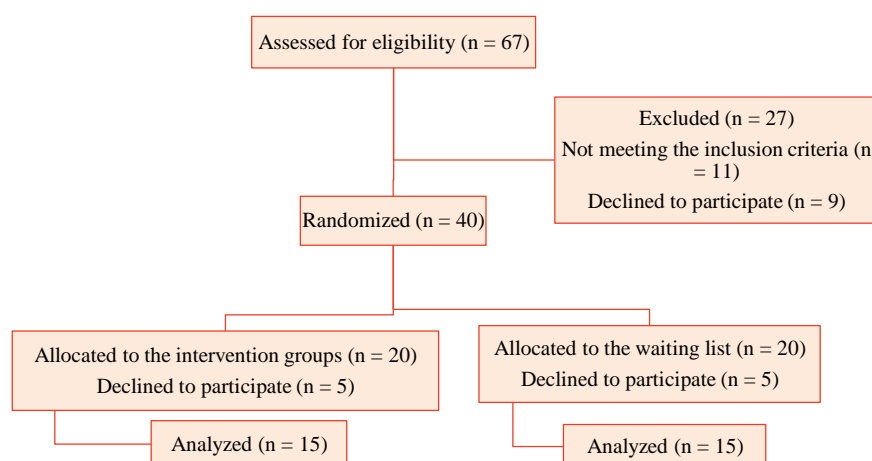

Figure 1. Flow chart of the study

Table 1. Eight functions of reminiscence therapy[16]

Session	Content
1	Identification – appreciating oneself, positive relationships, coping and overcoming, and meaning in life. Participants were asked to complete homework sheets before each session to facilitate memory recall and stimulate reflective processes to be used in the sessions. The questions asked participants to describe details of specific memories, related thoughts and feelings, and subsequent impacts on their life.
2	Problem-solving – recognizing one's strengths in dealing with problems
3	Death preparation – facilitating acceptance of death
4	Teaching/informing – sharing life stories with the intent to teach
5	Conversation – developing ways of communication with other people
6	Bitterness revival – revisiting memories of difficult life events
7	Boredom reduction – reminiscing to relieve feelings of boredom
8	Intimacy maintenance – remembering significant people

At the end of the intervention sessions, the UCLA-LS (version 3) and GDS were administered as a post-test in both groups and the results of the two groups were compared. To analyze the data, descriptive statistics such as frequency and percentage and inferential statistics such as multivariate analysis of covariance (MANCOVA) and eta coefficient were used.

UCLA-LS (version 3): This scale was developed in 1996 by Russell, to measure individuals' general levels of loneliness.[17] It comprises 20 statements – 11 negative and 9 positive – rated on a 4-point Likert scale ranging from 1 (never) to 4 (often). The UCLA-LS scores range from 20 to 80, with higher scores indicating higher levels of loneliness. The Cronbach's alpha of the scale was 0.78 and the intra-class correlation coefficient (ICC) for the total instrument was reported as 0.93 [95% confidence interval (CI): 0.87-0.98] and demonstrated good reliability of the instrument.[18] Cronbach's alpha of the scale in this research was 0.94.

GDS: This scale was created by Yesavage and Sheikh in 1986 to measure the depression of the elderly.[19] It consists of 15 items and has two factors: depression and psychosocial activities. The scores of this questionnaire are placed in four categories: 0-4 (normal), 8-5 (mild depression), 9-11 (moderate depression), and 12-15 (severe depression). Sheikh and Yesavage found that the GDS Short Form (GDS-S) effectively differentiated depressed from non-depressed patients, correlating strongly with the GDS Long Form (GDS-L) (r = 0.84, P < 0.001).[19] Both measures were successful in classifying the 2 populations accurately with a reported correlation of r = 0.84 (P < 0.001). The original format of this scale has 30 questions, which has been reduced to 15 questions in its Iranian form and the alpha coefficient was 0.9.[20]

This study is the result of the research approved by Shiraz University of Medical Sciences (I.R.SHU.1401.093).

Results

According to table 1, age, educational status, and meeting status were listed as frequency and percentages. The average age of the subjects was 68.24 ± 6.29 years. Sixty percent of the intervention group participants were in 70–75 years, and 56.6% had education below primary school. 63.3 percent of participants did not attend any meetings. For the demographic comparison between experimental and control groups, the chi-square test was used (Table 2).

As seen in table 3, the mean ± standard deviation (SD) of the total depression score for the experimental and control groups in the pre-test was 55.39 ± 5.17 and 56.73 ± 6.23, respectively, and for the post-test was 40.67 ± 6.25 and 55.37 ± 5.31, respectively. Further, the contents of table 3 show the mean and SD of loneliness scores for experimental and control groups in the pre-test as 65.13 ± 7.94 and 66.71 ± 7.62, respectively, and in the post-test, 63.73 ± 7.25 and 55.26 ± 5.28, respectively.

Table 2. The descriptive features of the participants

Variables	Group	Experimental [n (%)]	Control [n (%)]	χ^2	P
Educational status	Illiterate and under diploma	9 (30.00)	8 (26.66)	7.13	0.25
	Diploma	3 (10.00)	3 (10.00)		
	Over diploma	3 (10.00)	4 (13.33)		
Age group (year)	65-69	6 (20.00)	6 (20.00)	1.72	0.56
	70-75	9 (30.00)	9 (30.00)		
Meeting status	Yes	9 (30.00)	10 (33.33)	0.81	0.64
	No	6 (20.00)	5 (16.66)		

Table 3. The mean and standard deviation (SD) of depression and loneliness of the elderly in the pre-test and post-test stages

Variables	Group	Post-test	Pre-test
		Mean ± SD	Mean ± SD
Depression	Experimental	40.67 ± 6.25	55.39 ± 5.17
	Control	55.37 ± 5.31	56.73 ± 6.23
Loneliness	Experimental	66.71 ± 7.62	65.13 ± 7.94
	Control	55.26 ± 5.28	63.73 ± 7.25

SD: Standard deviation

The contents of table 4 show that there was a significant difference between the test group and the control group in terms of dependent variables at the $P \leq 0.001$ level. Therefore, it can be said that there was a significant difference between the two groups in at least one of the dependent variables (loneliness and depression). To find out this difference, two covariance analyses were performed in MANCOVA context. According to the effect size, 69% of the total changes in the dependent variable (loneliness and depression) were caused or could be explained by the independent variable, which means that up to 69% of the changes in the dependent variables can be explained by the intervention.

The results presented in table 5 indicate a significant difference between the intervention and control groups for both depression ($P = 0.001$, $F = 20.32$) and feelings of loneliness ($P = 0.001$, $F = 23.17$). Additionally, reminiscence-based interventions appear to have the greatest impact on loneliness, with an effect size of 0.801.

Discussion

This study aimed at cognitive reminiscence therapy to ease loneliness and depression in cognitively intact older adults and evaluate their effectiveness. According to the findings, the variable of depression and feeling of loneliness were obtained significant. In addition, the highest effectiveness of the reminiscence-based intervention was related to the variable of depression. According to the reviewed scientific literature, reminiscence therapy may influence both positive and negative outcomes.[21] Most of the studies have reported a significant positive impact, while a few have reported some negative impact. This negative impact was reported when the therapy was applied to participants who had some negative thinking involving rumination. Excessive therapy can shift gentle reflection into yearning or obsessive rumination.[22] A follow-up study by Viguer et al. demonstrated that reminiscence interventions were effective in improving depression, life satisfaction, and well-being among the elderly.[22]

Table 4. Results of multivariate analysis of covariance (MANCOVA) on variables

Test statistics	Value	F	df	df error	P	Effect size	Eta
Pillai's trace	0.873	74.19	2	28	0.001	0.69	1
Wilks' lambda	0.171	74.19	2	28	0.001	0.69	1
Hotelling's trace	7.190	74.19	2	28	0.001	0.69	1
Roy's largest root	6.540	74.19	2	28	0.001	0.69	1

df: Degree of freedom

Table 5. Results of analysis of covariance (ANCOVA) in the multivariate ANCOVA (MANCOVA) context

Dependent variable	SS	df	MS	F	P	Effect size	Eta
Loneliness	189.24	1	189.24	23.17	0.001	0.801	1
Depression	189.24	1	189.24	20.32	0.001	0.721	1

SS: Sum of squares; df: Degree of freedom; MS: Mean square

The study by Elias et al.[11] examined whether group reminiscence therapy was effective in reducing loneliness, anxiety, and depression in older adults living in long-term care homes by systematically reviewing the literature. Moreover, reminiscence therapy improved psychological well-being, depression, and loneliness among the institutionalized elderly, depression, well-being, integrity, self-esteem, and life satisfaction among older people living in urban areas,[24] and depression among older people living in rural areas.[25] In the study of Liu et al., reminiscence therapy showed that older people's depressive symptoms were negatively correlated with their life satisfaction, indicating that older people's depressive symptoms had been reduced and their life satisfaction increased.[8] Although reminiscence therapy also had a positive effect on older adults' multidimensional psychological well-being, including life satisfaction, loneliness, anxiety, and happiness.[26]

A systematic review and network meta-analysis found that drug and non-drug interventions were both effective in reducing the symptoms of depression among patients with dementia who suffered from depression as a neuropsychiatric symptom or had been diagnosed with major depressive disorder.[14,25] Reminiscence interventions are based on the idea that finding coherence and meaning in one's life is a key psychosocial task of older adulthood. Particularly, in this brief version, emphasis was placed on the positive aspects of experiences and how this relates to self-worth. This awareness may have stemmed from prompting participants to reflect on the overall significance and meaning of their identity-related experiences and identify recurring life themes. Furthermore, listening to others' stories may have triggered additional memories or abstract insights, enhancing their understanding of their life narratives. This process of identification is common for group interventions, and possibly a factor in other effects in this study as well.[26]

This study has some limitations. First, the sample size was small; the participants were all selected from a nursing home center, and there was not a periodic follow-up following the reminiscence therapy. Second, the duration of this study was short. As this study focuses on a specific population group, it is difficult to say definitively whether the study approach has improved elders' conditions. It is certainly true that individual differences like activity personality, family environment, and general conditions, such as diseases involved in these ages, can be considered confounding factors in future studies, which should be controlled to minimize their effects.

Conclusion

In summary, significant reductions in depression and loneliness were revealed by the reminiscence-based intervention among cognitively intact older adults. Such a non-pharmacological approach can be recommended for older adults at the community level. Results provide recommendations for geriatric nurse researchers investigating the science of reminiscence therapy and its impact on the health and well-being of long-term care residents.

Conflict of Interests

Authors have no conflict of interests.

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