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Effect of group reminiscence on cognitive and psychosocial functions of elderly women with mild Alzheimer's disease

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ABSTRACT

Background: Considering the growth of the aging society and the prevalence of various types of disorders and cognitive impairment in this age group, it seems necessary to pay attention to easy-access, low-cost and low-complication care and treatment methods. The present study aimed to investigate the effect of group reminiscence on the cognitive and psychosocial functions of elderly women with mild Alzheimer's disease referred to the Iranian Alzheimer's Association Center.

Materials and methods: This quasi-experimental (before-after) study was conducted on 44 elderly women with mild Alzheimer's disease based on the scores of the MMSE, GDS, and Hour tests (in equal groups of 22 people) at the Iranian Alzheimer's Association Center in 2022. Inclusion criteria consist of: being an elderly woman, being a member of the Iranian Alzheimer's Association, being 60 and over, suffering from Alzheimer's disease, having mild type (based on GDS, MMSE and Clock Drawing Test and evaluation and scoring by psychologists and psychiatrists of the center), having the physical ability to participate in this research (no severe hearing and speech impairment), not having a history of participating in reminiscence groups in the past year, non-participation in other psychosocial interventions at the same time as this study, and lack of severe mental illness. All participants were randomly divided into two intervention (reminiscence) and control groups. The intervention group followed a reminiscence group program and the control group followed daily issues program, group sessions were conducted during 16 sessions of 60 minutes and for 8 weeks. In the intervention group, elderly women based on the content of sessions Watt and Cappeliez protocol expressed pleasant and unpleasant memories of the past, and in the control group, group meetings were held about current and everyday issues. The cognitive and psychosocial function before and after the intervention was evaluated with the Multidimensional Observation Scale for Elderly Subjects (MOSES). The data were analyzed using SPSS version 22.

Results: The mean age of participating elderly patients was 75.09 ± 6.25 years (age range: 65-90 years). Most of the patients (54%) were married. Regarding education level, the majority of patients (49%) had less than a diploma. Regarding occupation, the majority of patients (92%) were housewives. The mean of the dimensions of the MOSES questionnaire before the intervention did not show a significant difference between the two intervention and control groups ($P < 0.05$). The mean score of the self-care dimension ($P = 0.166$), disorientation ($P = 0.426$), depression ($P = 0.072$), irritability ($P = 0.064$), withdrawal ($P = 0.276$) and the total score of the MOSES questionnaire ($P = 0.091$) after the intervention did not show a significant difference between the intervention and control groups. Comparing before and after the intervention, it showed that in the control group, there was no significant difference between the dominant mean of MOSES dimensions ($P < 0.05$). In the intervention group, a significant difference was observed between the average MOSES dimensions before and after



the intervention ($P<0.001$) and the mean score was reduced compared to before the intervention, and a reduction in the score means an improvement in the situation of intervention group.

Conclusion: According to the results obtained in the study, reminiscence in elderly patients with Mild Alzheimer's causes a decrease in the mean score of the MOSES dimensions, which is a significant difference that means an improvement in the observational state of behavior in terms of activities such as dressing, bathing, using the toilet, physical activity, communication with others, recognition of people and time, short and long-term memory, expression of discomfort, correction of misbehavior, desire for social relations, attention to environmental events and free time after group reminiscence sessions.

Keywords: Group reminiscence, cognitive function, psychosocial function, elderly

INTRODUCTION

According to the definition of the World Health Organization, people 60 years and older are considered elderly (1, 2). The aging process is a gradual decrease in the function of the body's systems, including the heart and blood vessels, breathing, urogenital, endocrine, and immune systems. Aging a healthy adult into a weak person, with a decrease in various physiological capacities and an increase in susceptibility to many diseases and death (3, 4). In national surveys, 20% of adults aged 65 and older have chronic disabilities. Chronic disease is the main cause of disability (5). Dementia is one of the most common chronic and progressive diseases of old age, the most common type of which is dementia caused by Alzheimer's disease and 50-80% of all elderly people with dementia are suffering from this type of disease (6).

In recent decades, it has been determined that Alzheimer's disease is a major health issue following aging, with its prevalence in the population over 65 years of age ranging from 3.6 to 10.3% (7). Considering that the incidence of Alzheimer's disease is increasing alarmingly and is becoming a social concern in many countries, the importance of addressing this issue doubles (8). The tragedy for Alzheimer's patients is that when their memory is lost, they lose many of the feelings they have. Social perception and isolation in response to cognitive function and memory loss can cause a decrease in self-esteem and identity. Therefore, it is important to promote physical activity and psychosocial functioning in the patient. Some interventions can improve the quality of care and reduce the incidence of concurrent complications. Reminiscence therapy is an independent nursing intervention that can improve the positive outcomes of care for patients with Alzheimer's (9). Types of group therapy for the elderly include work therapy, poetry therapy, art therapy, music therapy, dance therapy, and reviewing memories or group reminiscence (10).

Elderly group therapy is an opportunity for mutual support and a means to help a person adapt to the environment and life. The goal of group therapy for the elderly is to reduce anxiety, emotional support, and increase socialization (11). Group reminiscence means remembering and thinking about past experiences, especially the experiences that were important to the person, and this includes three stages of choosing a client, getting involve in the group, and end of the group, which leads to reducing depression symptoms, strengthening memory, increasing self-confidence, improving self-care and life satisfaction (12). In this study, the effects of group reminiscing on elderly women with mild Alzheimer's have been investigated.

Methods and materials

Design and settings



This quasi-experimental (before-after) study was conducted on 44 elderly women with mild Alzheimer's disease based on the scores of the Mini-Mental State Exam (MMSE), Geriatric Depression Scale (GDS), and Clock Drawing Test (CDT) tests (in equal groups of 22 people) at the Iranian Alzheimer's Association Center in 2022.

Eligibility criteria

Inclusion criteria consist of: being an elderly woman, being a member of the Iranian Alzheimer's Association, being 60 and over, suffering from Alzheimer's disease, having mild type (based on GDS, MMSE and CDT and evaluation and scoring by psychologists and psychiatrists of the center), having the physical ability to participate in this research (no severe hearing and speech impairment), not having a history of participating in reminiscence groups in the past year, non-participation in other psychosocial interventions at the same time as this study, and lack of severe mental illness.

Randomization

All participants were randomly divided into two intervention (reminiscence) and control groups using random allocation software. The intervention group followed a reminiscence group program and the control group followed daily issues program, group sessions were conducted during 16 sessions of 60-75 minutes and for 8 weeks. In the intervention group, elderly women expressed pleasant and unpleasant memories of the past, and in the control group, group meetings were held about current and everyday issues.

Multidimensional Observation Scale for Elderly Subjects (MOSES)

First, the questionnaire was translated into Farsi, and then the Persian version was translated into English, and after the final control, the Persian version was approved. For the reliability or validity of this tool, 10 psychometric, psychology, and psychiatric nursing and geriatric nursing experts checked the tool in terms of face and content validity. To check the reliability of this tool, test-retest was used. In this way, the questionnaire was first given to 22 caregivers of the elder (caregiver or family members) and after two weeks this tool was completed again by the same people and intra-cluster correlation was calculated ($r=0.814$). Cronbach's Alpha of the MOSES in this study was 0.917 (range: 0.909 to 0.918). Content Validity Ratio (CVR) and Content Validity Index (CVI) were assessed. Based on the Lawshe table, the minimum score for CVR for 10 experts is 62% and it was obtained 91% in this study. Also, CVI was 0.89. The MOSES has 24 Likert scales questions (scores 1 to 4 for each question). The reliability of the MOSES in a study by Dalton et al. was 0.85 (13). How to get points in the multi-dimensional observation scale for elderly subjects is that the items are rated at 4 or 5 points with a Likert rating scale. In each item, a lower score indicates a high function of the elderly

Statistical issue

The data were analyzed using SPSS version 22. Descriptive tests were done using mean, standard deviation and frequency and percentage. Analytical tests were done through independent t-test and paired t-test after checking normality using Kolmogorov-Smirnov statistic. A p value less than 0.05 was considered significant.



Results

The mean age of elderly patients participating in the study is 75.09 ± 6.25 years (age range: 65-90 years). Regarding marital status, the majority of patients (54%) were married and 5% were single as well as 41% were divorced. Regarding education level, the majority of patients (49%) had less than a diploma, 10% had a diploma, and 41% were illiterate. In terms of employment status, the majority of patients (92%) were housewives and 8% were retired.

According to the normal distribution of the data, which was checked by the Kolmogorov-Smirnov test, the independent t-test was used to check the dimensions of the MOSES questionnaire. The mean MOSES dimensions and the final score of MOSES did not show a significant difference ($P > 0.05$), which means that the two groups were homogeneous in terms of the MOSES dimensions before the intervention (Table 1).

Table 1: Comparison of the mean MOSES dimensions and final MOSES score before intervention

Variable			Mean	Std. Deviation	t	P value
Before intervention	Self-care	Control	10.95	4.69	0.268	0.790
		Intervention	10.57	4.34		
	Disorientation	Control	10.20	4.13	-1.672	0.102
		Intervention	12.38	4.21		
	Depression	Control	12.00	4.46	-0.350	0.728
		Intervention	12.42	3.32		
	Irritability	Control	5.20	1.76	-1.094	0.280
		Intervention	5.19	1.66		
	Withdrawal	Control	9.95	3.39	-2.412	0.021
		Intervention	12.47	3.31		
Total MOSES	Control	48.30	14.65	-1.094	0.280	
	Intervention	53.04	13.10			
After intervention	Self-care	Control	10.90	4.83	1.412	0.166
		Intervention	8.89	3.97		
	Disorientation	Control	9.89	4.06	0.805	0.426
		Intervention	9.00	2.79		
	Depression	Control	11.63	4.57	1.849	0.072
		Intervention	9.40	2.79		
	Irritability	Control	5.10	1.86	1.905	0.064
		Intervention	4.19	1.12		
	Withdrawal	Control	9.36	3.57	1.106	0.276
		Intervention	8.30	2.36		
Total MOSES	Control	47.27	14.82	1.739	0.091	
	Intervention	39.88	9.61			

between intervention and control groups

According to the normal distribution of the data, which was checked by the Kolmogorov-Smirnov test, the paired t-test was used to check the dimensions of the MOSES questionnaire. The mean MOSES dimensions and the final score of MOSES showed a significant difference ($P < 0.05$), which means that in the intervention group, MOSES dimensions were improved after the intervention (Table 2).

Table 2: Comparison of the mean MOSES dimensions and final MOSES score before and after intervention between intervention and control groups

Variable			Mean	SD	t	P value	
Control group	Self-care	Before intervention	10.95	4.69	0.203	0.841	
		After intervention	10.90	4.83			
	Disorientation	Before intervention	9.94	4.08	0.145	0.886	
		After intervention	9.89	4.06			
	Depression	Before intervention	11.84	4.52	0.846	0.408	
		After intervention	11.63	4.57			
	Irritability	Before intervention	5.20	1.76	1.453	0.163	
		After intervention	5.10	1.86			
	Withdrawal	Before intervention	9.89	3.47	2.249	0.037	
		After intervention	9.36	3.57			
	Total MOSES	Before intervention	48.11	14.34	1.180	0.254	
		After intervention	47.27	14.82			
	Intervention group	Self-care	Before intervention	10.57	4.19	6.344	<0.001
			After intervention	8.89	3.97		
Disorientation		Before intervention	12.70	4.05	6.999	<0.001	
		After intervention	9.00	2.79			
Depression		Before intervention	12.45	3.41	7.059	<0.001	
		After intervention	9.40	2.79			
Irritability		Before intervention	5.19	1.66	4.583	<0.001	
		After intervention	4.19	1.12			
Withdrawal		Before intervention	12.30	3.29	10.61	<0.001	
		After intervention	8.30	2.36			
Total MOSES		Before intervention	53.35	12.67	11.48	<0.001	
		After intervention	39.88	9.61			



Discussion

In this study, the researcher claimed in his hypothesis that reminiscing is effective on the cognitive and psychosocial performance of elderly women with mild Alzheimer's disease. The results of the study supported the hypothesis of the researcher and showed that the elderly women who were included in the test group showed higher cognitive and psychosocial performance than before the test. One of the types of group psychotherapy that are used in all age groups, especially in the elderly group, to improve the level of health, is group reminiscence

(14). Effect of reminiscence on the elderly is different and there is controversy, and some studies have shown the positive effects of reminiscence on emotional performance and memory in the elderly (15). Generally, reminiscence increases the quality of life at all ages, because it causes modeling and closeness to the norm state of society in multi-person meetings (16). In our study, we investigated the effects of group reminiscing in the elderly with mild Alzheimer's because reminiscence increases social intimacy and self-esteem of people by reconstructing memories and is considered an independent and easy intervention in geriatric nursing (17).

Our study showed that group reminiscing in elderly patients with Alzheimer's causes a decrease in the mean score of the MOSES dimensions, which means an improvement in the observational state of behavior in terms of daily activities such as dressing, bathing, using the toilet, physical activity, communication with others, recognition of people and time, short and long-term memory, expression of discomfort, correction of misbehavior, desire for social relations, attention to environmental events and free time of Alzheimer's elderly after group reminiscence sessions. Briefly, the dominant mean of the dimensions of the MOSES questionnaire before the intervention did not show a significant difference between the intervention and control groups. The mean of self-care, disorientation, depression, mood irritability, withdrawal dimensions and total score of the MOSES questionnaire after the intervention did not show any significant difference between the two intervention and control groups. Comparing before and after the intervention, it showed that in the control group, there was no significant difference between the dominant mean of MOSES dimensions. In the intervention group, a significant difference was observed between the average MOSES dimensions before and after the intervention, and the mean score was reduced compared to before the intervention, and a reduction in the score means an improvement in the situation. Group reminiscence therapy is effective in improving depressive symptoms and was useful in treating neuropsychiatric symptoms in patients with Alzheimer's disease (18).

In 2015, the effect of group reminiscing on depression, quality of life, self-integrity, social behavior performance and daily life activities in elderly patients with mild dementia was investigated. Using the SGDS, Life Satisfaction Index-A, Ego Integrity Scale, Social Behavior Function scale and Activities of Daily Living (ADLs), the elderly with mild dementia referring to the mental health center were evaluated. The authors concluded that although all the hypotheses were supported but group reminiscence therapy was useful and patients with mild dementia can talk to each other naturally without feeling mental tension and provide an opportunity to return to their own lives (19). Qanbarpanah et al. conducted a study to investigate the effect of group reminiscing on the cognitive abilities of the elderly with mild cognitive impairment. The intervention was such that the reminiscence group (intervention group) participated in 8 group reminiscing sessions (each session once a week for 60 to 90 minutes). The sessions of control group 1 (group talks) were also similar to the reminiscence group, with the difference that they talked to each other about the issues of the day without reminiscence and only as a group. The results showed that cognitive abilities (orientation, immediate memory, recall, attention and calculation, and language) increased significantly in the two groups of reminiscence and group intervention, but no significant change was observed in the group without intervention (20).

Serrani Azcurra et al. investigated the effect of a reminiscence intervention program on improving the quality of life of patients with Alzheimer's disease. For the intervention group,



they held 24 reminiscence sessions twice a week for one hour for 12 weeks with a life story approach and examined the results of the study at the beginning and 12 weeks and six months after the study. This intervention led to a significant difference between the study groups over time and created a significant improvement in the quality of life (21). Consistent with the results of the study by Serrani Azcurra et al., the results of our study also showed the beneficial effects of group reminiscence on the factors affecting the quality of life, that is, patients became more active in the community after the intervention of group reminiscence, they reacted to the events of the environment, the connection with others and the importance of taking care of free time became more apparent and the desire for social relations increased, which all lead to a better quality of life. Again in Iran, Akhundzadeh et al. conducted a study to investigate the effect of group reminiscing on the cognitive status of the elderly and had patients participate in eight 60-90-minute group reminiscence sessions. The cognitive status of the elderly was examined before and after the intervention, and group reminiscence improved the cognitive status of the elderly (22).

Etsuko et al. reported the effect of group reminiscing on the elderly with Alzheimer's disease and vascular dementia in a clinical trial and 6-month follow-up by the MOSES tool. In a geriatric health center, the intervention group underwent group reminiscing therapy for 8 weeks, and in this study, the first outcome was the level of daily life activities, such as (self-care, lack of awareness, depression, irritability, and withdrawal). And the second result was cognitive function. For participants with Alzheimer's disease, the intervention group showed a significant improvement in withdrawal and cognitive functions compared to the control group after the intervention (23). Considering that old age is a phenomenon that affects all the physical, cognitive, and psycho-social aspects of a person, it is necessary to adjust and correct the causes that can affect different aspects of life in order to achieve positive and stable changes in all the desired dimensions. Considering the elderly with Alzheimer's disease as a more vulnerable group in society, the need for educational planning and consulting services in the field of social support and improving the cognitive and psycho-social performance of this group is felt. On the other hand, providing social support and making the elderly with Alzheimer's disease feel that they are not alone and belong to a group that provides them with emotional support in times of difficulty and problems will improve the psycho-social health of these elderly. Elderly people with mild Alzheimer's disease, who have higher cognitive and psychosocial functioning, have the ability to deal with problems such as self-care, lack of awareness of time and place (disorientation), depression, irritability, and withdrawal, and through improving cognitive functions so dealing with these problems can be improved by the improvement of cognitive and psycho-social functions. According to the results obtained in the study, reminiscing in elderly patients with mild Alzheimer's causes a decrease in the mean score of the MOSES dimensions, and this significant difference means an improvement in the observational state of behavior regarding activities such as dressing, bathing, defecating, physical activity, communication with others, recognition of people and time, short and long-term memory, expression of discomfort, correction of misbehavior, desire for social relations, attention to environmental events and free time of Alzheimer's patients after group reminiscing sessions. In a specific situation like the coronavirus pandemic, collecting the elderly in such meetings for reminiscing is not recommended as "in-present" and they can meet each other virtually that is why this pandemic



due to high pathogenicity of coronavirus can cause severe complications in lots of organs and even death (24-28). Finally, as the above-mentioned studies and the results of our study, in most of the conducted research, it has been suggested that group reminiscence as an easy, accessible and uncomplicated intervention should be given more importance in the reduce symptoms of elderly people with mild Alzheimer's disease.

Conclusion

Considering the effectiveness of group reminiscing on the cognitive and psycho-social performance of elderly women with mild Alzheimer's disease, it can be used as a simple, easy and applicable treatment method for the elderly who go to daily care centers for non-pharmacological treatment. It can be expected that this method will be welcomed by the elderly and members of the treatment team. Reminiscence in elderly patients with Alzheimer's causes a decrease in the mean score of the MOSES dimensions, which is a significant difference that means an improvement in the observational state of behavior in terms of activities such as dressing, bathing, using the toilet, physical activity, communication with others, recognition of people and time, short and long-term memory, expression of discomfort, correction of misbehavior, desire for social relations, attention to environmental events and free time after group reminiscing sessions.

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Conflict of Interest: The authors declare that there is no conflicts of interest.

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Ethical statements : The research was conducted in accordance with the tents of the Declaration of Helsinki. The Ethics Committee of the University of Social Welfare and Rehabilitation Sciences (USWR) approved this study. The institutional ethical committee at the University of Social Welfare and Rehabilitation Sciences (USWR) accepted all study protocols (Ethical code#IR.USWR.MSP.REC.1400.006). Ethical issues (including plagiarism, data fabrication, and double publication) have been completely observed by the authors.

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