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Effectiveness of multimodal intervention for depression, self-esteem, and quality of life among elderly people residing at selected old age homes in Jalandhar, Punjab

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Abstract:

BACKGROUND: Depression is the most common mental disorder among old age people residing at old age homes. It is also associated with many physiological and psychological symptoms along with the impaired quality of life and self-esteem. The multimodal intervention, including physical activity, cognitive training, and social activities, has a positive effect on depression and self-esteem. However, only a few studies were conducted in India setup on the older population residing at old age homes. Hence, this study focused on finding the effectiveness of multimodal intervention for depression, quality of life, and self-esteem among elderly people residing at selected old age homes in Jalandhar, Punjab.

MATERIALS AND METHODS: A randomized, controlled trial design was adopted with longitudinal measurement of outcomes for 6 months. A simple random sampling technique was used to recruit 50 subjects to the experimental group and 50 subjects to the control group. Elderly people who are residing at selected old age homes in Jalandhar were selected for the study. The multimodal intervention was administered to the experimental group once weekly eight sessions over eight weeks after the pre-interventional assessment. The data were collected pre-intervention, at one month, three months, and six months after the intervention. The data were analyzed using Statistical Package for the Social Sciences (SPSS) version 23.0.

RESULTS: There were no significant differences in demographics between groups at baseline. The mean age of subjects was 64.35 ± 1.32 years in the experimental group and 64.12 ± 1.83 in the control group. The mean duration of stay in old age home was 3.64 ± 1.25 years in the experimental group and 4.05 ± 1.65 in the control group. There were significant multimodal intervention effects on decreasing depression ($F = 20.15, P < 0.05, \eta_p^2 = 0.092$) and increasing self-esteem ($F = 84.65, P < 0.001, \eta_p^2 = 0.24$) and quality of life ($F = 62.32, P < 0.001, \eta_p^2 = 0.52$) over the 6-month interval.

CONCLUSION: This study demonstrated that the multimodal intervention was effective in reducing depression among elderly people residing at selected old age homes. It also shows that self-esteem and quality of life improved significantly after intervention.

Keywords:

Depression, elderly people, multimodal intervention, old age homes, quality of life, self-esteem

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Introduction

Aging represents the accumulation of changes in a human being over time,

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encompassing physical, psychological, and social changes. Globally, the total number of people over 60 is set to double by 2050, rising from 1 billion to 2 billion, with 80% living in low- and middle-income countries.^[1]

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Many age-related disabilities begin to appear along with physical problems, there is an increase in the prevalence of mental problems due to many aging factors, and depression is one of the major problems among the elderly person.^[2]

According to World Health Organization, depression is the common mental health problem with a prevalence rate of 7% among old age people in the world.^[3] A systematic review conducted by Zenebe Y *et al.* (2021)^[4] shows that the average expected prevalence of depression among old age was 31.74% (95% CI: 27.90, 35.59). In the subgroup analysis, the pooled prevalence was higher among developing countries (40.78%) than in developed countries. Pilia M *et al.*'s (2019)^[5] study shows that the prevalence of depression among the Indian elderly population is 34.4% (95% CI: 29.3–39.7) and the pooled prevalence was higher among females, rural populations, and the eastern part of the country. Another Indian study found that severe depressive symptoms were found to be 17% elderly, while 60% were mildly depressed.^[6]

Depression among older people is associated with many physiological and psychological symptoms along with impaired quality of life and self-esteem. Hussenoeder FS *et al.*'s (2020)^[7] study found that there is a significant association between the selected aspects of quality of life with depression level among the elderly population. Depressed older persons had poorer global and generic health-related quality of life (QOL) than nondepressed individuals. An increase in depression severity was associated with a poorer global and generic health-related QOL. The associations appeared to be stable over time and independent of how QOL was assessed.^[8] Cao W *et al.*'s^[9] (2016) study shows negative correlations between physical health, psychological health, environment, and depression among elderly people, which were significant after controlling for age, education level, monthly income, and self-reported insomnia.

Self-esteem is an indicator of mental health, mature personality, and a person's adaptability. Several factors influence low self-esteem among elderly people, and it is associated with psychophysiological problems. Marital status, residence, occupation, life satisfaction, financial circumstances, history of health problems, and many other factors cause low self-esteem among old age people.^[10] Furthermore, low self-esteem is closely related to self-worth, low life satisfaction, loneliness, and depression.^[11] Sare S *et al.*'s^[12] (2021) study found that the level of self-esteem decreased with increased levels of depression. The lower self-esteem in older adults is related to higher levels of sad mood. The symptoms of depression were significantly correlated with self-esteem

and social support.^[13] Low self-esteem is also associated with poor quality of life among older age.^[14] Therefore, focusing the intervention on the overall aspect of self-esteem and depression will help elderly people to improve the quality of life.

Home environment plays important role in the transition period from adulthood to old age. Studies have found that the quality of life in older people living in their own homes is higher in comparison with people living in nursing homes.^[15] Indeed, facing possible institutionalization can result in the loss of self-control in older people, which causes feelings of powerlessness, a lack of motivation, anxiety, and social withdrawal. In addition, leaving one's own home is one of the most dramatic events in old age,^[16] which may provoke dissatisfaction, anxiety, and depression and may negatively impact an individual's perception of their quality of life. Jafari F *et al.*'s^[10] study has confirmed that older people living in an institution have lower self-esteem and worse physical health than people living in their own homes. On the contrary, better social support, higher self-esteem, and a decreased sense of loneliness are more prominent in people living in their own homes.^[17]

There are many treatment options available for depression and low self-esteem. However, many factors hinder treatment adherence. While several antidepressants are relatively safe for the majority of older adults, only about 44% respond, a third achieve remission with a single agent, and 58% were nonadherent to medications.^[18,19] Many forms of psychotherapy have been shown to be effective in the treatment of late-life depression along with improving self-esteem and quality of life. The strongest evidence base exists for problem-solving therapy and cognitive behavior therapy (CBT), with some evidence for interpersonal psychotherapy.^[20-22]

Koskas P *et al.*'s (2022)^[23] study on multidomain interventions such as CBT, occupational therapy, social skill training, and problem-solving techniques helped the elderly people to overcome day-to-day problems, thereby improving the quality of life. Moloud R *et al.*'s (2022)^[24] study shows that the level of self-esteem increased significantly in the CBT group after the intervention compared with the control group among individuals diagnosed with depression. A systematic review and meta-analysis of CBT-based interventions also show that self-esteem and quality of life were improved in older adults with psychological problems.^[25] In addition to CBT, problem-solving skills training and relaxation exercise found to be effective in improving self-esteem among depressed women.^[26] Lee YJ *et al.*'s (2014)^[27] study on multimodal intervention, including physical activity,

cognitive training, and social interaction activities, has a positive effect on depression and self-esteem that affect the quality of life of the participants.

Depression in older age is associated with medical problems, functional disability, cognitive impairment, behavioral problems, adjustment problems, family conflicts, and suicide risk also will high among these groups. Therefore, intervention focusing on these conditions is crucial in preventing and reducing the severity of depression among old age. Hence, this study focused on finding the effectiveness of multimodal intervention for depression, quality of life, and self-esteem among elderly people residing at selected old age homes.

Materials and Methods

Study design and setting

A randomized controlled trial was conducted with longitudinal measurement of outcomes for 6 months.

Participants were recruited from old age homes located in Jalandhar, Punjab. Formal permission was obtained from the concerned old age home managers for conducting the study. The data were collected from July 2018 to April 2019.

Study participants and sampling

The sample was selected through a simple random sampling using computer-generated random numbers. The sampling inclusion criteria were elderly aged above 60 years and able to converse, read, and write in Hindi or English. The study excluded elderly with major health problems in the last one year and diagnosed with schizophrenia, neurotic disorders, and other psychotic condition and receiving treatment for their psychotic condition. Beyond the inclusion criteria, the eligibility for this study also required the older adult's willingness to participate, written informed consent, and approval from the old age administration. The sample size was estimated using the pilot study data on the outcome variables, and the sample size was calculated using the formula $\text{sample size} = Z \text{ value}^2 \times \text{SD}^2 / d^2$, where "Z value" is the standard score corresponding to a 95% confidence level ($Z = 1.96$), "SD" is standard deviation, and "d" is expected allowable error in the mean. The calculated sample size was 86 subjects for both groups. Considering the possibility of dropout, 110 elderly people were selected for the study.

A total of 140 subjects were approached, and 26 subjects did not meet the sampling criteria. Of 114 subjects, each group is allocated to 57 subjects. Eight sessions of multimodal intervention were conducted for the experimental group, with two sessions per week for

four weeks. Each session lasted for 30–40 minutes. Post-assessment was carried out for both groups at one month, at three months, and six months [Figure 1: flowchart showing distributions of subjects in the experimental and control groups].

Intervention

The multimodal intervention was developed based on the CBT, problem-solving, interpersonal therapy, and social skills training approach. The multimodal intervention module was prepared by conducting a review of the literature, drafting a module by discussing with experts and clinical psychologists, and a preliminary trial run conducted to identify the treatment goals for the particular age group. Content validity of the multimodal intervention was established by obtaining the inputs of experts in the field of psychiatry, and a trial run was conducted in the pilot study. Finally, intervention sessions were organized into eight sessions focusing on developing skills in identifying and modifying negative thoughts, replacing thinking errors with realistic alternatives, improving day-to-day activities, developing adaptive coping skills, and building self-esteem. The intervention was given as a group approach by the first author who is an experienced psychiatric nurse with a master's degree in psychiatric nursing.

Measures

Center for Epidemiological Studies Depression Scale: It is a 20-item measure that asks caregivers to rate how often over the past week they experienced symptoms associated with depression, such as restless sleep, poor appetite, and feeling lonely. Response options range from 0 to 3 for each item (0 = rarely or none of the time, 1 = some or little of the time, 2 = moderately or much of the time, and 3 = most or almost all the time). Scores range from 0 to 60, with high scores indicating greater depressive symptoms, and a cutoff score of 16 suggests significant depression in the elderly population. The scale has been used in prior Indian studies among the elderly population.^[28] The reliability for this study was established by the test-retest method ($\alpha = 0.78$) and split-half method ($\alpha = 0.89$).

Rosenberg Self-Esteem Scale: Self-esteem was measured using the Rosenberg Self-Esteem Scale, which contains 10 items in a 4-point Likert scale format. A score less than 20 indicates low self-esteem; 20–30 indicates moderate self-esteem; and above 30 indicates high self-esteem. The reliability for this study was established by the test-retest method ($\alpha = 0.87$) and split-half method ($\alpha = 0.79$).

World Health Organization Quality of Life Brief Version (WHOQOL-BREF): It contains 26 items; each item has five options with relevant answers. The most relevant answer for each item was five, and the least

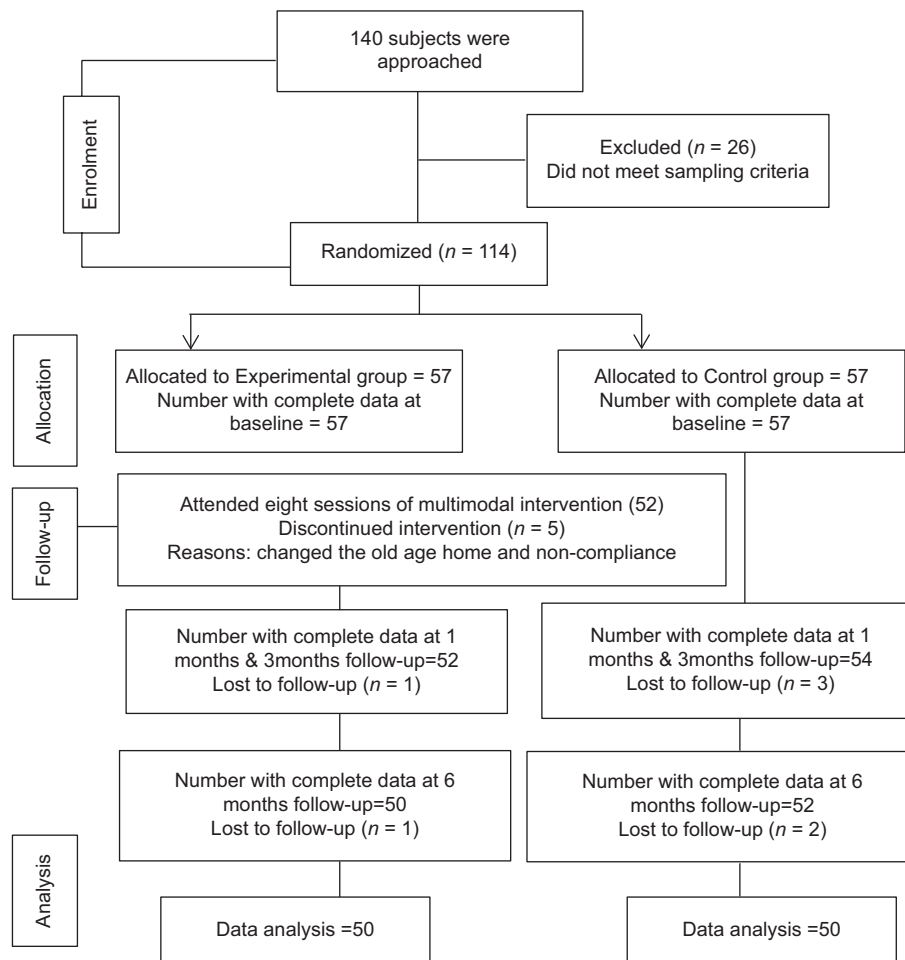


Figure 1: Flowchart showing distributions of subjects in the experimental and control groups

relevant answer for each item was one. Thus, for 26 items the maximum score is 130 and the minimum score is 26. The quality of life was classified as a low level for a score up to 52, a score of 53–78 as medium level, and a score higher than 78 as classified as a high level of quality of life.

Ethical considerations

The study was approved by the Institutional Ethics Committee (Ref. No. SGL/D/CON/.141-17), and informed consent was taken from the subjects. On completion of the 6-month assessment, subjects in the wait-list control group were provided brief sessions of the multimodal intervention.

Data analysis

The data were analyzed using IBM Statistical Package for the Social Sciences software package (version 23). The Chi-square test was used to examine the associations between group status (experimental vs. control) for categorical measures, and the t-test/Mann–Whitney U-test was used for continuous measures. As the Shapiro–Wilk test of normality indicated the normal distribution of variables, the parametric repeated-measures analysis

of variance was used to evaluate the effectiveness of the multimodal intervention.

Results

There were no significant differences in demographics between groups at baseline. The mean age of subjects was 64.35 ± 1.32 years in the experimental group and 64.12 ± 1.83 in the control group. The majority of subjects (60% in experimental and 68% in control) were males, the majority (50% in experimental and 58% in control) belonged to the Sikh religion, majority of them (28% in experimental and 34% in control) had no formal education, majority of elderly were married, and the majority (40% in experimental and 48% in control) of subjects had family support as an income source. The mean duration of stay in old age home was 3.64 ± 1.25 years in the experimental group and 4.05 ± 1.65 in the control group [Table 1].

Repeated-measures analysis of variance (ANOVA) was conducted to know variations in the outcome variables across the time point. There were significant multimodal intervention effects in all of the outcome variables in

the experimental group. Compared with the control group, the experimental group showed a statistically significant decrease in depression ($F = 20.15, P < 0.05, \eta_p^2 = 0.092$) and statistically significant increases in self-esteem ($F = 84.65, P < 0.001, \eta_p^2 = 0.24$) over the 6-month interval. The intervention also had a significant effect on improving the quality of life among elderly people in the experimental group compared with the control group ($F = 62.32, P < 0.001, \eta_p^2 = 0.52$) [Table 2].

Discussion

The risk of depression and other psychological problems increases among elderly people residing in old age

home compared with family living in India. This study evaluated the multimodal intervention for depression, self-esteem, and quality of life among elderly people residing at selected old age homes. The module was developed specifically for the older population by considering cultural and traditional backgrounds. In addition to this, the intervention was focused on reducing the severity of depression and enhancing self-esteem, so that subjects will improve the quality of life during the later stage of life.

The findings show that multimodal intervention was effective in reducing depression among the experimental group subjects compared with the control group.

Table 1: Demographic characteristics of the experimental and control groups

Demographic data	Items	Groups		χ^2 /Fisher's exact/t	P
		Experimental (n=50)	Control (n=50)		
Age in years (mean±SD)		64.35±1.32	64.12±1.83	1.26	0.36
Gender	Male	30 (60)	34 (68)	0.72	0.84
	Female	20 (40)	16 (32)		
Religion	Hindu	15 (30)	13 (26)	1.23	0.56
	Sikh	25 (50)	28 (56)		
	Muslim	4 (08)	3 (06)		
	Christian	6 (12)	6 (12)		
Educational qualification	No formal education	14 (28)	17 (34)	0.78	0.82
	Up to secondary education	10 (20)	13 (26)		
	Higher secondary and degree	16 (32)	11 (22)		
	Professional	10 (20)	09 (18)		
Marital status	Married	24 (48)	28 (56)	1.21	0.63
	Divorced or separated	10 (20)	08 (16)		
	Widow or widower	16 (32)	14 (28)		
Economic status	Pension	08 (16)	10 (20)		
	Family support	20 (40)	24 (48)		
	Old age home	15 (30)	12 (24)		
	Others	07 (14)	04 (08)		
Duration of stay in old age home (mean±SD)		3.64±1.25	4.05±1.65	1.23	0.65

Table 2: Group comparison of depression, self-esteem, and quality of life across the time points

Time of assessment	Experimental group (mean±SD)	Control group (mean±SD)	Time effect (F/P)	Group effect (F/P)	Time X group effect (F/P)
Depression					
Baseline (T0)	19.32±4.32	18.18±3.25	$F=96.25,$	$F=20.15,$	$F=88.68,$
1 st month (T1)	16.35±3.25	17.65±2.98	$P<0.001$	$P=0.03$	$P<0.000$
3 rd month (T2)	11.36±2.65	16.48±3.12	$\eta_p^2=0.28$	$\eta_p^2=0.092$	$\eta_p^2=0.48$
6 th month (T3)	08.35±1.65	17.12±2.36			
Self-esteem					
Baseline (T0)	17.36±2.65	18.65±3.14	$F=142.1$	$F=84.65$	$F=63.14$
1 st month (T1)	22.65±3.21	18.94±2.15	$P<0.001$	$P<0.001$	$P<0.001$
3 rd month (T2)	25.35±2.15	19.24±3.14	$\eta_p^2=0.58$	$\eta_p^2=0.24$	$\eta_p^2=0.32$
6 th month (T3)	28.34±1.45	20.14±4.12			
Quality of life					
Baseline (T0)	50.12±8.69	53.16±6.34	$F=163.72$	$F=62.32$	$F=96.32$
1 st month (T1)	56.32±7.65	52.13±8.36	$P<0.001$	$P<0.001$	$P<0.001$
3 rd month (T2)	64.32±7.21	49.62±7.12	$\eta_p^2=0.72$	$\eta_p^2=0.52$	$\eta_p^2=0.42$
6 th month (T3)	72.15±8.12	51.26±5.63			

η_p^2 =partial eta-squared

Over the time period, the intervention remains to be effective ($F = 88.68$, $P < 0.000$, $\eta_p^2 = 0.48$). This finding was supported by previous studies conducted using multimodal intervention consisting CBT, interpersonal therapy, problem-solving, and social skills training that were effective on depression in older age people.^[29,30]

The study conducted by Apóstolo J *et al.*^[31] on the effectiveness of combined intervention, composed of a cognitive program and a physical exercise program, was effective in reducing depression among the older age group population. The meta-analysis conducted by Cuijpers P *et al.* (2014)^[32] on the management of depression in the older age group also shows that the combination of psychotherapy was effective and safe to use in the later stage of life. The overall effect size indicating the difference between the experimental and control groups was $g = 0.64$. These effects were maintained for 6 months or longer. Specific types of psychotherapies that were found to be effective included CBT, life review therapy, and problem-solving therapy. Cabanel N *et al.* (2017)^[33] also found that multiprofessional behavioral treatment programs consisting of psychotherapy, social skills training, relaxation training, euthymic and mindfulness-based methods, exercise and occupational therapy, and psychoeducational sessions for relatives were more effective compared with single psychotherapy for depression. However, still in India, pharmacological interventions are offered as the first-line treatment modalities for the treatment of depression due to the significantly lesser availability of trained therapists in most of the places and patient preferences.

The findings also show that self-esteem and quality of life improved significantly in the experimental group compared with the control group after intervention. Our findings are similar to research evidence, which demonstrated that group combined intervention was effective in reducing depression levels of the experimental group among elderly patients. Second, it was effective in improving the self-esteem of the experimental group among elderly patients.^[34]

Waite P *et al.*'s^[35] study also found that a brief CBT intervention was effective in treating low self-esteem and associated symptoms among depressive and other psychiatric disorders. Beattie S & Beattie D's (2018)^[36] study shows that group CBT may be effective at increasing levels of self-esteem and reducing levels of depression and anxiety when delivered in a primary care setting.

The study conducted by Gothe NP *et al.*^[37] found that exercise program was effective in improving the self-esteem among the older age group population.

In addition, van der Meulen IC *et al.*'s^[38] study found that nurse lead psychosocial intervention was effective in reducing symptoms of depression and improving the self-image of the patient. However, a systematic review conducted by Niclasen J *et al.*^[39] on mental health intervention in older age found contradictory results for multimodal intervention for depression and self-esteem.

In India, the majority of the older population lives with their family. However, due to modernization and change in the family structure, old age homes are increasing in India. The people living in old age homes suffer from many psychological problems due to changes in their daily routine and lack of family support along with physical illness. Psychological intervention plays important role in reducing these problems with minimal side effects. The empirical evidence indicates that the combination of different psychotherapy plays important role in old age mental health. Hence, multimodal intervention focusing on different aspects of life will improve their quality of life and decreases psychological problems.

There are a few limitations in this study. First, due to a modest sample size, the study's generalization is limited. Second, we had follow-up assessment till 6 months and did not evaluate whether intervention effects endured beyond that time. Finally, the intervention was focused only on depression, self-esteem, and quality of life. Therefore, future research should focus on many aspects of the older age group psychological problems.

Conclusion

The present study shows that multimodal intervention based on CBT, problem-solving, interpersonal therapy, and social skills training approach was effective in reducing depression symptoms and improving self-esteem and quality of life among the elderly population residing at old age home. These findings provided initial evidence for the effect of the combined intervention on psychological problems among the geriatric population in India.

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Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. World Health Organization. The Global Network for Age-friendly Cities and Communities: Looking back over the last decade, looking forward to the next. World Health Organization, 2018. Available from: <https://apps.who.int/iris/handle/10665/278979>.
2. Barua A, Ghosh MK, Kar N, Basilio MA. Prevalence of depressive

- disorders in the elderly. *Ann Saudi Med* 2011;31:620-4.
3. Mental health of older adults. 2017. Available from: <https://www.who.int/news-room/fact-sheets/detail/mental-health-of-older-adults>.
 4. Zenebe Y, Akele B, W/Selassie M, Necho M. Prevalence and determinants of depression among old age: A systematic review and meta-analysis. *Ann Gen Psychiatry* 2021;20:55.
 5. Pilia M, Yadav V, Bairwa M, Behera P, Gupta SD, Khurana H, et al. Prevalence of depression among the elderly (60 years and above) population in India, 1997-2016: A systematic review and meta-analysis. *BMC Public Health* 2019;19:832.
 6. Goyal A, Kajal KS. Prevalence of depression in elderly population in the southern part of Punjab. *J Fam Med Prim Care* 2014;3:359-61.
 7. Hussenoeder FS, Jentzsch D, Matschinger H, Hinz A, Kilian R, Riedel-Heller SG, et al. Depression and quality of life in old age: A closer look. *Eur J Ageing* 2020;18:75-83.
 8. Sivertsen H, Bjørkløf GH, Engedal K, Selbæk G, Helvik AS. Depression and quality of life in older persons: A review. *Dement Geriatr Cogn Disord* 2015;40:311-39.
 9. Cao W, Guo C, Ping W, Tan Z, Guo Y, Zheng J. A community-based study of quality of life and depression among older adults. *Int J Environ Res Public Health* 2016;13:693.
 10. Jafari F, Khatony A, Mehrdad M. Self-esteem among the elderly visiting the healthcare centers in Kermanshah-Iran (2012). *Glob J Health Sci* 2015;7:352-8.
 11. Chen J, Zheng K, Xia W, Wang Q, Liao Z, Zheng Y. Does inside equal outside? Relations between older adults' implicit and explicit aging attitudes and self-esteem. *Front Psychol* 2018;9:2313.
 12. Sare S, Ljubičić M, Gusar I, Čanović S, Konjevoda S. Self-esteem, anxiety, and depression in older people in nursing homes. *Healthcare (Basel)* 2021;9:1035.
 13. Demeyer I, Romero N, De Raedt R. Assessment of implicit self-esteem in older adults: The role of actual and ideal self-esteem in negative mood. *Assessment* 2018;25:302-9.
 14. Souza Júnior EV, Cruz DP, Siqueira LR, Rosa RS, Silva CDS, Biondo CS, et al. Is self-esteem associated with the elderly person's quality of life? *Rev Bras Enferm* 2022;75(Suppl 4):e20210388.
 15. Olsen C, Pedersen I, Bergland A, Enders-Slegers MJ, Jøranson N, Calogiuri G, et al. Differences in quality of life in home-dwelling persons and nursing home residents with dementia-A cross-sectional study. *BMC Geriatr* 2016;16:137.
 16. Roy N, Dubé R, Després C, Freitas A, Légaré F. Choosing between staying at home or moving: A systematic review of factors influencing housing decisions among frail older adults. *PLoS One* 2018;13:e0189266.
 17. Parkar SR. Elderly mental health: Needs. *Mens Sana Monogr* 2015;13:91-9.
 18. Tedeschini E, Levkovitz Y, Iovieno N, Ameral VE, Nelson JC, Papakostas GI. Efficacy of antidepressants for late-life depression: A meta-analysis and meta-regression of placebo-controlled randomized trials. *J Clin Psychiatry* 2011;72:1660-8.
 19. Olfson M, Blanco C, Marcus SC. Treatment of adult depression in the United States. *JAMA Intern Med* 2016;176:1482-91.
 20. McGovern AR, Kiosses DN, Raue PJ, Wilkins VM, Alexopoulos GS. Psychotherapies for late-life depression. *Psychiatr Ann* 2014;44:147-52.
 21. Kiosses DN, Leon AC, Areán PA. Psychosocial interventions for late-life major depression: Evidence-based treatments, predictors of treatment outcomes, and moderators of treatment effects. *Psychiatr Clin North Am* 2011;34:377-401.
 22. Kiosses DN, Alexopoulos GS. Problem-solving therapy in the elderly. *Curr Treat Options Psychiatry* 2014;1:15-26.
 23. Koskas P, Kohler S, Estrada J, Sebbagh M, Lacaille S, Lilamand M. Effect of a multi-domain intervention on the quality of life in older adults with major neurocognitive disorder: A pilot study. *Rev Neurol (Paris)* 2022;178:355-62.
 24. Moloud R, Saeed Y, Mahmonir H, Rasool GA. Cognitive-behavioral group therapy in major depressive disorder with focus on self-esteem and optimism: An interventional study. *BMC Psychiatry* 2022;22:299.
 25. Kolubinski DC, Frings D, Nikčević AV, Lawrence JA, Spada MM. A systematic review and meta-analysis of CBT interventions based on the Fennell model of low self-esteem. *Psychiatry Res* 2018;267:296-305.
 26. Nasiri S, Kordi M, Gharavi MM. A comparative study of the effects of problem-solving skills training and relaxation on the score of self-esteem in women with postpartum depression. *Iran J Nurs Midwifery Res* 2015;20:105-12.
 27. Lee YJ, Lee JH, Kim YJ, Yang NY, Park JH. The effect of multimodal intervention on quality of life, depression, and cognitive function in elderly people with dementia: A pilot study. *J Korean Soc Occup Ther* 2014;22:85-97.
 28. Chokkanathan S, Mohanty J. Factor structure of the CES-D scale among older adults in Chennai, India. *Aging Ment Health* 2013;17:517-25.
 29. Eschweiler GW. Diagnostik und multimodale Therapie der Altersdepression: Neue Entwicklungen [Diagnostics and multimodal treatment of depression in old age: New developments]. *Z Gerontol Geriatr* 2017;50:99-105. [German].
 30. Burgener SC, Yang Y, Gilbert R, Marsh-Yant S. The effects of a multimodal intervention on outcomes of persons with early-stage dementia. *Am J Alzheimers Dis Other Demen* 2008;23:382-94.
 31. Apóstolo J, Dixe MDA, Bobrowicz-Campos E, Areosa T, Santos-Rocha R, Braúna M, et al. Effectiveness of a combined intervention on psychological and physical capacities of frail older adults: A cluster randomized controlled trial. *Int J Environ Res Public Health* 2019;16:3125.
 32. Cuijpers P, Karyotaki E, Pot AM, Park M, Reynolds CF 3rd. Managing depression in older age: Psychological interventions. *Maturitas* 2014;79:160-9.
 33. Cabanel N, Kundermann B, Franz M, Müller MJ. Multiprofessionelle stationäre Psychotherapie bei Depressionen im Alter [Multiprofessional inpatient psychotherapy of depression in old age]. *Nervenarzt* 2017;88:1221-6. [German].
 34. Kil T, Kim HM, Kim M. The effectiveness of group combined intervention using animal-assisted therapy and integrated elderly play therapy. *J Anim Sci Technol* 2019;61:371-8.
 35. Waite P, McManus F, Shafran R. Cognitive behaviour therapy for low self-esteem: A preliminary randomized controlled trial in a primary care setting. *J Behav Ther Exp Psychiatry* 2012;43:1049-57.
 36. Beattie S, Beattie D. An investigation into the efficacy of a cognitive behavioural therapy group for low self-esteem in a primary care setting. *Cogn Behav Ther* 2018;11:e12.
 37. Gothe NP, Mullen SP, Wójcicki TR, Mailey EL, White SM, Olson EA, et al. Trajectories of change in self-esteem in older adults: Exercise intervention effects. *J Behav Med* 2011;34:298-306.
 38. Meulen IC, May AM, Ros WJ, Oosterom M, Hordijk GJ, Koole R, et al. One-year effect of a nurse-led psychosocial intervention on depressive symptoms in patients with head and neck cancer: A randomized controlled trial. *Oncologist* 2013;18:336-44.
 39. Niclasen J, Lund L, Obel C, Larsen L. Mental health interventions among older adults: A systematic review. *Scand J Public Health* 2019;47:240-50.