DOI: 10.37990/medr.1451471 Med Records 2024;6(2):288-95

MEDICAL RECORDS-International Medical Journal

Research Article

Depression Conditions of the Elderly Living in Nursing Homes and the Factors Affecting Them

Sedat Ozdemir[1], Ayse Elkoca[2], Duygu Ayar[3], Ibrahim Halil Turkbeyler[1]

[1]Gaziantep İslam Science And Technology University, Faculty of Medicine, Department of Internal Diseases, Gaziantep,Türkiye
[2]Gaziantep İslam Science And Technology University, Faculty of Health Sciences, Department of Midwifery, Gaziantep,Türkiye
[3]Gaziantep İslam Science And Technology University, Faculty of Health Sciences, Department of Nursing, Gaziantep,Türkiye

Abstract

Aim: The aim of our article is to determine the depression status of elderly people living in nursing homes and the affecting factors.
Material and Method: The study included 75 elderly individuals who lived in assisted living facilities. Data was collected through a Personal Information Form, the Geriatric Depression Scale, the Mini Mental Assessment Test, and retrospective blood results. The data were analyzed using SPSS 26.0 software and non-parametric tests were used due to the non-normal distribution of the data. The Mann-Whitney U test and the Kruskal-Wallis test were used to compare independent variables. Additionally, multiple regression analysis was employed.
Results: The study found that 38.7% of elderly participants had abnormal mini-mental assessments, and 21.3% had significant depression. Statistical analysis revealed significant differences in the total mean scores of the Mini Mental State Test (MMST) based on gender (p=0.023), marital status (p=0.001), educational attainment (p=0.001), and level of schooling. Additionally, there was a statistically significant difference (p=0.002) between the Geriatric Depression Scale (GDS) total mean score and the presence of sleep issues. The total mean scores of MMST indicated a statistically significant difference between the status of urine incontinence (p=0.001) and exercise (p=0.006), as well as their combination.
Conclusion: Approximately one third of the participants were depressed and had poor cognitive status. Depression was associated with being female, low educational status and sleep problems, whereas mental status was associated with gender, marital status, and educational status. It is recommended to conduct longitudinal studies with larger samples in future studies.

Keywords: Depression, nursing home, mental status, elderly

INTRODUCTION

Population ageing is a global issue of our time. Due to technological advancements, declining birth rates, and improved diagnostic and treatment options, people are living longer, resulting in a larger aging population. The world's aging rate has significantly increased in recent years (1). In the final stages of life, some elderly individuals may choose to reside in a nursing home, which can increase the risk of depression. Depression is a prevalent psychological issue among nursing home residents. Research indicates that older adults are at a higher risk of depression than younger adults due to factors such as social isolation, physical health problems, and life changes (2). The estimated prevalence of depression in elderly individuals in our society is 35% (3). Depression has been linked to accelerated cognitive impairment and disability (4). Social and emotional isolation, chronic diseases, physical health problems, and life changes, such as a change in lifestyle and adaptation to a new environment, may affect the development of depression among elderly people living in nursing homes (5). The diagnosis and treatment of depression can be guided by depression scales, which are part of a detailed geriatric assessment (6). To cope with depression, it is important to strengthen social connections, increase physical activity, and receive psychosocial and emotional support (2,5,7).

Nutritional status of elderly individuals affects both their physical functions and mental health (8). In

CITATION
Ozdemir S, Elkoca A, Ayar D, Turkbeyler IH. Depression Conditions of the Elderly Living in Nursing Homes and the Factors Affecting Them. Med Records. 2024;6(2):288-95. DOI:1037990/medr.1451471

Received: 12.03.2024 **Accepted:** 09.05.2024 **Published:** 14.05.2024
Corresponding Author: Ayse Elkoca, Gaziantep İslam Science And Technology University, Faculty of Health Sciences, Department of Midwifery, Gaziantep,Türkiye
E-mail: ayse.elkoca@hotmail.com

addition, deficiencies in physical functions and cognitive dysfunction also lead to nutritional disorders. In a study conducted on the elderly, it was reported that there was a positive correlation between nutritional status and mental status (9). Psychological, medical, and socioeconomic problems experienced in old ages affect the occurrence of malnutrition. Failure to recognize malnutrition early and not intervening them lead to increases in mortality and morbidity in old ages (10). It seems that depression and nutritional disorders are conditions that can trigger each other. In this sense, it is thought that our study would contribute to the literature.

This article aims to determine the cognitive and mental states of elderly individuals residing in nursing homes, as well as the factors that influence them.

According to this objective, the study aims to provide answers to the following questions:

1. What are the depression levels of elderly people staying at a nursing home?
2. What are the factors affecting the depression levels of the elderly living in a nursing home?

MATERIAL AND METHOD

Study Design

This descriptive study included 97 elderly residents from a nursing facility located in the city center. As a result of the power analysis, the sample size is 73 with a 5% margin of error and a 90% confidence interval. 75 elderly participants participated in the study.

Data Collection

The study was conducted between November and January 2023 with 75 elderly participants. The questionnaire took approximately 7-10 minutes to complete and it was administered face-to-face by the researchers. Blood values were obtained retrospectively from the health records, with the last measurements serving as the basis. No invasive interventions were performed on the elderly.

Inclusion criteria;

- Being over 65 years of age,
- Residing for a minimum of a year in a nursing home,
- Passing the mental test conducted by the nursing home

Exclusion criteria;

- Having reading and comprehension problems

Measurements

Data were gathered using the Personal Information Form, Geriatric Depression Scale Questionnaire, and Mini Mental Assessment Test.

Personal Information Form: The researchers prepared the personal information form in accordance with the literature. The form comprises nine questions that assess the sociodemographic and other characteristics of elderly individuals participating in the study.

Geriatric Depression Scale (GDS): Burke et al. (1991) tested the validity and reliability of the 15-question short form of the scale developed by Yesavage et al. (1983) from its original 30 items. In the Turkish validity and reliability study, Ertan et al. (1997) reported a Cronbach alpha coefficient of 0.90 for the scale. The questions inquiring about the mood of elderly individuals are answered based on their feelings in the last week. The depression score is determined by answering the questions with either 'yes' or 'no', similar to the long form. Each 'yes' answer is worth one point, and the total score is used to determine the severity of depressive symptoms. Durmaz et al. (2018) suggested that the scoring should be categorized as follows: no depressive symptoms (0-4), mild depressive symptoms (12,13), moderate depressive symptoms (9-11), and severe depressive symptoms (12 opr higher) (10). The present study reported a Cronbach alpha coefficient of 0.83 for the scale.

Mini Mental State Test (MMST): The Standardized Mini-Mental Test is used to evaluate cognitive disorders in both educated and uneducated individuals (14). The test consists of six sections: orientation, recording, attention-calculation, recall, language, and structuring, with each question worth one point and a total possible score of 30. The cut-off score for the test is 23. Ertan et al. (1999) modified and created this test (15).

Data Analysis

The statistical analyses were conducted using the SPSS 26.0 software package for Windows. The data's normal distribution was evaluated using the Skewness and Kurtosis (±1) distribution test (16). To compare independent variables and evaluate the data obtained in the study, Kruskal-Wallis and Mann-Whitney U tests were used due to the non-normal distribution of the data. Additionally, multiple regression analysis was conducted to determine the effects between the variables. The internal consistency Cronbach alpha coefficient was also calculated.

Ethics Committee Approval

Ethics committee approval for this study was received from Gaziantep İslam Science and Technology University (Date: 20 July 2023, Number: 2023/273.27.04).

RESULTS

It was found that 36 percent of the elderly were at least 80 years old, 66.7% were male, 89.3% had no partner, and 78.7% had primary school education. It was found that 40% of the elderly had urinary incontinence, 16% had fecal incontinence, 42.7% had sleeping problems, 29.3% used sleeping pills, and 69.4% did not exercise. It was determined that 21.3% of the elderly were moderately depressed and 38.7% had abnormal mini mental assessment (Table 1).

The total mean score of GDS did not change statistically significantly (p<0.05) based on the elderly's ages and marital statuses. Statistically significant differences were found between the GDS total mean score, gender (p=0.012), and educational level (p=0.016). Furthermore, there was no statistically significant difference (p<0.05) between the ages of the elderly and their MMST total mean score. The results of the statistical analysis showed that the MMST total mean scores varied significantly according to the factors of gender (p=0.023), marital status (p=0.001), and educational level (p=0.001) (Table 2).

Between the total mean score of GDS and the following variables: exercise, use of sleeping pills, fecal incontinence, and urinary incontinence (p<0.05), there were no statistically significant differences. The GDS total mean scores showed statistically significant differences according to the status of experiencing sleeping problems (p=0.002). Fecal incontinence, sleeping problems, and use of sleeping pills did not significantly differ from the MMST total mean score (p<0.05). The MMST total mean scores showed a statistically significant difference between the urinary incontinence (p=0.001), exercise status (p=0.006), and both. Subsequent investigation revealed a significant difference (p=0.001) between the groups who exercised frequently and those who did not (Table 3).

The GDS levels of the elderly (F=2.916; p=0.006) explained 35.1% of the effect on sociodemographic and some other characteristics. In addition, MMST levels (F=5.456; p=0.001) explained 34.3% of the effect on sociodemographic and some other characteristics. When the beta coefficients were analysed, it was seen that sleeping problems explained the level of GDS and the urinary and fecal incontinence explained the level of MMST (Table 4).

Table 1. Distribution of sociodemographic and other characteristics of the elderly and their GDS and MMST (n=75)

Characteristics		n	%
Age	60-69 years	22	29.3
	70-79 age range	26	34.7
	Age 80 and over	27	36.0
Gender	Female	25	33.3
	Male	50	66.7
Marital status	Has got a partner	8	10.7
	Hasn't got a partner	67	89.3
Level of education literate	Literate	16	21.3
	Primary School	59	78.7
Urinary incontinence	Present	30	40.0
	Absent	45	60.0
Fecal incontinence	Present	12	16.0
	Absent	63	84.0
Sleeping problems	Present	32	42.7
	Absent	43	57.3
Use of sleeping pills	Present	22	29.3
	Absent	53	70.7
Exercise status	Exercises regularly	13	17.3
	Doesn't exercise	52	69.4
	Exercises occasionally	10	13.3
GDS	Normal	37	49.3
	Low	15	20.0
	Moderate	16	21.3
	Severe	7	9.4
MMST	Abnormal	29	38.7
	Normal	46	61.3

Table 2. The comparisons of sociodemographic characteristics of the elderly and total mean scores of GDS and MMST

		GDS	MMST
		X±SD	X±SD
Age	60-69 years	4.55±4.77	23.77±5.10
	70-79 years	4.54±4.47	23.85±5.65
	80 and over	6.41±4.88	20.30±7.54
Significance		*KW=2.548	KW=4.152
		p=0.28	p=0.125
Gender	Female	7.16±4.81	18.84±5.83
	Male	4.24±4.43	24.40±5.90
Significance		**Z=-2.512	Z=-2.127
		p=0.012	**p=0.023**
Marital status	Has got a partner	7.38±4.59	23.63±6.18
	Hasn't got a partner	4.96±4.72	22.42±6.46
Significance		Z=-1.550	Z=3.777
		p=0.121	**p=0.001**
Educational level	Literate	7.63±4.50	16.69±5.85
	Primary School	4.56±4.62	24.14±5.61
Significance		Z=-2.402	Z=-4.055
		p=0.016	**p=0.001**

*KW=Kruskal Wallis Test, **Z=Mann-Whitney U Test, p<0.05. GDS: Geriatric Depression Scale, MMST: Mini Mental State Test.

Table 3. The comparisons of incontinence, sleep, and exercise statuses of the elderly with the total mean scores of GDS and MMST

		GDS	MMST
		X±SD	X±SD
Urinary incontinence	Present	6.47±4.74	19.10±6.93
	Absent	4.38±4.59	24.84±4.89
Significance		*Z=-1.920	Z=-3.662
		p=0.055	**p=0.001**
Fecal incontinence	Present	6.58±4.40	22.58±7.44
	Absent	4.95±4.78	22.54±6.26
Significance		Z=-0.995	Z=-0.145
		p=0.320	p=0.885
Sleeping problems	Present	7.16±4.25	21.03±6.71
	Absent	3.77±4.60	23.67±6.00
Significance		Z=-3.148	Z=-1.714
		p=0.002	p=0.086
Use of sleeping pills	Present	5.91±4.66	20.59±6.40
	Absent	4.92±4.72	23.36±6.29
Significance		Z=-1.009	Z=-1.874
		p=0.313	p=0.061
Exercise status	Exercises regularly	3.77±3.96	26.23±1.73 **(A)**
	Doesn't exercise	6.06±4.87	20.98±6.74 **(B)**
	Exercises occasionally	2.70±3.83	25.90±5.48
Significance		**KW=5.807	KW=10.093
		p=0.055	**p=0.006**

*Z=Mann-Whitney U Test, **KW=Kruskal Wallis Test, p<0.05. GDS: Geriatric Depression Scale, MMST: Mini Mental State Test.

Table 4. The effects of GDS and MMST total scores on sociodemographic and some other characteristics according to multiple regression analysis

	GDS		MMST	
	B	p	B	P
Invariant	16.695	0.018	0.043	0.619
Age	-0.50	0.482	0.039	0.645
Gender	-1.474	0.259	2.126	0.179
Marital status	-3.331	0.068	-0.021	0.992
Educational level	-2.410	0.088	4.643	0.008
Urinary incontinence	0.327	0.804	-5.710	**0.001**
Fecal incontinence	1.842	0.271	4.217	**0.039**
Sleeping problems	3.085	**0.005**	-0.443	0.733
Use of sleeping pills	0.283	0.804	1.492	0.282
Exercise status	-1.099	0.245	0.661	0.562
	R=0.536		R=0.656	
	R2=0.287		R2=0.430	
	Adjusted R2=0.351		Adjusted R2=0.343	
	F=2.916		F=5.456	
	p=0.006		**p=0.001**	

*Regression test. GDS: Geriatric Depression Scale, MMST: Mini Mental State Examination Test.

DISCUSSION

In this study, the depression levels of elderly patients in Gaziantep Nursing Home Elderly Care and Rehabilitation Center were evaluated and the variables that may affect these conditions were examined. According to the findings, 9.4% of the elderly had severe depression and 21.3% had moderate depression. According to Zhao et al., 26% of elderly citizens living in nursing homes reported having depression-related symptoms (2). When Seddigh et al. looked at the depression status of elderly people who were attending daycare centers, living in nursing homes, and staying at their homes, they discovered that those who were in nursing homes had the greatest degree of depression (17). According to research that is comparable to ours, older people who reside in nursing homes have higher rates of depression than those who live at their own homes (18,19). It is believed that residing in a nursing home has a negative impact on an individual's psychological well-being due to the burden of living away from the family and in an institutional setting.

The study revealed that 38.7% of elderly individuals residing in the nursing home had an abnormal mini-mental assessment. Research conducted in our country indicates that the cognitive and mental statuses of elderly individuals living in nursing homes are worse than those living in their own homes (20,21). Additionally, studies conducted in various countries suggested that the cognitive statuses of elderly individuals living in daycare centers or their own homes are better than those living in nursing homes (19,22). These findings align with previous research indicating that institutionalization-based factors contribute to depression, functional dependence, and cognitive impairment in elderly individuals residing in nursing homes. Additionally, social isolation resulting from the lack of participation in recreational and social activities, infrequent visits from family and friends, and inadequate social support are believed to have negative mental and psychological effects on older adults.

Our study found that age and marital status did not have an effect on the depression levels of elderly individuals living in the nursing home. This is supported by the results of Pokharel et al. (23). However, it is generally believed that depression in the elderly is influenced by age and marital status (24,25). Research suggests that single individuals between the ages of 70-74 are more likely to experience depression while residing in nursing homes (23-27). In Türkiye, cultural norms and circumstances may lead elderly individuals, who have lost their spouses, to choose or be required to reside in nursing homes, despite not being a common situation. The analyzed population is believed to be predominantly single, and their lack of social support increases the risk of depression across all age groups. Korkmaz and Ümmet (28) suggested that residing in a nursing home may lead to the feelings of abandonment and loneliness among the elderly. Therefore, when interpreting the relationship between depression and age in elderly groups, it is important to consider the loneliness and social support perceptions of elderly individuals.

The study indicated that depression is influenced by gender and educational level. Women and individuals with lower educational levels tend to have higher depression scores. This finding is consistent with previous studies

that have found higher rates of depression among women in nursing homes compared to men (29,30). Research has shown that women are more susceptible to depression than men (31). Additionally, studies have found that women generally prefer to live at their own homes with their families and have negative attitudes towards nursing homes (32). Furthermore, individuals with higher levels of education tend to have more positive attitudes towards the physical, social, and psychological changes that come with aging, resulting in fewer psychosocial effects (33). This result suggests that educational level may be related to adaptation to age-related changes and maintaining positive attitudes towards aging. However, it is important to note that education is not the sole factor influencing this situation.

The study found that age did not have a significant effect on the mental state of elderly individuals. However, gender, marital status, and educational level were found to be influential factors. Previous studies have also highlighted that women, widows, divorced, or single individuals tend to have worse mental health (34). Additionally, there is a significant correlation between cognitive impairment and depressive symptoms. Depression was observed at a higher rate in women and single women in the study. It may have affected cognitive decline and led to the emergence of physical, psychological, and social symptoms. One possible risk factor for the beginning of dementia and cognitive impairment is depression symptoms.

It was observed that urinary incontinence, fecal incontinence, use of sleeping pills, and exercise do not have an effect on depression, but those with sleeping problems were more depressed. It is known that insomnia is seen due to increasing comorbidities in old age. Depression and sleep quality have a two-way relationship. Depression in older adults may begin as a result of poor sleep quality, whereas symptoms of depressive disorders are linked to a higher risk of sleep disorders (insomnia/excessive sleep) (35). Urinary incontinence (UI) and geriatric mental status were found to be correlated linearly, and elderly individuals with UI also tended to have poor mental health. Similar to our research, the prevalence study by Kessler et al. discovered that older individuals with urinary incontinence had low mental and cognitive states (36). Additionally, incontinence was shown to be substantially correlated with cognitive deterioration, elevated anxiety, and depression in other research that examined the association between UI and psycho-cognitive health (37). This suggests that urinary incontinence has a negative effect in many mental and psychosocial areas, although it is not directly related with lifestyle.

It was observed that the mental status of those who exercised regularly was considerably better than those who did not exercise at all. This is similar to the findings of many studies showing that exercise is effective on cognitive and mental health in elderly individuals (38). Previous research demonstrated that exercise may help patients feel better about themselves, prevent cognitive decline, enhance life satisfaction, and lessen symptoms of anxiety and depression (39). It is thought that exercise may help to improve mental health by reducing stress hormones (40), and helping individuals to establish interpersonal relationships and receive social support.

Limitations

The study population was derived from a single center. Including multiple centers would enhance the overall distribution.

CONCLUSION

It was found that most of the elderly had urinary incontinence and fecal incontinence, had sleeping problems, used sleeping pills, and did not exercise. Approximately one third were depressed and had poor cognitive statuses. Depression was found to be affected by being female, having lower educational level, and sleeping problems, and the mental status was found to be affected by gender, marital status, educational level, having incontinence, and exercise.

In accordance with these findings, it is recommended that a needs analysis and problem screening studies should be conducted to accurately identify the issues faced by elderly individuals with high levels of mental decline and depression in nursing homes. It is also suggested that such studies should be conducted with large sample sizes to ensure accuracy. Solution proposals should be developed for the emerging problems and needs. In addition, psycho-education programmes should be developed and implemented for the elderly with depression. Finally, there is a need for research aiming to explore the different dimensions of the mental and depression states of the elderly.

Financial disclosures: *The authors declared that this study has received no financial support.*

Conflict of interest: *The authors have no conflicts of interest to declare.*

Ethical approval: *Ethics committee approval for this study was received from Gaziantep İslam Science and Technology University (Date: 20 July 2023, Number: 2023/273.27.04). In addition, institutional permission was obtained from the relevant institutions to conduct the research. The elderly individuals were informed before the study and their written consent was obtained, and participation in the study was based on voluntariness. This study was conducted in accordance with the Principles of the Declaration of Helsinki.*

REFERENCES

1. BM: Leaving No One Behind In An Ageing World. https://social.desa.un.org/publications/2023-leaving-no-one-behind-in-an-ageing-world access date 10.02.2024.
2. Zhao X, Zhang D, Wu M, et al. Loneliness and depression symptoms among the elderly in nursing homes: a moderated mediation model of resilience and social support. Psychiatry Res. 2018;268:143-51.

3. Bulut EA, Soysal P, Isik AT. Frequency and coincidence of geriatric syndromes according to age groups: single-center experience in Turkey between 2013 and 2017. Clin Interv Aging. 2018;13:1899-905.
4. Potter GG, McQuoid DR, Whitson HE, Steffens DC. Physical frailty in late-life depression is associated with deficits in speed-dependent executive functions. Int J Geriatr Psychiatry. 2016;31:466-74.
5. Jahouh M, González-Bernal JJ, González-Santos J, et al. Impact of an Intervention with Wii video games on the autonomy of activities of daily living and psychological-cognitive components in the institutionalized elderly. Int J Environ Res Public Health. 2021;18:1570.
6. Mutlay F, Ulusoylar Erken N, Dost Günay FS, et al. May depression be associated with the frequency of falls in the elderly?. Journal of Geriatric Science. 2020;3:103-9.
7. Pearce M, Garcia L, Abbas A, et al. Association between physical activity and risk of depression: a systematic review and meta-analysis. JAMA Psychiatry. 2022;79:550-9.
8. Balcı E, Şenol V, Eşel E. et al. The relationship between malnutrition and depression in people aged over 65 years. Turkish Journal of Public Health. 2012;10:37-43.
9. Slavíková M, Procházka B, Dlouhý P, et al. Prevalence of malnutrition risk among institutionalized elderly from North Bohemia is higher than among those in the Capital City of Prague, Czech Republic. Cent Eur J Public Health. 2018;26:111-7.
10. Özer E, Kapucu S. Malnutrition and related risk factors of elderly people. Akad Geriatri. 2013;5:5-11.
11. Burke WJ, Roccaforte WH, Wengel SP. The short form of the Geriatric Depression Scale: a comparison with the 30-item form. J Geriatr Psychiatry Neurol. 1991;4:173-8.
12. Ertan T, Eker E, Şar V. Validity and reliability of the geriatric depression scale in the Turkish elderly population. Archives of Neuropsychiatry. 1997;34:62-71.
13. Durmaz B, Soysal P, Ellidokuz H, Isik AT. Validity and reliability of geriatric depression scale-15 (short form) in Turkish older adults. North Clin Istanb. 2018;5:216-20.
14. Folstein MF, Folstein SE, McHugh PR. "Mini-mental state" A practical method for grading the cognitive state of patients for the clinician. J Psychiatr Res. 1975;12:189-98.
15. Ertan T, Eker E, Güngen C, et al. The standardized mini mental state examination for illiterate Turkish elderly population. 2nd International Symposium on Neurophysiological and Neuropsychological Assessment of Mental and Behavioral Disorders; 1999. Bursa, Türkiye.
16. George D. SPSS for windows step by step: a simple study guide and reference, 17.0 update, 10/e. Pearson Education India, 2011.
17. Seddigh M, Hazrati M, Jokar M, et al. A comparative study of perceived social support and depression among elderly members of senior day centers, elderly residents in nursing homes, and elderly living at home. Iran J Nurs Midwifery Res. 2020;25:160-5.
18. Fonseca C, de Pinho LG, Lopes MJ, et al. The elderly nursing core set and the cognition of portuguese older adults: a cross-sectional study. BMC Nurs. 2021;20:108.
19. Mannucci PM, Nobili A, Investigators R. Multimorbidity and polypharmacy in the elderly: lessons from REPOSI. Intern Emerg Med. 2014;9:723-34.
20. Dağhan Ş, Arabacı Z, Hasgül E. Investigation of home accidents in elderly according to cognitive situation and related factors. Journal of Social Policy Studies. 2017;17:75-95.
21. Tarsuslu Şimşek T, Tütün Yümin E, Sertel M, et al. Effects of mental, functional and mobility disabilities on the health related quality of life and life satisfaction in elderly individuals: a comparative study. Turkish Journal of Geriatrics. 2011;14:321-30.
22. Del Duca GF, Silva SGd, Thumé E, et al. Predictive factors for institutionalization of the elderly: a case-control study. Rev. saúde pública. 2012;46:147-53.
23. Pokharel B, Sharma B. Depression and its associated risk factors among residents of a geriatric home in Western Nepal. J Lumbini Med Coll. 2019;7:24-8.
24. Šare S, Ljubičić M, Gusar I, et al. Self-esteem, anxiety, and depression in older people in nursing homes. Healthcare. 2021;9:1035.
25. Polat F, Karasu F. The Relationshıp between Perceived Loneliness Level and Depression Among Elderly Individuals. Journal of Inonu University Health Services Vocational School. 2020;8:72-82.
26. Manungkalit M, Sari NPWP. The influence of anxiety and stress toward depression in institutionalized elderly. Journal of Educational Health and Community Psychology. 2020;9:65-76.
27. Chalise HN. Depression among elderly living in Briddashram (old age home). Advances in Aging Research. 2014;3:6-11.
28. Korkmaz T, Ümmet D. Investigation of the relationship between perception of loneliness and quality of life of the elderly in nursing home. MANAS Journal of Social Studies. 2021;10:463-75.
29. Sapkota N, Khadka B, Tiwari A, Poudel A. Prevalence of Depression among Residents of old age homes in Eastern Nepal. J Psychiatrists' Association of Nepal. 2019;8:39-44.
30. Zalavadiya DD, Banerjee A, Sheth AM, et al. A comparative study of depression and associated risk factors among elderly inmates of old age homes and community of Rajkot: a Gujarati version of the geriatric depression scale-short form (GDS-G). Indian J Community Med. 2017;42:204-8.
31. Salk RH, Hyde JS, Abramson LY. Gender differences in depression in representative national samples: meta-analyses of diagnoses and symptoms. Psychol Bull. 2017;143:783-822.
32. Şenol D, Erdem S. The old age and the perception of nursing home in elderly women: a qualitative study. Kırıkkale University Journal of Social Sciences. 2017;7:31-50.
33. Marquet M, Missotten P, Schroyen S, et al. A validation of the French version of the Attitudes to Aging Questionnaire (AAQ): factor structure, reliability and validity. Psychol Belg. 2016;56:80-100.
34. Cordeiro RC, Santos RCd, Araújo GKNd, et al. Mental health profile of the elderly community: a cross-sectional study. Rev Bras Enferm. 2020;73:e20180191.

35. Palteki AS, Aykaç E, Yükselen N, et al. Sleep quality and depression of older people living at care home. ESTÜDAM Journal of Public Health. 2021;6:105-13.

36. Kessler M, Facchini LA, Soares MU, et al. Prevalence of urinary incontinence among the elderly and relationship with physical and mental health indicators. Revista Brasileira de Geriatria e Gerontologia. 2018;21:397-407.

37. Cheng S, Lin D, Hu T, et al. Association of urinary incontinence and depression or anxiety: a meta-analysis. J Int Med Res. 2020;48:300060520931348.

38. Schrader B, Bünker A-M, Conradi C, et al. Regular exercise is associated with a more favorable cardiovascular risk profile, better quality of life, less depression and less psychological stress. Int J Gen Med. 2022;15:545-54.

39. Kramer A. An overview of the beneficial effects of exercise on health and performance. Adv Exp Med Biol. 2020;1228:3-22.

40. Diamond R, Waite F. Physical activity in a pandemic: a new treatment target for psychological therapy. Psychol Psychother. 2021;94:357-64.