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Study of the Mental Health of the Elderly and Related Factors

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ABSTRACT

Background: Aging and increase in the elderly population are the most important issues in recent years in developed countries and some developing countries. Mental health is one of the crucial aspects of elderly well-being and must be addressed to improve community health. This study is conducted to examine the mental health of the elderly and the related factors in Gorgan city, 2022.

Methods: The present study is descriptive-analytical and was conducted using a two-stage cluster random sampling method. First, four comprehensive health service centers were selected as a cluster from among the centers of Gorgan city, and then 263 people were randomly selected from the chosen centers, proportionate to the number of registered elderly individuals in the electronic service system. The standard depression questionnaire for the elderly was utilized for assessment. Data were then entered into SPSS software version 18 and with descriptive and analytical statistical tests, including the Mann-Whitney test, Chi-square test, and logistic regression (The significance level was less than 0.05).

Results: A total of 263 elderly people were evaluated with a mean age of 68.64 ± 7.2 . 143 (54.4%) were male and 120 (45.6%) were female. The prevalence of depression was reported to be 27.8. The occurrence of depression was significantly associated with age, marital status, and the presence of underlying disease conditions ($p < 0.05$). However, gender, place of residence, and BMI did not show a statistically significant relationship with the occurrence of depression. Aging, underlying diseases, and not being married increase the chance of depression in the elderly.

Conclusion: Although the prevalence of depression in the elderly is lower than the average of the whole country in this study, they are in a better condition. However, due to the fact that they are a special target group, as well as the various risk factors of the disease, including age, lack of marriage, and the presence of an underlying disease in this group, it is suggested that more appropriate planning be done to improve their mental health status.

Keywords: Mental health, Depression, Elderly

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Introduction

Health encompasses many aspects, including fundamental human rights and indicators of justice in society(Sarokhani et al., 2018). The concept of health is broad and its definition is influenced by the level of awareness and perceptions of societies with various geographical and cultural conditions(McKenzie et al., 2022). Health criteria vary among different age groups, cultures, and social classes, indicating that health definitions must be tailored to the specific conditions of each community and group (Hill-Briggs et al., 2021). Aging healthily is a right for all human beings, which underscores the importance of the phenomenon of aging(Barimani et al., 2020). The World Health Organization defines mental health as the ability to interact harmoniously with others, adapt and modify one's socio-environmental context, and resolve conflicts and impulses in a fair, rational, and appropriate manner. Elderly individuals are more susceptible to mental health issues due to aging and the disabilities that arise in physical and psychological dimensions; disturbances in their mental health often manifest as anxiety and depression (Galderisi et al., 2015). Aging is the most significant demographic phenomenon at the end of the twentieth century and the beginning of the twenty-first century (Arabzadeh, 2017). In the past, only a small portion of the global population reached old age; however, today, due to improvements in nutrition and healthcare access, increased awareness levels, advancements in medical knowledge, and expanded diagnostic and therapeutic technologies, life expectancy has risen significantly. Consequently, the number of individuals reaching old age has increased (Rudnicka et al., 2020). According to predictions by the World Health Organization (WHO), by 2030 one in six people will be over 60 years old. It is expected that by then the elderly population will grow from one billion to 1.4 billion (WHO, 2020). In Iran, the elderly population has increased six fold from 1956 to 2016, surpassing 7.4 million individuals. This figure is projected to rise from 6.5% to 17.5% by 2030 (Isfahani et al., 2021), with forecasts suggesting it will reach approximately 26 million and 393 thousand by 2050 equivalent to 26% of the total population. Currently, the global population growth rate is 1.7%, while for those aged 65 and older it stands at 2.5%. Without appropriate planning for this demographic segment, issues arising from an aging population will emerge in our country(McCullough & Laurenceau, 2004). Since aging is a universal process that continues throughout life, preparing the entire population for old age and focusing on their health is essential; it should be an integral part of economic-social development policies (Callaghan, 2005). Studies on mortality and health among the elderly indicate that chronic diseases significantly contribute to morbidity in older age groups compared to other ages. Therefore, considering the distinct nature of health-threatening diseases among older adults ,it is important to examine their physical, psychological, and social dimensions of health (Haseen et al., 2010).

The aging process is a sensitive and critical period in life, marked by a decline in physical and mental abilities, making individuals more susceptible to various diseases. Mental health disorders, particularly depression, are more prevalent during this time (Isfahani et al., 2021). Research indicates that depression among the elderly can stem from social functioning deficits, cognitive decline, and increased mortality risks associated with aging. Sleep disturbances and pain are correlated with depression, which can sometimes be exacerbated by cardiovascular diseases or side effects of medications they take. Additionally, anxiety disorders are the most common psychological issues in old age; this relationship arises from social and functional impairments, sleep problems, and reduced quality of life (Pachana & Laidlaw, 2014). According to the WHO, the overall prevalence of depressive disorders among the elderly varies between 10% and 20% depending on cultur (Isfahani et al.,

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2021). A study conducted in 2017 found that the prevalence of depression in Iranian elderly was approximately 43% (Sarokhani et al., 2018). The health of older adults and the patterns of service delivery for this group are significant concerns for health organizations. Addressing these issues requires an understanding of biological, psychological, and social dimensions of aging. The increasing elderly population emphasizes the need for attention to their health status. Recognizing the health conditions of older adults will greatly assist planners in forecasting their needs (WHO, 2017). Given these factors and the growing elderly population in society along with their increasing detachment from community life—there is a limited amount of research in this area specific to Golestan city. This study aims to investigate the mental health of the elderly and its related factors in Golestan city.

Methods

The current study is descriptive-analytical and the target population consists of the elderly covered by health services in Gorgan city . To determine the sample size, in previous studies, mental health problems have been reported in 40% of elderly people adults (Najafi et al., 2014). Based on this prevalence rate and considering a type I error rate of α=0.05, the required sample size for this study was calculated to be 263 individuals using the following formula:

$$n = \frac{z^2_{1-\alpha/2} pq}{(0.15p)^2}$$

A two-stage cluster-random sampling method was used in this study. Initially, four comprehensive health service centers were selected as a cluster based on the geographical region from among the centers of Gorgan city; Subsequently, participants were randomly chosen from these centers based on the number of registered elderly individuals in the electronic service system of each center.

The inclusion criteria were the elderly aged over 60, the complete registration of information in the pure system, and the exclusion criteria included incomplete information in the electronic records and inability to respond to questions.

Data were collected using the Geriatric Depression Scale (GDS), which consisted of 11 questions with an alpha coefficient of 0.92 and a correlation of 0.58. The sensitivity and specificity of this tool were obtained as 0.9 and 0.83, respectively. (Malakouti et al., 2006). The questionnaire was randomly completed through interviews with selected elderly by trained students. The checklist utilized a Likert scale with three options: yes, no, and unsure or no response, with scores ranging from 0 to 11. A score below 6 indicated a positive screening for depression and a likelihood of depressive disorders. Confidentiality was maintained for all participants throughout the study. The collected data were coded and analyzed using SPSS version 18 with appropriate statistical tests, including descriptive statistics (mean and standard deviation) and non-parametric tests like the Mann-Whitney U, chi-square test, and logistic regression at a significance level of less than 0.05.

Results

In this study, a total of 263 elderly in Golestan city were examined. Among them, 143 (54.4%) were men and 120 (45.6%) were women, with an average age of 68.2 (±7.2). The demographic information and general characteristics of the participants are presented in Table 1.

Table 1. Demographic variables and characteristics of the target group

Demographic characteristics		Number	Percentage
Place of residence	Rural	120	45.6
	Urban	143	54.4
Gender	Male	143	54.4
	Female	120	45.6
Marital status	married	209	79.5
	Single/deceased spouse	54	20.5
Having an underlying disease	Yes	100	38
	No	163	62

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The findings indicated that the average depression score among the participating elderly was 7.32, with a standard deviation of 3.57. A total of 73 individuals (27.8%) scored below 6, placing them in the positive screening category for depression. Among these, 11 individuals (4.2%) expressed no hope for the future. According to the Table, 72.2% of the elderly were diagnosed with negative depression. The results of the participants' scores are illustrated in Table 2.

Table 2. The results of participants' scores in the study

Score of depression	Number	Relative abundance percentage	Cumulative frequency percentage
0	11	4.2	4.2
1	13	4.9	9.1
2	23	8.7	17.8
3	11	4.2	22
4	7	2.7	24.7
5	8	3	27.7
6	12	4.6	32.3
7	25	9.5	41.8
8	22	8.4	50.2
9	32	12.2	62.4
10	33	12.5	74.9
11	66	5.1	100
Total	263	100	
Depression cutoff point	Depression frequency	Percentage	
+6	190	72.2	
6<	73	27.8	

In this study, the relationship between variables such as gender, age, marital status, place of residence, BMI (body mass index) and medical history with the incidence of depression was examined using the chi-square test. The results indicated a significant association between the occurrence of depression and the age category of the elderly, marital status, and medical history (Table 3).

The distribution of depression based on the underlying disease is illustrated in Chart 1.

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Table 3. Investigating the relationship between the characteristics of the participants and the occurrence of depression

Variable		Depression - number (%) having	not having	Test statistics	P-value
Gender	Male	33(23.1)	110(76.9)	3.423	0.064
	Female	40(33.3)	80(66.7)		
Age	<70	35(22)	127(78)	10.216	0.006
	70-79	26(32.1)	55(67.9)		
	80≤	12(52.2)	11(47.8)		
Marital status	Married	46(22)	163(78)	16.766	0.001<
	Single/deceased spouse	27(50)	27(50)		
Place of residence		34(28.3)	86(71.7)	0.037	0.848
		39(27.3)	104(72.7)		
BMI	<20	6(26.1)	17(73.9)	1.04	0.792
	20 to 24/99	26(28.6)	65(71.4)		
	25 to 29/99	21(24.4)	65(75.6)		
	30≤	20(31.7)	43(68.3)		
Having an underlying disease	Yes	39(39)	61(61)	10.172	0.001<
	No	34(20.9)	129(79.1)		

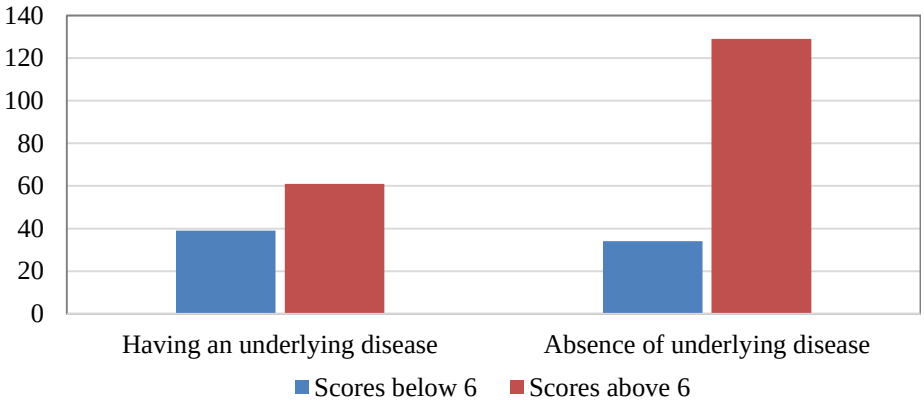


Chart 1. Dispersion distribution of depression by underlying disease

Moreover, in this study, the correlation between age and BMI with the overall depression score was examined using the Spearman correlation test. The results indicated an inverse relationship between age and BMI with the total depression screening score. This means that older individuals with higher BMI reported greater feelings of depression. However, it should be noted that the relationship between these variables was assessed as weak and negligible, with the non-parametric Spearman correlation coefficients for age and BMI reported as 0.258 and 0.020, respectively.

The analysis of the mean and standard deviation of depression screening scores across different BMI categories indicated no statistically significant differences among the various BMI categories. The results of this analysis are shown in Table 4.

Table 4. Correlation between different categories of BMI and depression score

BMI	Number	Mean	SD	P-value
<20	23	7.21	3.39	
20 to 24/99	91	7.35	3.4	
25 to 29/99	86	7.47	3.6	0.915
30≤	63	7.12	3.7	
Total	263	7.32	3.57	

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To examine the effects of each of the variables of gender, age, marital status, place of residence, BMI, and disease history on the incidence of depression among the elderly while controlling for other variables, logistic regression was applied to data. The findings showed that age, marital status, and underlying diseases significantly affect the odds of developing depression (Table 5).

In interpreting the regression coefficient for age variable, it can be stated that, while controlling for gender, marital status, place of residence, BMI and medical history, each additional year of age increased the odds of developing depression by a factor of 1.069. This means that when comparing two individuals with the same gender, marital status, place of residence, BMI, and medical history, the older individuals had a higher likelihood of experiencing depression, with this likelihood increasing by 1.069 for each year of age.

In interpreting the regression coefficient for marital status, it can be said that, while controlling for age, gender, place of residence, BMI, and medical history, the odds of depression for those living without a spouse (single, divorced, or widowed) are 2.073 times higher compared to those living with their spouses.

In interpreting the regression coefficient for the underlying disease variable, it can be stated that, while controlling for age, gender, marital status, place of residence, and BMI, the odds of depression for individuals with underlying disease conditions are 2.308 times higher than for those without such conditions.

Table 5. Relationship between study variables and depression based on logistic regression

Variable	Odds ratio (OR)	95% Confidence interval		P-value
		Down	Up	
Age	1.069	1.023	1.117	0.003
Place of residence	1.029	0.562	1.884	0.926
Gender (male)	.691	0.366	1.307	0.256
Marriage (other)	2.073	1.015	4.232	0.045
BMI	1.011	0.95	1.076	0.728
Having an underlying disease (Yes)	2.308	1.218	4.375	0.01

Discussion

The present study revealed that out of the 263 individuals examined, 73 participants (27.8%) tested positive for depression screening. In a study conducted by Manzouri et al. on 248 elderly people in Isfahan County, the overall prevalence of depression in this population, based on the GDS-15 questionnaire standardized for the Iranian population, was reported to be 63.7%. Among these, 41% experienced moderate depression, while 22% suffered from severe depression (Manzouri et al., 2010). In another study by Ghaderi et al., which involved 302 Kurdish elderly individuals residing in Boukan County, the average depression score was reported as 5.94 with a standard deviation of 3.4, according to the GDS-15 questionnaire standardized for the Iranian population. In this study, 62% of the participants exhibited mild to severe depression, with mild and severe depression rates reported at 38.7% and 23.3%, respectively (Ghaderi et al., 2012). Furthermore, in a study conducted by Gharanjik et al. (Gharanjik et al., 2011)on 300 Turkish older adults in Golestan Province, the rates of mild depression among participants were calculated at 20%, moderate depression at 10%, and severe depression at 3%, based on the GDS-15 questionnaire standardized for the Iranian population. It is noteworthy that the prevalence rates of moderate and severe depression reported in this study are lower than those found in the current investigation. The discrepancy in results may be attributed to the type of assessment used. In the present study, this tool was routinely employed in care programs; however, due to potential

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inadequacies in the conditions under which questions were posed at service delivery centers, elderly individuals may not have felt comfortable answering questions.

The study conducted by Mortazavi et al. (Mortazavi et al., 2011)on the elderly population in Shahrekord involved 400 participants who were assessed using GHQ-28 questionnaire. The results indicated a prevalence of depression at 45% within the studied population, which was higher than the findings of the current study. Additionally, Mobasheri and Moezi's study in Shahrekord reported moderate to severe depression in 20% of participants based on the BDI-21 (Mobasheri & Moezi, 2010). In Ashrafi's study in Salmas, the prevalence was found to be 17% according to GDS-15(Ashrafi et al., 2017). Payahoo's study in Tabriz also reported a prevalence of 42% based on the GDS (Payahoo et al., 2013). Furthermore, Alahyari's study in Tehran indicated a prevalence of 44% based on the Beck Depression Inventory ((Alahyari & Mirgholikhani Tehrani, 2014), while Taheri Tanjanai's study in Tehran found a prevalence of 36.7% based on the GDS-15 (Taheri Tanjanai et al., 2017). A systematic review by Jafari et al. reported a prevalence of 52% across Iran (Jafari et al., 2021). Thus, it appears that while the prevalence of depression among the elderly in Golestan County was higher than that reported in several studies from various cities in Iran, it remained lower than the national average. Consequently, elderly individuals in Golestan enjoyed a relatively better status regarding depression compared to the national average.

The variables of age, marital status, and underlying disease were significantly associated with the occurrence of depression among participants in the present study. A study by Muramatsu et al. on elderly Americans indicated that single, widowed, or divorced seniors had poorer mental health compared to their married counterparts (Muramatsu et al., 2010). Similarly, in Manzouri's study, it was found that having a spouse acted as a protective factor against depression; however, no significant correlation was observed between the presence of underlying disease and depression in the elderly(Manzouri et al., 2010). In Ghaderi et al.'s research, a statistically significant relationship was noted between age and the average depression score, indicating that with aginthe depression scores increased (Ghaderi et al., 2012). Given the target group and age, it is presumed that older adults may experience greater loneliness. Additionally, the likelihood of suffering from various illnesses may also impact their mental well-being.

In the current study, there was no statistically significant relationship between depression scores and living location (urban vs. rural) or marital status. Ghaderi et al.'s study also supported the findings of the present research, indicating an increase in depression with age and no correlation between depression and living location(Ghaderi et al., 2012). Similarly, Mortazavi et al. demonstrated a relationship between depression, age, and marital status in their study, aligning with the results of the current investigation(Mortazavi et al., 2011). Further research could explore these variables in greater depth to fully understand their impact on mental health among the elderly.

The prevalence of depression was higher in women compared to men; however, this difference was not statistically significant. In Manzouri's study, being female had a protective effect against moderate depression but was not associated with severe depression (Manzouri et al., 2010). Ghaderi et al. found a statistically significant relationship between depression scores and gender, indicating that depression was more common in women than in men(Ghaderi et al., 2012). Similarly, Gharanjik's study reported that the prevalence of depression in females was significantly higher than males (Gharanjik et al., 2011), and Mortazavi et al. also demonstrated a relationship between depression and gender (Mortazavi et al., 2011). This phenomenon can be explained by the observation that women may have less independence in daily activities compared to men, which could contribute to their mental health

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challenges. Therefore, organizing gatherings aimed at educating the elderly could be an effective step toward addressing these issues.

According to logistic regression analysis in this study, the variables of age, marital status, and underlying disease significantly influenced the likelihood of developing depression. Mortazavi et al. similarly found that being female, unmarried, and older were associated with a higher risk of depression (Mortazavi et al., 2011). Overall, it appears that factors such as age, gender, marital status, and underlying disease impacted the average depression score, with the likelihood of depression increasing with age, unmarried status, being female, and having underlying disease. These variables appear to be important indicators of health and mental well-being, suggesting a need for health program planning aimed at improving overall health outcomes.

The current study had limitations regarding several variables that may influence depression among the elderly, such as income level, education, and living with children, which were not examined. It is recommended that future research consider additional influencing factors on the mental health of older adults, including hypothyroidism, a common condition that can affect mental well-being. Furthermore, a more comprehensive study on the mental health of the elderly should be conducted at a broader level within the province.

Conclusion

The overall prevalence of depression in this study is lower than the average national prevalence, and elderly population in the region is in a better position concerning depression rates. However, it should be noted that the prevalence of depression remains high among this age group, particularly among women, which may be attributed to hormonal changes. Therefore, initiatives aimed at enhancing education and awareness for this elderly group are recommended. Efforts should be made to facilitate more active participation of older adults in social activities. This study focused solely on depression as an indicator of mental health among the elderly, suggesting an urgent need for a more comprehensive evaluation of their mental health status. Addressing these issues could lead to improvements in overall health outcomes for this demographic and society at large. To further support mental health among the elderly, educational interventions have been shown to effectively reduce symptoms of depression and anxiety. Such programs can empower older adults by providing them with knowledge and skills to manage their mental well-being, ultimately contributing to a better quality of life. In conclusion, a multifaceted approach that includes educational initiatives and social engagement can significantly enhance the mental health of the elderly population, addressing both immediate concerns and promoting long-term well-being.

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Conflicts of interest

The authors declared no conflict of interests.

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Ethical considerations

All the study subjects gave informed consent to participate in the study.

Code of Ethics

IR.GOUMS.REC.1401.285

Authors' contributions

S.G. and N. SH. And B.GH. conceptualized the study, did the supervision, and wrote and approved the final article; S.GH. and S.G. conducted the methodology and B.GH. and N. SH. gathered the data.

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References

Alahyari, T., & Mirgholikhani Tehrani, N. (2014). A study of social factors affecting depression among elderly women living in Kahrizak sanatorium. Social sciences, 74.[persian]

Arabzadeh, M. (2017). Meta-analysis of effective factors in mental health of older people. Res Psychol Health, 10(2), 42-52. [persian]

Ashrafi, K., Sahaf, R., Mohammadi Shahbalaghi, F., Farhadi, A., Ansari, G., Najafi, F., . . . Ghaderi, S. (2017). Prevalence of depression in Turk Azeri older adults of Iran. Journal of Sabzevar University of Medical Sciences, 23(6), 856-865. [persian]

Barimani, A., Donyavi, R., & Taghizade, S. (2020). The effectiveness of positive psychotherapy on optimism and alexithymia in retired female teachers with anxiety. Positive Psychology Research, 6(2), 49-64. [persian]

Callaghan, D. (2005). Healthy behaviors, self-efficacy, self-care, and basic conditioning factors in older adults. Journal of community health nursing, 22(3), 169-178.

Galderisi, S., Heinz, A., Kastrup, M., Beezhold, J., & Sartorius, N. (2015). Toward a new definition of mental health. World psychiatry, 14(2), 231-233.

Ghaderi, S., Sahaf, R., Mohammadi Shahbalaghi, F., Ansari, G., Gharanjic, A., Ashrafi, K., . . . Najafi, F. (2012). Prevalence of depression in elderly Kurdish community residing in Boukan, Iran. Iranian Journal of Ageing, 7(1), 57-66. [persian]

Gharanjik, A., Mohammadi Shahbolaghi, F., Ansari, G., Najafi, F., Ghaderi, S., Ashrafi, K., . . . Sahaf, R. (2011). The prevalence of depression in older Turkmen adults in 2010. Iranian Journal of Ageing, 6(3), 34-39. [persian]

Haseen, F., Adhikari, R., & Soonthorndhada, K. (2010). Self-assessed health among Thai elderly. BMC geriatrics, 10, 1-9.

Hill-Briggs, F., Adler, N. E., Berkowitz, S. A., Chin, M. H., Gary-Webb, T. L., Navas-Acien, A., . . . Haire-Joshu, D. (2021). Social determinants of health and diabetes: a scientific review. Diabetes care, 44(1), 258-279.

Isfahani, P., Afshin, M., Mohammadi, F., & Arefnezhad, M. (2021). Prevalence of depression among Iranian elderly: A Systematic review and Meta-analysis. J Gerontol, 5(3), 66-77. [persian]

Jafari, H., Ghasemi-Semeskandeh, D., Goudarzian, A. H., Heidari, T., & Jafari-Koulaee, A. (2021). Depression in the Iranian Elderly: A Systematic Review and Meta Analysis. Journal of aging research, 2021(1), 9305624. [persian]

Malakouti, K., Fathollahi, P., Mirabzadeh, A., Salavati, M., & Kahani, S. (2006). Validation of geriatric depression scale (GDS-15) in Iran. Research in Medicine, 30(4), 361-369. [persian]

Manzouri, L., Babak, A., & Merasi, M. J. I. J. o. A. (2010). The depression status of the elderly and it's related factors in Isfahan in 2007. Iranian Journal of Ageing, 4(4), 27-33. [persian]

McCullough, M. E., & Laurenceau, J.-P. (2004). Gender and the natural history of self-rated health: a 59-year longitudinal study. Health Psychology, 23(6), 651-655.

McKenzie, J. F., Neiger, B. L., & Thackeray, R. (2022). Planning, implementing and evaluating health promotion programs. Jones & Bartlett Learning.

Mobasheri, M., & Moezi, M. (2010). The prevalence of depression among the elderly population of Shaystegan and Jahandidegan nursing homes in Shahrekord. Journal of Shahrekord University of Medical Sciences, 12(2), 89-94. [persian]

Mortazavi, S. S., Ardebili, H. E., Mohamad, K., & Beni, R. D. J. P. (2011). Assessing the mental health status of elderly in Shahrekord and relationship with sociodemographic factors. Payesh, 10(4), 485-492. [persian]

Muramatsu, N., Yin, H., & Hedeker, D. (2010). Functional declines, social support, and mental

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[DOI: 10.18502/jsbch.v8i2.16973]

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health in the elderly: does living in a state supportive of home and community-based services make a difference? Social Science & Medicine, 70(7), 1050-1058.

Najafi, B., Arzaghi, M., Fakhrzadeh, H., Sharifi, F., Shoaei, S., Alizadeh, M., . . . Mehrdad, N. (2014). Mental health status and related factors in aged population: Urban health equity assessment and response tool (Urban-HEART) study in Tehran. Iranian Journal of Diabetes and Metabolism, 13(1), 62-73. [persian]

Pachana, N. A., & Laidlaw, K. (2014). The Oxford handbook of clinical geropsychology. OUP Oxford.

Payahoo, L., Khaje-bishak, Y., Gargari, B. P., Kabir-alavi, M.-b., & Jafarabadi, M. A. (2013). Nutritional status and its relation with depression in free-living elderly individuals. Medical Journal of Tabriz University of Medical Sciences, 35(5), 20-25.

Rudnicka, E., Napierała, P., Podfigurna, A., Męczekalski, B., Smolarczyk, R., & Grymowicz, M. (2020). The World Health Organization (WHO) approach to healthy ageing. Maturitas, 139, 6-11.

Sarokhani, D., Parvareh, M., Dehkordi, A. H., Sayehmiri, K., & Moghimbeigi, A. (2018). Prevalence of depression among iranian elderly: systematic review and meta-analysis. Iranian journal of psychiatry, 13(1), 55-64. [persian]

Taheri Tanjanai, P., Moradinazar, M., & Najafi, F. (2017). Prevalence of depression and related social and physical factors amongst the I ranian elderly population in 2012. Geriatrics & gerontology international, 17(1), 126-131. [persian]

WHO. (2017). Mental health of older adults. Available from: https://www.who.int/news-room/fact-sheets/detail/mental-health-of-older-adults.acces: (October20, 2023)

WHO. (2020). Aging and health- World Health Organization(WHO). Available from: https:// www. who.int/news-room/fact-sheets/ detail/ ageing-and-health. acces: (October1, 2024)

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