

ASSESSMENT OF DEPRESSION, ANXIETY AND STRESS AMONG ELDERLY PATIENT'S ATTENDING TWO ELDERLY CLINICS IN BAGHDAD 2024

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Article Received date: 16 June 2025

Article Revised date: 06 July 2025

Article Accepted date: 26 July 2025



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ABSTRACT

Background: Aging is increasingly recognized as a global phenomenon, with both developed and developing nations witnessing a significant rise in the elderly population. Mental health challenges such as depression, anxiety, and stress are commonly observed among older adults and can profoundly impact their well-being and overall societal health. **Method:** This descriptive cross-sectional study aimed to assess the levels of depression, anxiety, and stress among elderly patients attending two geriatric clinics in Baghdad, Iraq, during the period from February 1st to July 31st, 2024. A total of 400 participants were included, and data were collected using a structured questionnaire consisting of two parts: The Depression, Anxiety and Stress Scale-21 (DASS-21) and sociodemographic variables. **Results:** The findings revealed that approximately one-quarter of the participants experienced symptoms of depression and anxiety, while stress was less commonly reported. Significant associations were observed between depression and marital status, with widowed individuals reporting higher depression levels. Anxiety showed significant associations with gender, employment status, and monthly income, where higher levels were noted among females, housewives or unemployed individuals, and those with lower income. Stress was significantly associated with age and marital status, with older participants (≥ 80 years), singles, and divorced individuals reporting higher stress levels. **Conclusion:** a notable proportion of the elderly population in Baghdad is affected by depression and anxiety, with stress being comparatively less prevalent. Sociodemographic factors such as age, marital status, employment, and income play a crucial role in mental health, highlighting the need for comprehensive, socially inclusive interventions to support elderly mental well-being.

KEYWORDS: Assessment, depression, anxiety, stress, elderly patient's, elderly clinics.

INTRODUCTION

The global population is aging at an unprecedented rate, leading to significant demographic and healthcare challenges. It is estimated that by 2025, approximately 650 million people worldwide will be aged 60 years and above, and this number is expected to surpass two billion by 2050.^[1,2] This demographic shift poses unique challenges for healthcare systems and societies, particularly in addressing the multifaceted needs of the elderly population. Among these, mental health stands out as a critical yet often underrecognized domain that significantly affects the quality of life in older adults.^[3] Elderly individuals are particularly vulnerable to mental health disorders due to a combination of biological, psychological, and social factors. Loneliness, social isolation, bereavement, chronic physical illnesses, financial difficulties, and limited mobility are common

stressors in later life that contribute to emotional distress.^[4] These factors often lead to a loss of purpose, increased dependency, and a diminished sense of control, manifesting as sadness, anxiety, helplessness, and in many cases, clinical depression.^[5] Depression is considered the most common psychiatric disorder in older adults, with profound consequences including reduced functional status, higher healthcare utilization, and increased risk of suicide.^[6,7] In fact, elderly individuals account for a significant proportion of suicide deaths globally, highlighting the seriousness of the issue.^[8] The elderly are also at increased risk of experiencing other psychiatric conditions, such as anxiety and stress-related disorders. While the determinants of mental health issues in the elderly often mirror those in younger populations, the impact of risk factors such as comorbid physical illness, bereavement,

and social isolation tends to be more severe in older adults. Additionally, disparities in access to mental health services and stigma associated with psychiatric care further complicate diagnosis and treatment in this population.^[6] Given these concerns, early identification of mental health disorders is essential. Routine mental health screening in geriatric healthcare settings is increasingly recognized as a vital strategy to ensure timely diagnosis and comprehensive care. The Depression, Anxiety and Stress Scale-21 (DASS-21) is a widely used tool for evaluating these three major dimensions of mental health. It is practical, reliable, and suitable for both clinical and community settings, enabling health professionals to systematically monitor psychological well-being in older adults and tailor interventions accordingly.^[9,10] In light of these considerations, this study aims to assess the prevalence of depression, anxiety, and stress among elderly patients attending two geriatric clinics in Baghdad in 2024 and explore their associations with key sociodemographic factors.

METHOD

This study employed a descriptive cross-sectional design with analytical elements to assess the prevalence of depression, anxiety, and stress among elderly individuals and their association with sociodemographic factors. The research was conducted over a six-month period, from February 1st to July 31st, 2024, at two elderly clinics located within Baghdad Teaching Hospital and Al-Yarmouk Teaching Hospital in Baghdad, Iraq. These clinics, operating under general hospital consultation services, offer free secondary healthcare services to patients aged 60 years and above and maintain electronic health records for follow-up care. A total of 400 elderly participants were selected using a convenience sampling method. Eligible participants included those aged 60 years and above who attended the clinics during the data collection period and agreed to participate. Exclusion criteria included any conditions that impaired communication, refusal to participate, or prior diagnosis

of psychiatric disorders. Data were collected through face-to-face interviews, each lasting approximately 15–20 minutes, conducted twice weekly. The data collection instrument consisted of a structured questionnaire in Arabic, comprising two parts: sociodemographic characteristics and the Depression, Anxiety, and Stress Scale-21 (DASS-21). The DASS-21 is a validated tool designed to measure the emotional states of depression, anxiety, and stress through 21 items divided into three subscales (7 questions each).^[1] Scores were calculated using a 4-point Likert scale and then doubled to align with the original 42-item DASS version, with classification into severity categories: normal, mild, moderate, severe, and extremely severe.^[2] A pilot study was conducted on 20 participants to ensure clarity and appropriateness of the Arabic version of the questionnaire, with their data excluded from final analysis. Ethical approval was obtained from the Arab Board of Health Specializations and the relevant health directorates. Verbal consent was secured from all participants, ensuring confidentiality. Statistical analysis was performed using SPSS version 25. Descriptive statistics were used to summarize data, and the chi-square test was employed to examine associations between mental health outcomes and sociodemographic variables. A p-value of <0.05 was considered statistically significant.

RESULTS

The current study included 400 elderly participants, the majority (74.8%) aged 60 – 69 years, while 49.3% were males and 50.7% were females. The majority of participants (92.5%) were living in urban areas and were married (66.5%). Nearly half of the included participants were retired (44.3%), (22.3%) free workers and (33.4%) unemployed/housewife. About 60% of participants had income < 500,000 Dinar per month. Only (10%) of participants had family history of psychiatric conditions. The majority (78.7%) of participants had associated diseases (most commonly CVS diseases which is hypertension and heart disease 69.5% and DM 45.4%).

Table 1: Sociodemographic data of included participants.

Participants characteristic		No	%	Total
Age	60 – 69 years	299	74.8	400
	70 – 79 years	91	22.8	
	≥ 80 years	10	2.4	
Gender	Male	197	49.3	400
	Female	203	50.7	
Residency	Urban	370	92.5	400
	Rural	30	7.5	
Marital status	Married	266	66.5	400
	Divorced	16	4	
	Widow	106	26.5	
	Single	12	3	
Job	Retired	177	44.3	400
	Free worker	89	22.3	
	Unemployed/housewife	134	33.4	
Income/month	< 500,000 Dinar	239	59.8	

	500,000 – 1 million Dinar	119	29.8	400
	1 million – 1.5 million Dinar	35	8.7	
	> 1.5 million Dinar	7	1.7	
Family history of psychiatric conditions	Present	40	10	400
	Absent	360	90	
Associated systemic diseases	Absent	85	21.3	400
	Present	315	78.7	
Types of associated diseases	Cardiovascular diseases (hypertension and heart disease)	219	69.5	315
	Endocrine diseases (hypothyroidism)	37	11.7	
	Diabetes mellitus	143	45.4	
	Neurological diseases	11	3.5	
	Others(Joint problems, handicap)	36	11.4	

Most of participants had normal score about depression, anxiety and stress. Although depression in included participants was mild (11.5%), moderate (9.2%) and

severe (0.5%). Anxiety was mild (12.5%), moderate (12.5%), severe (1.5%) and extremely severe (3.5%). Stress was mild (4.8%) and moderate (1.7%). Table 2.

Table 2: Grades of depression, anxiety and stress among included participants.

	Depression	Anxiety	Stress
Normal	315 (78.8%)	280 (70%)	374 (93.5%)
Mild	46 (11.5%)	50 (12.5%)	19 (4.8%)
Moderate	37 (9.2%)	50 (12.5%)	7 (1.7%)
Severe	2 (0.5%)	6 (1.5%)	-
Extremely severe	-	14 (3.5%)	-
Total	400	400	400

There was statistically significant association between depression and participants' marital status. Widow

patients had higher grades of depression ($p=0.002$). table 3.

Table 3: Association between depression and demographic characteristics of included participants.

		Normal	Mild	Moderate	Severe	P value
Age	60 – 69 years	233(77.9%)	35(11.7%)	30(10%)	1(0.4%)	0.869 [NS]
	70 – 79 years	73(80.2%)	10(11%)	7(7.7%)	1(1.1%)	
	≥ 80 years	9(90%)	1(10%)	0(0%)	0(0%)	
Gender	Male	161(81.7%)	23(11.7%)	13(6.6%)	0(0%)	0.149 [NS]
	Female	154(75.9%)	23(11.3%)	24(11.8%)	2(1%)	
Residency	Rural	29(96.7%)	0(0%)	1(3.3%)	0(0%)	0.374 [NS]
	Urban	286(77.3%)	46(12.5%)	36(9.7%)	2(0.5%)	
Marital status	Married	228(85.7%)	22(8.3%)	15(5.6%)	1(0.4%)	0.002 [HS]
	Divorced	9(56.3%)	4(25%)	3(18.7%)	0(0%)	
	Widow	71(67%)	18(17%)	16(15.1%)	1(0.9%)	
	Single	7(58.3%)	2(16.7%)	3(25%)	0(0%)	
Job	Retired	149(84.2%)	17(9.6%)	11(6.2%)	0(0%)	0.060 [NS]
	Free worker	62(69.7%)	14(15.7%)	13(14.6%)	0(0%)	
	Unemployed/housewife	104(77.6%)	15(11.2%)	13(9.7%)	2(1.5%)	
Income/month (in Dinar)	< 500,000	188(78.7%)	29(12.1%)	20(8.4%)	2(0.8%)	0.981 [NS]
	500,000 – 1 million	94(79%)	13(10.9%)	12(10.1%)	0(0%)	
	1 million – 1.5 million	28(80%)	3(8.6%)	4(11.4%)	0(0%)	
	> 1.5 million	5(71.4%)	1(14.3%)	1(14.3%)	0(0%)	
Family history of psychiatric conditions	Present	26(65%)	7(17.5%)	7(17.5%)	0(0%)	0.403 [NS]
	Absent	289(80.3%)	39(10.8%)	30(8.3%)	2(0.6%)	
Associated systemic diseases	Absent	66(77.6%)	10(11.8%)	9(10.6%)	0(0%)	0.856 [NS]
	Present	249(79.1%)	36(11.4%)	28(8.9%)	2(0.6%)	

There was statistically significant association between anxiety and participants' gender, job, income/month and

family history of psychiatric conditions ($p=0.004$, 0.013, 0.016 and 0.003 respectively). Female participants,

unemployed/ housewife, low income, absence of family history of psychiatric conditions was associated with higher grades of anxiety. As in table 4.

Table 4: Association between anxiety and demographic characteristics of included participants.

Variable		Normal	Mild	Moderate	Severe	Ex. severe	P value
Age	60 – 69 years	197(65.9%)	43(14.5%)	42(14%)	4(1.3%)	13(4.3%)	0.058 [NS]
	70 – 79 years	74(81.3%)	7(7.7%)	8(8.8%)	2(2.2%)	0(0%)	
	≥ 80 years	9(90%)	0(0%)	0(0%)	0(0%)	1(10%)	
Gender	Male	143(72.6%)	23(11.7%)	27(13.7%)	4(2%)	0(0%)	0.004 [HS]
	Female	137(67.5%)	27(13.3%)	23(11.3%)	2(1%)	14(6.9%)	
Residency	Rural	30(100%)	0(0%)	0(0%)	0(0%)	0(0%)	0.084 [NS]
	Urban	250(67.6%)	50(13.5%)	50(13.5%)	6(1.6%)	14(3.8%)	
Marital status	Married	190(71.3%)	37(13.9%)	31(11.7%)	2(0.8%)	6(2.3%)	0.148 [NS]
	Divorced	11(68.8%)	0(0%)	4(25%)	0(0%)	1(6.2%)	
	Widow	72(67.9%)	11(10.4%)	12(11.3%)	4(3.8%)	7(6.6%)	
	Single	7(58.3%)	2(16.7%)	3(25%)	0(0%)	0(0%)	
Job	Retired	134(75.8%)	23(13%)	16(9%)	2(1.1%)	2(1.1%)	0.013 [S]
	Free worker	54(60.7%)	12(13.5%)	19(21.4%)	2(2.2%)	2(2.2%)	
	Unemployed/ housewife	92(68.6%)	15(11.2%)	15(11.2%)	2(1.5%)	10(7.5%)	
Income/month (in Dinar)	< 500,000	170(71.2%)	28(11.7%)	27(11.3%)	2(0.8%)	12(5%)	0.016 [S]
	500,000 – 1 million	86(72.3%)	12(10.1%)	15(12.6%)	4(3.4%)	2(1.6%)	
	1 million – 1.5 million	22(62.9%)	6(17.1%)	7(20%)	0(0%)	0(0%)	
	> 1.5 million	2(28.6%)	4(57.1%)	1(14.3%)	0(0%)	0(0%)	
Family history of psychiatric conditions	Present	26(65%)	3(7.5%)	5(12.5%)	4(10%)	2(5%)	0.003 [HS]
	Absent	254(70.4%)	47(13.1%)	45(12.5%)	2(0.6%)	12(3.4%)	
Associated systemic diseases	Absent	55(64.7%)	13(15.3%)	11(12.9%)	2(2.4%)	4(4.7%)	0.718 [NS]
	Present	225(71.4%)	37(11.7%)	39(12.4%)	4(1.3%)	10(3.2%)	

There was statistically significant association between stress and participants' age, marital status ($p=0.049$). Divorced and single patients had higher grades of stress. As in table 5.

Table 5: Association between stress and demographic characteristics of included participants.

Variable		Normal	Mild	Moderate	P value
Age	60 – 69 years	276 (92.3%)	17(5.7%)	6(2%)	0.044 [S]
	70 – 79 years	90(98.9%)	1(1.1%)	0(0%)	
	≥ 80 years	8(80%)	1(10%)	1(10%)	
Gender	Male	186(94.4%)	9(4.6%)	2(1%)	0.533 [NS]
	Female	188(92.6%)	10(4.9%)	5(2.5%)	
Residency	Rural	29(96.7%)	0(0%)	1(3.3%)	0.716 [NS]
	Urban	345(93.3%)	19(5.1%)	6(1.6%)	
Marital status	Married	251(94.4%)	12(4.5%)	3(1.1%)	0.049 [S]
	Divorced	13(81.3%)	2(12.5%)	1(6.2%)	
	Widow	101(95.3%)	3(2.8%)	2(1.9%)	
	Single	9(75%)	2(16.7%)	1(8.3%)	
Job	Retired	170(96%)	5(2.8%)	2(1.2%)	0.214 [NS]
	Free worker	79(88.8%)	8(9%)	2(2.2%)	
	Unemployed/housewife	125(93.3%)	6(4.5%)	3(2.2%)	
Income/month (in Dinar)	< 500,000	224(93.7%)	11(4.6%)	4(1.7%)	0.359 [NS]
	500,000 – 1 million	114(95.8%)	3(2.5%)	2(1.7%)	
	1 million – 1.5 million	30(85.7%)	4(11.4%)	1(2.9%)	
	> 1.5 million	6(85.7%)	1(14.3%)	0(0%)	
Family history of psychiatric conditions	Present	36(90%)	2(5%)	2(5%)	0.590 [NS]
	Absent	338(94%)	17(4.7%)	5(1.3%)	
Associated systemic diseases	Absent	78(91.8%)	5(5.9%)	2(2.3%)	0.759 [NS]
	Present	296(94%)	14(4.4%)	5(1.6%)	

DISCUSSION

This study explored the prevalence and severity of depression, anxiety, and stress among elderly individuals attending two geriatric clinics in Baghdad. The findings revealed that a notable proportion of the elderly population experienced psychological distress, particularly in the forms of depression and anxiety. These findings are consistent with global literature, underscoring the psychological vulnerability of older adults. The majority of participants (74.8%) were aged between 60 and 69 years, aligning with similar findings from Das et al. (2021) in India and Raeisvandi et al. (2023) in Iran, reflecting the typical age range of outpatient geriatric clinic attendees.^[11,12] The gender distribution in the current study was nearly equal, which corresponds to findings from studies in Iran and the USA^[12-14], although some studies report a predominance of males or females depending on cultural and demographic contexts.^[11,15] A high percentage (92.5%) of participants resided in urban areas, consistent with McMullen's (2018) findings in Australia^[16], potentially reflecting greater access to healthcare in urban settings. Marital status showed that two-thirds of participants were married, similar to studies conducted in Thailand and some regions of Iran^[17,18], though discrepancies may be influenced by local cultural and socioeconomic factors. Importantly, 60% of participants reported low monthly income. This economic vulnerability may contribute to mental health challenges, as supported by similar findings in Iranian studies.^[18] Moreover, only 10% reported a family history of psychiatric illness, a finding consistent with Wongpakaran et al. (2019)^[17], though this might be underreported due to stigma or memory decline in older adults. Regarding health comorbidities, a significant majority (78.7%) had chronic diseases, primarily cardiovascular disorders and diabetes. Chronic illness is a known risk factor for psychological distress in older adults and contributes to feelings of helplessness and decreased autonomy.^[12,15] Depression was reported in 21.2% of participants, mostly mild to moderate in severity. This prevalence aligns with findings from Mirzaei et al. (2019) and Yohannes et al. (2019), though some studies, such as Pasha et al. (2023), reported much higher rates, possibly due to differences in social support and living conditions.^[13,18,19] Anxiety was more prevalent, affecting 30% of participants, comparable to rates in similar populations.^[12,19], while stress was less common (6.5%), similar to Malhotra et al. (2023).^[20] Statistical associations revealed that widowhood significantly increased depression risk, likely due to emotional loss and loneliness. Female gender, unemployment, and low income were significantly associated with higher anxiety levels, supporting previous research highlighting women's greater susceptibility to anxiety and the psychological burden of financial instability.^[18,21] Stress was significantly higher among those aged ≥ 80 and the unmarried, likely due to declining health, increased dependence, and social isolation.^[12]

CONCLUSION

About one-quarter of participants experienced varying levels of depression and anxiety, while fewer reported stress. Depression was significantly associated with marital status, with widowed participants showing higher levels. Anxiety showed significant associations with gender, employment, and income—higher among females, unemployed, and low-income individuals. Stress was significantly linked to age and marital status, with higher levels in participants aged ≥ 80 , single, or divorced.

REFERENCES

1. Babazadeh T, Sarkhoshi R, Bahadori F, Moradi F, Shariat F. Prevalence of depression, anxiety and stress disorders in elderly people residing in Khoy, Iran (2014–2015). *J Res Clin Med*, 2016 May 9; 4(2): 122–8.
2. Wang Q, Li L. The effects of population aging, life expectancy, unemployment rate, population density, per capita GDP, urbanization on per capita carbon emissions. *Sustain Prod Consum*, 2021 Oct 1; 28: 760–74.
3. Falahaty K, Cheong LS. Depression, stress and anxiety among elderly people. *Int J Humanit Soc Stud*. 2019 Oct 31.
4. Grover S, Sahoo S, Chakrabarti S, Avasthi A. Anxiety and somatic symptoms among elderly patients with depression. *Asian J Psychiatr*, 2019 Mar 1; 41: 66–72.
5. Sousa RD, Rodrigues AM, Gregório MJ, Branco JD, Gouveia MJ, Canhão H, et al. Anxiety and depression in the Portuguese older adults: prevalence and associated factors. *Front Med (Lausanne)*. 2017 Nov 20; 4: 196.
6. Reynolds CF 3rd, Jeste DV, Sachdev PS, Blazer DG. Mental health care for older adults: recent advances and new directions in clinical practice and research. *World Psychiatry*, 2022; 21(3): 336–63.
7. Wang K, Shi HS, Geng FL, Zou LQ, Tan SP, Wang Y, et al. Cross-cultural validation of the depression anxiety stress scale–21 in China. *Psychol Assess*, 2016 May; 28(5): e88.
8. Chang WS. The effect of depression, anxiety, stress on suicidal ideation of the elderly in Youngdong County. *J Korea Contents Assoc*, 2016; (7): 720–9.
9. Samosir FJ, Hulu VT, Julpa A, Sinurat YT. Mental health exploration and screening in adults and elderly age groups. *Int J Health Pharm*, 2022 Feb 6; 2(1): 29–35.
10. Morero JA, Esteves RB, Vieira MV, Park T, Hegadoren KM, Cardoso L. Systematic review of the use of Depression Anxiety Stress Scale-21 (DASS-21) in the elderly: practical applicability across countries. *Res Soc Dev*, 2024 Feb 24; 13(2): e10613245107.
11. Das S, Arun P, Rohilla R, Parashar K, Roy A. Anxiety and depression in the elderly due to COVID-19 pandemic: a pilot study. *Middle East Current Psychiatry*, 2021 Dec; 28: 1-6.

12. Raeisvandi A, Amerzadeh M, Hajiabadi F, Hosseinkhani Z. Prevalence and the affecting factors on depression, anxiety and stress (DASS) among elders in Qazvin City, in the Northwest of Iran. *BMC Geriatr*, 2023 Mar 31; 23(1): 202.
13. Yohannes AM, Dryden S, Hanania NA. Validity and responsiveness of the Depression Anxiety Stress Scales-21 (DASS-21) in COPD. *Chest*, 2019 Jun 1; 155(6): 1166–77.
14. Hosseini FS, Sharifi N, Jamali S. Correlation anxiety, stress, and depression with perceived social support among the elderly: a cross-sectional study in Iran. *Ageing Int*, 2021 Mar; 46(1): 108–14.
15. Li H, Kong F. Effect of morbidities, depression, anxiety, and stress on oral health-related quality of life among migrant elderly following children in Weifang, China. *Int J Environ Res Public Health*, 2022; 19(8): 4677.
16. McMullen M, Lau PK, Taylor S, McTigue J, Cook A, Bamblett M, et al. Factors associated with psychological distress amongst outpatient chemotherapy patients: an analysis of depression, anxiety and stress using the DASS-21. *Appl Nurs Res*, 2018 Apr 1; 40: 45–50.
17. Wongpakaran N, Wongpakaran T, Lerttrakarnnon P, Jiraniramai S, Sirirak T, Assanangkornchai S, et al. Prevalence, clinical and psychosocial variables of depression, anxiety and suicidality in geriatric tertiary care settings. *Asian J Psychiatry*, 2019 Mar 1; 41: 38–44.
18. Pasha H, Omidvar S, Faramarzi M, Bakhtiari A. Depression, anxiety, stress, and PTSD symptoms during the first and second COVID-19 waves: a comparison of elderly, middle-aged, and young people in Iran. *BMC Psychiatry*, 2023; 23(1): 190.
19. Mirzaei M, Ardekani SM, Mirzaei M, Dehghani A. Prevalence of depression, anxiety and stress among adult population: results of Yazd health study. *Iran J Psychiatry*, 2019 Apr; 14(2): 137.
20. Malhotra V, Javed D, Bharshankar R, Singh V, Gautam N, Mishra S, et al. Prevalence and predictors of depression, anxiety and stress among elderly during COVID-19: a cross-sectional study from Central India. *Mymensingh Med J.*, 2023 Apr; 32(2): 556–66.
21. Kiely KM, Brady B, Byles J. Gender, mental health and ageing. *Maturitas*, 2019 Nov 1; 129: 7.