



Prevalence of depression, anxiety, and the related factors in over 50 years adults: Findings from Ardakan cohort study on aging

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Abstract

Background: Depression and anxiety are the most frequent and devastating mental disorders among older adults. Several variables are identified as contributing to the development of these conditions. The present study was conducted to investigate the prevalence of depression, anxiety, and their related factors in Iranian community-dwelling adults.

Methods: The current cross-sectional study was based on the data obtained from the first phase of the Ardakan Cohort Study on Aging (ACSA) of 5176 community-dwelling adults aged ≥ 50 . Depression and anxiety were evaluated using CES-D-10 and HADS-A scales, respectively. Moreover, the relationships between these outcomes and the related factors were evaluated using the logistic and linear regression.

Results: The prevalence of depression and anxiety was estimated to be about 17% and 12%, respectively. Poor perception of health (OR=2.29, CI95% 1.79 to 2.93), Low perceived economic status (OR=2.11, CI95% 1.71 to 2.60), Receiving care (OR=1.66, CI95% 1.39 to 1.97), affecting by neurological disease (OR=1.37, CI95% 1.11 to 1.69), Gastrointestinal diseases (OR=1.48, CI95% 1.23 to 1.77) were significantly associated with the presence of depression. Female gender, Poor perception of health and economic status, receiving, and providing care, and suffering from neurological, cardiovascular, gastrointestinal, and respiratory diseases were related to higher anxiety scores.

Conclusion: The prevalence of depression and anxiety among the participants was relatively significant, and these variables were significantly correlated with several factors, including health and economic status and receiving/providing care. These findings highlight the importance of considering various socio-economic, health-related, and gender-specific factors when addressing mental health disorders, such as depression and anxiety, in this age group. By identifying the risk factors, healthcare professionals can better target interventions and support systems to manage and mitigate the effect of these mental health disorders.

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Highlights

What is current knowledge?

- Depression and anxiety are common in middle aged and older adults.
- Various factors contribute to these mental health disorders.
- Prevalence data may be limited for specific regions.

What is new here?

- Stressed the importance of considering socio-economic, health-related, and gender-specific factors in addressing mental health in community-dwelling adults.
- Provides actionable insights for healthcare professionals to develop targeted interventions, and support systems.
- Provides specific prevalence data for Ardakan's older population (17% depression, 12% anxiety).

Introduction

The number of older adults worldwide has significantly grown in the past few decades and has risen from 130 million in 1950 to more than 600 million in 2017 (1). Iran is not exempt from moving towards increased old age population like other countries worldwide and in the region. Based on 2015 census, approximately 7.5 million Iranians are aged over 60, with an estimated projection of this number reaching around 19 million by 2041 (2).

During old age, factors, such as reduced functional status, reduced mobility, retirement, chronic diseases, the death of a spouse, and living alone contribute to numerous physical and mental pathological states (3,4). Social constraints may lead to older persons losing control over their life, which can result in health issues as well as unpleasant feelings including depression, poor self-esteem, social isolation, and Distress (5). Depression is the most severe outcome of these emotions. It is characterized by a continuous sense of melancholy and a loss of interest in things that one formerly found pleasurable (6); this condition affects 10-20% of older adults worldwide (7). Depression is often accompanied by anxiety in this population which predicts a worse prognosis, and a future threat (8). The prevalence of depression is estimated between 11.6 to 81.1% in older people (9, 10). Based on the Longitudinal Study of Aging in Amsterdam (LASA),

5.4% and 10.8% of older adults reported anxiety and depression (11), indicating that these diseases may coexist and frequently occur in older adults (7,12).

Anxiety and depression are complex and multifaceted disorders caused by a variety of factors. As reported in the Amsterdam Longitudinal Study of Aging (LASA) (11), the most important predictors of these conditions are lower education levels, spouse loss, functional disabilities, and cognitive dysfunction. The results of systematic reviews in this field showed that female gender, age over 75, not being married and unemployed, low levels of education, low economic status, and suffering from underlying diseases are associated with these outcomes (13-15).

Depression and anxiety can cause a reduction in the quality of life (16), social isolation (17), physical health problems (18), cognitive impairment (19), and an increase in medical expenditures (20). A report from the World Health Organization in 2015 showed that depression was responsible for 7.5% of disabilities and contributed to 800,000 suicides annually (21). Based on a study of the global burden of diseases, injuries, and risk factors in 2019, depression and anxiety are two of the most debilitating mental disorders (22), likely making depression an important cause of disease burden among older adults in the future (14).

A lack of sufficient evidence about the problems in this specific population, and cultural context would make prevention and treatment ineffective. So it is crucial to have an accurate view of the prevalence and factors involved in geriatric psychiatric disorders to develop and implement effective community-based mental health interventions. Furthermore, if these problems are not identified and treated in a timely manner, there may be a reduction in the patient's quality of life, cognitive condition, functional limitations that increase, interference with day-to-day activities, treatment and rehabilitation of older people being disrupted, and even death (23,24). Considering the importance of suffering from mental illnesses, their effect on quality of life, and the greater vulnerability of the older population to these disorders, the present study was conducted to investigate the prevalence of depression, anxiety, and their related factors in a representative sample of the older adults residing in the City of Ardakan, Yazd Province, Iran. The results will guide tailored interventions for depression and anxiety in adults over 50, enhancing mental health outcomes and promoting healthy aging.

Methods

2.1. Study design and setting: It was a longitudinal population-based study on aging conducted in the city of Ardakan, in the central part of Iran, since 2020 till now. This city is one of the oldest and largest provinces in Iran with a kind of desert weather that has been moving towards modernization while still keeping some traditional social characteristics, particularly within families. The first wave of data was collected using the same inclusion criteria as the original cohort study, which included residing in the region and being 50 years of age or older. Being mentally or physically ill, or not being able to speak, were the exclusion criteria. A representative sample was obtained using a stratified random sampling technique. Consequently, 5176 participants were included in the study. Ethics approval was granted for this study by the University of Social welfare and Rehabilitation Sciences with the code IR.USWR.REC.1394.490.

2.2. Tools and measurement

2.2.1. Baseline characteristic: Background information, including gender, age, marital status (Single and married, and all widowed or divorced people were included in the category of single people), education level (Illiterate, elementary to high school, diploma, university), employment status (Not working/ disabled, Working, Householder), receiving or providing informal care (Yes, No), Living arrangements (Alone, with other people), self-perceived health (Very good, good, average, bad, very bad), self-perceived Economic status (High, Middle to high, Middle, Middle to low, low), neurological disorders (Including headache, Parkinson's, epilepsy, stroke), cardiovascular diseases (Including high blood pressure, heart failure and heart attack), diabetes, cancer (Including stomach, colorectal, breast, prostate cancer), respiratory disease (Including asthma, COPD, bronchitis and emphysema) and gastrointestinal diseases (Including gastric ulcer, fatty liver and gallstones) and the examination of other variables related to the main objectives of research was carried out in the following way:

2.2.2. Depression: Depression was assessed using CESD-10 questionnaire (25).

The response to each question scored between 0 to 3 (From 0 for not at all, one for sometimes, two for usually, and three for always), and the final score ranges 0 to 30, where higher values indicate more depression in the older adults. The validity and reliability of this scale were proven in a previous study (Cronbach's alpha=0.815) (26). The results considered a cut-off point of 10 as having proper sensitivity and specificity for diagnosing depression (27). Scores greater than or equal to 10 are considered depression.

2.2.3. Anxiety: The anxiety was assessed using the Hospital Anxiety and Depression Scale (HADS-A). This tool comprises fourteen questions that evaluate emotions associated with anxiety and depression (seven inquiries for each) on a four-point Likert scale, ranging from "almost always" to "never" (0 to 3) (28). The validity and reliability of this tool have been extensively verified among geriatric populations (29,30). As for the anxiety subscale, scores 0-7 are standard, 8-10 are borderline, and more than 11 indicate an anxious state. Rashedi et al (2016) found this questionnaire to be reliable in older adults, with Cronbach's alpha of 0.84 (31).

2.3. Statistical analysis: The categorical variables were reported as percentage and frequency. To study the relationships between anxiety and depression scores with the selected variables, linear and logistic regression was used, respectively. Initially, in a univariable model (a:0.2), then in a multivariable model(a:0.05). All data analyses were performed using STATA-15 software (STATA Corporation, College Station, TX, USA).

Results

The participants included all 5176 older adults from the Ardakan Cohort Study on aging; more than half (51.95%) were women. The mean age of the participants was 61.97 with a standard deviation of 7.64, and about 54% were more than 60 years. 47.85% had elementary education, and only about 6% lived alone. About half of them expressed their health and economic status as average.

Table 1. The prevalence of depression and anxiety in the older adults based on demographic characteristics

Variables	Depression N (%)		Anxiety N (%)			Total N (%)
	Normal 4086 (82.7)	Depress 853 (17.2)	Normal 3686 (74.2)	Borderline 693 (13.9)	Anxious 585 (11.7)	
Gender						
Female	1938 (47.4)	626 (73.3)	1638 (44.4)	480 (69.2)	462 (78.9)	2572 (51.9)
Male	2148 (52.5)	227 (26.6)	2046 (55.5)	213 (30.7)	123 (21.0)	2378 (48.0)
Age (Mean ± SD)	62.27 ± 7.67	62.24 ± 7.94	62.57 ± 7.79	61.30 ± 7.42	61.50 ± 7.53	62.27 ± 0.27
Year						61.97 ± 7.64
Age						
50-60	1884 (46.1)	391 (45.8)	1641 (44.5)	358 (51.6)	287 (49.0)	2280 (46.0)
> 60	2202 (53.8)	462 (54.1)	2045 (55.4)	335 (48.3)	298 (50.9)	2671 (53.9)
Education						
Illiterate	520 (12.7)	176 (20.6)	474 (12.8)	122 (17.6)	106 (18.1)	699 (14.1)
Elementary	1889 (46.2)	472 (55.4)	1678 (45.5)	363 (52.3)	334 (57.0)	2368 (47.8)
Middle	622 (15.2)	95 (11.1)	553 (15.0)	98 (14.1)	70 (11.9)	719 (14.5)
High	522 (12.7)	70 (8.2)	479 (13)	73 (10.5)	44 (7.5)	594 (12)
College	530 (12.9)	38 (4.4)	501 (13.6)	37 (5.3)	31 (5.3)	568 (11.4)
Job						
Not working/ disabled	2636 (64.5)	570 (66.9)	2398 (65.0)	448 (64.6)	374 (63.9)	3213 (64.9)
Working	903 (22.1)	146 (17.1)	825 (22.3)	131 (18.9)	101 (17.2)	1053 (21.2)
Householder	544 (13.3)	135 (15.8)	462 (12.5)	114 (16.4)	110 (18.8)	682 (13.7)
Living arrangement						
Alone	182 (4.5)	82 (9.8)	174 (4.8)	50 (7.3)	42 (7.3)	265 (5.4)
With others	3825 (95.4)	750 (90.1)	3443 (95.1)	632 (92.6)	527 (92.6)	4588 (94.5)
Perceived health						
Very good	187 (4.5)	5 (0.5)	180 (4.8)	6 (0.8)	6 (1.0)	192 (3.9)
Good	1356 (33.2)	90 (10.5)	1227 (34.7)	111 (16.0)	63 (10.7)	1448 (29.2)
Middle	2293 (56.1)	556 (65.2)	2014 (54.7)	483 (69.8)	365 (62.3)	2855 (57.7)
Bad	217 (5.3)	151 (17.7)	186 (5.0)	74 (10.6)	112 (19.1)	370 (7.4)
Very bad	29 (0.7)	50 (5.8)	22 (0.6)	18 (2.6)	39 (6.6)	79 (1.5)
Economic status						
High	21 (0.5)	1 (0.1)	20 (0.5)	1 (0.1)	1 (0.1)	22 (0.4)
Middle to high	304 (7.4)	41 (4.8)	285 (7.7)	28 (4.0)	32 (5.4)	345 (7)
Middle	2092 (51.3)	328 (38.6)	1878 (51.3)	322 (46.9)	229 (39.2)	2424 (49.2)
Middle to low	988 (24.27)	233 (27.4)	901 (24.6)	167 (24.3)	153 (26.2)	1221 (24.8)
low	665 (16.3)	246 (28.9)	576 (15.7)	168 (24.4)	168 (28.8)	911 (18.5)
Care receiver						
Yes	860 (21.1)	352 (41.4)	734 (19.9)	223 (32.3)	262 (44.8)	1215 (24.6)
No	3216 (78.9)	497 (58.5)	2938 (80.0)	466 (67.6)	322 (55.1)	3719 (75.3)
Care giver						
Yes	1270 (31.1)	284 (33.4)	1100 (29.9)	247 (35.8)	211 (36.1)	1556 (31.5)
No	2806 (68.8)	565 (66.5)	2572 (70.0)	442 (64.1)	373 (63.8)	3382 (68.4)
Diabetes						
Yes	1241 (31.1)	323 (38.6)	1116 (31.0)	244 (35.8)	213 (37.3)	1570 (32.4)
No	2749 (68.9)	512 (61.3)	2477 (68.9)	437 (64.1)	357 (62.6)	3268 (67.5)
Neurologic disease						
Yes	487 (12.1)	191 (22.8)	400 (11.0)	138 (20.3)	142 (24.8)	679 (13.9)
No	3532 (87.8)	645 (77.1)	3223 (88.9)	541 (79.6)	429 (75.1)	4185 (86.0)
Cardiovascular disease						
Yes	569 (14.2)	159 (19.0)	513 (14.2)	108 (15.8)	110 (19.3)	730 (15.0)
No	3421 (85.7)	675 (80.9)	3084 (75.8)	573 (84.1)	460 (80.7)	4106 (84.9)
Cancer						
Yes	41 (1.0)	16 (1.9)	34 (0.9)	10 (1.4)	14 (2.4)	58 (1.2)
No	3949 (98.9)	819 (98.0)	3559 (99.0)	671 (98.5)	556 (97.5)	4777 (98.8)
Gastrointestinal disease						
Yes	764 (19.1)	282 (33.7)	653 (18.1)	198 (29.0)	198 (34.7)	1047 (21.6)
No	3226 (80.8)	553 (66.2)	2940 (81.8)	483 (70.9)	372 (65.2)	3785 (78.3)
Respiratory disease						
Yes	248 (6.2)	87 (10.4)	218 (6.0)	58 (8.5)	61 (10.7)	336 (6.9)
No	3741 (93.7)	747 (89.57)	3381 (93.9)	623 (91.4)	509 (89.3)	4500 (93.0)

The overall prevalence of depression was 17.27% with women making up almost 73% of those with depression. The highest levels of depression were seen among those with elementary education (55.46%) and people unable to work due to disability (66.98%). Also, more than half of depressed people had chronic diseases. The findings showed that only about 12% of older adults had anxiety and about 78% of those were women, 51% were over 60, 57% had elementary education, and 63% were not working in terms of disability-more details about the prevalence of depression and anxiety are presented in Table 1.

As shown in Table 2, using linear regression in univariable and multivariable levels, the data at the univariable level showed that, gender, age, marriage, job status, living arrangements, perceived health, being a care recipient or provider and suffering from chronic diseases had significant relationships with anxiety ($P < 0.05$). The results of multivariable linear regression showed that, on average, men scored 2 points lower in the anxiety level compared to women ($\beta = -2.0$, $p < 0.001$). In addition, poor perceived health and being a care receiver were associated with up to 0.9 higher anxiety scores ($\beta = 0.9$, $p < 0.001$), low perceived economic status was associated with up to 1.21 higher anxiety scores ($\beta = 1.21$, p

< 0.001), and being a care provider was associated with up to 0.4 higher anxiety scores, on average. ($\beta = 0.4$, $p < 0.001$).

Two separate logistic regression models (Univariable and multivariable) were implemented for factors related to depression; the results are shown in Table 3. In the univariable model, gender, marital status, education level, living arrangements, perceived health, receiving care, and having chronic diseases had a significant relationship with depression ($P < 0.05$). In the next step, the results showed that the odds of depression in men were 58% lower than in women ($OR = 0.42$, $CI_{95\%}: 0.35$ to 0.51 , $P < 0.001$). Older adults with good and very good perceived health had 82% and 65% lower odds of depression than those with middle levels of perceived health, respectively ($OR = 0.18$, $CI_{95\%}: 0.07$ to 0.46 and $OR = 0.35$, $CI_{95\%}: 0.27$ to 0.45 , $P < 0.001$). Furthermore, care receivers had higher odds of depression, up to 66% ($OR = 1.66$, $CI_{95\%}: 1.39$ to 1.97 , $P < 0.001$), while those suffering from neurological diseases had up to 37% higher odds ($OR = 1.37$, $CI_{95\%}: 1.11$ to 1.69 , $P = 0.003$), and those suffering from gastrointestinal diseases had up to 48% higher odds of depression ($OR = 1.48$, $CI_{95\%}: 1.23$ to 1.77 , $P < 0.001$), compared to those who did not have these conditions.

Table 2. The relationships between anxiety and demographic characteristics (Linear regression)

Covariates (Reference level)	Univariable			Multivariable		
	β	95% CI	P- Value	β	95% CI	P- Value
Gender (Female)						
Male	-2.77	-2.98 to -2.55	< 0.001	-2.06	-2.28 to -1.84	< 0.001
Age (Year)	-0.61	-0.83 to -0.38	< 0.001	-0.04	-0.05 to -0.02	< 0.001
Marital status (Never married, Divorced and Widowed)						
Married	-1.1	-1.58 to -0.80	< 0.001	-	-	-
Job (Disabled)						
Working	-0.411	-0.69 to -0.13	0.004	-	-	-
Householder	1.03	0.70 to 1.37	< 0.001	-	-	-
Education (Elementary)						
Illiterate	0.18	-0.15 to 0.51	0.292	-	-	-
Middle	-0.54	-0.87 to -0.20	0.001	-	-	-
High	-0.95	-1.31 to -0.59	< 0.001	-	-	-
College	-1.69	-2.06 to -1.33	< 0.001	-	-	-
Living arrangement (Alone)						
With family or others	-0.90	-1.40 to -0.40	< 0.001	-	-	-
Perceived health (Middle)						
Very good	-2.97	-3.52 to -2.42	< 0.001	-1.5	-1.99 to -1.06	< 0.001
Good	-1.97	-2.21 to -1.73	< 0.001	-0.88	-1.09 to -0.68	< 0.001
Bad	2.38	1.97 to 2.79	< 0.001	0.96	0.62 to 1.31	< 0.001
Very bad	4.59	3.75 to 5.44	< 0.001	1.91	1.21 to 2.60	< 0.001
Economic status (Middle)						
High	-1.36	-3.04 to 0.32	0.11	-0.08	-1.64 to 1.46	0.91
Middle to high	-2.97	-0.74 to 0.15	0.19	0.17	-0.23 to 0.57	0.40
Middle to low	0.51	0.23 to 0.78	< 0.001	0.48	0.24 to 0.73	< 0.001
Low	1.50	1.19 to 1.80	< 0.001	1.21	0.93 to 1.49	< 0.001
Care receiver						
No	2.01	1.75 to 2.26	< 0.001	0.90	0.66 to 1.15	< 0.001
Caregiver						
No	0.755	0.51 to 0.99	< 0.001	0.42	0.20 to 0.64	< 0.001
Diabetes (No)						
Yes	0.56	0.32 to 0.80	< 0.001	-	-	-
Neurologic disease (No)						
Yes	1.95	1.63 to 2.27	< 0.001	0.79	0.50 to 1.08	< 0.001
Cardiovascular disease (No)						
Yes	0.41	0.09 to 0.73	0.01	0.35	0.06 to 0.63	0.01
Cancer (No)						
Yes	1.55	0.50 to 2.60	< 0.001	-	-	-
Gastrointestinal disease (No)						
Yes	1.66	1.38 to 1.93	< 0.001	0.62	0.37 to 0.87	< 0.001
Respiratory disease (No)						
Yes	1.07	0.62 to 1.52	< 0.001	0.49	0.10 to 0.89	0.01

Table 3. The relationships between depression and demographic characteristics (Logistic regression)

Covariates (Reference level)	Univariable ($\alpha:0.2$)			Multivariable ($\alpha:0.05$)		
	Odds Ratio	95% CI	P- Value	Odds Ratio	95% CI	P- Value
Gender (Female)						
Male	0.32	0.27 to 0.38	< 0.001	0.42	0.35 to 0.51	< 0.001
Age	1.01	0.87 to 1.17	0.885	-	-	-
Marital status (Never married, Divorced and Widowed)						
Married	0.46	0.36 to 0.57	< 0.001	-	-	-
Job (Disabled)						
Working	0.74	0.61 to 0.91	0.004	-	-	-
Householder	1.14	0.93 to 1.41	0.197	-	-	-
Education (Elementary)						
Illiterate	1.35	1.11 to 1.65	0.003	-	-	-
Middle	0.61	0.48 to 0.77	< 0.001	-	-	-
High	0.53	0.41 to 0.70	< 0.001	-	-	-
College	0.28	0.20 to 0.40	< 0.001	-	-	-
Living arrangement (Alone)						
With family or others	0.43	0.33 to 0.57	< 0.001	-	-	-
Perceived health (Middle)						
Very good	0.11	0.045 to 0.26	< 0.001	0.18	0.07 to 0.46	< 0.001
Good	0.27	0.21 to 0.34	< 0.001	0.35	0.27 to 0.45	< 0.001
Bad	2.86	2.28 to 3.60	< 0.001	2.29	1.79 to 2.93	< 0.001
Very bad	7.11	4.45 to 11.3	< 0.001	5.57	3.36 to 9.24	< 0.001
Economic status (Middle)						
High	0.30	0.04 to 2.26	0.24	0.75	0.09 to 6.02	0.79
Middle to high	0.86	0.60 to 1.21	0.39	1.22	0.84 to 1.76	0.29
Middle to low	1.50	1.25 to 1.80	< 0.001	1.51	1.23 to 1.84	< 0.001
Low	2.35	1.95 to 2.84	< 0.001	2.11	1.71 to 2.60	< 0.001
Care receiver						
No	2.64	2.26 to 3.09	< 0.001	1.66	1.39 to 1.97	< 0.001
Caregiver						
No	1.11	0.94 to 1.29	0.191	-	-	-
Diabetes (No)						
Yes	1.39	1.20 to 1.62	< 0.001	-	-	-
Neurologic disease (No)						
Yes	2.14	1.78 to 2.58	< 0.001	1.37	1.11 to 1.69	0.003
Cardiovascular disease (No)						
Yes	1.41	1.16 to 1.71	< 0.001	-	-	-
Cancer (No)						
Yes	1.88	1.05 to 3.36	0.03	-	-	-
Gastrointestinal disease (No)						
Yes	2.15	1.82 to 2.53	< 0.001	1.48	1.23 to 1.77	< 0.001

Discussion

The present study was conducted to investigate the prevalence of depression, anxiety, and the related factors in the older adults living in Ardakan city, Iran. According to the findings, around 17% and 12% of adults suffer from depression and anxiety, respectively. The female gender, poorer perceived health and economic status and neurological and gastrointestinal disease were all directly associated with these mental disorders. Thus, being a care recipient, suffering from cardiovascular disease, and younger age was not related to depression but had a direct relationship with experiencing from anxiety in this population.

Systematic review studies indicate a rising trend of depression and anxiety among the senior population, with prevalence ranging from 3% to 31.74% (7,15,32). This upward trend underscores the necessity for further investigations in this area. The findings of this study indicate a depression prevalence of 17%, and anxiety prevalence of 12% among the Ardakan’s older adult. Similarly, a review study on aged populations in Asian countries showed depression prevalence ranging from 1% to 39%, and anxiety ranging from 1% to 41% (24). Also studies conducted in Iraq (33) and Pakistan (34), countries sharing similar cultural and religious contexts with Iran, have reported depression prevalence among older adults ranging from 22% to 26%, and anxiety prevalence ranging from 21% to 42%. It can, therefore, be stated that, on average, the older adults in Ardakan, Iran, suffer from less depression and anxiety, which can be explained

by better communication and social support, favorable economic status, which provides greater access to health care services and a healthier lifestyle.

Many systematic review studies on depression and anxiety in the older adults reveal that women are more likely to report these disorders than men (13,14,35). In our study, senior men had a lower odds of depression, as well as lower anxiety scores than their female counterpart, which were previously reported in studies inside (5,36) and outside Iran (7,35). Women are more likely to suffer from depression and anxiety than men, probably because men have better social status and support and a broader network of social relationships (5). In addition, older women are more likely to face stress in terms of family care responsibilities, increased home duties (37,38), and experiencing menopausal complications. A longitudinal study of women’s health showed that even women with lower levels of anxiety at a young age experienced more anxiety symptoms during menopause (39). Thus, older women should be screened more carefully for depression and anxiety, and the strategies to reduce the prevalence of these disorders should also be considered important in older women.

A person’s perception of their health and their experiences of physical, social, and psychological events are the determinants of their well-being, which has been mentioned as one of the essential indicators of functional status, mortality, and Health service utilization(40) As Roy’s theory suggests, people who are not properly adapted to their personal and social changes (Such as diseases and old

age problems) have a poor perception of their health condition, which results in a decrease in well-being, depression, and other psychological consequences (41). According to the current research, older persons who thought their health was poor or very poor had greater anxiety levels and a higher likelihood of developing depression than older adults who thought their health was average. In a group of community-dwelling older adults aged 72 to 105, Ranzijn indicates that accepting unhealthiness and perceived health is a good predictor of well-being. (42,43). Thus, seniors with diabetes who perceive their health status better, have better adaptive skills, Quality of life, and psychological status (43). The results of Narsavage's study indicated that the older adults with chronic respiratory diseases who consider their health status poor show higher levels of depressed mood and suffer from depression, anxiety, impairment in daily activities, and deficiencies in communication skills with family (41).

A sense of independence and satisfaction with the economic situation is essential for life satisfaction, and successful aging (44,45). Thus, poor perception of the economic situation is associated with lower well-being and more psychological distress (46). Considering the difference between the objective measures of economic well-being and people's perception of their financial situation, paying attention to the difference between income and people's perception of their economic situation is necessary (47) because a person with a high income may consider himself to be at an average or poor level economically. The present study indicated that those with a low perceived economic status were twice as likely to suffer from depression and had more scores of anxiety. This finding aligns with the worldwide research results (37,48-50). All age groups, especially the older ones are suffering from anxiety caused by economic problems (51). Furthermore, perceived low economic status may decrease the older adult's access to proper nutrition and medical services, which is a reason why most of these individuals suffer from psychological problems.

Chronic diseases are more common in older adults, and about one-third of those with chronic diseases suffer from anxiety and/or depression (52). This study, consistent with many previous studies, found that adults with neurological disease have higher rates of anxiety and depression than their peers without these diseases (19,53,54). Patients with neurological disease may experience depression and anxiety for a variety of causes, such as vascular depression and anatomical abnormalities in the brain. Vascular depression, which is usually seen in older persons with cerebral ischemia lesions, is caused by alterations in the cerebral circulation (55). Furthermore, the older adults with neurological diseases may experience physical disability, such as difficulty walking and speaking which, in turn, can affect their mental health and make them more likely to experience depression and/or anxiety by increasing their social isolation (56).

Gastrointestinal diseases are common in the aged population. Even though they are often not life-threatening, they significantly impact sufferers' quality of life and mental health (57). According to the results of the present study, many studies showed that the co-occurrence of mood disorders, including depression and anxiety, is higher in patients with Gastro-intestinal disorders (58,59). Patients with gastrointestinal disorders may suffer from pain (58), and side effects of the drugs that have given them for controlling their symptoms, and/or depression (60). Furthermore, liver diseases may lead to the accumulation of neuropathogenic molecules and contaminants in the bloodstream as a consequence of insufficient cleansing by a damaged liver. It has been established that these immunological mechanisms are responsible for depression and anxiety (61). Approximately a third of those suffering from gastrointestinal disorders seek medical services. The reason for these visits is not only to relieve symptoms related to those disorders, itself, but to relieve anxiety and stress caused by them, as well (62). In general, increase in functional disorders and doctor visits may lead to a decline in health-related quality of life (20) and an increase in anxiety and depression (63).

Strengths and Limitations:

This study used data from the first phase of the Ardakan Cohort Study on Aging. Because of the relatively large sample size, the findings can be considered as generalizable to the Province [Blinded]. The study examined a variety of factors that may contribute to the development of depression and anxiety, including demographic, socioeconomic, and health-related variables. However, it is important to note that our study has some limitations. Due to the cross-sectional nature of study, causality or temporal relationships between variables cannot be determined. There was no consideration of other potential risk factors, such as genetics or environmental factors, which may affect depression and anxiety states, so future research is needed to investigate the casual factors through longitudinal studies and dig up the role of other factors in the prevalence of these mental health conditions.

Conclusion

This study was found that the prevalence of depression and anxiety among the participants were relatively significant. It was found that older women, individuals with the gastrointestinal and neurological diseases, and those who perceived themselves as low economically well and healthy were more likely to be depressed and have anxiety. These results highlight how important it is to understand the physical and social factors of mental health and take appropriate action to reduce the incidence of anxiety and depression. Additionally, they provide healthcare officials a thorough viewpoint to enhance the advantages as

well as disadvantages of the contemporary aged health evaluation programs.

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Ethical statement

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Conflicts of interest

The authors declare that they have no conflicts of interest related to this article.

Author contributions

A.D: Conception, Supervision, Fundings, Materials, article Critical Review
M.J.G: Materials, Data Collection and Processing, Literature Review, Writing article
M.S: Design, Supervision, Analysis and Interpretation, Critical Review
M.B: Design, Supervision, Analysis and Interpretation, Critical Review
F.S.T: Data Collection and Processing
M.F: Design, Supervision, Critical Review
E.H: Conception, Supervision, Fundings, Writing, Critical Review

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