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The Impact of Financial Crises on Mental Health in the Kurdistan Region: A Cross-Sectional Study

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Abstract **Background and Aim:** Economic crises have profound impacts on public health, particularly mental health, due to their association with unemployment, poverty and inequality. Therefore, this study aimed to assess the impact of the financial crisis on mental health, specifically depression, anxiety and stress, among the population in the Kurdistan Region of Iraq. **Method:** This online cross-sectional study was conducted from April 1st to October 15th, 2024, in the Kurdistan Region of Iraq, including Sulaimani, Erbil and Duhok, using convenience sampling. The questionnaire contained two sections: demographic data and the DASS-21 questionnaire to assess depression, anxiety and stress. Data were analyzed using SPSS version 26 (IBM SPSS Statistics, Armonk, NY). Chi-square tests, Spearman correlation and ordinal regression were employed to examine the relationship between the financial crisis and mental health conditions. Statistical significance was set at $p<0.05$. **Results:** A total of 1,024 responses were analyzed. The mean score for anxiety was 19.28±9.18, indicating severe anxiety levels. Similarly, the mean score for depression was 27.77±11.63, reflecting severe depression levels. Stress also exhibited severe levels, with a mean score of 26.80±11.58. Statistical analysis revealed a significant association between the financial crisis and all three mental health conditions ($p = 0.001$ for anxiety, stress and depression), with individuals experiencing financial insufficiency reporting higher levels of psychological distress. **Conclusions:** The results showed a significant relationship between the financial crisis and mental health conditions, including anxiety, stress and depression. Therefore, policymakers and healthcare providers should implement targeted interventions and develop support systems to mitigate the adverse mental health effects of economic crises.

Key Words Financial Crisis, Mental Health, Kurdistan Region, Socioeconomic Impact, Psychological Well-being

INTRODUCTION

Financial crises have extensive repercussions that transcend economic boundaries, frequently exerting a significant influence on the mental health of individuals and communities [1]. Global estimates suggest that during periods of financial instability, unemployment rates can rise by as much as 10%, leading to an increase in mental health disorders by 20-30% [2,3]. The Kurdistan Region, an autonomous area in northern Iraq, has experienced considerable financial challenges in recent years,

characterised by economic instability, elevated unemployment rates and reduced government expenditures [4]. For example, in 2018, the unemployment rate in the Kurdistan Region surged to over 13%, while government spending cuts affected key public sectors such as healthcare and education [5]. These financial difficulties can have far-reaching effects, as they may exacerbate pre-existing mental health conditions and facilitate the emergence of new ones [6]. Mental health is a fundamental aspect of overall well-being and its significance cannot be overstated. Suboptimal mental health can lead to several adverse consequences, such as diminished quality of life, compromised social functioning and reduced productivity [7]. During times of financial crisis, the toll on mental health can be particularly severe. Studies show that suicide rates often increase by 4-6% during financial downturns, highlighting the profound psychological toll such crises can exert [8]. During financial crises, the psychological strain can be substantial, as individuals confront the stress of unemployment, financial instability and uncertainty about the future [3,9,10]. Research indicates that economic recessions are correlated with heightened incidences of depression, anxiety and suicide [11].

The impact of financial crises on mental health may be further complicated by the unique context of the Kurdistan Region. The Kurdistan Region possesses a distinct socio-political context that may influence the impact of financial crises on mental health. The region has a prolonged history of violence, displacement and political instability [10,12-14]. The interplay of these factors, alongside current economic challenges, may precipitate a significant increase in mental health concerns. Furthermore, the cultural and social norms of the region may shape individuals' perceptions and coping mechanisms regarding mental health issues [15]. The complex nature of the relationship between financial difficulties and mental health is further highlighted by the various ways in which economic hardship can manifest psychologically. The relationship between financial difficulties and mental health is intricate and multifaceted. Financial adversities can induce various psychological stresses, such as fear of the future, pessimism and a diminished sense of control [16]. These pressures may manifest as heightened incidences of mental disorders, substance misuse and suicidal behaviour [14]. Moreover, financial distress can exacerbate pre-existing mental health disorders, obstructing individuals' ability to access necessary care and support [17].

The psychological burden of financial crises is not borne equally across society, with certain groups being more vulnerable to its effects. The influence of financial crises on mental health varies across different societal divisions. Specific demographics, including individuals with lower socioeconomic status, women and youth, may be particularly susceptible to the adverse effects of economic hardship [18]. In the Kurdistan Region, these at-risk populations may also confront additional challenges, including limited access to mental health care, stigma associated with mental illness and cultural barriers to seeking assistance [10,19]. To effectively address the mental health consequences of financial crises, it is crucial to understand the underlying mechanisms through which economic hardship impacts psychological well-being. Understanding the mechanisms through which financial crises impact mental health is essential for devising effective interventions and support systems. Research indicates that financial difficulties may heighten stress levels, thereby disrupting the body's stress response systems and contributing to the onset of mental health disorders [20]. Furthermore, financial adversities may lead to changes in health behaviours, such as reduced physical activity and inadequate nutrition, which can further exacerbate mental health issues [21].

The Kurdistan Region's unique challenges may amplify the mental health consequences of financial crises, underscoring the need for context-specific research and interventions. The Kurdistan Region has faced numerous challenges in recent years, including political instability, conflict and economic hardship. These factors may intensify the effects of financial crises on mental health, creating a unique set of conditions that warrant further investigation. Analyzing the relationship between financial crises and mental health within this context offers critical insights into how economic adversities intersect with other social, cultural and political factors to influence mental well-being. Despite the growing recognition of the importance of mental health, there remains a significant gap in our understanding of the specific impacts of financial crises on mental well-being in the Kurdistan Region. Therefore, this study seeks to examine the effects of financial crisis on mental health in the Kurdistan Region.

RESEARCH QUESTION

Does the financial crisis affect people's mental health and what is the state of their mental well-being?

METHODS

Study Design, Setting, Period and Sampling

This online cross-sectional study was conducted between April 1st and October 15th, 2024, in the Kurdistan Region of Iraq, covering the cities of Sulaimani, Erbil and Duhok, using a convenience sampling method. The study period was chosen to capture a broad range of financial experiences over different economic fluctuations within the year. Seasonal variations, such as increased financial strain due to summer-related expenses and post-holiday financial burdens, may have influenced participant responses. The use of convenience sampling, while practical for reaching a large

population, may limit the generalizability of findings, as it does not ensure equal representation of all socioeconomic groups. Additionally, the study focused on urban areas due to higher internet accessibility and population density, which facilitated data collection.

Sample Size

The sample size for this study was calculated using a 5% margin of error, a 95% confidence interval and an assumed population proportion of 50%. Based on the infinite population sample size formula, the required sample size was determined to be 385 participants. However, due to the widespread use of online data collection methods-such as distributing the survey via social media platforms (Facebook, WhatsApp and Twitter) and email lists-a final sample of 1,024 participants was achieved. This larger-than-expected response rate was attributed to the accessibility of online distribution methods and the public's strong interest in the topic. Thirteen participants declined to participate and 27 partially completed questionnaires were excluded from the final analysis.

Inclusion/exclusion

The inclusion criteria for this study encompassed individuals aged 17 years and older of both genders residing in the three major cities of the Kurdistan Region: Erbil, Sulaimani and Duhok. These cities were selected to ensure comprehensive regional representation. Participants were required to consent to participate in the study voluntarily. The exclusion criteria included individuals under the age of 17 and those with cognitive impairments that could interfere with their ability to comprehend the survey or provide informed consent.

Study Tools and Data Collection

The study employed a bilingual questionnaire divided into two sections. The first section gathered demographic data, including age, gender, occupation, marital status, financial status (assessing whether the monthly income was sufficient to meet participants' needs) and the number of children. The second section utilized the Depression Anxiety Stress Scales-21 (DASS-21), a validated self-report tool designed to assess the severity of depression, anxiety and stress symptoms. The DASS-21 was translated into Kurdish using the forward-backward translation method to ensure linguistic accuracy and cultural relevance and the translation was verified by specialists in the field. Data were collected using an online format through Google Forms. The survey link was distributed via social media platforms (Facebook, WhatsApp, Twitter) and email lists to maximize reach and accessibility. Participants were given 10-15 minutes to complete the questionnaire.

Pilot Study

The study questionnaire, which included the Depression Anxiety Stress Scales-21 (DASS-21), was initially tested with a group of 27 participants. The pilot study was conducted between January 1st and February 15th, 2024, to evaluate the internal consistency and reliability of the questionnaire items prior to its use in the main study. The internal consistency was assessed using Cronbach's alpha [22], which yielded an overall value of 0.87, indicating a very good level of reliability. For content validity, the questionnaire was reviewed by eight experts from various specialties, who provided feedback to ensure the clarity and relevance of the items. Data collected during the pilot study were excluded from the final analysis.

Measures

The first section of the questionnaire included sociodemographic information of the participants, such as age, gender, occupation, marital status, financial status (assessing whether the monthly income was sufficient to meet participants' needs) and the number of children. These variables were chosen to provide insights into the participants' personal and socioeconomic backgrounds, enabling the analysis of potential associations with mental health outcomes.

The second part of the questionnaire was the Depression Anxiety Stress Scales-21 (DASS-21) [23], a validated tool designed to assess the severity of depression, anxiety and stress symptoms. This instrument consists of 21 items rated on a four-point Likert scale (0 = Did not apply to me at all, 1 = Applied to me to some degree, 2 = Applied to me to a considerable degree, 3 = Applied to me very much or most of the time), with higher scores indicating greater severity. The internal consistency of the DASS-21 was assessed using Cronbach's alpha [22], yielding a reliability score of 0.87, which reflects very good reliability. This tool has been widely used in various cultural contexts, making it suitable for evaluating psychological distress among participants in the Kurdistan region.

Ethical Approval and Inform Consent

This study adhered to the principles outlined in the Declaration of Helsinki and was approved by the Institutional Research Ethics Committee at the University of Sulaimani (Approval Number: 10) on January 26th, 2025. Participants were required to provide informed consent electronically before proceeding with the survey. They were informed about the study's purpose, their right to withdraw at any time and the confidentiality of their responses.

Statistical Analysis

Data were summarized and reported as frequencies and percentages for qualitative variables. Quantitative variables

were presented as medians and interquartile ranges due to their non-normal distribution. Since the data did not follow a normal distribution, non-parametric tests were utilized for analysis. Chi-square tests were employed to assess the association between demographic factors, mental health conditions and financial status. Spearman's correlation coefficient was used to evaluate the relationship between depression, anxiety and stress. Additionally, ordinal regression analysis was conducted for further clarification of these relationships and to adjust for potential confounding factors. Data analysis was performed using SPSS version 26 (IBM SPSS Statistics, Armonk, NY) and statistical significance was set at $p<0.05$. This analytical approach ensured robust findings despite the non-normality of the data.

RESULTS

Demographic and Clinical Characteristics

The study analyzed 1,024 responses to assess demographic and clinical characteristics. Participants' ages ranged from 20 to 75 years, with a mean age of 46.02±14.5 years. The majority were male (51.8%, 530), while 48.2% (494) were female. Regarding occupation, 46.0% (471) were governmental employees, 25.2% (258) worked in non-governmental sectors, 12.4% (127) were self-employed and 16.4% (168) were unemployed. In terms of marital status, 79.2% (811) were married and 20.8% (213) were single. Financial sufficiency was reported by 42.0% (430), while 58.0% (594) indicated their income was insufficient. Most participants had 3-4 children (49.3%, 505), while 29.0% (297) had 1-2 children, 16.3% (167) had no children and 5.4% (55) had 5-6 children. Detailed information is presented in Table 1.

Depression levels varied, with 8.4% (86) classified as normal, 5.8% (59) as mild, 14.4% (147) as moderate, 15.1% (155) as severe and 56.3% (577) as extremely severe (mean score: 27.77±11.63). Anxiety was normal for 11.6% (119), mild for 3.0% (31), moderate for 17.8% (182), severe for 15.0% (154) and extremely severe for 52.5% (538) (mean score: 19.28±9.18). Stress levels were normal for 17.8% (182), mild for 6.4% (66), moderate for 15.3% (157), severe for 25.7% (263) and extremely severe for 34.8% (356) (mean score: 26.80±11.58). For a more visual results, refer to Figure 1.

Association between Demographic Factors, Mental Health Conditions and Financial Status

The association between demographic factors, mental health conditions and financial status was analyzed using chi-square tests. Age demonstrated a significant association with financial sufficiency ($\chi^2 = 23.82$, $p = 0.001$), where 52.7% of participants aged 50-64 reported sufficient finances compared to 33.1% of those aged 35-49. Gender also showed a significant relationship ($\chi^2 = 4.34$, $p = 0.04$), with 45.1% of males reporting financial sufficiency compared to 38.7% of females. Occupation was significantly associated ($\chi^2 = 9.61$, $p = 0.02$), with non-governmental employees (50.0%) reporting greater sufficiency compared to unemployed individuals (36.9%). Mental health conditions, including depression ($\chi^2 = 18.01$, $p = 0.001$), anxiety ($\chi^2 = 22.69$, $p = 0.001$) and stress ($\chi^2 = 32.85$, $p = 0.001$), were strongly linked to financial status. Participants with normal depression, anxiety, or stress levels reported higher financial sufficiency (54.7, 56.3 and 57.1%, respectively) compared to those with severe or extremely severe symptoms. For more details, refer to Table 2.

Correlation Between Depression, Anxiety and Stress

The Spearman correlation analysis revealed strong positive associations among depression, anxiety and

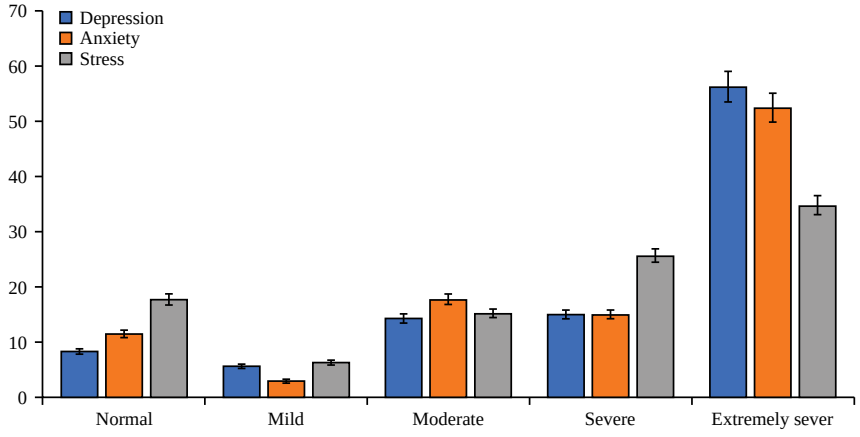

Figure 1: Depression, anxiety and stress levels among the study participants

Table 1: Demographic characteristics of participants (n = 1024)

Characteristics n = 1024	F	%
Age (year)		
20-34	268	26.2
35-49	362	35.4
50-64	201	19.6
65-75	193	18.8
	Mean±SD	46.02±14.5
Gender		
Male	530	51.8
Female	494	48.2
Occupation		
Governmental Employer	471	46
Non-governmental Employer	258	25.2
Self-Employed	127	12.4
Unemployed	168	16.4
Marital Status		
Single	213	79.2
Married	811	20.8
Financial Status (Is the amount you receive monthly sufficient to meet your needs?)		
Yes	430	42
No	594	58
Number of children		
0	167	16.3
1-2	297	29
3-4	505	49.3
5-6	55	5.4
Depression		
Normal	86	8.4
Mild	59	5.8
Moderate	147	14.4
Severe	155	15.1
Extremely Severe	577	56.3
	Mean±SD	27.77±11.63
Anxiety		
Normal	119	11.6
Mild	31	3
Moderate	182	17.8
Severe	154	15
Extremely Severe	538	52.5
	Mean±SD	19.28±9.18
Stress		
Normal	182	17.8
Mild	66	6.4
Moderate	157	15.3
Severe	263	25.7
Extremely Severe	356	34.8
	Mean±SD	26.80±11.58

F: Frequency, %: Percentage, SD: Standard deviation

stress, all significant at p<.001. Depression correlated strongly with anxiety (r = 0.83) and stress (r = 0.90). Similarly, anxiety showed a strong correlation with stress (r = 0.81). These findings suggest that higher levels of one mental health condition are closely associated with higher levels of the others. For further details, refer to Table 3.

Ordinal Regression of Factors Affecting DASS-21 Scores

The results identified significant predictors of stress, anxiety and depression across various demographic factors. Age was a significant factor, with younger age groups (20-34 and 35-49 years) showing higher estimated stress, anxiety and depression levels compared to the oldest group (65-75 years), all with p = 0.001. Gender analysis revealed that males had significantly higher stress (estimate: 0.50; p = 0.01) and depression (estimate: 0.34; p = 0.001) compared to females. Single participants had higher stress (estimate: -2.24; p = 0.001) and anxiety (estimate: -0.78; p = 0.001) levels than married participants. The number of children was also significant, with participants having 0 or 1-2 children reporting higher stress, anxiety and depression levels

Table 2: Association between demographic factors, mental health conditions and financial status

	Financial Status			
Demographic Information	Sufficient	Insufficient	N	χ^2 test
Age				
20-34	110 (41.0%)	158 (59.0%)	268	
35-49	120 (33.1%)	242 (66.9%)	362	$\chi^2 = 23.82$
50-64	106 (52.7%)	95 (47.3%)	201	p = 0.001
65-75	94 (48.7%)	99 (51.3%)	193	
Gender				
Male	239 (45.1%)	291 (54.9%)	530	$\chi^2 = 4.34$
Female	191 (38.7%)	303 (61.3%)	494	p = 0.04
Occupation				
Governmental Employer	189 (40.1%)	282 (59.9%)	471	
Non-governmental Employer	129 (50.0%)	129 (50.0%)	258	$\chi^2 = 9.61$
Self-Employed	50 (39.4%)	77 (60.6%)	127	p = 0.02
Unemployed	62 (36.9%)	106 (63.1%)	168	
Marital Status				
Single	80 (37.6%)	133 (62.4%)	213	$\chi^2 = 2.17$
Married	350 (43.2%)	461 (56.8%)	811	p = 0.16
Number of children				
0	67 (40.1%)	100 (59.9%)	167	
1-2	121 (40.7%)	176 (59.3%)	297	$\chi^2 = 2.26$
3-4	214 (42.4%)	291 (57.6%)	505	p = 0.52
5-6	28 (50.9%)	27 (49.1%)	55	
Depression				
Normal	47 (54.7%)	39 (45.3%)	86	
Mild	30 (50.8%)	29 (49.2%)	59	$\chi^2 = 18.01$
Moderate	53 (36.1%)	94 (63.9%)	147	p = 0.001
Severe	48 (31.0%)	107 (69.0%)	155	
Extremely Severe	252 (43.7%)	325 (56.3%)	577	
Anxiety				
Normal	67 (56.3%)	62 (43.7%)	119	
Mild	15 (48.4%)	16 (51.6%)	31	$\chi^2 = 22.69$
Moderate	55 (30.2%)	127 (69.8%)	182	p = 0.001
Severe	58 (37.7%)	96 (62.3%)	154	
Extremely Severe	235 (43.7%)	303 (56.3%)	538	
Stress				
Normal	104 (57.1%)	78 (42.9%)	182	
Mild	25 (37.9%)	41 (62.1%)	66	$\chi^2 = 32.85$
Moderate	48 (30.6%)	109 (69.4%)	157	p = 0.001
Severe	92 (35.0%)	171 (65.0%)	263	
Extremely Severe	161 (45.2%)	195 (54.8%)	356	

N: Number, χ^2: Chi-Square, Financial status in the above table refers to whether the participants' monthly salary is sufficient for maintaining a good standard of living, Statistical significance was set at p<0.05

Table 3: Spearman correlation between depression, anxiety and stress

Variables	Spearman	Depression	Anxiety	Stress
Depression	Correlation Coefficient	1.00	0.83**	0.90**
	Sig. (2-tailed)	-	p<0.001	p<0.001
	N	1024	1024	1024
Anxiety	Correlation Coefficient	0.83**	1.00	0.81**
	Sig. (2-tailed)	p<0.001	-	p<0.001
	N	1024	1024	1024
Stress	Correlation Coefficient	0.90**	0.80**	1.00
	Sig. (2-tailed)	p<0.001	p<0.001	-
	N	1024	1024	1024

Significance was set at p<0.05

compared to those with 5-6 children. Occupation and marital status did not consistently predict mental health outcomes and some subcategories, such as governmental and non-governmental employment, showed no significant associations (p>0.05). For further details, see Table 4.

DISCUSSION

This study aimed to assess the impact of the financial crisis on mental health, specifically depression, anxiety and stress, among the population in the Kurdistan Region of Iraq. Overall, the results showed a significant relationship

Table 4: Ordinal Regression of Factors Affecting DASS-21 scores

	Depression				Anxiety				Stress			
			%95 CI				%95 CI				%95 CI	
Variables	Estimate	p-value	LB	UB	Estimate	p-value	LB	UB	Estimate	p-value	LB	UB
Age												
20-34	-2.72	0.001	-3.14	-2.3	-3.17	0.001	-3.59	-2.74	-2.78	0.001	-3.2	-2.37
35-49	-2.51	0.001	-2.86	-2.16	-2.96	0.001	-3.32	-2.6	-2.2	0.001	-2.54	-1.87
50-64	-2.06	0.001	-2.46	-1.66	-2.46	0.001	-2.86	-2.06	-1.96	0.001	-2.34	-1.57
65-75	0[a]	-	-	-	0[a]	-	-	-	0[a]	-	-	-
Gender												
Male	0.12	0.001	-0.01	0.34	-1.34	0.23	-0.35	-0.08	0.28	0.01	0.06	0.5
Female	0[a]	-	-	-	0[a]	-	-	-	0[a]	-	-	-
Marital Status												
Single	-0.27	0.07	-0.57	0.02	-0.48	0.001	-0.78	-0.19	-0.54	0.001	-0.83	-2.24
Married	0[a]	-	-	-	0[a]	-	-	-	0[a]	-	-	-
Occupation												
Governmental Employer	-0.28	0.09	-0.59	0.04	-0.24	0.13	-0.55	0.07	-0.21	0.19	-0.52	0.1
Non-governmental Employer	-0.2	0.25	-0.55	0.14	-0.33	0.06	-0.67	0.01	-0.04	0.82	-0.38	0.3
Self-Employed	-0.22	0.29	-0.63	0.19	-0.34	0.09	-0.75	0.06	-0.03	0.88	-0.44	0.37
Unemployed	0[a]	-	-	-	0[a]	-	-	-	0[a]	-	-	-
Number of children												
0	-0.99	0.01	-1.64	-0.34	-0.91	0.01	-1.56	-0.27	-1.05	0.02	-1.69	-0.4
1-2	-0.86	0.01	-1.42	-0.3	-0.92	0.001	-1.47	-0.38	-0.97	0.001	-1.52	-0.42
3-4	0.33	0.2	-0.18	0.84	0.38	0.14	-0.12	0.88	0.45	0.08	-0.05	0.95
5-6	0[a]	-	-	-	0[a]	-	-	-	0[a]	-	-	-

%: Percentage, LB: Lower bound, UB: Upper bound, Statistical test: Ordinal regression analysis, Significance was set at $p<0.05$, [a]Reference parameter

between the financial crisis and mental health conditions, including anxiety, stress and depression.

Financial crises can have profound effects on individuals' mental well-being, often leading to increased levels of psychological distress [24]. In the Kurdistan Region of Iraq, the unique socioeconomic challenges and the ongoing financial crisis underscore the importance of examining the impact on mental health. However, there is a paucity of research investigating this relationship in the specific context of the Kurdistan Region. Given the importance of understanding the mental health consequences of financial hardships, we conducted this study to explore the prevalence of depression, anxiety and stress in relation to financial sufficiency and demographic factors.

The diverse demographic profile of our study participants, encompassing various age groups, genders, occupations and marital statuses, provides a comprehensive representation of the population in the Kurdistan Region. The inclusion of financial sufficiency and family size as key variables aligns with the growing recognition of their influence on mental health outcomes [13,25-27]. This multifaceted approach allows for a nuanced understanding of the complex interplay between financial crises and psychological well-being in this specific context.

Our findings reveal a wide spectrum of depression, anxiety and stress levels among the participants, ranging from normal to extremely severe. These results are consistent with previous studies conducted in other regions affected by financial crises, which have consistently reported elevated levels of psychological distress [28,29]. The similarity in findings across different populations underscores the pervasive impact of financial hardships on mental health. However, the specific manifestations of depression, anxiety and stress in the Kurdistan Region may be influenced by unique cultural, social and economic factors, emphasizing the need for context-specific interventions.

The significant associations observed between demographic factors and financial sufficiency highlight the complex interplay of these variables in shaping mental health outcomes. Our results align with previous research that has demonstrated the protective role of financial stability in promoting psychological well-being [30]. The consistency of these findings across different contexts reinforces the importance of addressing financial disparities as a key component of mental health interventions. However, the specific mechanisms through which financial sufficiency influences mental health in the Kurdistan Region may be influenced by unique sociocultural dynamics, warranting further investigation.

The strong positive relationships found between depression, anxiety and stress in our study underscore the interconnected nature of these mental health conditions. This finding is consistent with the well-established comorbidity patterns observed in mental health research [30,31]. The similarity in results across different populations highlights the need for comprehensive mental health assessments and interventions that address the co-occurrence of these conditions. However, the specific factors contributing to the high comorbidity rates in the Kurdistan Region may be influenced by unique stressors and cultural factors, emphasizing the importance of culturally sensitive approaches to mental health care.

The significant influence of key demographic factors, such as age, gender, marital status and the number of children, on mental health outcomes in our study aligns with previous research findings. Younger individuals, single participants and those with fewer children have consistently been identified as more vulnerable to psychological distress [32]. The consistency of these associations across different contexts highlights the need for targeted interventions that address the unique needs of these subpopulations. However, the specific mechanisms through which these demographic factors influence mental health in the Kurdistan Region may be shaped by cultural norms, social expectations and family structures, warranting further exploration.

Beyond its direct impact on mental health, financial crises also significantly affect overall health and nutrition. Economic downturns often lead to increased mental health disorders, including heightened levels of depression and anxiety, which, in turn, contribute to the rise of non-communicable diseases [33]. Accessibility to healthcare diminishes as households prioritize other essential expenses, resulting in delayed medical treatments and worsening chronic conditions [34]. Moreover, financial strain frequently leads to food insecurity, with individuals opting for cheaper, calorie-dense foods over more nutritious options, increasing the risk of malnourishment [35]. Vulnerable populations, such as children and the elderly, are particularly affected, experiencing higher rates of undernutrition and micronutrient deficiencies [36,37]. Additionally, the strain on community health systems intensifies as demand for services rises within constrained budgets, leading to reduced personnel productivity and adverse long-term effects, such as stunted growth in children due to nutritional deficits [38].

As researchers, we believe that economic crises also have a significant impact on food quality. As long as people experience financial hardship, they tend to purchase cheaper food options. However, the quality of inexpensive food is often not comparable to more expensive, nutrient-rich alternatives. This economic-driven shift in dietary choices can lead to long-term health consequences, including inadequate nutrition, increased susceptibility to disease and overall poorer health outcomes. Addressing food quality disparities in financially constrained populations should be a key consideration in public health interventions.

Despite the valuable insights provided by this study, several limitations should be acknowledged. The cross-sectional design limits the ability to establish causal relationships between financial crises and mental health outcomes. Future research should consider longitudinal designs and objective assessments to further validate these findings. Moreover, qualitative explorations of individuals' lived experiences during financial crises could provide a deeper understanding of the psychological impact and inform the development of culturally relevant interventions.

CONCLUSION

The results of this study revealed a significant relationship between the financial crisis and mental health conditions, including anxiety, stress and depression. Each of these mental health conditions was found to reach severe levels among participants, indicating the profound psychological toll of economic instability. Given the severe levels of anxiety, stress and depression observed, it is imperative for policymakers and healthcare providers to take immediate action. Targeted interventions, such as mental health programs, financial counseling and resilience-building initiatives, should be implemented to mitigate these adverse effects. Furthermore, developing comprehensive support systems that prioritize mental health during periods of economic hardship is crucial. Furthermore, integrating mental health screening into routine healthcare services during economic crises can facilitate early detection and timely interventions. Developing comprehensive support systems that prioritize mental health, particularly for vulnerable populations, is crucial. Future research should explore the long-term impact of financial crises on mental health and examine how family support systems can serve as protective factors against psychological distress.

Conflict of Interest Statement

The authors declare no conflict of interest.

Ethics Statement

Ethical approval for this study was obtained from the University of Sulaimani, Common Ethics Committee, under the ethical code 10, on the 26th of January 2025.

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