

Article

Prevalence of Mental Health Problems among Iraqi University Students during the COVID-19 Pandemic

Mrywan Abdulmajeed Mohammed * and Konul Memmedova

Psychological Counseling Department, Near East University, Mersin 10, Haspolat 99040, Turkey

* Correspondence: mariwan.mohammed.neu@gmail.com

Abstract: The Coronavirus Disease 2019 (COVID-19) pandemic has caused mental and psychological health problems worldwide. The current study assessed the prevalence of mental health issues among university students during the COVID-19 pandemic. The Mental Health Problem Scale (MHPQ) is a 35-item scale including five subscales—anxiety, depression, stress, OCD, and sleep disorders. In this study, the Kurdish version of the MHPQ was designed and developed to assess the mental health of Iraqi students. This version was established in a cross-sectional study at three public and private universities in Iraqi Kurdistan. A sample of 1504 university students was included who provided their responses via a Google Form questionnaire. The reliability of the scale was determined by measuring the Cronbach's alpha and item–total correlations. The Cronbach's alpha internal consistency coefficients of mental health were calculated on a factor basis. The Cronbach's alpha values were determined to be 0.735 for “anxiety”, 0.780 for “depression”, 0.731 for “stress”, 0.707 for “OCD” and 0.731 for “sleep disorder”. As a result, the psychometric results show that the Mental Health Scale can be used as a valid and reliable assessment tool. According to the findings of the study, the COVID-19 pandemic has increased mental health problems among people worldwide, particularly university students. This research was limited to select participants and universities of Sulaimani Governorate of Iraq; therefore, it is highly recommended that future studies include more students and universities from the Iraqi Kurdistan region. Finally, it is recommended that the Ministry of Higher Education and universities review the university programs and develop the quality of study to reduce mental health problems among university students. The findings of this research show that there were differences between the mental health of the study's male and female participants. The analysis revealed a statistically significant relationship between gender and OCD scores ($p = 0.05$).

Keywords: mental health problem; COVID-19; university students; questionnaire; reliability; validity; Iraq



Citation: Mohammed, M.A.; Memmedova, K. Prevalence of Mental Health Problems among Iraqi University Students during the COVID-19 Pandemic. *Sustainability* **2023**, *15*, 1746. <https://doi.org/10.3390/su15031746>

Academic Editors: Graça S. Carvalho, Kittisak Jernsittiparsert, Husam Rjoub, Ismail Suardi Wekke and Parinya Siriattakul

Received: 27 August 2022

Revised: 21 December 2022

Accepted: 28 December 2022

Published: 17 January 2023



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1. Introduction

In January 2020, the World Health Organization (WHO) declared the outbreak of the new coronavirus disease, COVID-19, to be a Public Health Emergency of global concern. According to the WHO, there was a high risk of COVID-19 spreading to other countries around the world [1].

One of the main reasons for studying the impact of COVID-19 disease in Iraqi Kurdistan is the fact that the disease impacted the Kurdistan region at a particularly challenging time. The country had just begun to accelerate testing for the highly contagious virus. The woefully inadequate healthcare system, particularly the dire shortage of skilled health professionals, hospital beds, and reliable medications along with the slow and lagging government response, poor information, and community response placed the country at huge risk of an outbreak that had the potential to kill many thousands [2].

However, longitudinal research carried out during the epidemic did not provide definitive findings. Some researchers have indicated that the signs of mental health issues

tended to improve over time, while others indicated that they deteriorated or remained stable. The COVID-19 pandemic's successive waves forced governments and public health organizations to implement unprecedented practices such as closing classrooms, requiring workers to work remotely from home, and physically separating people from one another, which may have contributed to disturbances in the mental health of various population segments. The stress brought on by a relative's illness, the possibility of contracting it oneself, social isolation, the economic downturn, financial insecurity, and the destitution of vulnerable populations are other factors that increased the likelihood that people would experience the symptoms of mental health disorders. However, to assess how the global population's mental health changed during the COVID-19 pandemic, a summary of the most recent data is required due to the variability of the longitudinal results.

During the COVID-19 pandemic, students were at increased risk of developing mental health problems. A recent study showed that a higher prevalence of symptoms of mental health problems (particularly stress, anxiety, and depression) was reported among Americans during the pandemic compared to the pre-pandemic period. As a consequence, some adults increased their alcohol intake in order to alleviate their anxiety caused by the pandemic. However, this habit of increased alcohol consumption can lead to increased depression and anxiety [3].

University students often suffer from mental health problems due to the difficulties of transitioning from high school to university life [4].

Wang [5] demonstrated that the most common types of mental health problems, such as depression, anxiety, eating disorders, learning disabilities, and self-harm, are highly related to life on university campuses. A study that included 15,000 university students from an American university showed that 10% of the study population (1500 students) suffered from anxiety and depression.

Some studies have correlated mental health problems with adolescence. For example, Kessler et al. [6] illustrated that mental disorders generally start before the age of 18 and are reportedly higher in girls than in boys. In addition, mental health disorders are common from 18 to 25 years of age. In this regard, it can be considered that university students are more susceptible to mental disorders, and thus university life is a stressful time for students.

Furthermore, according to the [7], approximately 450 million people suffer from a mental disorder. In the WHO's report, poor mental health was significantly related to certain factors such as stressful work conditions, rapid social change, gender discrimination, social exclusion, unhealthy lifestyles, and physical health issues [7].

Some studies indicate that anxiety can negatively influence an individual's mind where nearly 90% of adolescents lack concentration. Studies have also shown that anxiety can interrupt working memory and consequently leads to a decline in students' academic achievement [8,9].

For the assessment of mental health, different studies have established the symptoms of mental health problems that could be used to develop design items and questionnaires. [10,11] proposed that the symptoms of anxiety included excessive worrying about daily work, feeling nervous and anxious for no reason, difficulty in concentrating on completing school tasks, and feeling uncomfortable in giving a 'talk' or presenting to people.

Previous studies have shown that depression is the second most dangerous disorder that affects almost 121 million people worldwide [12]. The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) states that depressive people experience persistent feelings of grief and hopelessness and lose interest in social activities that they once enjoyed. Some physical symptoms such as chronic pain or stomach problems that last for at least two weeks are also indicative of depression [13].

Although, Ref [14] stated that stress is a part of human life and is often experienced by everyone in daily life. They also indicated that stress has a negative influence on an individual's mood, sense of well-being, behavior, and health.

Studies have identified several symptoms of stress among students. Firstly, memory and thinking problems lead to the inability to concentrate on tasks and study. Secondly, if

students do not enjoy their studies and work and they also experience mood swings, they have difficulty concentrating and their memory is impaired [15,16].

Furthermore, obsessive-compulsive disorder (OCD) is the fourth dimension of mental health problems. According to the [17–19], OCD includes the symptoms of obsessive thoughts and compulsive behaviors. Individuals who have obsessive thoughts worry about themselves and fear the loss or removal of something important as well as being contaminated by touching objects that others have touched. To avoid these worrisome and fearful circumstances (such as shaking hands), compulsive symptoms include counting things (such as steps) and calculating numbers. These individuals also fear touching handles and using public toilets and they repeatedly check switches, clean households, and change clothes.

The other dimension of mental health problems is sleep disorders. Reports show [20,21] that many people with such disorders have symptoms of insomnia, which include troubled experiences, problems sleeping, and being worried about work or study due to insufficient sleep at night. These lead to tiredness during the day, always waking up early in the morning, and not being able to sleep at night. This may cause the individual to fall asleep in class and lose interest and concentration in activities because of excessive homework.

Major issues with mental and psychological health have been created by the global COVID-19 pandemic that has impacted all countries. Recently, a meta-analysis study was conducted to determine the incidence of depression, anxiety, distress, and sleeplessness during the COVID-19 pandemic. The early stages of the worldwide pandemic were the focus of all included investigations. However, additional meta-analyses are required to gather more information about the pandemic's various stages [22].

Although the COVID-19 pandemic influenced mental health, it is uncertain how those issues have changed over time. To assess the worldwide development of mental health issues throughout the pandemic, some regions around the world, including Africa, the Caribbean, India, the Middle East, Latin America, and Asia, lack longitudinal research [23].

The general public's mental health and those of high-risk populations throughout the world have been significantly impacted by the COVID-19 pandemic. Southeast Asia was one of the first regions to be affected by the outbreak due to its proximity and close ties to China [24].

Studies have shown that more than a third of adults in the United States cannot sleep regularly. For adults aged between 18 and 54 years, it is recommended they have at least 6 h of sleep per night on weekdays and 7 h on weekends. As per the recommendations, seven hours of sleep per night is considered healthy sleep (Centers for Disease Control and Prevention, 2016; National Sleep Foundation, 2020).

A huge amount has been written about the methods used to treat mental illness as well as the systems set up to handle emergencies and provide assistance. You will, however, also develop your unique perspective on mental health and wellness.

2. Methods

2.1. Participants

The participants for this study were selected randomly from three public and private Universities in the Kurdistan region including Charmo University, Sulamaini University, and the University of Human Development. A total of 1504 university students were included in the assessment. There were answers for each of the involved students. Charma University is a public sector university in the Kurdistan region of Iraq. The University of Sulaimani is a public university located in the city of Sulaymaniyah in the Kurdistan Region of Iraq and the University of Human Development is a private higher education located in the metropolis of Sulaymaniyah. The questionnaire was distributed online via Google Forms and participants were recruited mainly using their official university email or personal email addresses. An invitation to participate in the study was shared with students of each department and semester. All participants gave their informed consent. The recruitment period was from 20 March 2020 to 10 September 2020 during the COVID-19

pandemic. Because early intervention can greatly enhance the long-term prognosis for a variety of mental health disorders, college campuses with on-site mental health treatment may provide the unique opportunity to prevent and cure mental health issues.

2.2. Study Design

For this study, a quantitative approach was used. The 35-item Mental Health Problems self-report questionnaire (MHPQ) was designed by [25] and the researchers used the MHPQ-35 specifically for assessing mental health problems among university students in Iraqi Kurdistan. It is a brief and simple form that people can fill out to help healthcare professionals diagnose mental health conditions. The MHPQ is intended to offer detailed information on the aspects of quality of life that are recognized to be important to individuals with mental health issues and that are highly valued by them. The creation of quality-of-life measurements for use in the mental health profession has been demonstrated to benefit from identifying the aspects of quality of life that are significant to individuals with mental health issues. This study modified the pre-designed questionnaire to collect data. The collected data were analyzed through SPSS version 26. The current research designed the questionnaire items based on a review of the literature that encompasses the five dimensions of mental health problems, namely, anxiety, depression, stress, OCD, and sleep disorders.

2.3. Analysis of Data

The researcher developed the mental health problems questionnaire that consisted of 35 items to evaluate the university students' mental health status. The survey included five self-report subtitles—anxiety, depression, stress, OCD, and sleep disorders. The score for the items varied between 5 (always), 4 (often), 3 (sometimes), 4 (rarely), and 1 (never). For rating the questions, the response categories 5 (severe), 4 (major), 3 (moderate), 2 (minor), and 1 (insignificant) were used. The data were analyzed using SPSS 26.0. The reliability of the questionnaire was checked using internal consistency assessment methods. The consistency of the entire scale was assessed using the Cronbach's alpha coefficient.

2.4. Procedures

The undergraduate students learned about the background and aims of the study through their participation. In addition, the respondent selection procedures and survey process were explained to the participants. Based on the pilot study, it was decided that the researchers would read the questions to those students whose understanding of English was limited, particularly in the Department of Kurdish Language and Special Education. All participants participated from the university campus via Google Meet and Zoom meetings. The participants completed the mental health questionnaire and it took each group approximately 50 to 60 min. Before responding, each participant was informed about the finishing point of the survey, which was voluntary and that their identity would be protected. For this purpose, the data files were unnamed.

3. Results

A total of 1504 university students were included in the assessment. In terms of age, 37.83% of the students were 18 years old, 16.62% were 19 years old, 34.91% were 20 years old, and 10.64% were 21 years old. Of all the participants, 59.31% were male and 40.69% were female, with 96.21% being single. It was determined that 44.35% of the students were born in the village, 16.56% in the town, and 39.10% in the city. In total, 91.42% of participants had medium socio-economic status. It was determined that 63.90% of the students studied at Charmo University, 12.77% at Sulaimani University and 23.34% at the University of Human Development, and 83.24% of the participants were in their second semester. The distribution of students according to their socio-demographic characteristics is given in Table 1.

Table 1. Socio-demographic characteristics of the students.

	Number (n)	Percent (%)
Age, years		
18	569	37.83
19	250	16.62
20	525	34.91
21	160	10.64
Gender		
Male	612	40.69
Female	892	59.31
Marital status		
Single	1447	96.21
Married	57	3.79
Place of birth		
Village	249	16.56
Town	667	44.35
City	588	39.10
Socioeconomic status		
Lower class	114	7.58
Middle class	1375	91.42
Upper class	15	1.00
University		
Charmo University	192	12.77
Sulaimani University	961	63.90
Human Development University	351	23.34
Semester		
Second	1252	83.24
Fourth	252	16.76

The internal consistency of the MHPQ-35 was assessed using Cronbach's alpha test. Table 2 shows that the alpha coefficient obtained for the overall scale was 0.733. A high alpha value indicates that the internal consistency of the Mental Health Problem Scale is achieved. Alpha coefficients of the subscales of the Mental Health Problem Scale were found to be 0.735 for anxiety, 0.699 for depression, 0.731 for stress, 0.707 for OCD, and 0.731 for sleep disorder (Table 2).

Table 2. Cronbach's alpha test for Mental Health Problem Scale.

Scale	Alfa
Anxiety	0.735
Depression	0.699
Stress	0.731
OCD	0.707
Sleep Disorder	0.731
Mental Health Problem Questionnaire	0.733

To examine the reliability of the Mental Health Problem Scale, the item–total correlations of the scale items were examined, and it was determined that the correlations of all items in the scale with the total of the items in the scale were statistically significant ($p < 0.05$).

Table 3 shows the descriptive statistics of on the students' scores on MHPQ.

By dividing the sum of the supplied numbers by the entire number of numbers, the mean of the average of the given numbers is determined. The term “standard deviation” (or “St.d”) refers to a measurement of the data's deviation from the mean. The statistical minimum, abbreviated as l and sometimes known as the low outlier limit, is the lowest value within a group of data that does not include any outliers. The statistical maximum, abbreviated as h and sometimes referred to as the high outlier limit, is the highest value in a collection of data that does not include any outliers. Participating students scored

an average of 2.95 ± 0.82 points for anxiety, 2.91 ± 0.74 for depression, 3.08 ± 0.84 for stress, 2.81 ± 0.86 for OCD, and 2.91 ± 0.81 for sleep disorder resulting in a total of 2.93 ± 0.49 points from MHPQ.

Table 3. Descriptive statistics students' scores on Mental Health Problem Questionnaire.

	n	Mean	Standard Deviation	Minimum	Maximum
Anxiety	1504	2.95	0.82	1.00	5.00
Depression	1504	2.91	0.74	1.00	5.00
Stress	1504	3.08	0.84	1.00	5.00
OCD	1504	2.81	0.86	1.00	4.75
Sleep Disorder	1504	2.91	0.81	1.00	5.00
Mental Health Problem Questionnaire	1504	2.93	0.49	1.33	4.34

Table 4 shows the results of the ANOVA test on the comparison of the students' scores for MHPQ by age.

Table 4. Comparison of students' points for the Mental Health Problem Questionnaire by age.

	Age	n	$\bar{x}$ (Mean)	Standard Deviation	Min	Max	F	p	Diff.
Anxiety	18	569	2.92	0.79	1.00	5.00	0.715	0.543	
	19	250	2.94	0.82	1.00	5.00			
	20	525	2.96	0.86	1.00	5.00			
	21	160	3.02	0.82	1.00	4.80			
Depression	18	569	2.90	0.72	1.00	5.00	4.028	0.007 *	2–3 2–4
	19	250	2.77	0.81	1.00	4.67			
	20	525	2.95	0.71	1.00	5.00			
	21	160	2.98	0.79	1.00	4.33			
Stress	18	569	3.06	0.83	1.00	5.00	1.574	0.194	
	19	250	3.03	0.76	1.50	4.50			
	20	525	3.14	0.88	1.25	4.50			
	21	160	3.02	0.88	1.00	4.75			
OCD	18	569	2.91	0.81	1.00	4.50	4.530	0.004 *	1–3 1–4
	19	250	2.83	0.88	1.00	4.50			
	20	525	2.73	0.87	1.00	4.75			
	21	160	2.73	0.92	1.00	4.50			
Sleep Disorder	18	569	2.86	0.84	1.00	4.60	1.477	0.219	
	19	250	2.95	0.78	1.20	5.00			
	20	525	2.95	0.82	1.00	4.60			
	21	160	2.88	0.77	1.00	4.40			
Mental Health Problem Questionnaire	18	569	2.93	0.49	1.49	4.34	0.418	0.740	
	19	250	2.91	0.48	1.41	4.07			
	20	525	2.95	0.50	1.56	4.11			
	21	160	2.92	0.50	1.33	3.97			

* $p < 0.05$.

It is determined that there are no statistically significant differences between age groups and the MHPQ scores including its subscales of anxiety, stress, and sleep disorder ($p > 0.05$). Notably, there is a statistically significant difference between the scores for the depression and OCD subscales in the MHPQ according to the age of the students ($p < 0.05$). The scores of 19-year-old students on the depression subscale are lower than those of 20- and 21-year-old students. The scores of the 18-year-old students on the OCD subscale are lower than the scores of the 20- and 21-year-old students.

Table 5 shows the comparative analysis of the students' scores for MHPQ by gender using the independent sample *t*-test. It was found that there was no statistically significant difference between the scores of the students in terms of the total score of MHPQ and the scores of the anxiety, depression, stress, and sleep disorder subscales in the questionnaire.

according to their gender ($p > 0.05$). Moreover, a statistically significant difference was found between gender and the scores for the OCD subscale ($p < 0.05$). Female students had statistically significantly higher OCD scores than male students.

Table 5. Comparison of students' scores for the Mental Health Problem Questionnaire by gender.

	Gender	n	$\bar{x}$ (Mean)	Standard Deviation	T	p
Anxiety	Male	612	3.00	0.82	−1.822	0.069
	Female	892	2.92	0.82		
Depression	Male	612	2.89	0.75	0.920	0.358
	Female	892	2.92	0.73		
Stress	Male	612	3.11	0.84	−1.100	0.271
	Female	892	3.06	0.84		
OCD	Male	612	2.77	0.87	−2.155	0.031 *
	Female	892	2.87	0.84		
Sleep Disorder	Male	612	2.89	0.76	0.640	0.522
	Female	892	2.92	0.85		
Mental Health Problem Questionnaire	Male	612	2.95	0.46	−1.245	0.213
	Female	892	2.92	0.51		

* $p < 0.05$.

Table 6 shows positive and statistically significant correlations between the anxiety scores of the students and their stress, OCD, and sleep disorder scores ($p < 0.05$). Negative and statistically significant correlations were found between the students' depression scores and their OCD and sleep disorder scores ($p < 0.05$). A positive and statistically significant correlation was found between the students' stress scores and their OCD and sleep disorder scores ($p < 0.05$). In addition, positive and statistically significant correlations were found between the students' OCD scores and sleep disorder scores ($p < 0.05$).

Table 6. Correlation of students' scores for the Mental Health Problem Questionnaire.

		Anxiety	Depression	Stress	OCD	Sleep Disorder	MHPQ
Anxiety	R						
	P						
	N	1504					
Depression	R	−0.045					
	P	0.078					
	N	1504	1504				
Stress	R	0.341	−0.036				
	P	0.000 *	0.161				
	N	1504	1504	1504			
OCD	R	0.316	−0.055	0.448			
	P	0.000 *	0.032 *	0.000 *			
	N	1504	1504	1504	1504		
Sleep Disorder	R	0.317	−0.074	0.450	0.272		
	P	0.000 *	0.004 *	0.000 *	0.000 *		
	N	1504	1504	1504	1504	1504	
Mental Health Problem Questionnaire	R	0.652	0.230	0.750	0.680	0.663	
	P	0.000 *	0.000 *	0.000 *	0.000 *	0.000 *	
	N	1504	1504	1504	1504	1504	1504

* $p < 0.05$; R—Risk; P—Priority; N—Number.

4. Discussion

A total of 1504 university students from the Iraqi Kurdistan region participated in the study during the COVID-19 pandemic. Of the students aged from 18 to 21 years, 37.83% were 18 years old, 16.62% were 19 years old, 34.91% were 20 years old, and

10.64% were 21 years old. In terms of gender, 40.69% of the participants were male, 59.31% were female and 96.21% were single. In total, 12.77% of the students were studying at Charmo University, 63.90% at Sulaimani University, 23.34% at the University of Human Development and 83.24% of them were in the second semester. Additionally, 16.56% of the students were born in the village, 44.35% in the town, 39.10% in the city, and 91.42% of them had medium socio-economic status.

According to the findings, the mean scores of the five subscales of anxiety, depression, stress, OCD, and sleep disorder were 2.95, 2.91, 3.08, 2.81, and 2.91, respectively, and the mean total score was 2.93.

The Cronbach's alpha internal consistency coefficients of the Mental Health Scale were also calculated on a factor basis. The Cronbach's alpha internal consistency coefficients were calculated to be 0.735 for "anxiety", 0.731 for "stress", 0.731 for "sleep disorder", 0.707 for "OCD", and 0.699 for "depression".

The confirmatory factor analysis of the Mental Health Problem Scale indicated following this stage is an indicator of this model's goodness of fit. In addition, the factor loads of all 23 items in the scale were significant, and the Cronbach's alpha internal consistency coefficients were calculated and were found to range between 0.21 and 0.71.

The validation of the MHPQ-35 indicated that it is a highly reliable, consistent, and valid self-rated mental health measurement that is comparable and in some cases higher than other existing and validated questionnaires. Additional findings of this study illustrated the acceptable reliability and validity of the Kurdish version of MHPQ, and acceptable indices of the overall model were good.

The comparison of students' mental health evaluated with the questionnaire in terms of age and Mental Health Score, with ANOVA, showed no statistically significant differences between age groups and the scores of MHPQ, including the sub-scales of anxiety, stress, and sleep disorder ($p > 0.05$). It was determined that there was a statistically significant difference between the scores for the depression and OCD subscales in the MHPQ according to the age of the students ($p < 0.05$). The scores of the students living in towns were lower than the other students. For example, it was found that the stress and sleep disorder scores of the students living in towns were lower than the other participants.

Based on the development of the mental health questionnaire, the findings indicate positive and statistically significant correlations between the anxiety scores of the students and their stress, OCD, and sleep disorder scores ($p < 0.05$). On the other hand, negative and statistically significant correlations were found between students' depression scores and their OCD and sleep disorder scores ($p < 0.05$). A positive and statistically significant correlation was found between the students' stress scores and OCD and sleep disorder scores ($p < 0.05$). In addition, positive and statistically significant correlations were found between the students' OCD scores and sleep disorder scores ($p < 0.05$).

Our study further demonstrates the categorized order of aspects of mental health problems according to the standard T scores. T scores were used as the score ranges of each dimension were different. As this can cause complications in the average collection made with the raw score, standard scores were used to simplify the comparisons. Anxiety and stress were at the highest levels, while depression and OCD values were ranked the lowest.

Similar to the current findings, other studies in the literature indicate the causes of mental health problems. According to the American Psychiatric Association (2015; 2021) different factors cause mental problems, including the adolescence period, differences, university campus life, the first academic year of study, lack of sleep at night, too many quizzes and materials, and worrying about exams, which consequently lead to increases in the symptoms of anxiety, depression, stress, OCD, and sleep disorders. This indicates that the findings of the present study are similar to those of previous studies. Flatt et al. (2013) stated that the transition from high school to university life can lead to an increase in mental health problems. Approximately 59% of the females suffered from mental health problems, and all the participants were aged between 18 and 21 years.

The outcomes of this analysis indicate that there was a difference in the mental health of male and female students participating in the study. The analysis showed a statistically significant difference between gender and the OCD scores ($p < 0.05$). Moreover, females had higher OCD symptoms than males and this difference was statistically significant. In future studies, multimodal sensor data can be included to forecast stress levels and the general trajectory of mental health throughout the school year. The connection between mental health and academic success is another area of investigation. In addition, we are concentrating on offering early interventions based on the results of our predictive models to prevent mental health difficulties from emerging. A diagnostic tool developed by a clinician called PRIME-MD (Primary Care Evaluation of Mental Disorders; Pfizer Inc., New York, NY, USA) was created and approved for use in primary care settings. It is interesting that experiencing difficulties finding someone to turn to with an issue was the top indicator of a mental diagnosis. The number of stressors gradually increased the risk of a mental diagnosis. Treatment centers on university campuses have noted a rising trend in the number of students experiencing mental health problems over time. The frequency and severity of these problems on college campuses have significant effects on healthcare policy and practice in general.

5. Conclusions

Students at universities are experiencing more mental health issues as a result of the COVID-19 pandemic. The MHPQ was evaluated for university students in the Iraqi Kurdistan region. Cronbach's alpha and item-total correlations were used to assess the scale's reliability. Significant results for all questionnaire dimensions and generally consistent replies were also found via a validity study. According to the findings, the Cronbach's values for "anxiety", "depression", "stress", "OCD", and "sleep disorder" were estimated to be 0.735 for "anxiety", 0.699 for "depression", 0.731 for "stress", and 0.707 for "OCD". The psychometric results show that the Mental Health Scale can be utilized as a valid and reliable evaluation instrument. To overcome some of the limitations of the current study, additional research is required. To describe mental disorders, it is strongly advised to concentrate on other aspects of mental health issues. Future studies should strongly consider involving more students and colleges from the Iraqi Kurdistan region, as this study was only able to select a small number of participants and universities from the Sulaimani governorate. To lessen mental health issues among university students, it is suggested that the Ministry of Higher Education and universities review university programs and improve the quality of the study. Future research should employ time series data to examine dynamic systems of mental health under stress and the possible advantages of preventative and intervention measures that specifically target such systems using techniques such as control theory.

Author Contributions: Conceptualization, M.A.M. and K.M.; methodology, M.A.M.; software, M.A.M.; validation M.A.M. and K.M.; formal analysis, M.A.M.; investigation, M.A.M.; resources, M.A.M.; writing—original draft preparation, M.A.M. and K.M.; writing—review and editing, K.M.; supervision, K.M. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not Applicable.

Informed Consent Statement: Not Applicable.

Data Availability Statement: Data is readily available at the request from the first author.

Conflicts of Interest: The authors declare no conflict of interest.

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