



Association between corona disease anxiety and post-traumatic stress disorder with quality of life among the general population: a cross-sectional study

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Abstract

Background & Aims: The COVID-19 pandemic drastically changed the life of the general population potentially leading to various psychological problems which affect the quality of life and causes disruption in various dimensions of performance. It is necessary to provide evidence on its psychological effects to develop effective psychological interventions. The present study aimed to investigate the association between corona disease anxiety, post-traumatic stress disorder, and quality of life among the general population.

Materials & Methods: This cross-sectional study was conducted on 500 adults living in Urmia city, Iran. Data were collected using a standard electronic questionnaire that consisted of four sections: demographic information, Corona Disease Anxiety Scale, Impact of Event Scale-Revised, and 12-item Short-Form Health Survey, which were sent through WhatsApp to participants. Data were analyzed by SPSS 16 software using descriptive and analytical statistics.

Results: The mean scores of corona disease anxiety, post-traumatic stress disorder, and quality of life were 16.03 ± 11.12 , 31.64 ± 18.78 , and 66.12 ± 22.83 , respectively. Corona disease anxiety (p value < 0.001 , $\beta = -0.396$) and post-traumatic stress disorder (p value < 0.001 , $\beta = -0.225$) were predictors of quality of life among the general population of Urmia.

Conclusion: The level of anxiety and post-traumatic stress disorder caused by COVID-19 was slightly lower than the moderate level among the general population of Urmia. The coronavirus is not the first virus that threatens humanity, and it will not be the last virus either. Therefore, communities should utilize effective strategies to protect themselves and others and interact better with each other in order to control and minimize the psychological consequences of disease outbreaks.

Keywords: Anxiety, COVID-19, General population, Post-traumatic stress disorder, Quality of life

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Introduction

COVID-19 is an infection caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)

(1). The epidemic emerged in early December 2019 in Wuhan, the capital of Hubei Province in China (2). It spread quickly around the world because of its

extremely high transmission, and as a result, we are currently suffering from a pandemic (3).

Governments and health care systems have taken comprehensive measures to prevent the disease by announcing a state of emergency, which decreases the pressure on health care systems, but despite the positive consequences, these measures have led to economic costs and negative psychological effects at the community level (3-7).

Stressors related to the outbreak of COVID-19 include staying at home or a quarantine center, social distancing, closing schools, and workplaces, fear of contracting the illness, fear of death, spreading false news and rumors, interfering with daily activities, travel and commute prohibitions or restrictions, reducing social relationships (with family, friends, and co-workers), financial and occupational problems, etc. All these cases can provide various psychological problems and reduce people's quality of life (QoL). For example, studies explain that mental disorders in quarantined people regularly include acute stress disorder, post-traumatic stress disorder (PTSD), drug abuse and dependence, irritability, anxiety, insomnia, poor performance, numbness, and depression (3-7).

Consequently, it is insufficient to consider health measures to prevent the transmission of the disease. Still, additionally, there is a requirement for psychological care to decrease the stress and psychological pressures caused by this disease. The results of Shahyad et al.'s study showed that COVID-19 patients, in addition to receiving medical services to treat their physical illness, also need psychological interventions, and these interventions have significantly reduced both their anxiety and depression indicators (7).

PTSD is one of the most significant psychological disorders which can influence the individuals' mental health during the outbreak of COVID-19 (3,4,6). PTSD is expressed as a syndrome or a set of symptoms after a person experiences a very severe stressful event. A person with this disorder should not inevitably be the direct victim of the accident, but this disorder can be caused by watching and observing, being involved, and even hearing about the accident. Incidents that can

cause PTSD include war, torture, natural disasters, rape, accidents, disease outbreaks, and more. This disorder includes three main symptoms: re-experiencing the traumatic event in sleep or wakefulness, avoiding remembering the traumatic event and similar incentives, and increased psychological or physical arousal in the appearance of the traumatic event. If these symptoms continue for more than a month after the accident, it can be possible to diagnose the person with PTSD (8).

This disorder can provide a wide range of complications, including anxiety, depression, suicide, several psychosomatic illnesses, acute and chronic respiratory symptoms and diseases including asthma and chronic obstructive pulmonary disease, social and occupational dysfunction, ultimately decreasing a person's QoL (8,9). Sun et al. examined the outbreak of PTSD one month after the outbreak of COVID-19 in regions of China most influenced by the disease. The results showed that 4.6% of the participants had PTSD (10).

Corona disease anxiety is another psychological disorder that has increased with the outbreak of COVID-19 (3,7). Anxiety is an unpleasant and vague feeling, often in the form of worry defined by uncertainty towards an unknown factor (7). Anxiety is prevalent during COVID-19, and individuals seem to suffer more due to the undetected nature and uncertainty about the virus (11). Wang et al. conducted a study to investigate the psychological outcomes of the disease in the general population in the early stages of the COVID-19 outbreak in China. Findings revealed that 8.4% of participants suffered from severe anxiety (4). Stress and anxiety can undermine the immune system and make individuals exposed and vulnerable to corona disease (11). On the other hand, anxiety and PTSD decrease QoL (8).

Health-Related Quality of Life (HRQoL) is one of the most significant categories of people's QoL. HRQoL is an individual's mental assessment of their current state of health, health care, and health-promoting activities that support their overall activity level and enable the individual to try to achieve his/her valuable life objectives (12). HRQoL evaluation has

been widely applied in medical research in the last decade. This dimension of QoL is currently applied as an index to assess health status (12).

According to the mentioned issues and the review of the literature, which showed that no study had been conducted to examine the relationship between anxiety and PTSD with QoL during the COVID-19 epidemic among the general population of Urmia, it is a requirement to conduct this study in Urmia city. Because the characteristics of the statistical population of the study can affect the results of the study, therefore, there is a possibility that the relationship between anxiety and PTSD with QoL during the COVID-19 epidemic in the general population of Urmia city will have a different trend compared to the general population of other cities.

It is expected to identify people susceptible to psychological disorders in the current high-risk situation and, if there is a connection between these psychological disorders and the people's QoL, we hope to help improve these people's mental health, QoL, and overall health by providing proper psychological strategies and techniques.

Materials & Methods

This descriptive-analytical cross-sectional study was conducted in April 2021, during the fourth wave of COVID-19 in Urmia city, Iran. Participants were chosen from all people older than 18 years old living in Urmia city who had access to cyberspace. Inclusion criteria included being over 18 years old, having a minimum of education from a guidance school, having access to WhatsApp social networks, being able to complete the questionnaire physically and mentally, and being willing to participate in the study. Exclusion criteria included incomplete completion of the questionnaire.

According to a previous similar study and the correlation coefficient between the mean QoL and anxiety of COVID-19 equal to 0.125 (13), 95% confidence interval, 80% power of test, and using the sample size determination formula in correlation studies, the sample size was determined to be 500 people. In this study, convenience sampling method

was used, and data were collected electronically through the WhatsApp messaging software. At the beginning of the electronic questionnaire, sufficient explanations were given to the participants about the study's objectives and inclusion criteria. We assured them that they could participate in the study entirely voluntarily and leave the study if they so desired. We would keep their information confidential and would report the results only in a general manner. Eventually, a link to the electronic questionnaire was sent to them after obtaining informed consent.

Data collection instruments consisted of four tools. The first questionnaire was used for gathering the demographic information of participants, including age, sex, marital status, education level, employment status, and history of developing COVID-19.

The second questionnaire, Corona Disease Anxiety Scale (CDAS), was designed by Alipour et al. in Iran to measure anxiety caused by the outbreak of coronavirus and to measure its validity and reliability (11). The final version of this instrument has 18 items and 2 components. Items 1 to 9 measure psychological symptoms, and items 10 to 18 measure physical symptoms. The instrument is rated in a 4-point Likert scale (never = 0, sometimes = 1, most times = 2, and always = 3). Accordingly, the highest and lowest scores that people achieve from this questionnaire are between 0 and 54. High scores in this questionnaire indicate a higher level of anxiety in individuals. According to the cut-off point of this scale, achieving a score of 0 to 16 indicates no anxiety or mild anxiety, 17 to 29 moderate anxiety, and 30 to 54 severe anxiety (11).

The third questionnaire includes the Persian version of the Impact of Event Scale-Revised, IES-R, which was designed in 1977 by Weiss and Marmar according to the DSM-IV criteria to diagnose PTSD. Panaghi et al. studied the validity and reliability of the Persian version of this tool in Iran. Also, the results revealed that this questionnaire has the required validity and reliability (14). This questionnaire has 22 questions and aims to evaluate the dimensions of mental helplessness and incapacity when confronting specific events in life with three subscales of

avoidance, intrusion, and hyperarousal. Its response range is a kind of Likert scale, and respondents rate the frequency of each symptom over the past seven days from 0 (never) to 4 (very high). The sum of the points related to the questions for that dimension is added together to obtain points for each dimension. The total scores of all the questions are added together to obtain the overall score of the questionnaire. A higher score in the whole questionnaire indicates a higher level of helplessness (14). Wang et al. conducted a study and used this instrument to measure PTSD in the COVID-19 pandemic among the general population of China. According to the cut-off point used in this study, obtaining a score of 0 to 23 indicates a normal status, 24 to 32 mild psychological effects, 33 to 36 moderate psychological effects and 37 and above severe psychological effects (3,4). At the beginning of the questionnaire, we explained that the meaning of the accident is the prevalence of COVID-19 disease.

The fourth questionnaire was the Persian version of the 12-item Short-Form Health Survey, SF-12. Montazeri et al studied the validity and reliability of the Persian version of this questionnaire in Iran and the results indicated that this questionnaire has the required validity and reliability (15). This questionnaire includes 12 questions that have been classified into two main domains of the physical component summary (including 6 questions) and psychological component summary (including 6 questions) (15). The attainable score range in the two main domains and the total questionnaire is between 0 and 100. A higher score means a better QoL.

This study received ethical approval from the Research Ethics Committee of Urmia University of Medical Sciences (IR.UMSU.REC.1399.394). The data collection tool did not include any first and last names. Participants were assured that their participation in the research was absolutely voluntary. They could leave the study if they did not want to participate, we promised participants that all information registered in the questionnaires would be kept confidential. The results will be reported only in general and would be used only for statistical analysis.

Data were analyzed using SPSS software version 16 using descriptive statistics (mean, standard deviation, frequency, and percentage), and analytical statistics including Kolmogorov-Smirnov (to examine the normality of the data), Independent T-test, One-way ANOVA, Pearson correlation coefficient, and multiple linear regression using Enter method. The results were regarded statistically significant (p value < 0.05).

Results

A total of 500 questionnaires were initially completed. However, 22 questionnaires were excluded from the analysis due to incomplete information provided by the participants. As a result, the final dataset for analysis comprised data collected from 478 individuals, representing a response rate of 95.6%. The mean age of the subjects was 35.06 ± 12.45 years old. The majority of the studied people were women (62.8%), married (62.3%), with a bachelor's degree (46.4%), government employees (33.5%), and without a history of developing COVID-19 (83.3%) (Table 1).

Table 1. Demographic variables of participants (N = 478)

Variables	Categories	N (%) or Mean \pm SD
Gender	Male	178 (37.2)
	Female	300 (62.8)
Marital status	Single	180 (37.7)
	Married	298 (62.3)
Education level	Under diploma	33 (6.9)
	Diploma	102 (21.4)
	Bachelor's degree	222 (46.4)

Variables	Categories	N (%) or Mean \pm SD
	Master's degree	91 (19.0)
	Doctoral degree	30 (6.3)
Employment status	Housewife	76 (15.9)
	Unemployed	26 (5.4)
	University/ School student	109 (22.8)
	Government employee	160 (33.5)
	Self-employed	73 (15.3)
	Retired	34 (7.1)
History of COVID-19	Yes	80 (16.7)
	No	398 (83.3)
Age		35.06 \pm 12.45

Abbreviations: n, number; SD, standard deviation

According to the findings achieved in this study, the mean scores of overall anxiety caused by COVID-19 disease and the psychological and physical symptoms among the general population of Urmia were 16.03 ± 11.12 , 11.82 ± 6.72 , and 4.20 ± 5.18 , respectively. Furthermore, the mean scores of PTSD and its subscales of avoidance, intrusion, and hyperarousal were 31.64 ± 18.78 , 13.14 ± 7.03 , 9.49 ± 6.87 , and 9.01 ± 6.99 , respectively. The mean scores of overall QoL and its physical and psychological

domains were 66.12 ± 22.83 , 71.65 ± 23.96 , and 60.59 ± 26.04 , respectively. Corona disease anxiety was in normal to mild levels among 294 participants (61.5%), in moderate level among 118 participants (24.7%), and in severe level among 66 participants (13.8%). PTSD was at a normal level among 167 participants (34.9%), at a mild level among 82 participants (17.2%), at a moderate level among 36 participants (7.5%), and at a severe level among 193 patients (40.4%) (Table 2).

Table 2. The mean scores, standard deviations and severity level of COVID-19 disease anxiety, impact of event, and quality of life (N = 478)

Variables	Categories	N (%) or Mean \pm SD	Scale range ^a	Min-Max ^b	Mean score (Out of 100)
Anxiety	Psychological symptoms	11.82 ± 6.72	0-27	0-27	43.80
	Physical symptoms	4.20 ± 5.18	0-27	0-27	15.58
	Total	16.03 ± 11.12	0-54	0-54	29.69
	Normal/Mild	294 (61.5)	-	-	-
	Moderate	118 (24.7)	-	-	-
	Severe	66 (13.8)	-	-	-
Impact of event	Avoidance	13.14 ± 7.03	0-32	0-30	41.07
	Intrusion	9.49 ± 6.87	0-28	0-27	33.89
	Hyperarousal	9.01 ± 6.99	0-28	0-28	32.18
	Total	31.64 ± 18.78	0-88	0-79	35.96

Variables	Categories	N (%) or Mean \pm SD	Scale range ^a	Min-Max ^b	Mean score (Out of 100)
Quality of life	Normal	167 (34.9)	-	-	-
	Mild	82 (17.2)	-	-	-
	Moderate	36 (7.5)	-	-	-
	Severe	193 (40.4)	-	-	-
	Physical component summary	71.65 \pm 23.96	0-100	4.17-100	71.65
	Mental component summary	60.59 \pm 26.04	0-100	6.67-100	60.59
	Total	66.12 \pm 22.83	0-100	7.08-100	66.12

Abbreviations: n, number; SD, standard deviation

a, The lowest and highest values that can be obtained from the original scale.

b, The lowest and highest values obtained in this study.

As the findings of this study indicate, there was a statistically significant relationship between gender and corona disease anxiety, PTSD, and QoL. The mean scores of corona disease anxiety and PTSD were higher in women compared to men and the mean QoL score was lower. Furthermore, the mean corona disease anxiety score was significantly higher among married people than single people, among people with an education level below diploma compared to those with a diploma, bachelor's, master's and doctorate education, and among housewives compared to those who are studying, government employees and retirees.

The mean PTSD score was also significantly lower among government employees compared to housewives, unemployed and students, and among self-employed than unemployed people. The mean corona disease anxiety score was significantly higher among people with a history of COVID-19, and the mean QoL score was significantly lower in people without a history. There was also a positive and significant correlation between age and corona disease anxiety, with the mean score of corona disease anxiety increasing as the age of participants increased (Table 3).

Table 3. The mean scores and standard deviations of COVID-19 disease anxiety, impact of event, and quality of life according to the demographic variables of participants (N = 478)

Variables	Categories	COVID-19 disease anxiety	Impact of event	Quality of life
Gender	Male	13.70 \pm 10.49	27.44 \pm 17.87	71.58 \pm 20.89
	Female	17.41 \pm 11.27	34.14 \pm 18.88	62.88 \pm 23.34
	<i>p value</i> ^d	< 0.001	< 0.001	< 0.001
Marital status	Single	14.59 \pm 9.82	33.20 \pm 19.02	65.40 \pm 22.33
	Married	16.90 \pm 11.77	30.70 \pm 18.60	66.55 \pm 23.15
	<i>p value</i> ^d	0.022	0.161	0.595
Education level	Under diploma	21.30 \pm 12.98 ^{d,e}	33.27 \pm 18.16	60.16 \pm 24.61
	Diploma	16.71 \pm 12.01 ^d	31.07 \pm 18.81	66.75 \pm 22.83
	Bachelor's degree	15.87 \pm 10.75 ^c	32.39 \pm 18.42	66.92 \pm 21.89

Variables	Categories	COVID-19 disease anxiety	Impact of event	Quality of life
	Master's degree	14.52 ± 9.46 ^f	32.15 ± 19.12	63.92 ± 24.03
	Doctoral degree	13.66 ± 11.89 ^g	24.73 ± 20.59	71.31 ± 23.55
	<i>p value</i> ^b	0.028	0.307	0.289
Employment status	Housewife	20.15 ± 13.38 ^{hij}	35.84 ± 19.67 ^k	61.81 ± 26.03
	Unemployed	17.96 ± 10.27	39.76 ± 21.59 ^{lm}	61.34 ± 23.05
	University/ School student	14.35 ± 8.77 ^h	33.22 ± 19.18 ⁿ	65.21 ± 21.02
	Government employee	14.78 ± 10.77 ⁱ	27.66 ± 17.50 ^{kn}	69.03 ± 23.05
	Self-employed	16.67 ± 12.63	30.06 ± 18.72 ^m	67.68 ± 21.50
	Retired	15.23 ± 9.20 ^j	33.11 ± 15.32	65.28 ± 21.63
	<i>p value</i> ^b	0.006	0.004	0.220
History of COVID-19	Yes	18.36 ± 11.31	33.53 ± 18.23	55.50 ± 24.07
	No	15.56 ± 11.04	31.26 ± 18.88	68.25 ± 21.99
	<i>p value</i> ^a	0.04	0.324	< 0.001
Age	<i>p value</i> ^c	0.003	0.747	0.701

a, Independent T-test; b, One-way ANOVA; c, Pearson correlation

Same alphabet letters demonstrate a statistically significant difference between the two groups based on the Bonferroni correction method.

We examined the relationship between COVID-19 disease anxiety and PTSD with QoL using the Pearson correlation coefficient before performing a multiple linear regression test because correlation coefficient determination is the foundation of causal relationship analysis. The results revealed that a significant negative correlation was observed between the mean scores of corona disease anxiety and PTSD with QoL,

so that the mean QoL score was decreased by increasing the mean scores of corona disease anxiety and PTSD among participants and vice versa. There was also a positive and significant correlation between the mean score of corona disease anxiety with PTSD, so that the mean PTSD score was increased by increasing the mean corona disease anxiety score and vice versa (Table 4).

Table 4. Correlation matrix for COVID-19 disease anxiety, impact of event and quality of life (N = 478)

Variable	Anxiety	Impact of event	Quality of life
	<i>r (p value)</i>	<i>r (p value)</i>	<i>r (p value)</i>
Anxiety	1		
Impact of event	0.621 (< 0.001)	1	
Quality of life	-0.553 (< 0.001)	-0.494 (< 0.001)	1

As the findings of this study explain, corona disease anxiety (*p value* < 0.001, $\beta = -0.396$) and PTSD (*p*

value < 0.001, $\beta = -0.225$) were significant predictive factors of the QoL among the general population of

Urmia, so that each one independently of the influence of other factors, had a negative and statistically significant relationship with QoL. These two variables

predicted about 34% of the variance (change) in QoL in the general population of Urmia (Table 5).

Table 5. Predictors of quality of life*among the participants according to multiple linear regression analysis (N = 478)

Independent variables	B	SE	β	t (p value)	R ²	Adjusted R ²	F (p value)
COVID-19 disease anxiety	-0.812	0.099	-0.396	-8.233 (<0.001)	0.379	0.370	40.953 (<0.001)
Impact of event	-0.273	0.057	-0.225	-4.764 (<0.001)			

Adjusted variables: age, gender, marital status, education level, and history of COVID-19

Discussion

Unexpected events and incidents that threaten public health, cause many changes in the mood and QoL of different people in society. Various researchers have always considered the psychological effects of epidemics and pandemics. Psychological problems such as anxiety, post-traumatic stress, and so on became obvious in a new epidemic that began in Wuhan, China in late 2019. Accordingly, this study aimed to examine the relationship between anxiety and PTSD with HRQoL during the COVID-19 epidemic to identify people prone to psychological disorders in the current high-risk situation and if there is a relationship between these psychological disorders and people's QoL, it could help promote these people's mental health and QoL by providing proper psychological solutions and techniques.

According to the findings of this study, individuals residing in Urmia experienced slightly lower than moderate levels of anxiety and PTSD caused by the COVID-19 epidemic. Furthermore, their QoL was assessed to be at a moderate level. The findings of this study align with prior research on COVID-19-related anxiety, PTSD, and QoL in the general population (4,16,17). For example, Nasirzadeh et al. conducted a study and stated that the mean anxiety score due to the outbreak of COVID-19 among residents of Anar was slightly lower than the moderate level (16), Wang et al. conducted a study and stated that the PTSD caused by the COVID-19 pandemic among the general Chinese population was near moderate level (4). Finally, a

study conducted by Öztürk Çopur and Karasu in Turkey (17), indicated that the QoL status of the population older than 18 years old during the COVID-19 epidemic was moderate which aligns with the findings of the present study. Anxiety and stress related to the COVID-19 virus are common, likely due to the many unknowns about it, especially at the beginning of the COVID-19 epidemic (11). Given the negative impact of anxiety and stress on the immune system, which can potentially increase susceptibility to diseases such as COVID-19 and lead to additional complications (11), it is imperative to address this issue. It is essential to develop and implement diverse psychological interventions aimed at reducing anxiety and stress associated with the COVID-19 epidemic among the general population. The attainment of this objective relies on the utilization of the knowledge, expertise, and experience of health psychologists within health centers. By identifying existing deficiencies, it becomes possible to address gaps in human resources and enhance the capacity and capability of these centers.

Furthermore, considering the findings of this research, anxiety due to COVID-19 and PTSD from the COVID-19 epidemic, were predictors of QoL among the general population of Urmia city. By increasing the rate of corona disease anxiety and PTSD among the participants, the mean score of their QoL decreased and vice versa. In line with the findings of this research, in the study conducted by Öztürk Çopur and Karasu, there was a significant negative relationship between QoL

and stress and anxiety caused by the COVID-19 epidemic among the population over 18 years of age in Turkey (17). Similarly, in the research performed by Wang et al. post-traumatic stress and anxiety were negative and significant predictors of QoL among individuals with spinal cord injuries (18). Thus, regarding the impact of corona disease anxiety and PTSD of COVID-19 epidemic on QoL and unacceptable level of these two variables among the general population of Urmia city, designing and implementing various interventions with the objective of improving their psychological status is proposed. To handle these interventions, the present techniques and methods in psychology can be applied and by implementing psychological interventions while directly impacting and improving the stress and anxiety caused by COVID-19, they can also indirectly enhance their QoL.

Regarding the findings of this study, the mean scores of corona disease anxiety and PTSD were higher and QoL was lower among women compared to men. These results align with the research conducted by Öztürk Çopur and Karasu, during the COVID-19 epidemic, which showed that depression, anxiety and stress were higher among women than men, and the QoL was lower (17). In confirming this relationship, it can be noted that perhaps women experience more stress and anxiety due to similar responsibilities, including family, children, elderly parents and job responsibility. Furthermore, women are traditionally supportive people, indicating that women may experience greater concerns than men when a family member is infected with the virus. This, in turn, can potentially lead to a decline in their overall QoL. Moreover, the results of this research indicated that the mean score of corona disease anxiety was considerably higher among married people in comparison with single people, among people with sub-diploma education compared to those with higher education and among housewives in comparison with other occupational groups. One of the reasons for the high level of anxiety among married people is that they feel that they have not done their duties towards the family properly because they have given up their job. If they

go to work, they are concerned about getting sick and transmitting the virus to their spouses and children and even losing them, and these conditions can have negative impacts on the QoL of married people. In the studies conducted by Nasirzadeh et al. (16) and Khademian et al. (19), the mean score of anxiety during COVID-19 epidemic was higher among those with under diploma education. People with lower education compared to those with higher education, struggle with a range of problems such as low income, job insecurity, unemployment, etc. They believe that these issues may lead to increased anxiety in the face of epidemics. One of the reasons for the high rate of COVID-19 anxiety among housewives is that family members leave the house every day and return home with contaminated clothes, hands and faces, exposing the mother to a set of contaminated factors. Moreover, in cases where a family member contracts COVID-19, housewives are the first and sometimes the only person to provide health care. Regarding this research's results, the mean score of corona disease anxiety was considerably higher among people with a history of COVID-19 and the mean QoL was lower. Furthermore, as the participants' age increased, the mean score of corona disease anxiety also increased, which is in line with Nasirzadeh et al. (16) research. The increase in anxiety with age can be attributed to the higher COVID-19 mortality among older individuals (20). One of the strengths of this research is that due to the lack of studies on the relationship between corona disease anxiety and PTSD with QoL, this research can be a reference for future research, especially interventional research that will be designed and implemented with the objective of enhancing the QoL of people during the COVID-19 pandemic.

In summary, the level of anxiety and PTSD caused by COVID-19 was slightly lower than the moderate level among the general population of Urmia. Still, it is proposed to design and implement various interventions to improve their psychological status due to the indisputable negative effects of the COVID-19 epidemic on individuals' psychological status and because of the negative impact of anxiety and stress on the QoL of people. This research's results additionally

explained that housewives, married people, people with lower education, old people, and people with a history of COVID-19 are priority groups for such interventions. Qualitative studies are additionally recommended to answer the question of why some people with specific demographic characteristics suffer more from psychological disorders caused by COVID-19 (For example., why women are more anxious and worried than men during COVID-19?).

One of the limitations of this research was its cross-sectional nature and the observed relationships between corona disease anxiety and PTSD with QoL were poor in terms of causal relationships. In addition, due to the nature of the studied samples, it is likely that the general population in other cities will indicate a different trend compared to samples in the current research. Thus, similar research is proposed in other cities and various sections of the country.

Conclusion

The level of anxiety and PTSD caused by COVID-19 was found to be slightly below the moderate level among the general population of Urmia. It is proposed to design and implement various interventions to improve their psychological status due to the indisputable negative effects of the COVID-19 epidemic on individuals' psychological status and because of the negative impact of anxiety and stress on their QoL. We hope to help improve people's mental health, QoL, and overall health by providing proper psychological strategies and techniques.

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Conflict of interest

The authors have no conflict of interest in this study.

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Data availability

The raw data supporting the conclusions of this article are available from the authors upon reasonable request.

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