doi: 10.30934/kusbed.1192075 **e-ISSN:** 2149-8571

Kocaeli Üniversitesi Sağlık Bilimleri Dergisi

Özgün Araştırma / Original Article

http://dergipark.gov.tr/kusbed

THE EFFECTS OF THE COVID-19 PANDEMIC ON WOMEN'S MENTAL HEALTH IN TURKEY AND WHAT THESE EFFECTS SUGGEST

TÜRKİYE'DE COVİD-19 PANDEMİSİNİN KADINLARIN KAYGI VE DEPRESYON DÜZEYLERİNE ETKİSİ VE BU ETKİLERİN ÖNERDİKLERİ

Sena Dilek Aksoy*[1], Ayla Ergin[1], Suzi Özdemir[1], Belgin Babadağlı[1]

[1]Kocaeli University, Faculty of Health Sciences, Kocaeli, Turkey

ORCID ID: Sena Dilek Aksoy: 0000-0003-4366-5056; Ayla Ergin: 0000-0002-2762-2403; Suzi Özdemir: 0000-0003-2437-9169; Belgin Babadağlı: 0000-0002-8883-0118

***Sorumlu Yazar / Corresponding Author:** Sena Dilek Aksoy **e-posta / e-mail:** senadilek2010@gmail.com

Geliş Tarihi / Received: 20.10.2022 **Kabul Tarihi / Accepted:** 09.12.2022 **Yayım Tarihi / Published:** 01.02.2023

Abstract

Objective: The COVID-19 pandemic has deeply affected societies and individuals in all aspects, including mental and physical health. In this study, we aimed to determine the effects of COVID 19 pandemic on anxiety and depression levels and related factors in women.
Methods: As a descriptive cross-sectional study, it was conducted with a total of 728 women between December 2020 and March 2021. Data were collected by Google survey using the descriptive information form, the Coronavirus Anxiety Scale (CAS), and the Hospital Anxiety and Depression Scale (HADS).
Results: Having concerns about own health had a strong effect on coronavirus-related anxiety (p<0.001, η^2 = 0.037) and the anxiety dimension of Hospital Anxiety and Depression Scale (HADS) (p<0.001, η^2 = 0.098). Marital relationships had a strong effect on HADS depression dimension scores (p<0.001, η^2 = 0.067).
Conclusion: The younger women, those who had problematic marital relationship and those who were exposed to domestic violence had higher anxiety and depression scores. Relevant measures should be taken to reduce the concerns of more risky groups, especially women, in the health system and should be considered in future planning on this subject.

Keywords: *COVID-19, anxiety, depression, women, mental health*.

Öz

Amaç: COVID-19 salgını, toplumları ve bireyleri zihinsel ve fiziksel sağlık da dahil olmak üzere tüm yönleriyle derinden etkilemişdir. Bu çalışmada COVID 19 pandemisinin kadınlarda anksiyete ve depresyon düzeylerine ve ilişkili faktörlere etkisini belirlemeyi amaçladık.
Yöntem: Tanımlayıcı kesitsel çalışma olarak Aralık 2020- Mart 2021 tarihleri arasında toplam 728 kadın ile yapılmıştır. Veriler tanıtıcı bilgi formu, Koronavirüs Anksiyete Ölçeği (CAS) ve Hastane Anksiyete ve Depresyon Ölçeği (HADS) kullanılarak Google anket ile toplanmıştır.
Bulgular: Kendi sağlığıyla ilgili kaygı duymanın, koronavirüs ile ilişkili kaygı (p<0,001, η^2 = 0,037) ve Hastane Anksiyete ve Depresyon Ölçeği (HADS)'nin kaygı boyutu (p<0,001, η^2 = 0,098) üzerinde güçlü bir etkisi olmuştur. HADS depresyon boyut puanları üzerinde evlilik ilişkilerinin güçlü bir etkisi vardı (p<0,001, η^2 = 0,067).
Sonuç: Daha genç yaştaki kadınların, evlilik ilişkisi sorunlu olanların ve aile içi şiddete maruz kalanların anksiyete ve depresyon puanları daha yüksekti. Başta kadınlar olmak üzere daha riskli grupların sağlık sistemindeki endişelerini azaltmak için gerekli önlemler alınmalı ve bu konuda gelecek planlamalarda dikkate alınmalıdır.

Anahtar Kelimeler: *COVID-19, anksiyete, depresyon, kadın, ruh sağlığı*.

Introduction

The new coronavirus (COVID-19) spread rapidly all over the world, causing a total of 557.917.904 cases and 6.358.899 deaths by July 11, 2022.[1]

Traumatic events change people's sense of security, reminding the reality of death. Questions without definite answer such as "*when will the COVID-19 pandemic end?*" and "*what are the efficient treatment methods for it?*", continuous flow of information about the pandemic and its effects, limitations/prohibitions such as decreased social relations due to the pandemic, and recommendations for staying at home as much as possible are other factors that negatively affect individuals' mental health during the pandemic. The COVID-19 pandemichas deeply affected societies and individuals in all aspects, including mental and physical health.[2,3]

Factors with well-described demographic effects on mental health such as sex, age and socioeconomic resources, in addition to pre-pandemic life circumstances, are likely to remain significant determinants of people's mental health during the pandemic.[4]

Increasing job insecurity and economic distress, domestic violence, substance abuse and media consumption are discussed as risk factors affecting mental health during the pandemic.Studies have reported that psychological problems including anxiety, depression, stress,sleep disorders, as well as an increase in suicidal ideation, increase during a pandemic.[5–9] Studies also report that constantly changing and developing information about the COVID-19 lead to negative psycho-social effects on individuals, including fear of inability to access health services, food shortages, worry of being infected at any time, boredom, financial loss, and disappointment. Pandemic measures have significantly increased these effects.[10,11]

In April 2020, two weeks after the COVID-19 disease was declared pandemic, the United Nations Women Regional Office for Asia and the Pacific (ROAP) conducted a study to examine the pandemic's gender-based outcomes in the region and determined that the pandemic had different effects on women and men. The study also concluded that the pandemic had higher psychosocial effects in women.[12] Long-term psychosocial problems deteriorate neurochemical and cellular immunity, causing endocrine and metabolic problems in humans.[13]

There are a lot of studies about the pandemic in both Turkey and across the world. However, evidence on the relationships of the COVID-19 pandemic and public health measures to women's mental health is limited so far. There is a limited number of studies on the general anxiety caused by COVID-19 pandemic among women in Turkey.[14,15] Erdogdu et al. conducted a study using 1026 people, including 570 women, and found that women had significantly higher anxiety levels than men.[16]

Another study suggests that women have higher anxiety and lower psychological resilience in the COVID-19 pandemic.[17] Özdin et al. reported women as the group most affected by the COVID-19 pandemic psychologically.[3]

We believe that our study would fill this gap in the literature, contribute to the visibility of psychosocial health problems in women, and enable psychosocial care and political regulation by determining the factors associated with psychosocial health problems. For this reason, the study aimed to determine the impact of the COVID-19 pandemic and related public health measures on women's mental health (including problems such as anxiety and depression) and related factors in Turkey.

Methods

Study Design and Participants

This is a descriptive study. This study was carried out on women living in Turkey between December 2020 and March 2021. Women aged between 18-64 years and living in Kocaeli, Turkey constituted the population of the study. However, as it was not possible to reach all women, a sampling was deemed appropriate. Therefore, simple random sampling method was preferred as the sampling method in the study. However, as the sample should represent the main population well, the researchers tried to reach women with different socio-cultural and economic characteristics as much as possible. In this context, it was determined that a minimum of 384 women should be interviewed under 95% confidence and 5% error of margin by using the sampling formula with known population. The total female population aged between 18-64 years and living in Kocaeli is 626.089.[18]

A total of 740 women were reached in the study, but the sample of the study included 728 women as 12 women were excluded from the study due to diagnosis of mental illness. The data were collected using an online questionnaire through Google Survey between 20 December 2020 and 20 March 2021 and contacting women through social media and influential people in women's organizations that agreed to participate in the study. Women who participated in the study were asked to fill out an online questionnaire.

Women who were diagnosed with mental illness and used any psychiatric medication, those who were diagnosed with or suspected to have COVID-19 disease during data collection, those who had a first degree relative diagnosed with COVID 19 disease in their home (family), those who were under the quarantine due to COVID 19 disease were not allowed to fill out the questionnaire.

Data Collection

The data were collected using an introductory information form, the Coronavirus Anxiety Scale (CAS), and the Hospital Anxiety and Depression Scale (HADS).

Introductory Information Form: The form was prepared by the researchers in line with the literature and included 27 questions about the women's socio-demographic characteristics and their problems during the pandemic.

Coronavirus Anxiety Scale (CAS): This scale was developed by Lee (2020) as brief mental health screener to define possible dysfunctional anxiety cases associated with the COVID-19 pandemic.[19] Its Turkish validity and reliability study was performed by Biçer et al. (2020). It is a 5-point Likert type scale.[14] The scale consists of 5 items and one dimension, scoring as "0= not at all", "1= rare, less than a day or two days", "2= a few days", "3= more than seven days" and "4= nearly every day over the last 2 weeks". Biçer et al. calculated the Cronbach's alpha reliability coefficient of the scale as 0.83.[14] In our study, it was found to be 0.83.

Hospital Anxiety and Depression Scale (HADS): The Hospital Anxiety and Depression Scale (HADS) was developed by Zigmond and Snaith (1983). The scale consists of 14 items. 7 of these items measure anxiety and 7 of them measure depression symptoms. The items in the scale are

evaluated with a 4-point Likert scale and are based on a scoring system between 0-3. According to the scoring, 0-1 is considered as non-patient, 2 as borderline patients, and 2-3 as severely ill. In addition, it is seen that the scores obtained from the scale are not affected by physical diseases.[20] The purpose of the scale is not to diagnose, but to measure the psychological state of the patients and to take the necessary precautions.[21] The Turkish adaptation of the scale and its validity and reliability analyzes were performed by Aydemir et al. (1997).[22] In addition, the current validity and reliability of the scale in a non-clinical Turkish sample were also performed.[23] The HADS scale is a scale that can be applied to those who do not have any physical disease.[22,23] Aydemir et al. (1997) found the Cronbach's alpha coefficient to be 0.85 for the anxiety subscale and 0.77 for the depression subscale.[22] In our study, Cronbach's alpha coefficients were found to be 0.85 for the anxiety sub-dimension and 0.80 for the depression sub-dimension.

Statistical Analysis

The data were analyzed using IBM SPSS V23 program. Whether the data had normal distribution was examined using the Kolmogorov-Smirnov test. Analysis results were presented as mean and standard deviation for quantitative data, and as frequency and percentage for categorical data. One-way MANOVA was used to compare scale scores according to factors, and the Bonferroni test was used for multiple comparisons. Spearman's rho correlation was used to examine the relationship between quantitative variables with normal distribution. The level of significance was considered as $p < 0.05$.

Results

The mean age of the women was 38±8.11 years (min=18, max=64), the average duration of marriage was 15.4±9.6 years (min=1, max=47), and the average number of children was 1.8±0.9 (min=1, max=9). Table 1 presents the information on other variables. In the study, 9.3% of the women had CAS, 29.3% had HADS anxiety, and 50.8% had HADS depression risk. (Table 1)

The women's CAS total mean score was 2.5±3.7 (min=1, max=20). Their HADS anxiety and depression mean scores were 8.3±4.4 (min=0, max=21) and 7.6±4.3 (min=0, max=20), respectively.

There was a statistically significant correlation between the women's age and HADS anxiety and depression scores ($p < 0.001$, $p = 0.013$, respectively). As their age increased, a weak decrease was observed in their HADS anxiety and depression scores. In addition, there was a statistically significant correlation between the women's duration of marriage and HADS depression scores ($p = 0.015$). As their duration of marriage increased, a weak decrease was observed in their HADS depression scores (Table 2).

There was a statistically significant relationship between the women's CAS total and anxiety scores ($p < 0.001$). As their CAS total scores increased, a moderate increase was observed in their HADS anxiety scores. In addition, there was a statistically significant relationship between the women's CAS total and HADS depression scores ($p < 0.001$). As their CAS total scores increased, a weak increase was observed in their HADS depression scores. Moreover, there was a statistically significant correlation between the women's HADS anxiety and depression scores ($p < 0.001$). As their HADS anxiety scores increased, a high increase was observed in their HADS depression scores (Table 3).

One-way MANOVA was used to compare scale scores according to factors, and Bonferroni test was used for multiple comparisons (Table 4). A statistically significant difference was found between the women's CAS total mean scores according to employment status ($p = 0.009$). This difference was because students had higher mean score than unemployed women and those who became unemployed during the pandemic (Table 5). A statistically significant difference was found between the women's CAS total mean scores according to occupation ($p = 0.005$, partial eta-square (η^2) = 0.023). This difference was because retired women had higher mean score than women with other professions (Table 5). A statistically significant difference was found between the women's CAS total, HADS anxiety and depression mean scores according to health concern ($p < 0.001$, $\eta^2 = 0.037$; $p < 0.001$, $\eta^2 = 0.098$; $p < 0.001$, $\eta^2 = 0.038$; respectively). This difference was because women who were very often and always worried about their health had higher mean scores than those who did not worry or rarely worried about their health (Table 5). A statistically significant difference was found between the women's CAS total, HADS anxiety and depression mean scores according to marital relationship ($p = 0.022$, $\eta^2 = 0.014$; $p < 0.001$, $\eta^2 = 0.030$; $p < 0.001$, $\eta^2 = 0.067$; respectively). This difference was because women with bad marital relationship had higher mean scores than single women and those with good marital relationship (Table 5). A statistically significant difference was found between the women's CAS total and HADS anxiety mean scores according to domestic violence ($p = 0.007$, $\eta^2 = 0.010$; $p < 0.001$, $\eta^2 = 0.021$; respectively). In addition, a statistically significant difference was found between the women's HADS anxiety and depression mean scores according to the effect of COVID-19 pandemic on use of healthcare services ($p = 0.004$, $\eta^2 = 0.019$; $p = 0.011$, $\eta^2 = 0.016$; respectively). A statistically significant difference was also found between the women's CAS total and HADS anxiety mean scores according tothestatus of following information about COVID-19 disease ($p = 0.008$, $\eta^2 = 0.017$; $p = 0.002$, $\eta^2 = 0.021$; respectively). Especially women who followed information about the COVID-19 disease everyday had higher CAS total and HADS anxietymean scores (Table 5).

According to the partial eta squared (η^2) values, health concern factor had the highest effect on women's CAS total scores ($\eta^2 = 0.037$). Health concern factor also had the highest effect on women's HADS anxiety scores ($\eta^2 = 0.098$). In addition, marital relationship had the highest effect on women's HADS depression scores ($\eta^2 = 0.067$) (Table 4).

Table 1. Women's Socio-Demographic Characteristics (n = 728)

	(n)	(%)
Marital status		
Married	516	70.9
Single	212	29.1
Employment Status		
Employed	463	63.6
Unemployed	177	24.3
Retired	25	3.4
Student	46	6.3
Unemployed during the pandemic	17	2.3
Occupation		
Housewife	169	23.2
Worker	23	3.2
Public Official	189	26.0
Shopkeeper	109	15.0
Medical staff	200	27.5
Retired or student	38	5.2
Health concern		
None	169	23.2
Rarely	451	62.0
Very often	79	10.9
Always	29	3.9
Marital relationship		
Good	374	51.4
Moderate	124	17.0
Bad	19	2.6
Single	211	29.0
Domestic violence		
Yes	56	7.7
No	672	92.3
How did the pandemic affect your use of healthcare services?		
It affected my use of reproductive health services	31	4.3
It affected my use of health services other than reproductive health	24	3.3
It affected my use of all healthcare services	302	41.4
It did not affect my use of healthcare services	371	51.0
Following information about COVID-19 disease		
I don't follow	40	5.5
Once in 8-15 days	24	3.3
Once a week	251	34.5
At least once a day	413	56.7

Table 2. Relationship between the Women's Coronavirus Anxiety Scale Scores according to Age, Duration of Marriage and Number of Children

	Age		Duration of marriage		Number of children	
	r	*p*	*r*	*p*	*r*	*p*
Coronavirus Anxiety Scale total score	0.011	0.769	-0.011	0.812	-0.036	0.426
Anxiety score	-0.140	<0.001**	-0.072	0.105	-0.056	0.209
Depression score	-0.092	0.013*	-0.107	0.015*	-0.040	0.376

r: Spearman's Rho correlation coefficient *$p < 0.05$, **$p < 0.001$

Table 3. Relationship between the Women's Scale Scores

		Coronavirus Anxiety Scale total score	Anxiety score
Anxiety score	*r*	**0.497**	
	p	**<0.001****	
Depression score	*r*	**0.381**	**0.690**
	p	**<0.001****	**<0.001****

r: Spearman's Rho correlation coefficient **$p < 0.001$

Table 4. The MANOVA Results for Participants' Scale Scores

Factors	Dependent variables	Sum of Squares	*Sd*	Mean Square	*F*	*p*	Partial Eta square (n^2)
Marital status	Coronavirus Anxiety Scale total score[1]	19.436	1	19.436	1.560	0.212	0.002
	Anxiety score[2]	26.555	1	26.555	1.758	0.185	0.003
	Depression score[3]	52.729	1	52.729	3.398	0.066	0.005
Employment status	Coronavirus Anxiety Scale total score	168.606	4	42.152	3.383	0.009*	0.019
	Anxiety score	127.495	4	31.874	2.110	0.078	0.012
	Depression score	36.862	4	9.216	0.594	0.667	0.003
Occupation	Coronavirus Anxiety Scale total score	208.039	5	41.608	3.339	0.005*	0.023
	Anxiety score	35.865	5	7.173	0.475	0.795	0.003
	Depression score	148.490	5	29.698	1.914	0.090	0.014
Health concern	Coronavirus Anxiety Scale total score	336.121	3	112.040	8.991	<0.001**	0.037
	Anxiety score	1144.712	3	381.571	25.260	<0.001**	0.098
	Depression score	421.900	3	140.633	9.062	<0.001**	0.038
Marital relationship	Coronavirus Anxiety Scale total score	121.328	3	40.443	3.246	0.022*	0.014
	Anxiety score	320.381	3	106.794	7.070	<0.001**	0.030
	Depression score	773.876	3	257.959	16.622	<0.001**	0.067
Domestic violence	Coronavirus Anxiety Scale total score	89.869	1	89.869	7.212	0.007*	0.010
	Anxiety score	230.709	1	230.709	15.273	<0.001**	0.021
	Depression score	28.932	1	28.932	1.864	0.173	0.003
How did the pandemic affect your use of healthcare services?	Coronavirus Anxiety Scale total score	34.420	3	11.473	0.921	0.430	0.004
	Anxiety score	206.099	3	68.700	4.548	0.004*	0.019
	Depression score	175.078	3	58.359	3.760	0.011*	0.016
Following information about COVID-19 disease	Coronavirus Anxiety Scale total score	149.433	3	49.811	3.997	0.008*	0.017
	Anxiety score	223.117	3	74.372	4.923	0.002*	0.021
	Depression score	121.805	3	40.602	2.616	0.050*	0.011

[1] R^2 = 0.128. [1] Adjusted R^2 = 0.090; [2] R^2 = 0.246. [2]Adjusted R^2 = 0.213; [3] R^2 = 0.184. [3] Adjusted R^2 = 0.149
*p < 0.05, **p < 0.001

Table 5. Descriptive Statistics of Participants' Scale Scores According to Factors

	Coronavirus Anxiety Scale total score	Anxiety score	Depression score
Marital status			
Married	2.57 ± 3.76	8.02 ± 4.29	7.49 ± 4.20
Single	2.41 ± 3.57	8.89 ± 4.55	7.83 ± 4.43
Employment status			
Employed	2.55 ± 3.68^{ab}	8.08 ± 4.40	7.52 ± 4.30
Unemployed	2.37 ± 3.59^{b}	8.37 ± 4.14	7.62 ± 4.34
Retired	2.96 ± 3.96^{ab}	7.12 ± 3.69	7.12 ± 3.80
Student	2.78 ± 4.25^{a}	10.70 ± 4.75	8.54 ± 4.02
Unemployed during the pandemic	1.94 ± 3.82^{b}	7.59 ± 4.65	7.24 ± 4.34
Occupation			
Housewife	2.36 ± 3.34^{b}	8.09 ± 4.11	7.25 ± 4.18
Worker	2.22 ± 3.80^{b}	7.61 ± 4.76	7.43 ± 4.07
Public Official	2.69 ± 3.82^{b}	8.07 ± 4.32	7.32 ± 4.24
Shopkeeper	2.58 ± 3.99^{b}	8.28 ± 4.86	7.40 ± 4.67
Medical staff	2.67 ± 3.92^{b}	8.30 ± 4.35	8.14 ± 4.28
Others	1.68 ± 2.41^{a}	10.34 ± 4.08	8.26 ± 3.62
Health concern			
None	1.61 ± 3.17^{b}	6.32 ± 3.96^{c}	6.21 ± 4.16^{c}
Rarely	2.43 ± 3.53^{b}	8.19 ± 4.05^{b}	7.59 ± 4.11^{b}
Very often	4.09 ± 4.18^{a}	11.78 ± 4.07^{a}	9.80 ± 4.01^{a}
Always	5.00 ± 5.22^{a}	11.38 ± 5.12^{a}	9.69 ± 4.91^{ab}
Marital relationship			
Good	2.19 ± 3.39^{a}	7.30 ± 4.06^{a}	6.63 ± 3.93^{c}
Moderate	3.40 ± 4.19^{ab}	9.65 ± 4.34^{b}	9.35 ± 3.90^{b}
Bad	4.53 ± 5.83^{b}	11.42 ± 3.82^{b}	12.16 ± 4.49^{a}
Single	2.42 ± 3.57^{a}	8.90 ± 4.56^{ab}	7.85 ± 4.43^{abc}
Domestic Violence			
Yes	4.20 ± 4.98	10.93 ± 4.51	9.46 ± 4.02
No	2.38 ± 3.54	8.05 ± 4.30	7.44 ± 4.26
How did the pandemic affect your use of healthcare services?			
It affected my use of reproductive health services	2.97 ± 4.18	8.55 ± 3.74^{b}	7.55 ± 4.06^{ab}
It affected my use of health services other than reproductive health	2.67 ± 3.97	6.71 ± 3.14^{a}	7.29 ± 3.86^{ab}
It affected my use of all healthcare services	2.89 ± 3.70	9.09 ± 4.33^{b}	8.31 ± 4.18^{b}
It did not affect my use of healthcare services	2.18 ± 3.63	7.68 ± 4.43^{ab}	7.03 ± 4.31^{a}
Following information about COVID-19 disease			
I don't follow	1.15 ± 2.96^{a}	6.10 ± 4.41^{a}	5.88 ± 4.92
Once in 8-15 days	2.13 ± 3.67^{ab}	8.38 ± 4.84^{ab}	7.96 ± 4.05
Once a week	2.15 ± 3.54^{ab}	8.12 ± 4.22^{ab}	7.64 ± 4.23
At least once a day	2.91 ± 3.81^{b}	8.57 ± 4.40^{b}	7.71 ± 4.22

a-c: There is no difference between groups with the same letter. Shows the results of multiple comparisons of the factors. Even if there is a common letter between groups in each factor, there is no difference between groups with the same letter, but there is a difference between groups with different letters. There is no difference between groups with the same letter for each column.

Discussion

This study aimed to determine the effects of COVID-19 pandemic on anxiety and depression levels and related factors in women living in Kocaeli, Turkey. The study found that younger women, students, those who were more worried about their health, those who had problematic marital relationship, those who were exposed to domestic violence, those whose use of health services were interrupted due to the pandemic, and those who frequently followed information about the COVID-19 disease had higher anxiety and depression scores. In addition, the concurrent criterion validity of CAS and HADS was achieved by using them together in this study. A moderate correlation was found between CAS and HADS anxiety part.

In a study conducted in Ecuador, a South American country, participants had mild anxiety (58.1%) and depression (52.6%) symptoms related to COVID-19, where women had significantly high anxiety and depression scores like those of psychiatric patients.[24] Emotional disorders start with the activation of reproductive hormones and peak in the fertile period and are reported to be approximately twofold in women than in men.[25] Some Turkish studies on the significance of gender in the COVID-19 pandemic report that women have higher depression scores than men.[3] In a study conducted in Turkey with 4700 people by Morgul et al., it was determined that 64.1% of the participants were psychologically exhausted, and their psychological fatigue levels were associated with their age, educational level,

occupational status, place of residence and number of family members.[26]

Similar results were reported in some studies conducted in China.[27] In particular, the present study did not include women with anxiety and depression history. Because several studies showed that those with anxiety and depression story have higher anxiety and depression scores due to the COVID-19 pandemic.[3,28] The present study found a significant effect of the pandemic especially on women who always worried about their health. During all pandemics in the world history, health systems focused on combating the pandemic, decreasing the use of routine healthcare services and reaching to regularly used basic health services.[29] In Taiwan, outpatient treatment and inpatient care decreased by 23.9% and 35%, respectively during the SARS pandemic in 2003.[30] This situation may cause both those who have health concerns and those who say "*my use of all health services was affected by the pandemic*" to experience anxiety and depression.

Our country took several measures including social distancing, quarantine and self-isolation to reduce the spread of coronavirus.[31] These measures mostly affected students and younger women because their social lives were limited significantly. One study reported high percentage of university students with mental health problems in France due to the pandemic restrictions and quarantine measures.[32] A large-scale study reported common acute stress, anxiety and depressive symptoms among Chinese university students during the COVID-19 pandemic.[33] Similarly, one study conducted in Spain has reported that younger people were more affected by quarantine measures, showing higher depressive symptoms than older people.[34]

In a study conducted in Germany, mental health problems were found in unemployed, low-education and younger individuals who received current or previous treatment for mental health problems.[35] Higher rates of depressive and anxiety-related symptoms were observed among women, those aged 18-30 years, those diagnosed with a chronic disease and those who had their income negatively affected by social restrictions in Brazil.[36]

In a study conducted in France, it was determined that the level of anxiety generally increased from 17.3% to 20.1% during the pandemic process, and anxiety and depression increased in women, the elderly, the youngest and those living in a small living space.[37] Our findings were similar to the examples above from different countries.

The measures taken to control the spread of coronavirus in many countries have a devastating effect on both social and family relationships.[38] Bodenmann defines dyadic stress as when both partners are directly confronted with the same stressful event, both partners are affected by it.[39] Studies showed that being exposed to constant stress during the COVID-19 pandemic decreased both marital and sexual satisfaction, deteriorating marital/partner relationships.[40–42] In addition, according to the UN Women, domestic violence cases increased by 40% in Brazil, 30% in Spain and France, and 25% in Argentina due to the pandemic restrictions.[43] COVID-19 pandemic negatively affects the daily lives of people, causing both social and family problems. It has severe negative effects on the quality of marital relationship by triggering preexisting and mild problems in the relationship.

A similar study conducted in Iran showed that general health and coronavirus-related anxiety had a direct impact on women's quality of life, marital satisfaction and sexual function.[5]

In our study, we observed that anxiety and depression increased in the individuals who experienced domestic violence ($p < 0.001$).

There is a lot of information about the COVID-19 on Turkish televisions and social media. The number of cases and deaths are reported by the Ministry of Health every day. The present study found that especially those with high coronavirus anxiety scores and anxiety scores followed information about the COVID-19 more frequently. Similarly, one study conducted in Iran reported that those who more followed corona-related news had higher anxiety scores.[44] Another study conducted in the United States reported that greater COVID-19 media consumption was associated with greater psychological distress.[45]

The study covered individuals aged between 18-64 years and living in Kocaeli and was conducted using an online questionnaire. In this context, together with the limitations of being quantitative research, the study is limited to women who used social networks and agreed to participate in the study. The study was conducted in a certain period, which is a common constraint especially for such studies because people's perceptions and psycho-social situations change over time along with the changing conditions, measures, and practical applications throughout the country during the pandemic.

Conclusion

Responsible organizations such as the Ministry of Health, the Ministry of Family, and the National Coronavirus Scientific Advisory Board should focus on vulnerable groups to reduce coronavirus anxiety in the society. Especially young women, students, and women with problematic marital relationship are exposed to serious mental health problems during the pandemic. More studies should be conducted for these groups. In addition, routine monitoring of women in the risk group using the Coronavirus Anxiety scale would be extremely important in the early detection of the problem.

Conflict of Interest

No potential conflict of interest was reported by the author(s).

Compliance with Ethical Statement

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors. Before starting the study, an ethics committee approval (GOKAEK-2021/1.02) and necessary permissions (No: 2020-12-15T14_36_49) were obtained from the Scientific Research Platform of Turkish Ministry of Health.

Financial Support

The authors declare that no funding agency funded this study.

Author Contributions

Study idea/Hypothesis: SDA, AE; Data preparation: SDA, AE, SÖ, BB; Data analysis: SDA, AE, SÖ, BB; Manuscript writing: SDA, AE, SÖ

References

1. WHO. WHO Coronavirus (COVID-19) Dashboard. https://covid19.who.int/. Published 2021. Accessed November 28, 2021.

2. Holmes EA, O'Connor RC, Perry VH, et al. Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *The Lancet Psychiatry*. 2020;7(6):547-560. doi:10.1016/S2215-0366(20)30168-1
3. Özdin S, Bayrak Özdin Ş. Levels and predictors of anxiety, depression and health anxiety during COVID-19 pandemic in Turkish society: The importance of gender. *Int J Soc Psychiatry*. 2020;66(5):504-511. doi:10.1177/0020764020927051
4. McManus S, Bebbington PE, Jenkins R, et al. Data Resource Profile: Adult Psychiatric Morbidity Survey (APMS). *Int J Epidemiol*. 2020;49(2):361-362e. doi:10.1093/ije/dyz224
5. Daneshfar Z, Jahanian Sadatmahalleh S, Youseflu S, Bahri Khomami M, Kazemnejad A. Influential factors on quality of life in married Iranian women during the COVID-19 pandemic in 2020: a path analysis. *BMC Womens Health*. 2021;21(102):1-8. doi:10.1186/s12905-020-01114-2
6. Duan L, Zhu G. Psychological interventions for people affected by the COVID-19 epidemic. *The Lancet Psychiatry*. 2020;7(4):300-302. doi:10.1016/S2215-0366(20)30073-0
7. Knolle F, Ronan L, Murray GK. The impact of the COVID-19 pandemic on mental health in the general population: a comparison between Germany and the UK. *BMC Psychol*. 2021;9(60):1-17. doi:10.1186/s40359-021-00565-y
8. Torales J, O'Higgins M, Castaldelli-Maia JM, Ventriglio A. The outbreak of COVID-19 coronavirus and its impact on global mental health. *Int J Soc Psychiatry*. 2020;66(4):317-320. doi:10.1177/0020764020915212
9. Wang C, Pan R, Wan X, et al. Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. *Int J Environ Res Public Health*. 2020;17(5):1729. doi:10.3390/ijerph17051729
10. Brooks SK, Webster RK, Smith LE, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet*. 2020;395(10227):912-920. doi:10.1016/S0140-6736(20)30460-8
11. Rubin GJ, Wessely S. The psychological effects of quarantining a city. *BMJ*. 2020;368(January):m313. doi:10.1136/bmj.m313
12. UNWOMEN. Surveys Show that COVID-19 has gendered effects in Asia and the Pacific. https://data.unwomen.org/resources/surveys-show-covid-19-has-gendered-effects-asia-and-pacific. Published 2020. Accessed June 15, 2021.
13. Yehuda R, Hoge CW, McFarlane AC, et al. Post-traumatic stress disorder. *Nat Rev Dis Prim*. 2015;1(15057):1-22. doi:10.1038/nrdp.2015.57
14. Biçer İ, Çakmak C, Demir H. Coronavirus anxiety scale short form: Turkish validity and reliability study. *Anadolu Klin Tıp Bilim Derg*. 2020;25(1):216-225. doi:10.21673/anadoluklin.731092
15. Demir Z, Toprak AÖ. Attitude And Behavior Of Women On Virus And Everyday Life In The Quarantine Days Caused By Covid-19 Outbreak. *Turkish Stud*. 2020;15(6):391-413.
16. Erdoğdu Y, Koçoğlu F, Sevim C. An investigation of the psychosocial and demographic determinants of anxiety and hopelessness during COVID-19 pandemic. *J Clin Psychiatry*. 2020;23(EK1):24-37. doi:10.5505/kpd.2020.35403
17. Artan T, Atak I, Karaman M, Cebeci F. Relationship Between Sociodemographic Characteristics, Psychological Resilience and Anxiety Levels in the Coronavirus (COVID-19) Outbreak. *J Turkish Stud*. 2020;Volume 15(Volume 15 Issue 6):79-94. doi:10.7827/TurkishStudies.43882
18. TUIK ADNKS. Address Based Population Registration System Results. https://data.tuik.gov.tr/Bulten/Index?p=Adrese-Dayali-Nufus-Kayit-Sistemi-Sonuclari-2020-37210. Published 2020. Accessed December 2, 2020.
19. Lee SA. Coronavirus Anxiety Scale: A brief mental health screener for COVID-19 related anxiety. *Death Stud*. 2020;44(7):393-401. doi:10.1080/07481187.2020.1748481
20. Clark DA, Steer RA. Use of Nonsomatic Symptoms to Differentiate Clinically Depressed and Nondepressed Hospitalized Patients with Chronic Medical Illnesses. *Psychol Rep*. 1994;75(3):1089-1090. doi:10.2466/pr0.1994.75.3.1089
21. Zigmond AS, Snaith RP. The Hospital Anxiety and Depression Scale. *Acta Psychiatr Scand*. 1983;67(6):361-370. doi:10.1111/j.1600-0447.1983.tb09716.x
22. Aydemir Ö. Reliability and validity of the Turkish version of hospital anxiety and depression scale. *Türk Psikiyatr Derg*. 1997;8(4):280-287. https://www.researchgate.net/publication/301778685_Hastane_Anksiyete_ve_Depresyon_Olcegi_Turkce_Formunun_Gecerlilik_ve_Guvenilirlik_Calismasi_Reliability_and_Validity_of_the_Turkish_version_of_Hospital_Anxiety_and_Depression_Scale.
23. Tatar A, Ayhan D. Evaluation of the Hospital Anxiety and Depression Scale in Non-clinic Turkish Sample Using Item Response Theory Analysis. *Cyprus Turkish J Psychiatry Psychol*. 2022;4(1). doi:10.35365/ctjpp.22.1.09
24. Paz C, Mascialino G, Adana-Díaz L, et al. Behavioral and sociodemographic predictors of anxiety and depression in patients under epidemiological surveillance for COVID-19 in Ecuador. Reppermund S, ed. *PLoS One*. 2020;15(9):e0240008. doi:10.1371/journal.pone.0240008
25. Yedid Sion M, Harlev A, Weintraub AY, Sergienko R, Sheiner E. Is antenatal depression associated with adverse obstetric and perinatal outcomes? *J Matern Neonatal Med*. 2016;29(6):863-867. doi:10.3109/14767058.2015.1023708
26. Morgul E, Bener A, Atak M, et al. COVID-19 pandemic and psychological fatigue in Turkey. *Int J Soc Psychiatry*. 2021;67(2):128-135. doi:10.1177/0020764020941889
27. Liu N, Zhang F, Wei C, et al. Prevalence and predictors of PTSS during COVID-19 outbreak in China hardest-hit areas: Gender differences matter. *Psychiatry Res*. 2020;287(January):112921. doi:10.1016/j.psychres.2020.112921
28. Bobevski I, Clarke DM, Meadows G. Health Anxiety and Its Relationship to Disability and Service Use. *Psychosom Med*. 2016;78(1):13-25. doi:10.1097/PSY.0000000000000252
29. Wilhelm JA, Helleringer S. Utilization of non-Ebola health care services during Ebola outbreaks: A systematic review and meta-analysis. *J Glob Health*. 2019;9(1):1-13. doi:10.7189/jogh.09.010406
30. Chang H-J, Huang N, Lee C-H, Hsu Y-J, Hsieh C-J, Chou Y-J. The Impact of the SARS Epidemic on the Utilization of Medical Services: SARS and the Fear of SARS. *Am J Public Health*. 2004;94(4):562-564. doi:10.2105/AJPH.94.4.562
31. Turkish Ministry of Health. COVID-19 Pandemic Management and Study Guide. https://covid19.saglik.gov.tr/Eklenti/39265/0/covid19salginyonetimivecalismarehberipdf.pdf. Published 2020. Accessed March 29, 2021.
32. Wathelet M, Duhem S, Vaiva G, et al. Factors Associated With Mental Health Disorders Among University Students in France Confined During the COVID-19 Pandemic. *JAMA Netw Open*. 2020;3(10):e2025591. doi:10.1001/jamanetworkopen.2020.25591
33. Ma Z, Zhao J, Li Y, et al. Mental health problems and correlates among 746 217 college students during the coronavirus disease 2019 outbreak in China. *Epidemiol Psychiatr Sci*. 2020;29(e181):1-10. doi:10.1017/S2045796020000931
34. Becerra-García JA, Giménez Ballesta G, Sánchez-Gutiérrez T, Barbeito Resa S, Calvo Calvo A. Psychopathological symptoms during Covid-19 quarantine in spanish general population: a preliminary analysis based on sociodemographic and occupational-contextual factors. *Rev Esp Salud Publica*. 2020;94(9):1-11. https://doi.org/10.1080/0092623X.2020.1810185.
35. Benke C, Autenrieth LK, Asselmann E, Pané-Farré CA. Lockdown, quarantine measures, and social distancing: Associations with depression, anxiety and distress at the beginning of the COVID-19 pandemic among adults from Germany. *Psychiatry Res*. 2020;293(January):113462. doi:10.1016/j.psychres.2020.113462
36. Feter N, Caputo EL, Doring IR, et al. Sharp increase in depression and anxiety among Brazilian adults during the COVID-19 pandemic: findings from the PAMPA cohort. *Public Health*. 2021;190(January):101-107. doi:10.1016/j.puhe.2020.11.013
37. Ramiz L, Contrand B, Rojas Castro MY, et al. A longitudinal study of mental health before and during COVID-19 lockdown in the French population. *Global Health*. 2021;17(29):1-16.

doi:10.1186/s12992-021-00682-8
38. Luttik MLA, Mahrer-Imhof R, García-Vivar C, et al. The COVID-19 Pandemic: A Family Affair. *J Fam Nurs*. 2020;26(2):87-89. doi:10.1177/1074840720920883
39. Bodenmann G, Ledermann T, Bradbury TN. Stress, sex, and satisfaction in marriage. *Pers Relatsh*. 2007;14(4):551-569. doi:10.1111/j.1475-6811.2007.00171.x
40. Ertan D, El-Hage W, Thierrée S, Javelot H, Hingray C. COVID-19: urgency for distancing from domestic violence. *Eur J Psychotraumatol*. 2020;11(1):1800245. doi:10.1080/20008198.2020.1800245
41. Luetke M, Hensel D, Herbenick D, Rosenberg M. Romantic Relationship Conflict Due to the COVID-19 Pandemic and Changes in Intimate and Sexual Behaviors in a Nationally Representative Sample of American Adults. *J Sex Marital Ther*. 2020;46(8):747-762. doi:10.1080/0092623X.2020.1810185
42. Pietromonaco PR, Overall NC. Applying relationship science to evaluate how the COVID-19 pandemic may impact couples' relationships. *Am Psychol*. 2021;76(3):438-450. doi:10.1037/amp0000714
43. UN Women. *COVID-19 and Ending Violence Against Women and Girls*.; 2020. https://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2020/issue-brief-covid-19-and-ending-violence-against-women-and-girls-en.pdf?la=en&vs=5006.
44. Moghanibashi-Mansourieh A. Assessing the anxiety level of Iranian general population during COVID-19 outbreak. *Asian J Psychiatr*. 2020;51(January):102076. doi:10.1016/j.ajp.2020.102076
45. Stainback K, Hearne BN, Trieu MM. COVID-19 and the 24/7 News Cycle: Does COVID-19 News Exposure Affect Mental Health? *Socius*. 2020;6:1-15. doi:10.1177/2378023120969339.