

Original article:

Evaluation of Anxiety, Depression, and Stress in Parents During the COVID-19 Pandemic

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Abstract

Background: The COVID-19 pandemic and preventive measures, have caused uncontrollable lifestyle changes and impacted millions of children and parents. **Objective:** This study was conducted to determine the anxiety, stress and depression levels and the factors affecting them of the parents during the COVID-19 pandemic. **Materials and Methods:** This descriptive and cross-sectional study was conducted between July and October 2020. In the study, 237 people who can be reached from people who actively use internet-social media. Correlation, student's t, and ANOVA tests were used for analysis. **Results:** Participants with family members with chronic illness had significantly higher stress, anxiety, and depression scores than those without family members with chronic illness. Participants with COVID-19 symptoms had significantly higher stress, anxiety, and depression scores than those without COVID-19 symptoms. Participants who had been hospitalized due to COVID-19 had significantly higher stress, anxiety, and depression scores than those who had not. Participants with family members or friends who died from COVID-19 had higher DASS-21 scores than those with no family members or friends who died from COVID-19 ($p < 0.01$). There was a weak positive correlation between DASS-21 scores and age and income ($p < 0.05$). There was a strong positive correlation between DASS-21 scores and screen time ($p < 0.05$). **Conclusion:** It was determined that among the participants who were quarantined due to COVID-19 or had COVID-disease in their family and had someone died very near and dear, and those with chronic diseases had higher levels of anxiety, stress and depression.

Keywords: Anxiety, COVID-19, depression, parent, psychological stress.

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Introduction

Novel Coronavirus disease (COVID-19) broke out in Wuhan, China, at the end of 2019 and has taken hold of the whole world since then.¹⁻⁵ According to the World Health Organization (WHO), coronavirus has spread rapidly all over the world.⁶ The total confirmed case of COVID-19 has reached over 134 million, with more than three million deaths all over the world so far.⁷ According to WHO, there are 3.74 million cases in Turkey.⁷ Turkey announced its first confirmed case of COVID-19 on March 11, 2020.⁸ The total case of COVID-19 was 3.745.657 people, with a death toll of 33.454 between March 11, 2020, and

April 10, 2021.⁸ Both the COVID-19 pandemic and preventive measures have adversely affected millions of people worldwide.^{2,4,9} Almost all countries have taken measures to prevent the spread of the virus. One of those measures was closing down schools and switching to distance learning.¹⁰ According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), more than 188 countries have closed down all educational institutions since the onset of the pandemic.¹¹ Therefore, more than 1.5 billion children are out of school worldwide.¹² Brooks et al. (2020) reported that school closures led to demotivation, anxiety, and post-traumatic stress

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disorder (PTSD) in students.¹³ According to Jiao et al. (2020), children and adolescents aged 3 to 18 have become more stubborn, distracted, and irritable and have been afraid to ask questions about the pandemic since its onset.¹⁴

Another pandemic measure is nationwide lockdowns, which have had adverse impacts on both children and parents. Because of those lockdowns, children ended up being cooped up at home with too much time on their hands but too little space to do anything. Parents lost their jobs and faced financial problems or had to strike a balance between work and childcare with little to no social support.^{2,4,9,15-20} All these problems have caused uncontrollable changes in lifestyle.²¹ Therefore, parents have experienced high levels of anxiety and depression since the onset of the pandemic.²²

Hundreds of thousands of people have faced secondary financial problems as they had to take unpaid leave due to workplace closures.^{17,23} Parents who have lost their jobs have experienced anxiety and stress and felt incompetent as they had difficulty providing for their children, resulting in disruptions in family life.²³⁻²⁶

Working from home, distance learning, spending too much time indoors with little personal space, lack of social support, financial problems, unemployment, increased childcare burden, and uncontrollable changes in lifestyle are factors affecting the mental health of parents. However, there is only a small body of research on anxiety, depression, and stress levels in parents of children aged 0 to 12 years.^{27,28} Therefore, this paper investigated anxiety, depression, and stress in parents of children aged 0 to 12 years during the pandemic.

Materials and Methods

This descriptive, cross-sectional study was conducted to determine the anxiety, stress and depression levels and the factors affecting them of the parents during the covid-19 pandemic. The data were collected between July and October of 2020. The population of the study consisted of parents who have children aged 0 to 12 years living in Turkey. In the study, 237 people who can be reached from people who actively use internet-social media (E-mail, Whatsapp, Instagram, Facebook etc.) with snowball sampling method and who accepted to participate in the study constituted the sample.

Data were collected using an information form and

the Depression Anxiety and Stress Scale (DASS-21). The Depression Anxiety and Stress Scale (DASS-21) is a self-report instrument developed by Lovibond and Lovibond (1995) to measure the emotional states of depression, anxiety, and stress. It consists of 21 items scored on a four-point Likert-type scale. It has three subscales: depression (seven items), anxiety (seven items), and stress (seven items).²⁹ The subscales "depression," "anxiety," and "stress" have a Cronbach's alpha (α) of 0.87, 0.85, and 0.81, respectively, on a clinical sample, while they have a test-retest correlation coefficient (r) of 0.68, 0.66, and 0.61, respectively, on a healthy sample. Moreover, they have corrected item-total correlation coefficients of 0.43 to 0.77 on the clinical sample. In the second study, the clinical sample had a mean "depression," "anxiety," and "stress" subscale score of 10.83, 10.39, and 11.85, respectively, while the healthy sample had a mean "depression," "anxiety," and "stress" subscale score of 5.88, 5.37, and 7.90, respectively. These results suggested high discriminatory power ($U=5310.50$; 4748.50 ; 5562.50 , $p=0.00$). Therefore, DASS-21 is a valid and reliable measure for assessing depression, anxiety, and stress levels.^{30,31}

Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 23.0 at a significance level of 0.05. Means, median, frequency, and percentage were used for descriptive statistics. A t-test, Pearson's correlation, and Spearman correlation were used for analysis.

Results

Sociodemographic characteristics of participants: Participants (170 women and 67 men) had a mean age of 34.97 ± 6.46 years. Their children (134 girls and 103 boys) had a mean age of 5.19 ± 0.22 years. The mean number of children was 1.75 ± 0.06 , and the mean duration of marriage was 9.10 ± 0.39 years. The majority of participants (88.6%) had nuclear families. More than half the participants had a neutral income (income = expenses). Sixty-seven participants and 17 children had chronic diseases. Fifty-nine participants (24.9%) had had COVID-19 symptoms. Nineteen participants (8%) had been hospitalized due to COVID-19. Forty-one participants (17.3%) had been put in quarantine. Seventy-seven participants (32.5%) had family members or friends who had tested positive for COVID-19. Sixteen participants (6.8%) had family members or friends who died

Table 1: Sociodemographic characteristics of participants.

	n	%
Gender (Parent)		
Woman	170	71.7
Man	67	28.3
Gender (Child)		
Girl	134	56.5
Boy	103	43.5
Family Type		
Nuclear	210	88.6
Extended	27	11.4
Income		
Positive (income > expenses)	62	26.2
Neutral (income = expenses)	139	58.6
Negative (income < expenses)	36	15.2
Chronic Illness (Parent)		
Yes	67	28.3
No	170	71.7
Chronic Illness (Child)		
Yes	17	7.2
No	220	92.8
COVID-19 symptoms		
Yes	59	24.9
No	178	75.1
Hospitalization due to COVID-19		
Yes	19	8.0
No	218	92.0
Quarantine due to COVID-19		
Yes	41	17.3
No	196	82.7
Having a family member/friend who tested positive for COVID-19		
Yes	77	32.5
No	160	67.5
Having a family member/friend who died from COVID-19		
Yes	16	6.8
No	221	93.2
Thoughts on protective measures taken by the Turkish Ministry of Health to prevent the spread of coronavirus		
As strict as they should be	80	33.8
A bit softer than they should be	104	43.9
Too much softer than they should be	53	22.4
Total	237	100

from COVID-19. Almost half the participants (43.9%) found the preventive measures a bit softer than they should (Table 1).

Activities that parents and children do to spend their free time during the pandemic: Sixty-six participants (27.8%) had 1 to 2 hours of screen time per day. Seventy-seven participants (32.5%) spent less than one hour on social media. Participants spent their free time doing home activities with their children (23.9%), on social media (17.4%), doing crafts and arts (15.5%), doing outdoor activities (13.5%), playing recreational games with their children (12.3%), cooking (9.7%), or performing religious duties (7.6%) (Table 2).

More than half the participants (55.3%) stated that their children did not occupy themselves with anything particular. More than half the children spent as much time on social media (59.1%) or the Internet (50.2%) during the pandemic as they did before the pandemic. Less than half the participants (46.4%) reported that their children

had been watching more TV since the onset of the pandemic. Four out of ten participants (44.7%) had spent less time with their children since the onset of the pandemic. Participants spent their time watching TV (cartoons, documentaries, etc.) (51.9%), playing online games (23.5%), reading (17.2%), painting (12.2%), cooking (10.7%), sleeping (10.4%), or doing homework with their children (8.5%). Participants also remarked no change in the relationship between siblings during the pandemic (Table 2).

Stress, anxiety, depression levels and the affecting socio-demographic characteristics: Participants had a total DASS-21 score of 14.79 ± 15.5 . They had a mean DASS-21 “stress,” “anxiety,” and “depression” subscale score of 5.77 ± 5.55 , 3.89 ± 5.07 , and 5.12 ± 5.60 , respectively. Participants with family members with chronic illness had significantly higher stress ($t = 3.363$, $p < 0.001$), anxiety ($t = 4.669$, $p < 0.001$), and depression ($t = 4.759$, $p < 0.001$) scores than those without family members with chronic illness. Participants with COVID-19 symptoms had significantly higher stress ($t = 3.715$, $p < 0.001$), anxiety ($t = 4.124$, $p < 0.001$), and depression ($t = 4.383$, $p < 0.001$) scores than those without COVID-19 symptoms. Participants who had been hospitalized due to COVID-19 had significantly higher stress ($t = 3.59$, $p = 0.006$), anxiety ($t = 2.830$, $p = 0.011$), and depression ($t = 4.366$, $p < 0.001$) scores than those who had not.

Participants who had been put in quarantine and separated from their loved ones due to COVID-19 had significantly higher stress (3.443 , $p = 0.001$), anxiety ($t = 3.336$, $p = 0.002$), and depression ($t = 4.122$, $p < 0.001$) scores than those who had not. Participants with family members or friends who had been put in quarantine had significantly higher stress ($t = 4.671$, $p < 0.001$), anxiety ($t = 4.133$, $p < 0.001$), and depression ($t = 4.767$, $p < 0.001$) scores than those without family members or friends who had been put in quarantine. Participants with family members or friends who died from COVID-19 had significantly higher stress ($t =$

Table 2: Activities during the pandemic.

Variables	n	%	
PARENTS	Internet use per day (hour)		
	0-1	54	22.8
	1-2	66	27.8
	2-3	56	23.6
	≥3	61	25.7
	Time spent on social media platforms per day (Instagram, Facebook, WhatsApp, etc.) (hour)		
	0-1	77	32.5
	1-2	68	28.7
	2-3	50	21.1
	≥3	42	17.7
	Leisure-time activities during the pandemic		
	Indoor activities with children	226	23.9
	Spending time on social media	165	17.4
	Crafts and arts	147	15.5
	Outdoor activities	128	13.5
	Recreational games with children	116	12.3
	Cooking	92	9.7
	Performing religious rituals	72	7.6
	Area of interest (child)		
	Yes	106	44.7
	No	131	55.3
	Any change in Internet use per day		
Increased	102	43.0	
None	119	50.2	
Decreased	16	6.8	
Any change in time spent on social media platforms per day (Instagram, Facebook, WhatsApp, etc.)			
Increased	83	35.0	
None	140	59.1	
Decreased	14	5.9	
Any change in time spent watching TV			
Increased	110	46.4	
None	109	46.0	
Decreased	18	7.6	
Any change in parental relationships			
Yes	75	31.6	
Partially	56	23.6	
No	106	44.7	
Leisure-time activities during the pandemic*			
Watching TV/cartoons, documentaries, etc.	122	51.9	
Playing online games	193	23.5	
Reading books	141	17.2	
Painting	100	12.2	
Cooking	88	10.7	
Sleeping	85	10.4	
Doing homework	70	8.5	
Playing attention, memory, and intelligence games	22	2.7	
Any change in sibling relationships			
Yes	40	27.6	
Partially	33	22.8	
No	72	49.7	

Note: * Multiple answers

5.068, $p < 0.001$), anxiety ($t = 5.290$, $p < 0.001$), and depression ($t = 6.687$, $p < 0.001$) scores than those with no family members or friends who died from COVID-19.

Participants who had been put in quarantine and

separated from their loved ones due to COVID-19 had significantly higher stress (3.443, $p = 0.001$), anxiety ($t = 3.336$, $p = 0.002$), and depression ($t = 4.122$, $p < 0.001$) scores than those who had not.

Participants with family members or friends who

had been put in quarantine had significantly higher stress ($t= 4.671$, $p<0.001$), anxiety ($t= 4.133$, $p<0.001$), and depression ($t=4.767$, $p<0.001$) scores than those without family members or friends who had been put in quarantine. Participants with family members or friends who died from COVID-19 had

significantly higher stress ($t= 5.068$, $p<0.001$), anxiety ($t= 5.290$, $p<0.001$), and depression ($t= 6.687$, $p<0.001$) scores than those with no family members or friends who died from COVID-19.

There was a positive correlation between age and DASS-21 scores, suggesting that older

Table3: Correlation between DASS-21 scores and demographic characteristics.

	Stress		Anxiety		Depression	
	r*	p	r	p	r	p
Age	0.240	<0.001	0.272	<0.001	0.204	0.002
Income	0.192	0.003	0.248	<0.001	0.232	<0.001
Social media use (parents)	0.189	0.003	0.165	0.011	0.209	0.001
Internet use (parents)	0.168	0.010	0.105	0.108	0.184	0.004
Social media use (children)	-0.435	<0.001	-0.400	<0.001	-0.414	<0.001
Internet use (children)	-0.379	<0.001	-0.369	<0.001	-0.372	<0.001
TV screen time (children)	-0.349	<0.001	-0.370	<0.001	-0.335	<0.001

Note: * Pearson's correlation coefficient

participants had higher stress ($r=0.240$; $p<0.001$), anxiety ($r=0.272$; $p<0.001$), and depression levels ($r=0.204$; $p=0.002$). There was a positive correlation between income and DASS-21 scores, indicating that the higher the income, the higher the rates of stress ($r=0.192$; $p=0.003$), anxiety ($r=0.248$; $p<0.001$), and depression ($r=0.232$; $p<0.001$). Screen time (social media and Internet) was positively correlated with DASS-21 scores, suggesting that participants who experienced higher rates of stress, anxiety, and depression were likely to have more screen time. Children's screen time (TV, social media, and Internet) was negatively correlated with parents' stress, anxiety, and depression levels, indicating that children of parents with higher levels of stress, anxiety, and depression were likely to have longer screen time (Table 3).

Discussion

The pandemic requires extraordinary measures and coping strategies due to its high prevalence worldwide, unpredictable infectious nature, and high morbidity and mortality rates.³²⁻³⁴

Parents experience mood swings due to the pandemic.^{19,35} Altema et al. (2020) also reported that mothers presented with more adverse emotional symptoms because lockdowns drastically changed the way they managed daily routines.³⁶ Lawson et al. (2020) found that parents who lost their jobs

were more depressed than those who kept them.¹⁷ Başaran and Aksoy (2020) determined that parents had had adverse experiences since the onset of the pandemic, making mothers more stressed than they already were.²⁷ During the pandemic, mothers are more stressed because they need to give their children more attention without enough support from their husbands.^{12,37,38} Demirbaş and Koçak (2020) found that most parents with children aged 2-6 experienced anxiety, worry, and fear during the pandemic.²⁸ We found that stress, anxiety, and depression levels were positively correlated with age and income. Participants with family members with chronic illness had significantly higher levels of stress, anxiety, and depression than those without family members with chronic illness. Participants with COVID-19 symptoms had significantly higher stress, anxiety, and depression levels than those without COVID-19 symptoms. Participants who had been hospitalized due to COVID-19 had significantly higher levels of stress, anxiety, and depression than those who had not. Participants who had been put in quarantine and separated from their loved ones due to COVID-19 had significantly higher stress, anxiety, and depression levels than those who had not. Participants with family members or friends who had been put in quarantine had significantly higher levels of stress, anxiety, and depression than those without family members or friends who had been put in quarantine.

Participants with family members or friends who died from COVID-19 had significantly higher levels of stress, anxiety, and depression than those without family members or friends who died from COVID-19. All these results indicate that the pandemic had adversely affected parents mentally. Our results showed that participants with higher stress, anxiety, and depression levels had longer screen time. Children of participants with higher levels of stress, anxiety, and depression were also likely to have longer screen time. Therefore, we can state that children are affected by their parents' increased levels of stress, anxiety, and depression, and therefore, tend to have longer screen time as a way of coping with stress. Further research should address stress, anxiety, and depression in both parents and their children.

Study limitations

Determining the anxiety, depression and stress levels of parents who have children 0-12 years old during COVID-19 and providing new data to the literature is a strong side of the study. Nevertheless, conducting the study with parents, who have children between the ages of 0-12, can use social media and social media can be reached through, can be considered as an important limitation of the study. Because the presence of the covid-19 pandemic has affected our reach to people. Since we could not reach parents who do not use social media, our sample was limited to those who use social media.

Conclusion

The COVID-19 pandemic has affected parents in different ways. Participants with family members with chronic illness had significantly higher stress, anxiety, and depression scores than those without family members with chronic illness. Participants with COVID-19 symptoms had significantly higher stress, anxiety, and depression scores than those without COVID-19 symptoms. Participants who had been hospitalized due to COVID-19 had significantly higher stress, anxiety, and depression scores than those who had not. The results indicate that parents experiencing more stress, anxiety, and depression tend to spend more time online. Their children are also likely to have more screen time. This study focused on stress, anxiety, and depression only in parents. Future studies should look into those three mental health conditions both in parents and their children.

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Authors' contribution: MDD and BA designed the study, collected data and analyzed the data. MDD and BA prepared the manuscript. All authors approved the final version for submission.

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