

Perception of Increased Anxiety Regarding Their Parents by Children Admitted to the Pediatrics Outpatient Clinic of a Training and Research Hospital during the COVID-19 Pandemic

COVID-19 Pandemisi Sürecinde Bir Eğitim Araştırma Hastanesi Çocuk Sağlığı ve Hastalıkları Polikliniği'ne Başvuran Çocukların Ebeveynleri ile İlgili Artmış Kaygı Algısı

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Abstract

Objectives: Since its declaration as a pandemic, coronavirus disease-2019 (COVID-19) has adversely affected public mental health. During the pandemic, children and adolescents have experienced increased anxiety and depressive symptoms. In this study, we investigated children's perceptions of anxiety about their parents during the pandemic.

Materials and Methods: The study sample consisted of 206 children. To measure their anxiety about their parents, questions were asked about their parents' possibility of getting COVID-19 infection. Moreover, children's knowledge about COVID-19 symptoms and precautions against COVID-19 were evaluated.

Results: It was found that children who have more anxiety about getting COVID-19 themselves or their parents catching the illness have more information about COVID-19 symptoms and take more precautions. In addition, there was a significant positive correlation between the total number of precautions and the total number of known symptoms of COVID-19 among children.

Conclusion: This study suggests that evaluating children's anxiety and perception about their parents during the current COVID-19 pandemic period and supporting necessary mental health care is important for children's mental health.

Keywords: Children, COVID-19, parental, environmental, fear

Öz

Amaç: Koronavirüs hastalığı-2019 (COVID-19), pandemisinin ilan edilmesinden bu yana toplum ruh sağlığı olumsuz yönde etkilenmiştir. Pandemi sırasında çocuklar ve ergenler artan kaygı ve depresif belirtiler yaşamışlardır. Bu çalışmada, pandemi sırasında çocukların ebeveynleri hakkındaki kaygı algıları araştırılmıştır.

Gereç ve Yöntem: Araştırma örneklemini 206 çocuk oluşturmuştur. Ebeveynleri hakkındaki kaygılarını ölçmek için çocuklara ebeveynlerinin COVID-19 enfeksiyonu kapma olasılıkları hakkında sorular soruldu. Ayrıca çocukların COVID-19 semptomları ve COVID-19'a karşı alınacak önlemler hakkındaki bilgileri değerlendirildi.

Bulgular: Kendilerinin veya ebeveynlerinin hastalığa yakalanmasından daha fazla endişe duyan çocukların COVID-19 semptomları hakkında daha fazla bilgi sahibi oldukları ve daha fazla önlem aldıkları bulundu. Ayrıca, çocuklar arasında alınan toplam önlem sayısı ile bilinen toplam COVID-19 semptomu sayısı arasında anlamlı bir pozitif korelasyon vardı.

Sonuç: Bu çalışma, mevcut COVID-19 pandemisi döneminde çocukların ebeveynleri hakkındaki kaygı ve algılarının değerlendirilmesinin ve gerekli ruh sağlığı bakımının desteklenmesinin çocukların ruh sağlığı için önemli olduğunu düşündürmektedir.

Anahtar Kelimeler: Çocuk, COVID-19, ebeveyn, çevresel, korku

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Introduction

The World Health Organization proclaimed the coronavirus disease-2019 (COVID-19) pandemic an international public health emergency on January 30, 2020. It represents a major public health issue around the globe where COVID-19 cases and deaths have been confirmed (1). In Türkiye, the first case was officially confirmed on March 11th, 2020. Schools and universities were announced as closed on March 16th, 2020. The first death because of COVID-19 occurred on March 17th, 2020 (2). The Ministry of Health in our country has implemented several safeguards and recommendations to promote self-care and protect others. Mass fear of the COVID-19 outbreak has led, globally, to many psychological manifestations and consequences termed as "corona phobia" among individuals across different strata and age groups (3).

Studies have found that children may experience adverse mental consequences during the COVID-19 outbreak due to concerns such as contagion, monotony, disappointment, lack of face-to-face contact with friends, insufficient personal space at home, and family financial challenges during lockdowns. These factors can lead to children suffering from physical and mental violence by parents, potentially exacerbating prolonged mental disorders (4-6). Furthermore, a recent study discovered that the COVID-19 pandemic's effects on teenagers' life are having a detrimental effect on their mental health (7) and the closure of schools and home-quarantine during pandemic causes anxiety and loneliness among young people (8).

Children may endure fear, uncertainty, physical and social isolation due to the COVID-19 epidemic, which could result in prolonged periods of absence from school (9). Changes in daily living routine during the pandemic (quarantine, isolation from friends, loss of a parent, or separation from parents) cause a state of crisis and increase the risk of psychological stress among children (10). Media and social conversations have become primary sources of knowledge concerning the COVID-19 epidemic. Children are being exposed to significant volumes of information, leading to heightened tension and anxiety (11) both from adults around them and tools such as media and social communication networks. This panic and atmosphere of fear could influence the children's world. Supportive and reassuring parenting are advised to manage children's anxiety (12).

There are several studies in literature investigating parental anxiety about COVID-19. In a preprint article, higher anxiety about getting a COVID-19 diagnosis was reported, and this anxiety was linked to medical or psychological problems in the pre-pandemic period (13). In a national survey, the psychological consequences of COVID-19 were documented. It was mentioned that 27% of parents reported worsening mental health for

themselves, and 14% of parents reported worsening behavioral health for their children (14).

Although there are several studies about parental anxiety during the COVID19 pandemic, little is known about changes in the psychological state of children concerning parents' getting COVID-19 infection. It is crucial to identify the several ways in which the COVID-19 pandemic will affect children's mental health. This study aims to evaluate how children's mental health is affected by worries about their parents contracting COVID-19 during the pandemic. It will utilize a self-administered survey form to offer prompt assistance to impacted children. Another aim of the study was to investigate the knowledge about the symptoms of COVID19 and precautions in a community sample of outpatient clinic patients. It is considered important to conduct the study in an outpatient clinic sample reflecting the community sample. In addition, the study is thought to be important in terms of measuring children's concerns about their parents.

Materials and Methods

The study was carried out at University of Health Sciences Türkiye, Ankara Dr. Sami Ulus Maternity and Children's Health and Diseases Training and Research Hospital. The study obtained approval from the Ethical Committee of the University of Health Sciences Türkiye, Ankara Dr. Sami Ulus Maternity and Children's Health and Diseases Training and Research Hospital (approval no.: 2020-KAEK-141/127, date: 04.03.2021). Two hundred six children admitted to our hospital were included. Informed consent was obtained from all participant and their legal guardians. A power analysis was not applied for sample size calculation. The study was conducted during the pandemic. Participants who met the inclusion criteria within the period determined for the study were included in the study and the sample size was reached. Children with a history of psychiatric disorders were excluded from the study based on the exclusion criteria. Face to face and one-on-one interviews were performed, lasting for approximately 30 minutes. The authors developed a questionnaire for the youngsters to complete, which included open-ended, yes/no, and multiple-choice questions. A sociodemographic questionnaire was completed to gather information regarding their sociodemographic characteristics, such as age, gender, age of both parents, and parental educational attainment.

Several questions were asked about children's precautions and attitudes concerning the COVID19 pandemic and anxiety about their parents. These were "Do you have any information about COVID-19?" If yes, where did you obtain this information? We presented six possible answer choices for this question: "from my family, friends, teacher, TV programs, social media, internet."

To figure out children's anxiety around COVID-19, we inquired about their concerns regarding being diagnosed with COVID-19 and their concerns about their parents being diagnosed with COVID-19. We provided two options for these questions: Indicate if the answer is positive or negative. While evaluating the answers, it was interpreted that those who answered yes to the question felt anxiety and those who answered no did not feel anxiety. These two questions were used to measure the anxiety level of children about themselves and their parents, which was the main purpose of the study. To detect knowledge about COVID-19 clinics we included a multiple-choice question related to symptoms. "What is (are) the symptom(s) of COVID-19?" We provided eight potential answer options for the question, including symptoms such as fever, breathing difficulties, cough, nasal congestion, diarrhea, vomiting, loss of smell, and weakness/tiredness. Additionally, we included the question "What are the possible effects of COVID-19 on our body? to detect awareness of COVID-19. We presented five possible answers for this question: "There is no negative effect of COVID-19 on our body, brain damage, respiratory dysfunction, death, others. To detect children's precaution(s) about COVID-19 we asked: "What precaution(s) do you take to protect yourselves from the COVID-19 pandemic?" We presented six possible answer choices for this question: "I do not take additional precautions, I wash my hands more often, I stay at home, I use a mask outside, I use gloves outside, I carry disinfectant solutions outside, and other precaution options" presented as an open-ended question.

Statistical Analysis

Statistical data analysis was conducted using SPSS software. Demographic variables were analyzed using descriptive statistics. The data's normality was evaluated based on the Skewness and Kurtosis values. The study groups were categorized based on whether they felt anxious about receiving a COVID-19 diagnosis themselves or their parents receiving one. An independent samples t-test was utilized to examine differences among the groups. Pearson correlation analysis was utilized to examine correlations. The chi-square test was utilized to examine differences among categorical variables. A two-tailed p value of 0.05 was deemed statistically significant.

Results

The study sample consisted of 206 children. Of these, 113 were girls and 93 were boys. The mean age of the girls was 149.36 ± 37.65 months and that of the boys was 153.66 ± 38.32 . There was no significant difference between the groups in terms of age ($p=0.420$). Socio-economic levels were not different when comparing girls and boys ($p=0.392$). There were no significant differences between the parental and maternal

educational levels of children. Demographic characteristics are given in Table 1.

The most known COVID-19 symptoms were fever (93.7%, 193/206), cough (83.5%, 172/206) and difficulty in breathing (74.3%, 153/206) respectively. Nasal congestion was the least known with a frequency of 27.7% (Table 2). There was no difference between boys and girls concerning their awareness of symptoms. There was no difference between parental education level and knowledge of COVID-19 symptoms.

In our study, all participants reported taking one or more additional precautions against COVID-19. The most preferred precaution was "using a mask outside", the second involved "washing and more often". Of all children, 0.5% were found to take six precautions, 20.4% five, 34.5% four, 25.7% three, 14.1% two and 4.9% one precaution concerning COVID-19. We have computed the total number of precautions by the sum of each precaution. The mean total number of precautions was 3.72 ± 1.07 among girls and 3.29 ± 1.14 in boys. There was a significant difference between boys and girls in terms of the total count of precautions ($t=2.811$, $p=0.005$).

When responses were evaluated to the question "Do you worry about being diagnosed with COVID-19?" 77 of the girls answered "yes" and 36 of them answered "no". Fifty nine of the boys answered "yes" and 34 of them answered "no". There was no significant difference between boys and girls in terms of their answer ($\chi^2=0.502$, $p=0.478$). In the question "Are you concerned about your parents being diagnosed with COVID-19?"; 90 girls answered "yes" and 23 answered "no". 79 boys answered "yes" and 14 answered "no". There was no significant difference between boys and girls in terms of their answer ($\chi^2=0.973$, $p=0.324$).

The group was split into two different groups based on their responses on children's apprehensions about getting diagnosed with COVID-19 themselves or their parents being diagnosed. The total number of precautions and total number of known symptoms of COVID-19 were compared between the groups. In both questions, children have more anxiety about getting COVID-19 for themselves and parents have more information about COVID-19 symptoms and take more precautions. These results are given in Table 3.

In correlation analysis, there was a significant correlation between the total number of precautions and total number of known symptoms of COVID-19 ($r=0.327$, $p<0.001$). In this analysis, family income and maternal and paternal education levels were included but there was no correlation between these variables and the total number of precautions and total number of known symptoms of COVID-19.

Table 1: Demographic characteristics				
	Female	Male	Statistics	
Number of participants	113 (54.9%)	93 (45.1%)		
	Mean±SD	Mean±SD	t	p value
Age (month)	149.36±37.65	153.66±38.32	-0.806	0.420
Maternal age (year)	39.18±5.59	38.67±6.24	0.618	0.537
Paternal age (year)	43.25±5.72	42.37±6.04	1.073	0.285
Family income				
	n (%)	n (%)	X ²	p value
Below minimum wage	15 (13.3)	7 (7.5)	2.996	0.392
Minimum wage	40 (35.4)	40 (43)		
Two-fold of minimum wage	42 (37.2)	30 (32.3)		
Above two-fold of minimum wage	16 (14.2)	16 (17.2)		
Maternal educational level				
Illiterate	8 (7.1)	3 (3.2)	5.111	0.276
Primary school graduate	52 (46)	53 (57)		
High school graduate	38 (33.6)	25 (26.9)		
University graduate	13 (11.5)	12 (12.9)		
Postgraduate	2 (1.8)	0 (0)		
Paternal educational level				
Illiterate	1 (0.9)	0 (0)	5.340	0.254
Primary school graduate	44 (38.9)	46 (49.5)		
High school graduate	41 (36.3)	32 (34.4)		
University graduate	24 (21.2)	15 (16.1)		
Postgraduate	3 (2.7)	0 (0)		

SD: Standard deviation

Table 2a: Knowledge of children about COVID-19 symptoms		
	Yes	No
	n (%)	n (%)
Fever	193 (93.7)	13 (6.3)
Cough	172 (83.5)	34 (16.5)
Difficulty in breathing	153 (74.3)	53 (25.7)
Weakness/tiredness	136 (66)	70 (34)
Difficulty in smelling	108 (52.4)	98 (47.6)
Sore throat	107 (51.9)	99 (48.1)
Diarrhea	92 (44.7)	114 (55.3)
Vomiting	65 (31.6)	141 (68.4)
Nasal congestion	57 (27.7)	149 (72.3)
Table 2b: Distribution of precautions among children		
	Yes	No
	n (%)	n (%)
I am using mask	197 (95.6)	9 (4.4)
I wash my hand more often	188 (91.3)	18 (8.7)
I am staying home	164 (79.6)	42 (20.4)
I am carrying disinfectant	126 (61.2)	80 (38.8)
I am using gloves	41 (19.9)	165 (80.1)

COVID-19: Coronavirus disease-2019

Discussion

This study aimed to investigate the impact of COVID-19 on children's mental health and analyze the concerns of children's parents getting infected during the COVID-19 pandemic using a self-administered survey questionnaire. We have found that children who have more anxiety about getting COVID-19 themselves and their parents catching the illness have more information about COVID-19 symptoms and take more precautions. In addition, there was a significant positive correlation between the total number of precautions and total number of known symptoms of COVID-19 among children. To the best of our knowledge, this is the first study investigating the children's perception and anxiety about their parents in the COVID-19 pandemic period.

The COVID-19 pandemic can lead to various psychosocial effects such as anxiety, trauma, post-traumatic stress disorder, and increased precautionary measures due to restrictions on daily activities, necessities, routines, and social isolation. Several studies have suggested increased anxiety in adults related to the pandemic, lockdown, and social isolation (15). People were also moderately worried about friends, family members or

Table 3: Comparison of total number of precautions and knowledge about COVID-19				
Are you concerned about being diagnosed with COVID-19?				
	Yes	No	Statistics	
	Mean±SD	Mean±SD	t	p value
Total number of precautions	3.70±1.01	3.18±1.24	-3.125	0.002
Total number of known symptoms	5.63±2.28	4.65±2.25	-2.951	0.004
Are you concerned about your parents being diagnosed with COVID-19?				
	Yes	No	Statistics	
	Mean±SD	Mean±SD	t	p value
Total number of precautions	3.60±1.03	3.16±1.42	-2.212	0.028
Total number of known symptoms	5.51±2.25	4.35±2.38	-2.716	0.009
COVID-19: Coronavirus disease-2019, SD: Standard deviation				

themselves catching COVID-19 (16). In addition to adults, the COVID-19 pandemic and related precautions and quarantine have potential adverse effects on children and adolescent's daily habits and mental health (4). In addition to the anxiety of children and parents related to COVID-19, their anxiety related to each other also causes a significant loss of functionality. In a recent study about this issue, the same-way association was mentioned between parents' and children's fear about COVID-19. In addition, changes in family sleeping habits were associated with parental and child fears and concerns about COVID-19 (17). Like this study, we have found that children who have more anxiety about getting COVID-19 themselves and their parents getting it have more information about COVID-19 symptoms and take more precautions. In addition, there was a significant positive correlation between the total number of precautions and total number of known symptoms of COVID-19 among children. We think that higher precautions and increased knowledge about symptoms could be evaluated as an indirect indicator of a child's anxiety.

Another study compared the anxiety and depression levels of children whose parents are health workers involved in COVID-19 with those of children whose parents are not health workers, using a similar approach. There was no significant difference in depression ratings between children of health workers and non-health workers. However, anxiety scores were greater in children of health workers compared to children of non-health workers. It was mentioned in this study that since their parents were working in intensive and high-risk environments during the COVID-19 pandemic, the children of health workers may be at greater psychological risk than other children (18). The fact that the children of healthcare workers who are at high risk for COVID-19 have a higher anxiety level may indicate that the anxiety of the children is related to their parents' conditions. In another study conducted with children of health care workers, increased anxiety symptoms were found in the children of healthcare workers compared to the controls (19). Both studies

conducted with children of healthcare workers show that if parents are at high risk for COVID-19, children's anxiety levels also increase. In our study, we have found that children with increased concern about their parents similarly have increased anxiety about COVID-19.

Study Limitations

Our study is subject to specific limitations. The data was first gathered at a single center. This constraint hinders the generalization of our results to the entire population. This is a cross-sectional study; hence our data may not have the capacity to imply causality or risk. Additional prospective research is required to elucidate the association between the COVID-19 pandemic and children's concern toward their parents. We did not perform a formal diagnostic assessment with children and did not utilize tools to quantify anxiety. This could be seen as a methodological limitation that might impact the outcomes. Our study's strength lies in assessing children's apprehensions toward their parents, making it the pioneering research on this topic.

Conclusion

In conclusion, our study suggests that children who have increased anxiety about their parents getting COVID-19 infection have increased knowledge about COVID-19 symptoms and take more precautions. Our study started with the idea that we observed the signs of increased anxiety in a child whose father was at high risk for COVID-19. It could be mentioned that evaluating children's anxiety and perception about their parents during COVID-19 pandemic period and supporting necessary mental health care is important for children's mental health. The results of this study show that, during the COVID-19 pandemic children could have increased anxiety perceptions about their parents because of their possibility of getting COVID-19 infections and experiencing related complication including death. Increased anxiety about parents could enforce

children taking more precautions about COVID-19 and knowing more symptoms about COVID-19. Protective and supportive precautions and care for children could be crucial for improving their mental health and daily functionality.

Ethics

Ethics Committee Approval: The study obtained approval from the Ethical Committee of the University of Health Sciences Türkiye, Ankara Dr. Sami Ulus Maternity and Children's Health and Diseases Training and Research Hospital (approval no.: 2020-KAEK-141/127, date: 04.03.2021).

Informed Consent: Informed consent was obtained from all participant and their legal guardians.

Authorship Contributions

Surgical and Medical Practices: E.P., H.T., M.M.Y., S.Ş., Concept: S.B.A., E.P., S.Ş., Design: S.B.A., S.Ş., Data Collection and/or Processing: E.P., H.T., M.M.Y., Analysis and/or Interpretation: S.B.A., E.P., Literature Search: S.B.A., H.T., M.M.Y., Writing: S.B.A., S.Ş.

Conflict of Interest: There is no potential conflict of interest to declare.

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