


COVID-19–Related Stigma and Mental Health of Children and Adolescents During Pandemic

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Abstract

This cross-sectional study aimed to evaluate depression and anxiety symptoms of the children/grandchildren of COVID-19 patients, children/grandchildren of healthcare workers who have not infected COVID-19, and children/grandchildren of the control group. Parent and children's perception about COVID-19–related stigma is also investigated and compared between groups. The perception about COVID-19–related stigma between different age and gender groups among children also investigated and compared. The mental health of the 71 participants aged 6–18 years was evaluated *via* a telemedicine-based semi-structured interview between March and April 2020. Children's Depression Inventory (CDI), the Screen for Child Anxiety-Related Emotional Disorders (SCARED), and COVID-19–Related Stigma Form were administered to the participants. A significant negative correlation was found between age and separation anxiety disorder ($p = .005$) and a significant positive correlation was found between age and generalized anxiety disorder ($p = .035$) in the SCARED-Child report. Generalized anxiety disorder was found to be higher in females compared to males. A significant difference was found between the groups of parents in the COVID-19–Related Stigma Form. Patients infected with COVID-19, healthcare workers, and the control group have different perceptions about COVID-19–related stigma. The age of the children have an impact on stigma perceptions. Anxiety symptoms of children affected by age and gender. Future studies are recommended to determine the other factors associated with perceptions about COVID-19–related stigma among children and parents.

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Keywords

Stigma, child psychiatry, COVID-19, anxiety, depression

Introduction

With the onset of the COVID-19 pandemic in March 2020, measures have been taken rapidly in many countries to prevent the spread of the virus. Children and adolescents have had to spend more time in their homes due to social distance and isolation precautions all over the world. Schools have been closed, education was delivered through online systems, out-of-home leisure time activities and physical activities were reduced, and peer relationships were affected (Fegert et al., 2020). Due to the outbreak of COVID-19, in Turkey remote learning systems for students were introduced, restrictions and prohibitions related to isolation precautions were imposed by the government, arrangements were made for working from home in state agencies and institutions. Psychological impacts of the COVID-19 pandemic on children and adolescents can be associated with home confinement, prolonged duration, risk of infection, inadequate knowledge, lack of contact with the social environment, lack of personal space at home and financial problems of the family (Wang et al., 2020). With the COVID-19 pandemic, preliminary evidence reports that children and young people trying to adapt to their new lifestyle are less likely to engage in physical activity and their sleep quality is disrupted (Bates et al., 2020).

Adolescence is a crucial period with continued brain maturation, especially the limbic and cortical regions. In this period, significant changes can occur in the mental health of individuals exposed to stress in the short and long term, and stress-related anxiety and depression symptoms may appear (Eiland & Romeo, 2013). In a study conducted among the 12–18 age group in the early period of the COVID-19 pandemic, it was observed that 43.7% of the youth had depressive symptoms, 37.4% had anxiety symptoms, and 31.3% had both depression and anxiety symptoms (Zhou et al., 2020). In this period, separation anxiety, fears of physical injury, social phobia, panic disorder, and generalized anxiety were found to be higher than before the COVID-19 outbreak, especially the fears of physical injury in children and social phobia in adolescents (Duan et al., 2020). Separation from caregivers during childhood causes mental and behavioral problems (Norredam et al., 2018). It has been shown that children in quarantine are more likely to develop acute stress disorder, adjustment disorder, grief, and 30% of these children develop posttraumatic stress disorder (Liu et al., 2020). The risk of psychotic disorders, mood disorders, and suicide increases in situations such as separation from caregivers and loss of parents in the childhood period (Morgan et al., 2007; Santavirta et al., 2015; Wilcox et al., 2010).

The stigma, which has come to the fore again with the COVID-19 pandemic, is a social label that prohibits subjects from the acceptance of society. It is an attribute that links a person to an undesirable stereotype, reduce from a whole and usual person to a tainted, discounted one (Baldassarre et al., 2020). Although implementing quarantine measures are considered to be protective in infectious diseases, it may result in stigmatization which is influenced by characteristics such as knowledge, education level, and socioeconomic status (Li et al., 2018; Samuel et al., 2018). Stigma also leads to high levels of individual stress and health disparities. It can also induce post-traumatic stress reactions and depressive symptoms (Rabelo et al., 2016). Labeling people with titles such as dangerous or irresponsible can lead to interpersonal discrimination and violence (Tomczyk et al., 2020).

Quarantined individuals are more likely to report stigmatization and social rejection due to avoidance, withdrawal from social activities, and critical comments that can be made by the individuals around them. Patients and healthcare workers exposed to stigma in quarantine reported

that they were approached with suspicion and fear by other people, their social relations were affected, and some of the healthcare professionals faced problems ranging from intra-household tension to unable to resume their jobs (Brooks et al., 2020). In a study evaluating healthcare workers in the period of COVID-19, it was found that a significant number of these individuals had symptoms of depression, anxiety, insomnia, and distress. Particularly, healthcare workers on the front line were at the greatest risk in terms of these symptoms (Lai et al., 2020). During this outbreak period, it has been shown that healthcare workers who had difficulty in caring for their children due to the pandemic have higher levels of hopelessness and anxiety (Hacimusalar et al., 2020). Stigmatization studies with children are few in the literature (Kaushik et al., 2016), and no stigmatization studies with children were found during the COVID-19 outbreak. Due to its high contagiousness rate, COVID-19 probably leads to stigmatization and negative experiences in patients and their relatives.

Aims of This Article

In this study, it was aimed to evaluate the mental health of children and adolescents during the COVID-19 pandemic. We also aimed to investigate perception about COVID-19-related stigma among children, patients with COVID-19, and healthcare workers by comparing them with controls. In addition, the perception about COVID-19-related stigma between different age and gender groups among children was aimed to be investigated and compared.

Method

Our study was designed to include three separate groups. The first group consisted of 24 children/grandchildren of 286 patients infected with COVID-19 who were treated in outpatient or inpatient clinics of Ege University Faculty of Medicine Department of Chest Diseases and Infectious Diseases between March and June 2020. The list of 286 patients was obtained from the clinics participating in the study, and children/grandchildren of 286 patients with COVID-19 were selected. Because 63 of 286 patients did not have children or grandchildren in the 6–18 age group, these patients were excluded from the study. Fourteen patients who died due to the COVID-19 and 80 patients who could not be reached *via* their contact information also excluded from the study. In addition, 25 patients did not complete the study protocol and 30 patients did not agree to participate in the study; these patients also excluded. As a consequence, 74 patients with COVID-19 were included in the study. Since more than one infected individual from the same family in extended families was involved in the study and the children/grandchildren of these individuals were the same, 24 grandchildren/children of 74 patients were included in the study.

The second group consisted of 27 children/grandchildren of healthcare workers who were not infected with COVID-19, and the third (control) group consisted of 20 children/grandchildren of individuals who were neither infected with COVID-19 nor were healthcare workers. Due to increased exposure of healthcare workers, patients infected with COVID-19 and their children/grandchildren to COVID-19; control group was designed to include individuals who were neither infected with COVID-19 nor were healthcare workers and their children/grandchildren. The second and third groups were also included in the study between March and June 2020 and all data were collected simultaneously. The children/grandchildren of three groups, between the ages of 6–18 years, with normal mental capacity and agreed to participate in the study were included. Healthcare workers and control group parents were reached by the investigators through the online

system. All groups of parents consisted of participants agreed to participate in the study, had normal mental capacity, and were able to give appropriate and reliable answers to the questions.

Participants gave their informed consent online by confirming that they agree to participate in the study. Informed consent was obtained from both parents and their children/grandchildren, and consent of parents and children/grandchildren was shared with each other. The mental health examinations of the participants were performed *via* telemedicine, based on DSM-5 diagnostic criteria and K-SADS-PL-T which is a semi-structured interview. Sociodemographic data including age, gender, educational status, family type, COVID-19 information source and isolation precautions were obtained from the parents and recorded. The electronic questionnaire including informed consent and scales was created in Google Forms. It was sent to the participants through short messaging services (SMS).

Measures

Children's Depression Inventory (CDI): CDI was developed by Kovacs (1981) in 1981, and it is a self-report questionnaire that can be applied to children and adolescents between the ages of 6 and 17 years. The cut-off point is 19 (19 and above indicates depression). CDI was adapted to Turkish by Öy (1991).

The Screen for Child Anxiety Related Emotional Disorders (SCARED): SCARED was originally developed by Birmaher et al. (1999) and has been used to screen anxiety disorders in children and adolescents. The validity and reliability study in the Turkish version of the SCARED was done by Karaceylan Çakmakçı et al. (2004). SCARED consists of 41 items that are rated on a 3-point scale: Almost never (0), sometimes (1), and often (2) and scores of 25 and above indicate a warning for anxiety disorders.

The Kiddie Schedule for Affective Disorders and Schizophrenia Present and Lifetime Version-Turkish Version (K-SADS-PL-T): K-SADS-PL-T is a semi-structured diagnostic interview designed by Kaufman et al. (1997) to determine the current and past episodes of psychopathology in children and adolescents according to DSM-IV diagnostic criteria. The validity and reliability study for the Turkish sample was done by Gökler et al. (2004); the presence and severity of the symptoms are decided by combining the opinions of the child/adolescent, parents, and clinician.

COVID-19–Related Stigma Form: COVID-19–Related Stigma Form was developed by the authors for this study. The aim of this form is to assess COVID-19–related stigma perceptions of children and parents. It consists of ten items prepared separately for parents and children and each item is answered as “Agree” or “Disagree.” In the development process of this form, the questionnaire to assess the stigma associated with autism and ADHD developed by Karabekiroğlu et al. (2009) and Internalized Stigma of Mental Illness Scale adapted and revised by Dikeç et al. (2020) were used.

Statistical Analysis

Descriptive statistics are given as mean, *SD*, median, minimum, maximum, frequency, and percentage values. The normality of the quantitative data was checked with the Shapiro–Wilk test. For variables that do not have a normal distribution, the Kruskal–Wallis test and Mann–Whitney *U* test were used. The correlation of quantitative data with each other was evaluated with Spearman's Rho correlation coefficient. Associations between categorical variables were examined using the Pearson chi-square test. The difference between the means in the three groups was evaluated by independent t-test. Chi-square test was used to conduct between-group differences among three

groups in COVID-19–Related Stigma Form. Statistical analyzes were performed using SPSS Statistics 25.0 (IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.) For all statistical analyses, the significance level was set at $p < 0.05$. When we evaluate differences between three groups in stigma statements, modified alpha value (0.05/10) with Bonferroni correction was also calculated. For statistical analysis of COVID-19–Related Stigma Form, p values less than .005 was considered statistically significant.

Ethics

The presented study was conducted in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and approved by the local ethics committee. Ethical approval for the study was obtained from the Ministry of Health of the Republic of Turkey and the Research Ethics Committee of Ege University (20-7T/86).

Findings

This study consisted of 24 (33.8%) children/grandchildren of individuals infected with COVID-19, 27 (38.0%) children/grandchildren of healthcare workers who were not infected with COVID-19, 20 (28.2%) children/grandchildren of individuals who were neither infected with COVID-19 nor healthcare workers (Table 1).

During the mental health examination through telemedicine, a psychiatric disorder was detected in 8 (11.3%) of 71 children. 5 (7.0%) children had attention-deficit/hyperactivity disorder, 1 (1.4%) child had generalized anxiety disorder, 1 (1.4%) child had panic disorder, and 1 (1.4%) child had anorexia nervosa. The parents of the participants who had psychiatric disorders were informed and outpatient follow-up was recommended. Regarding the COVID-19 status of the children participating in the study, 3 (4.2%) children among the children/grandchildren of individuals infected with COVID-19 were also infected with COVID-19.

The mean anxiety severity score of 71 participants was 17.78 ($SD = 11.57$) in child report and 15.98 ($SD = 10.78$) in parent report. 14 (19.7%) of the children according to the SCARED-Parent Report and 21 (29.6%) of the children according to the SCARED-Child Report scored at or above the cutoff score for anxiety disorder. In terms of anxiety disorder, a significant relationship was found between the parent and the child report ($r = .586, p = .000$). Significant relationships were found between parent and child report subscales in terms of panic disorder ($r = .417, p = .000$), generalized anxiety disorder ($r = .555, p = .000$), separation anxiety disorder ($r = .630, p = .000$), social anxiety disorder ($r = .640, p = .000$), and school avoidance ($r = .571, p = .000$).

When we analyzed the correlation between SCARED subscales and age, a significant negative correlation was found between age and separation anxiety disorder ($r = -.331, p = .005$) and a significant positive correlation was found between age generalized anxiety disorder ($r = .251, p = .035$) in the SCARED-Child Report. In the SCARED-Parent Report, a significant negative correlation was found between age and separation anxiety disorder ($r = -.432, p = .000$). When the participants grouped according to gender, generalized anxiety disorder was found to be higher in females compared to males (median_{FEMALE} = 5.00, min = 0.00, max = 15.00, median_{MALE} = 1.50, min = 0.00, max = 17.00, $p = .050$).

On the CDI which evaluates the depressive symptoms of the participants, the mean score of all children was 7.16 ($SD = 4.94$). Based on an inventory score of 19 as the cut-off, none of the participants scored at or above the cut-off score of CDI. When the relationship of CDI score with age was analyzed, a significant positive correlation was found between the age and the CDI score ($r =$

Table 1. Sociodemographic data of participants ($n = 71$).

Variables	COVID-19	Healthcare	Control	p
	Patients	Workers	Group	
	Children/ Grandchildren	Children/ Grandchildren	Children/ Grandchildren	
	n (%)	n (%)	n (%)	
Age				
6–12 years	10 (41.7)	20 (74.1)	7 (35.0)	.013*
13–18 years	14 (58.3)	7 (25.9)	13 (65.0)	
Gender				
Female	12 (50.0)	16 (59.3)	9 (45.0)	.606
Male	12 (50.0)	11 (40.7)	11 (55.0)	
Educational status				
Primary school	15 (62.5)	22 (81.5)	9 (45.0)	.034*
High school	9 (37.5)	5 (18.5)	11 (55.0)	
Family type**				
Nuclear family	20 (83.3)	25 (92.6)	20 (100.0)	.137
Extended family	4 (16.7)	2 (7.4)	0 (0.0)	
COVID-19 information source***				
Social media	7 (29.2)	21 (77.8)	14 (70.0)	.001*
News	17 (70.8)	20 (74.1)	16 (80.0)	.782
Ministry of Health COVID-19	3 (12.5)	25 (92.6)	15 (75.0)	.000*
Guide				
Family members	5 (20.8)	3 (11.1)	1 (5.0)	.277
Parents working status				
No change	8 (33.3)	19 (70.4)	4 (20.0)	.001*
Changed	6 (25.0)	7 (25.9)	9 (45.0)	
Not working	10 (41.7)	1 (3.7)	7 (35.0)	

* p -values less than .05 were considered statistically significant.

**The nuclear family consists of children and parents, extended family consists of children, parents, and relatives such as uncle, aunt, grandmother, and grandfather.

***The information source of each participant can be more than one source.

.281, $p = .018$). When the participants were grouped according to their gender, it was found that the CDI score did not differ significantly between genders (median $_{\text{FEMALE}} = 8.00$, min = 0.00, max = 20.00, median $_{\text{MALE}} = 6.50$, min = 0.00, max = 15.00, $p = .450$).

There was no significant difference between the groups in terms of CDI score ($p = .486$), SCARED-Child Report total score ($p = .751$), and SCARED-Parent Report total score ($p = .434$). Means and proportions (%) of participants reached the clinical cut-off the scales according to age and gender were also evaluated (Table 2).

When we analyzed the differences in scores of children between those who did not have a diagnosis, and had one or more diagnoses; significant differences were found in scores of SCARED-Child Report and CDI ($p = 0.03$, $Z = -2.921$ and $p = 0.005$, $Z = -2.807$, respectively). No

Table 2. Means and proportions (%) of participants reached the clinical cut-off the scales according to age and gender.

		SCARED-Parent				SCARED-Child				CDI				
		Mean (±SD)	p	%	p	Mean (±SD)	P	%	p	Mean (±SD)	p	%	p	
COVID-19 patients' children/Grandchildren (n=24)	Age	6-12 years	20.00 (±13.97)	.449	30.0	.615	18.40 (±10.90)	.789	30.0	.665	5.50 (±3.30)	.259	0.0	—
		13-18 years	16.50 (±8.28)		14.3		17.35 (±8.03)		21.4		7.71 (±5.34)		0.0	
Healthcare workers	Gender	Girl	18.58 (±9.39)	.785	16.7	1.000	19.08 (±10.80)	.500	41.7	.155	8.33 (±5.24)	.106	0.0	—
		Boy	17.33 (±12.57)		25.0		18.50 (±7.32)		8.3		5.25 (±3.54)		0.0	
Children/grandchildren (n=27)	Age	6-12 years	14.35 (±8.54)	.729	10.0	.269	19.50 (±13.33)	.471	35.0	1.000	6.80 (±5.76)	.982	5.0	1.000
		13-18 years	12.85 (±12.66)		28.6		15.28 (±12.43)		28.6		6.85 (±4.98)		0.0	
Control group Children/Grandchildren (n=20)	Gender	Girl	15.18 (±8.84)	.432	12.5	1.000	21.00 (±13.31)	.218	37.5	.692	6.87 (±5.73)	.947	6.3	1.000
		Boy	12.18 (±10.62)		18.2		14.63 (±12.15)		27.3		6.72 (±5.34)		0.0	
All participants (n=71)	Age	6-12 years	17.71 (±9.96)	.725	28.6	1.000	19.85 (±14.46)	.466	42.9	.613	7.42 (±4.19)	.647	0.0	—
		13-18 years	15.61 (±13.62)		23.1		15.38 (±11.90)		23.1		8.46 (±4.97)		0.0	
All participants (n=71)	Gender	Girl	14.22 (±11.07)	.497	11.1	.319	20.55 (±13.05)	.260	22.2	.642	8.33 (±5.22)	.845	0.0	—
		Boy	18.09 (±13.37)		36.4		14.00 (±12.12)		36.4		7.90 (±4.34)		0.0	
All participants (n=71)	Age	6-12 years	16.51 (±10.49)	.670	18.9	.860	19.27 (±12.59)	.264	35.1	.284	6.56 (±4.86)	.288	2.7	.334
		13-18 years	15.41 (±11.20)		20.6		16.17 (±10.29)		23.5		7.82 (±5.01)		0.0	
All participants (n=71)	Gender	Girl	16.05 (±9.49)	.956	13.5	.017*	20.27 (±12.17)	.059	35.1	.284	7.70 (±5.35)	.346	2.7	.334
		Boy	15.91 (±12.17)		2 6.5		15.08 (±10.41)		23.5		6.58 (±4.45)		0.0	

CDI: Children's Depression Inventory
 SCARED: The Screen for Child Anxiety Related Emotional Disorders
 *p-values less than .05 were considered statistically significant

significant difference was found between in scores of SCARED-Parent Report ($p = 0.275$, $Z = -1.092$).

COVID-19–Related Stigma Form which was developed by the authors for this study to assess COVID-19–related stigma perceptions of both children and parents was analyzed separately. There was no significant difference between the groups in the answers given by the children (Table 3 and Table 4).

Table 3. COVID-19–Related Stigma Form-Parent Report.

	COVID-19		Healthcare		Control		<i>p</i>
	Patients		Workers		Group		
	Agree, <i>n</i> (%)	Disagree, <i>n</i> (%)	Agree, <i>n</i> (%)	Disagree, <i>n</i> (%)	Agree, <i>n</i> (%)	Disagree, <i>n</i> (%)	
I feel/think that those with COVID-19 infection will be treated differently.	19 (79.2)	5 (20.8)	23 (85.2)	4 (14.8)	17 (85.0)	3 (15.0)	.819
People infected with COVID-19 may feel inferior.	7 (29.2)	17 (70.8)	18 (66.7)	9 (33.3)	2 (10.0)	18 (90.0)	<.001*
Negative public opinions about COVID-19 infection causes the exclusion of those who have COVID-19 infection from daily life.	17 (70.8)	7 (29.2)	21 (77.8)	6 (22.2)	13 (65.0)	7 (35.0)	.623
My child can develop friendship with a child whose relatives are infected with COVID-19.	15 (62.5)	9 (37.5)	14 (51.9)	13 (48.1)	6 (30.0)	14 (70.0)	.094
Even if individuals have recovered from COVID-19, they are still contagious.	4 (16.7)	20 (83.3)	2 (7.4)	25 (92.6)	2 (10.0)	18 (90.0)	.567
Children whose relatives have recovered from COVID-19 should continue their education in different classes when schools are opened.	7 (29.2)	17 (70.8)	7 (25.9)	20 (74.1)	10 (50.0)	10 (50.0)	.190
My child can develop a friendship with children whose relatives have recovered from COVID-19.	18 (75.0)	6 (25.0)	17 (63.0)	10 (37.0)	7 (35.0)	13 (65.0)	.024
My child can be a deskmate with children whose relatives have recovered from COVID-19.	16 (66.7)	8 (33.3)	14 (51.9)	13 (48.1)	4 (20.0)	16 (80.0)	.007
Individuals who have recovered from COVID-19 must state or carry a document stating this.	3 (12.5)	21 (87.5)	7 (25.9)	20 (74.1)	5 (25.0)	15 (75.0)	.444
My child can develop a friendship with children whose parents are healthcare workers during the COVID-19 pandemic.	19 (79.2)	5 (20.8)	22 (81.5)	5 (18.5)	16 (80.0)	4 (20.0)	.978

**p*-values less than .005 were considered statistically significant

Table 4. COVID-19–Related Stigma Form–Child Report.

	COVID-19		Healthcare		Control		<i>p</i>
	Patients		Workers		Group		
	Children/ Grandchildren		Children/ Grandchildren		Children/ Grandchildren		
	Agree, <i>n</i> (%)	Disagree, <i>n</i> (%)	Agree, <i>n</i> (%)	Disagree, <i>n</i> (%)	Agree, <i>n</i> (%)	Disagree, <i>n</i> (%)	
If I have relatives with COVID-19, people will treat me differently.	12 (50.0)	12 (50.0)	18 (66.7)	9 (33.3)	16 (80.0)	4 (20.0)	.112
I avoid explaining that I have relatives with COVID-19 infection in order not to be rejected.	5 (20.8)	19 (79.2)	6 (22.2)	21 (77.8)	4 (20.0)	16 (80.0)	.982
Being seen with my relative who has recovered from COVID-19 infection embarrasses me.	6 (25.0)	18 (75.0)	9 (33.3)	18 (66.7)	5 (25.0)	15 (75.0)	.750
Nobody wants to come close to me because of having relatives with COVID-19.	9 (37.5)	15 (62.5)	18 (66.7)	9 (33.3)	10 (50.0)	10 (50.0)	.112
Even if individuals have recovered from COVID-19, they're still contagious.	3 (12.5)	21 (87.5)	5 (18.5)	22 (81.5)	4 (30.0)	16 (80.0)	.772
Children whose relatives have recovered from COVID-19 should continue their education in different classes when schools are opened.	8 (33.3)	16 (66.7)	12 (44.4)	15 (56.6)	7 (35.0)	13 (65.0)	.679
I can develop friendship with children whose relatives have recovered from COVID-19.	18 (75.0)	6 (25.0)	18 (66.7)	9 (33.3)	10 (50.0)	10 (50.0)	.217
I can be deskmate with children whose relatives have recovered from COVID-19.	16 (66.7)	8 (33.3)	13 (48.1)	14 (51.9)	7 (35.0)	13 (65.0)	.106
Individuals who have recovered from COVID-19 must state or carry a document stating this.	4 (16.7)	20 (83.3)	11 (40.7)	16 (59.3)	7 (35.0)	13 (65.0)	.161
I can develop friendship with children whose parents are healthcare workers during the COVID-19 pandemic.	18 (75.0)	6 (25.0)	23 (85.2)	4 (14.8)	14 (70.0)	6 (30.0)	.440

**p*-values less than .005 were considered statistically significant

When the reports of children were evaluated according to gender, no significant differences were found between the groups. When the reports of children were analyzed according to age, a higher proportion of the children in the 13–18 age group than children in the 6–12 aged group answered the statement “Individuals who have recovered from COVID-19 must state or carry a document stating this (*p* = .001).” as “Disagree (Table 5).” In the reports of the parent, a significant difference was

Table 5. COVID-19–Related Stigma Form-Child Report, age and gender groups analysis.

	Age				Gender				
	6–12 years		13–18 years		Girl		Boy		
	Agree, n (%)	Disagree, n (%)	Agree, n (%)	Disagree, n (%)	Agree, n (%)	Disagree, n (%)	Agree, n (%)	Disagree, n (%)	
If I have relatives with COVID-19, people will treat me differently.	23 (62.2)	14 (37.8)	23 (67.6)	11 (32.4)	26 (70.3)	11 (29.7)	20 (58.8)	14 (41.2)	.313
I avoid explaining that I have relatives with COVID-19 infection in order not to be rejected.	10 (27.0)	27 (73.0)	5 (14.7)	29 (85.3)	6 (16.2)	31 (83.8)	9 (26.5)	25 (73.5)	.290
Being seen with my relative who has recovered from COVID-19 infection embarrasses me.	15 (40.5)	22 (59.5)	5 (14.7)	29 (85.3)	13 (35.1)	24 (64.9)	7 (20.6)	27 (79.4)	.173
Nobody wants to come close to me because of having relatives with COVID-19.	21 (56.8)	16 (43.2)	16 (47.1)	18 (52.9)	20 (54.1)	17 (45.9)	17 (50.0)	17 (50.0)	.733
Even if individuals have recovered from COVID-19, they're still contagious.	7 (18.9)	30 (81.1)	5 (14.7)	29 (85.3)	6 (16.2)	31 (83.8)	6 (17.6)	28 (82.4)	.872
Children whose relatives have recovered from COVID-19 should continue their education in different classes when schools are opened.	16 (43.2)	21 (56.8)	11 (32.4)	23 (67.6)	14 (37.8)	23 (62.2)	13 (38.2)	21 (61.8)	.973
I can develop friendship with children whose relatives have recovered from COVID-19.	21 (56.8)	16 (43.2)	25 (73.5)	9 (26.5)	20 (54.1)	17 (45.9)	26 (76.5)	8 (23.5)	.048
I can be deskmate with children whose relatives have recovered from COVID-19.	15 (40.5)	22 (59.5)	21 (61.8)	13 (38.2)	17 (45.9)	20 (54.1)	19 (55.9)	15 (44.1)	.403
Individuals who have recovered from COVID-19 must state or carry a document stating this.	18 (48.6)	19 (51.4)	4 (11.8)	30 (88.2)	13 (35.1)	24 (64.9)	9 (26.5)	25 (73.5)	.430
I can develop friendship with children whose parents are healthcare workers during the COVID-19 pandemic.	26 (70.3)	11 (29.7)	29 (85.3)	5 (14.7)	35 (85.3)	9 (24.3)	27 (79.4)	7 (20.6)	.707

*p values less than .005 were considered statistically significant

found between the groups in the statement: “People infected with COVID-19 may feel inferior ($p < .001$).”

Discussion

In this study, depression and anxiety symptoms of the children/grandchildren of COVID-19 patients, children/grandchildren of healthcare workers who have not infected COVID-19 and children/grandchildren of the control group were evaluated and compared. Parent and children’s perception about COVID-19–related stigma is also evaluated and compared between groups. To the best of our knowledge, our study is the first to evaluate the COVID-19–related stigma in both parents and children. While there was no difference in the perception of COVID-19–related stigma between the groups in children, age of children were found to have an impact on the perception of stigma. The gender of the children did not make a significant difference in the perception of stigma. There was no significant difference between the groups of children in SCARED and CDI scores. The age and gender of the children also had an impact on the presentation of anxiety symptoms. Patients infected with COVID-19, healthcare workers and the control group had significantly different perceptions about COVID-19–related stigma. It was thought that the evaluation of the effects of the pandemic on the mental health of children and the perception of stigma associated with COVID-19 are important in terms of possible interventions. The findings of this study provided data for further studies on these issues.

Although symptoms and disease severity associated with COVID-19 are milder in children compared to adults (Ludvigsson, 2020), an increase in psychiatric symptoms such as depression and anxiety was observed during this period (Murata et al., 2021). In the early phase of the pandemic, Xie et al. (2020) found anxiety symptoms in 18.9% of children. In another study conducted by Zhou et al. (2020) prevalence of anxiety symptoms was 37.4% among the youth in the 12–18 age group. In this study, significant anxiety disorder symptoms were found in 19.7% of the children according to the parent report and in 29.6% according to the child self-report. While it has been shown that depression increased among children and adolescents during the COVID-19 outbreak (Hawes et al., 2021), none of the children in our study reported significant depressive symptoms. Furthermore, the means of CDI scores among all groups in the study were found to be similar to the means of CDI scores among the control groups of the studies conducted before the pandemic (Baki et al., 2004; Loades et al., 2019). Since the pandemic is an ongoing process, studies to follow-up depressive symptoms are very important. There was no difference between the groups in terms of anxiety and depression symptoms. Thus, having parents infected with COVID-19 or healthcare workers does not make a significant difference with regard to symptom levels of anxiety and depression. The mental health of children and adolescents affected similarly in the early period of the COVID-19 pandemic.

Among anxiety disorders, the earliest age of onset has been found for separation anxiety, while the onset of generalized anxiety disorder extends to the late adolescence and early adulthood (Beesdo et al., 2009; Costello et al., 2003; Craske & Stein, 2016). Besides, while separation anxiety has been shown more common in younger children, generalized anxiety, agoraphobia, and panic disorder are more common in older children (Copeland et al., 2014). In our study, with the increase in age, a decrease in separation anxiety symptoms and an increase in generalized anxiety symptoms were observed. Increasing awareness of COVID-19, affected academic status, having difficulty in coping with increasing uncertainty, more verbal expression and life experiences may have led to more common anxiety symptoms among adolescents. When we analyzed the anxiety symptoms according to gender, it was found that the symptoms of generalized anxiety disorder were higher in the female gender. Female gender is among the known risk factors of generalized anxiety disorder,

and the lifetime prevalence of generalized anxiety in females is 2–3 times higher than that of males (Stein & Sareen, 2015; Vesga-López et al., 2008). The differences observed in our study related to age and gender are consistent with the literature.

A higher proportion of adolescents compared to young children disagreed with the statement “Individuals who have recovered from COVID-19 must state or carry a document stating this.” This difference can be understood as stigmatization decreases with the increase of knowledge in adolescence. In terms of stigmatization perception in children, having parents infected with COVID-19 or healthcare workers did not make any difference.

In this study, differences were found in the parent’s perception of COVID-19–related stigma. 66.7% of healthcare workers, 29.2% of COVID-19 patients, and 10.0% of parents in the control group disagreed with the statement “People infected with COVID-19 may feel inferior.” The fact underlying this difference suggests that healthcare workers may have been more empathetic to the people infected with COVID-19. In addition, reported stigmatization feelings by healthcare workers during the pandemic may be effective in this perception (Salazar de Pablo et al., 2020). During the COVID-19 pandemic, it is thought that psychiatric symptoms may increase in some children with pre-existing psychiatric disorder due to reasons such as lockdown, fear of infection, difficulties to access mental health support, and less tolerance to lockdown (Guessoum et al., 2020). When we evaluated the self-reports, a significant difference was found in anxiety and depressive symptoms in children with a psychiatric diagnosis compared to children without a diagnosis. In contrast, there was no significant difference between groups in SCARED-Parent Report. It could be suggested that parents have difficulty in recognizing their children’s symptoms because they are also affected by COVID-19.

This study has important strengths. The first of these is that the mental health of the participants was screened with a semi-structured clinical interview and not only based on self-report scale findings. Another strength is that the study evaluated the mental health of the children of parents infected with COVID-19 and healthcare workers, who are predicted to be more negatively affected during the pandemic period.

The main limitation is the cross-sectional design of the study. Due to the lack of knowledge about the mental health of the participants prior to the pandemic, it is difficult to directly correlate the symptoms of depression and anxiety with the pandemic. The small sample size also makes it difficult to generalize our results. Although all the patients in the relevant clinics were included in the study between March–June 2020, the study could have been designed as a multicenter study or it could have been conducted in a center with a larger sample of patients to increase the size of sample. Another limitation of the study is that the stigma perceptions were evaluated with a form that was prepared for the study by the authors and whose validity and reliability was not studied.

In conclusion, our results show differences in the stigma perceptions of parent groups and differences in terms of gender and age in the stigma perceptions among children and adolescents during the COVID-19 pandemic. While there was no difference in anxiety and depressive disorder symptom levels between the groups in the acute phase of the pandemic, the presentation of anxiety disorder symptoms varies according to age and gender. A systematic review evaluating the mental health of children and adolescents during COVID-19 and past pandemics noted that depression and anxiety were higher among children and adolescents. It was also stated that age and gender influenced the anxiety during COVID-19 pandemic (Meherali et al., 2021). This finding was consistent with our study findings. The absence of significant differences in mental health and perception of stigma related to the COVID-19 in children/grandchildren was thought to be related to the fact that the pandemic caused similar effects among all children groups, due to the lack of adequate knowledge and awareness about COVID-19 in the acute period. Although it is thought that

the difference between the stigma perceptions of parents may be related to the mental wellbeing of the parents, the mental health state of the parents was not evaluated in our study. Therefore, strengthening the studies with parents seems to be important in terms of protecting child mental health. In addition, it is thought that differences in stigma perceptions of parents may have an effect on children and providing sufficient information against stigmatization will be protective for the children and adolescents.

Author Contributions

Study design and method: BO, SK, BSP, FT, HYY, SRS, MHO, BA

Data collection: FT, HYY, OG, FP, DB

Analysis of data: BO, TB, SK, BSP, FT, HYY

Preparation of original draft: BO, TB, SK, BSP, FT, HYY, OG, FP, DB

Review: BO, TB, SK, BSP, FT, HYY, SRS, MHO, BA

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Written consent was taken from child and their parents.

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References

- Baki, O., Erdogan, A., Kantarci, O., Akisik, G., Kayaalp, L., & Yalcinkaya, C. (2004). Anxiety and depression in children with epilepsy and their mothers. *Epilepsy & Behavior*, 5(6), 958–964. <https://doi.org/10.1016/j.yebeh.2004.08.016>
- Baldassarre, A., Giorgi, G., Alessio, F., Lulli, L., Arcangeli, G., & Mucci, N. (2020). Stigma and discrimination (SAD) at the time of the SARS-CoV-2 pandemic. *International Journal of Environmental Research and Public Health*, 17(17), 6341. <https://doi.org/10.3390/ijerph17176341>
- Bates, L. C., Zieff, G., Stanford, K., Moore, J. B., Kerr, Z. Y., Hanson, E. D., Barone Gibbs, B., Kline, C. E., & Stoner, L. (2020). COVID-19 impact on behaviors across the 24-hour day in children and adolescents: Physical activity, sedentary behavior, and sleep. *Children (Basel, Switzerland)*, 7(9), 138. <https://doi.org/10.3390/children7090138>
- Beesdo, K., Knappe, S., & Pine, D. S. (2009). Anxiety and anxiety disorders in children and adolescents: Developmental issues and implications for DSM-V. *Psychiatric Clinics of North America*, 32(3), 483–524. <https://doi.org/10.1016/j.psc.2009.06.002>
- Birmaher, B., Brent, D. A., Chiappetta, L., Bridge, J., Monga, S., & Baugher, M. (1999). Psychometric properties of the screen for child anxiety related emotional disorders (SCARED): A replication study.

- Journal of the American Academy of Child & Adolescent Psychiatry*, 38(10), 1230–1236. <https://doi.org/10.1097/00004583-199910000-00011>
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *The Lancet*, 395(10227), 912–920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
- Copeland, W. E., Angold, A., Shanahan, L., & Costello, E. J. (2014). Longitudinal patterns of anxiety from childhood to adulthood: The great smoky mountains study. *Journal of the American Academy of Child & Adolescent Psychiatry*, 53(1), 21–33. <https://doi.org/10.1016/j.jaac.2013.09.017>
- Costello, E. J., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry*, 60(8), 837. <https://doi.org/10.1001/archpsyc.60.8.837>
- Craske, M. G., & Stein, M. B. (2016). Anxiety. *The Lancet*, 388(10063), 3048–3059. [https://doi.org/10.1016/S0140-6736\(16\)30381-6](https://doi.org/10.1016/S0140-6736(16)30381-6)
- Dikeç, G., Bilaç, Ö., & Uzunoğlu, G. (2020). Who stigmatizes more? adolescents with mental disorders or their parents? *The Journal of Dr Behcet Uz Children S Hospital*, 10(1), 8–14. <https://doi.org/10.5222/buchd.2020.24993>
- Duan, L., Shao, X., Wang, Y., Huang, Y., Miao, J., Yang, X., & Zhu, G. (2020). An investigation of mental health status of children and adolescents in china during the outbreak of COVID-19. *Journal of Affective Disorders*, 275, 112–118. <https://doi.org/10.1016/j.jad.2020.06.029>
- Eiland, L., & Romeo, R. D. (2013). Stress and the developing adolescent brain. *Neuroscience*, 249, 162–171. <https://doi.org/10.1016/j.neuroscience.2012.10.048>
- Fegert, J. M., Vitiello, B., Plener, P. L., & Clemens, V. (2020). Challenges and burden of the Coronavirus 2019 (COVID-19) pandemic for child and adolescent mental health: A narrative review to highlight clinical and research needs in the acute phase and the long return to normality. *Child and Adolescent Psychiatry and Mental Health*, 14(1), 20. <https://doi.org/10.1186/s13034-020-00329-3>
- Gökler, B., Ünal, F., Pehlivanurk, B., Çengel Kültür, E., Akdemir, D., & Taner, Y. (2004). Okul çağı çocukları için duygulanım bozuklukları ve şizofreni görüşme çizelgesi -şimdi ve yaşam boyu şekli- türkçe uyarlamasının geçerlik ve güvenilirliği [reliability and validity of schedule for affective disorders and schizophrenia for school age children—present and lifetime version—turkish version (k-sads-pl-t)]. *Çocuk Ve Gençlik Ruh Sağlığı Dergisi*, 11(3), 109–116
- Guessoum, S. B., Lachal, J., Radjack, R., Carretier, E., Minassian, S., Benoit, L., & Moro, M. R. (2020). Adolescent psychiatric disorders during the COVID-19 pandemic and lockdown. *Psychiatry Research*, 291, 113264. <https://doi.org/10.1016/j.psychres.2020.113264>
- Hacimusalar, Y., Kahve, A. C., Yasar, A. B., & Aydin, M. S. (2020). Anxiety and hopelessness levels in COVID-19 pandemic: A comparative study of healthcare professionals and other community sample in Turkey. *Journal of Psychiatric Research*, 129, 181–188. <https://doi.org/10.1016/j.jpsychires.2020.07.024>
- Hawes, M. T., Szenczy, A. K., Klein, D. N., Hajcak, G., & Nelson, B. D. (2021). Increases in depression and anxiety symptoms in adolescents and young adults during the COVID-19 pandemic. *Psychological Medicine*, 1–9. Advance online publication. <https://doi.org/10.1017/S0033291720005358>
- Karabekiroğlu, K., Cakin-Memik, N., Ozcan-Ozel, O., Toros, F., Öztöp, D., Özbaran, B., Cengel-Kultur, E., Akbaş, S., NurTaşdemir, G., Ayaz, M., Aydın, C., Bildik, T., Erermiş, S., & Yaman, A. K. (2009). Stigmatization and misinterpretations on ADHD and autism: A multi-central study with elementary school teachers and parents. *Journal of Clinical Psychiatry*, 12(2), 79–89
- Karaceylan Çakmakçı, F. (2004). *Çocuklarda anksiyete bozukluklarını tarama ölçeği geçerlik ve güvenilirlik çalışması*. Department of child and adolescent psychiatry Kocaeli University, Faculty of Medicine.
- Kaufman, J., Birmaher, B., Brent, D., Rao, U., Flynn, C., Moreci, P., Williamson, D., & Ryan, N. (1997). Schedule for affective disorders and schizophrenia for school-age children-present and lifetime version

- (K-SADS-PL): Initial reliability and validity data. *Journal of the American Academy of Child & Adolescent Psychiatry*, 36(7), 980–988. <https://doi.org/10.1097/00004583-199707000-00021>
- Kaushik, A., Kostaki, E., & Kyriakopoulos, M. (2016). The stigma of mental illness in children and adolescents: A systematic review. *Psychiatry Research*, 243, 469–494. <https://doi.org/10.1016/j.psychres.2016.04.042>.
- Kovacs, M. (1981). Rating scales to assess depression in school-aged children. *Acta Paedopsychiatrica*, 46(5–6), 305–315.
- Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., Wu, J., Du, H., Chen, T., Li, R., Tan, H., Kang, L., Yao, L., Huang, M., Wang, H., Wang, G., Liu, Z., & Hu, S. (2020). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Network Open*, 3(3), e203976. <https://doi.org/10.1001/jamanetworkopen.2020.3976>
- Li, Z., Morano, J. P., Khoshnood, K., Hsieh, E., & Sheng, Y. (2018). HIV-related stigma among people living with HIV/AIDS in rural Central China. *BMC Health Services Research*, 18(1), 453. <https://doi.org/10.1186/s12913-018-3245-0>
- Liu, J. J., Bao, Y., Huang, X., Shi, J., & Lu, L. (2020). Mental health considerations for children quarantined because of COVID-19. *The Lancet Child & Adolescent Health*, 4(5), 347–349. [https://doi.org/10.1016/S2352-4642\(20\)30096-1](https://doi.org/10.1016/S2352-4642(20)30096-1)
- Loades, M. E., Rimes, K. A., Ali, S., & Chalder, T. (2019). Depressive symptoms in adolescents with chronic fatigue syndrome (CFS): Are rates higher than in controls and do depressive symptoms affect outcome? *Clinical Child Psychology and Psychiatry*, 24(3), 580–592. <https://doi.org/10.1177/1359104519838584>
- Ludvigsson, J. F. (2020). Systematic review of COVID-19 in children shows milder cases and a better prognosis than adults. *Acta Paediatrica*, 109(6), 1088–1095. <https://doi.org/10.1111/apa.15270>
- Meherali, S., Punjani, N., Louie-Poon, S., Abdul Rahim, K., Das, J. K., Salam, R. A., & Lassi, Z. S. (2021). Mental health of children and adolescents amidst COVID-19 and past pandemics: A rapid systematic review. *International Journal of Environmental Research and Public Health*, 18(7), 3432. <https://doi.org/10.3390/ijerph18073432>
- Morgan, C., Kirkbride, J., Leff, J., Craig, T., Hutchinson, G., McKenzie, K., Morgan, K., Dazzan, P., Doody, G. A., Jones, P., Murray, R., & Fearon, P. (2007). Parental separation, loss and psychosis in different ethnic groups: A case-control study. *Psychological Medicine*, 37(04), 495. <https://doi.org/10.1017/S0033291706009330>
- Murata, S., Rezeppa, T., Thoma, B., Marengo, L., Krancevich, K., Chiyka, E., Hayes, B., Goodfriend, E., Deal, M., Zhong, Y., Brummit, B., Coury, T., Riston, S., Brent, D. A., & Melhem, N. M. (2021). The psychiatric sequelae of the COVID-19 pandemic in adolescents, adults, and health care workers. *Depression and Anxiety*, 38(2), 233–246. <https://doi.org/10.1002/da.23120>
- Norredam, M., Nellums, L., Nielsen, R. S., Byberg, S., & Petersen, J. H. (2018). Incidence of psychiatric disorders among accompanied and unaccompanied asylum-seeking children in Denmark: A nation-wide register-based cohort study. *European Child & Adolescent Psychiatry*, 27(4), 439–446. <https://doi.org/10.1007/s00787-018-1122-3>
- Öy, B. (1991). Çocuklar için depresyon ölçeği: Geçerlilik ve güvenilirlik çalışması. *Türk patoloji dergisi*, 2(2), 132–136.
- Rabelo, I., Lee, V., Fallah, M. P., Massaquoi, M., Evlampidou, I., Crestani, R., Decroo, T., Van den Bergh, R., & Severy, N. (2016). Psychological distress among ebola survivors discharged from an ebola treatment unit in Monrovia, Liberia—A qualitative study. *Frontiers in Public Health*, 4, 142. <https://doi.org/10.3389/fpubh.2016.00142>.
- Salazar de Pablo, G., Vaquerizo-Serrano, J., Catalan, A., Arango, C., Moreno, C., Ferre, F., Shin, J. I., Sullivan, S., Brondino, N., Solmi, M., & Fusar-Poli, P. (2020). Impact of coronavirus syndromes on physical and mental health of health care workers: Systematic review and meta-analysis. *Journal of Affective Disorders*, 275, 48–57. <https://doi.org/10.1016/j.jad.2020.06.022>.

- Samuel, G., DiBartolo-Cordovano, R., Taj, I., Merriam, A., Lopez, J. M., Torres, C., Lantigua, R. A., Morse, S., Chang, B. P., Gyamfi-Bannerman, C., & Thakur, K. T. (2018). A survey of the knowledge, attitudes and practices on Zika virus in New York City. *BMC Public Health*, 18(1), 98. <https://doi.org/10.1186/s12889-017-4991-3>
- Santavirta, T., Santavirta, N., Betancourt, T. S., & Gilman, S. E. (2015). Long term mental health outcomes of finnish children evacuated to Swedish families during the second world war and their non-evacuated siblings: Cohort study. *BMJ (Clinical Research ed.)*, 350(jan05 1), g7753. <https://doi.org/10.1136/bmj.g7753>
- Stein, M. B., & Sareen, J. (2015). Generalized anxiety disorder. *New England Journal of Medicine*, 373(21), 2059–2068. <https://doi.org/10.1056/NEJMcp1502514>
- Tomczyk, S., Rahn, M., & Schmidt, S. (2020). Social distancing and stigma: Association between compliance with behavioral recommendations, risk perception, and stigmatizing attitudes during the COVID-19 outbreak. *Frontiers in Psychology*, 11, 1821. <https://doi.org/10.3389/fpsyg.2020.01821>.
- Vesga-López, O., Schneier, F. R., Wang, S., Heimberg, R. G., Liu, S.-M., Hasin, D. S., & Blanco, C. (2008). Gender differences in generalized anxiety disorder: Results from the national epidemiologic survey on alcohol and related conditions (NESARC). *The Journal of Clinical Psychiatry*, 69(10), 1606–1616.
- Wang, G., Zhang, Y., Zhao, J., Zhang, J., & Jiang, F. (2020). Mitigate the effects of home confinement on children during the COVID-19 outbreak. *The Lancet*, 395(10228), 945–947. [https://doi.org/10.1016/S0140-6736\(20\)30547-X](https://doi.org/10.1016/S0140-6736(20)30547-X)
- Wilcox, H. C., Kuramoto, S. J., Lichtenstein, P., Långström, N., Brent, D. A., & Runeson, B. (2010). Psychiatric morbidity, violent crime, and suicide among children and adolescents exposed to parental death. *Journal of the American Academy of Child & Adolescent Psychiatry*, 49(5), 514–523. <https://doi.org/10.1097/00004583-201005000-00012>
- Xie, X., Xue, Q., Zhou, Y., Zhu, K., Liu, Q., Zhang, J., & Song, R. (2020). Mental health status among children in home confinement during the coronavirus disease 2019 outbreak in Hubei province, China. *JAMA Pediatrics*, 174(9), 898. <https://doi.org/10.1001/jamapediatrics.2020.1619>
- Zhou, S.-J., Zhang, L.-G., Wang, L.-L., Guo, Z.-C., Wang, J.-Q., Chen, J.-C., Liu, M., Chen, X., & Chen, J.-X. (2020). Prevalence and socio-demographic correlates of psychological health problems in Chinese adolescents during the outbreak of COVID-19. *European Child & Adolescent Psychiatry*, 29(6), 749–758. <https://doi.org/10.1007/s00787-020-01541-4>