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Research Article

Evaluation of Coping Mechanism of Mothers of Children with Chronic Diseases During Coronavirus Disease 2019 Pandemic

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Abstract

AIM: The aim of this study was to determine the problems, perceived stress, and coping with the stress of mothers of children with chronic diseases during the pandemic.

METHODS: The study was conducted with cross-sectional design. The data were gathered from the mothers of children with chronic diseases who were followed up at the endocrine outpatient clinic of a hospital in Istanbul between February 1, 2021, and May 31, 2021. The data were collected by conducting face-to-face interviews with mothers of 117 children through information form, Perceived Stress Scale (PSS), and the Coping with Stress Scale (CSS).

RESULTS: It was determined that 35.9% of the mothers stated that they had problems during the pandemic since their children suffered from chronic diseases. The mean scores of the mothers were 26.88 ± 6.69 points for the PSS and 87.35 ± 11.04 points for the CSS and there was a negative and weak correlation between their scale scores ($r = -.190$; $p < .05$).

CONCLUSION: It was found that families faced many different problems during the pandemic, such as the treatment and control of their children. In case of extraordinary situations such as pandemics, nurses should provide planned guidance and counseling services to children with chronic diseases and their families in order to manage the negative situations they experience.

Keywords: Child, chronic disease, COVID-19, nursing, pandemics

Introduction

Coronavirses cause respiratory tract infections in human beings. A new type of coronavirus, (COVID-19, 2019-nCoV), first appeared in Wuhan, China, and has caused a pandemic that has spread rapidly around the world (Huang & Zhao, 2020; Wu et al., 2020). The disease is diagnosed in all age groups, including newborns; however, its incidence is lower in children (1–5%) compared to adults and the prognosis of the disease is better in them (Vasudevan et al., 2020). Although people take necessary precautions to prevent COVID-19 disease, it can cause mortality in individuals with risk factors affecting the course of the disease. These risk factors include chronic diseases such as adrenal insufficiency, diabetes, chronic lung diseases, immunodeficiencies, chronic kidney failure, and neurological disorders (Evliyaoğlu, 2020).

Chronic diseases are medical conditions that last for 6 months or longer, require constantly medical care and treatment along with the individual's routine needs, and cause patients to go through major changes in their life (Khanna et al., 2015). While children suffering from chronic diseases and their families are trying to cope with many disease-related problems normally when there is no epidemic, they and their families are exposed to more challenging factors in extraordinary situations such as epidemics. In the long term, COVID-19 interrupts children with chronic diseases from benefiting from health services and causes delays in their routine follow-ups (Evliyaoğlu, 2020; Tso et al., 2022). These complications can increase the stress levels of parents, as previously documented in studies (Cousino & Hazen, 2013; Umucu & Lee, 2020). Moreover, uncertainties surrounding COVID-19 serve as an additional significant stressor for parents, as noted in a study by Brown et al. (2020). Effective coping methods can help parents manage their stress levels and facilitate the management of chronic diseases during the pandemic, as suggested by Tso et al. (2020). Disruptions that may occur in the treatment of children with chronic diseases during the pandemic, negative changes in the course of the disease, and various stressors cause parents to experience more problems. The methods to be used to cope

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with these problems will positively affect the health and stress levels of individuals.

Nurses, who have an important role in the delivery of health services can inform children with chronic diseases and their families about how to access telehealth/online health services in order to prevent pandemic-induced interruptions in health follow-ups and treatment plans so that they can support them to enhance their skills of coping with stress. This can help prevent interruptions in health follow-ups and treatment plans caused by the pandemic, and enable them to better cope with stress (Melnyk et al., 2001; Rao et al., 2004; Zorcec, 2020). Therefore, this study aims to investigate the problems, perceived stress, and coping strategies of mothers with children who have chronic diseases during the COVID-19 pandemic.

Research Questions

1. What were the problems experienced by the mothers during the pandemic?
2. What was the perceived stress level of mothers during the pandemic?
3. How did mothers cope with stress during the pandemic?
4. Was there a relationship between mothers' perceived stress levels and their coping with stress?
5. What were the factors affecting mothers' perceived stress levels and coping with stress?

Methods

Study Design
This study was conducted with cross-sectional design.

Sample
The population of the study consisted of the mothers of 400 children with chronic diseases who were followed up at the endocrine outpatient clinic of a hospital in Istanbul. The sampling method with the unknown population was used to determine the number of participants to be included in the study. The sample size was determined as mothers of 117 children at the confidence interval of 80%, *p* (probability of occurrence of the investigated event) = 0.5, and sampling error of ± 5%. Sample selection was not used in the study. The data were gathered from the mothers who applied to the outpatient clinic between February 1, 2021, and May 31, 2021, and met the inclusion criteria.

Inclusion Criteria
- Being mothers of children who were aged between 1 and 18 years, diagnosed with at least one chronic disease and followed up by the hospital.
- Being voluntary to participate in the study.
- Having no communication problems.
- Filling out the data collection form exactly.

Exclusion Criteria
- Being mothers of children younger than 1 year and without chronic disease.
- Not volunteering to participate in the study.
- Having communication problems.
- Filling the data collection form incompletely.

Data Collection Tools
Information Form, Perceived Stress Scale (PSS), and the Coping with Stress Scale (CSS) were used to collect data. The data were collected by the researchers through face-to-face interviews.

Information Form
The form prepared by the researchers upon the literature review (Brown et al., 2020; Evliyaoğlu, 2020; Huang & Zhao, 2020; Umucu & Lee, 2020) includes 25 questions about the socio-demographic characteristics of the child and family (age, gender, mother education level, mother working status, family type, diagnosis of the child, etc.), the management of the child's disease during the pandemic (the status of the child to have regular health checks, the availability of medication, the status of getting an outpatient clinic appointment, etc.), and the effects of the pandemic on the child and family (affecting the economic situation and job loss during the pandemic, having COVID-19, dying a relative due to COVID-19, child's hospitalization, etc.).

Perceived Stress Scale
Perceived Stress Scale has 14 items in a 5-point Likert type (Never = 0; Very often = 4) and measures the extent to which an individual perceives stressful events in daily life. It was developed by Cohen et al. (1983). The Turkish validity and reliability study of the scale was conducted by Eskin et al. (2013) and the Cronbach's *α* coefficient of the scale was .84. The total score ranges between 0 and 56. 7 of the items (items 4, 5, 6, 7, 9, 10, and 13) are reversely scored. High scores signify that the perceived stress level of the individual is high. In this study, Cronbach's *α* coefficient was determined as .74.

Coping with Stress Scale
This scale was developed by Türküm (2002). This 5-point Likert-type scale (Totally appropriate = 5, Not at all appropriate = 1) with 23 items assesses individuals' styles of coping with stress. The Cronbach's *α* coefficient of the scale is .78. The scale has three subscales: seeking social support, problem-focused coping, and avoidance. The Cronbach's *α* coefficients of the subscales are .85, .80, and .65, respectively. Total score ranges from 23 to 115. A high score signifies that the behavior specific to the stress coping style is used more (Türküm, 2002). In this study, it was determined that total Cronbach's α coefficient was .74 for overall Coping with Stress Scale, and the subscales were .80, .79, and .60 for its subscales, respectively.

Data Collection
The data were collected by the researchers through face-to-face interviews. First, the participants were informed about the study, and their verbal and written consents were obtained through the informed consent form. Afterward, the mothers who met the inclusion criteria and agreed to participate in the study were asked to fill out the Information Form, the Perceived Stress Scale, and the Coping with Stress Scale. It took approximately 15–20 minutes to complete the data collection tools. The completion time of the data collection tools may affect the willingness of the participants to participate in the study.

Therefore, when planning future studies, options such as online data collection can be considered in addition to face-to-face data collection to prevent the loss of participants.

Statistical Analysis

The data were evaluated in the computer environment in the Statistical Package for the Social Sciences 22.0 (IBM SPSS Corp.; Armonk, NY, USA) software. Descriptive data, descriptive statistical methods (frequency, percentage, mean, and standard deviation), and the presence of normal distribution were evaluated using Kolmogorov–Smirnov and Shapiro–Wilk tests. In pairwise group comparisons; Independent samples *t*-test in comparison of normally distributed data, Mann–Whitney *U*-test in comparison of non-normally distributed data, Kruskal–Wallis *H*-test in comparison of more than two groups, as well as Bonferroni correction and Mann–Whitney *U*-test in post hoc analysis were used. Spearman's rank correlation coefficient analysis was used to assess the relationship between the scores of the scales with each other. The results were evaluated at the confidence interval of 95% and statistical significance level of $p < .05$.

Ethical Considerations

Prior to data collection, permission was obtained from the COVID-19 Scientific Research Evaluation Commission established within the Ministry of Health General Directorate of Health Services. Ethical approval was obtained from Biruni University Non-Interventional Clinical Trials Ethics Committee (Approval No: 2021/48-04, Date: February 21, 2021). Informed consent was obtained from the mothers of the children in accordance with the guidelines of the Helsinki Declaration of Human Rights during the data collection.

Results

The mean age of the mothers was 37.33 ± 5.96 years (minimum: 21; maximum: 54), 93.2% were married, 48.7% were primary school graduates, 74.4% were unemployed, 78.6% had a nuclear family, 64.1% had an income equal to the expense and 49.6% of them had one to two children. The mean age of the children was 9.93 ± 4.37 years (minimum: 1; maximum: 17), 68.4% were girls, 38.5% were diagnosed with type I diabetes, 61.5% were diagnosed 6 months-1 year ago, and 82.1% had no support person in the care of the child (Table 1).

When the problems experienced by the participants during the pandemic are examined; the financial status of 78.6% of them was affected during the pandemic, 35.9% of them had a family member losing his/her job, 45.3% had a family member infected with COVID-19, 14.5% of them lost a relative due to COVID-19, children of 10.3% of them were hospitalized during this period. Furthermore, 35.9% of the participants had problems related to the disease of their children, 9.5% of them had difficulty in obtaining their regular drugs, 7.1% had to change the hospital they received treatment because the hospital was a pandemic hospital, 16.7% of them frequently received treatment for their children from different doctors, and 9.5% of them could not have some tests done. 16.7% of the participants stated that the course of their children's diseases was adversely affected during the pandemic, 73.5% of them could not get an appointment

Table 1.
Descriptive Characteristics of Participants (N = 117)

Characteristics	*n*	%
Marital status		
Married	109	93.2
Single	8	6.8
Mother education status		
Not literate	7	6.0
Literate	4	3.4
Primary education	57	48.7
High school	36	30.8
University	13	11.1
Mother working status		
Yes	30	25.6
No	87	74.4
Family type		
Nuclear family	92	78.6
Extended family	25	21.4
Family income status		
Income less than expenses	39	33.3
Income equivalent to expenses	75	64.1
Income more than expenses	3	2.6
Number of children in the family		
1–2	58	49.6
3–4	54	46.2
5–6	5	4.3
Child's gender		
Female	80	68.4
Male	37	31.6
Diagnosis of the child		
Type 1 diabetes	45	38.5
Hypothyroidism	32	27.4
Early/late puberty	28	23.9
Growth and development retardation	12	10.3
Time from diagnosis of chronic disease		
6 months–1 year	72	61.5
2 years	20	17.1
3 years	6	5.1
4 years and above	19	16.2
The situation of having someone helping to care for the child		
Yes	21	17.9
No	96	82.1

Table 2.
Distribution of Problems Experienced by Participants During the Pandemic (N = 117)

Problems			*n*	%
Has your economic situation been affected during the pandemic?				
	Yes		92	78.6
	No		25	21.4
Have any of your family members lost a job during the pandemic?				
	Yes		42	35.9
	No		75	64.1
Has anyone in the family had COVID-19?				
	Yes		53	45.3
	No		64	54.7
Has a relative of yours died due to COVID-19?				
	Yes		17	14.5
	No		100	85.5
Has your child been hospitalized during the pandemic?				
	Yes		12	10.3
	No		105	89.7
Did you have any problems with your child's illness during the pandemic?				
	Yes		42	35.9
	No		75	64.1
Reasons for problems (*n* = 42)	I had trouble reaching my child's regular medication			
		Yes	4	9.5
		No	38	90.5
	I was afraid that my child would be infected with COVID-19 at the hospital			
		Yes	37	88.1
		No	5	11.9
	We had to change the hospital because the hospital was a pandemic hospital			
		Yes	3	7.1
		No	39	92.9
	My child's doctor has changed frequently			
		Yes	7	16.7
		No	35	83.3
	Some of my child's tests were not done due to the pandemic			
		Yes	4	9.5
		No	38	90.5
Have you had regular checkups of your child during the pandemic?				
	Yes		68	58.1
	No		49	41.9
Reasons for not having regular checkups (*n* = 49)	I had a problem getting an appointment at the outpatient clinic			
		Yes	36	73.5
		No	13	26.5
	The outpatient clinic, where my child was followed regularly was closed for a while			
		Yes	4	8.2
		No	45	91.8
	Appointments canceled due to the pandemic			
		Yes	6	12.2
		No	43	87.8
	I had transportation problems			
		Yes	6	12.2
		No	43	87.8
	I did not take the check-up because I afraid that COVID-19 could infect my child.			
		Yes	32	65.3
		No	17	34.7

Note: COVID-19 = coronavirus disease 2019.

from the outpatient clinic, 8.2% of them stated that the outpatient clinic of the hospital where they were followed regularly was closed for a while, 12.2% had problems in transportation, and 65.3% stated that they could not take their children to the follow-ups because they were afraid that they would be infected with COVID-19 (Table 2).

The mean scores of the participants were 26.88 ± 6.69 for the Perceived Stress Scale, 87.35 ± 11.04 for the Coping with Stress Scale, 25.93 ± 6.33 for the seeking social support subscale, 33.32 ± 5.31 for the problem-focused coping subscale, and 28.10 ± 5.48 for the avoidance subscale (Table 3). As a result of Spearman's rank correlation coefficient analysis, a statistically negative and weak correlation was found between the PSS scores and the CSS scores ($r = -.190$; $p < .05$) (Table 4).

When the PSS scores were compared in terms of family type, mother's education level, mother's chronic disease, child's gender, diagnosis of child's disease, job loss of a family member due to the pandemic, loss of a family member due to COVID-19 disease, and the child's hospitalization status during the pandemic, there was no significant difference between them ($p > .05$). When the PSS mean scores of the participants were compared with the financial status of their families, the difference

Table 3.
Distribution of Mean Scores of Scales (N = 117)

Scales		Minimum	Maximum	M ± SD	Item
PSS-14 total score		7.0	44.0	26.88 ± 6.69	14
CSS total score		53.00	110.0	87.35 ± 11.04	23
Subscales of CSS	Seeking Social Support	7	35	25.93 ± 6.33	7
	Problem-Focused Coping	13	40	33.32 ± 5.31	8
	Avoidance	16	40	28.10 ± 5.48	8

Note: CSS = The Coping with Stress Scale; M = Mean; PSS-14 = The Perceived Stress Scale.

between them was significant ($p < .007$). The advanced analysis (post hoc Bonferroni) revealed that the difference between the groups was due to the fact that the participants with an income level less than expenses had higher scores than those having an income equal to expenses and higher than their expenses, and the families having an affected financial status during the pandemic had a higher PSS mean score than the other families ($p < .008$) and there was a statistically significant difference between them (Table 5).

When the CSS scores of the participants were compared in terms of family type, mother's education level, child's gender, diagnosis of child's disease, loss of a family member due to COVID-19 disease, and the child's hospitalization status during the pandemic are compared, there was no significant difference between them ($p > .05$). When the CSS mean scores of the participants were compared with the income status of the families, the difference between them was found to be significant ($p < .021$). In the advanced analysis (post hoc Bonferroni), it was found that the difference between the groups was due to the fact that those having an income equal to expenses had higher scores than those having an income less than expenses. The mothers whose financial status was not affected during the pandemic had higher CSS mean scores than the mothers having an affected financial status ($p < .010$) and there was a statistically significant difference between them. The mothers who stated that they had problems related to the disease of their children during the pandemic had a higher PSS mean score (.002) and a lower CSS mean score (0.015) compared to the other mothers, and the difference was statistically significant (Table 5).

Table 4.
Relationship Between PSS-14 and CSS

	PSS-14	
	*r**	*p*
CSS	−.190	.040
CSS—Seeking Social Support	−.088	.347
CSS—Problem-Focused Coping	−.174	.061
CSS—Avoidance	−.114	.223

Note: CSS = The Coping with Stress Scale; PSS-14 = The Perceived Stress Scale.
*Spearman's rank correlation coefficient, $p < .05$.

Discussion

The COVID-19 pandemic has caused changes both in people's daily lives and in the delivery of health services. These changes have affected the treatment, care and regular control processes of individuals with chronic diseases (Kang et al., 2020; Zorcec et al., 2020). In the present study, 35.9% of the mothers stated that they had problems related to the chronic disease of their children during the pandemic, which reflects the effects of the COVID-19 pandemic. The families reported important problems that would affect the chronic disease course of their children during the pandemic, such as frequent physician changes, difficulty in obtaining medications, and inability to have some tests done. In addition, some of the mothers (16.7%) stated that the pandemic affected their children's disease negatively due to reasons such as failing to get an appointment from the outpatient clinic, not taking their children to the follow-ups because they were afraid that their children would get infected with COVID-19, having problems in transportation, and inability to provide the outpatient clinic service for a while. In a study conducted with children suffering from chronic respiratory disease, it was found that the reasons behind why the children could not go to follow-ups regularly during the pandemic were afraid of being infected with COVID-19 (30.7%) and the failure of health institutions to admit patients due to the pandemic (30.3%) (Zorcec et al., 2020). The results of the present study and the study by Zorcec et al. (2020) showed that the course of chronic diseases was negatively affected by the pandemic-related changes. In extraordinary situations such as pandemic, it may be beneficial to continue the control and treatment process by using telehealth/online health applications with children and their families in order to prevent the course of chronic diseases from being adversely affected (Silva et al., 2020; Vasudevan et al., 2020).

Although information about COVID-19 continues to increase, obscurity increases stress in individuals and causes many psychological problems (Serlachius et al., 2020). In addition, the important changes caused by the pandemic have become major stressors in individuals' lives. During the pandemic, the parenthood duties of families increased with social isolation and most parents worked from home so that their children receive online education and family members carry out daily routines. Moreover, social isolation led parents to receive less support from other people in child care (Griffith, 2020; Serlachius et al., 2020). Financial difficulties experienced during the pandemic also increased the stress of families (Imran et al., 2020; Tso

Table 5.
Comparison of PSS-14 and (CSS) Total Point Averages According to Some Variables (N = 117)

	PSS-14		CSS	
Variables	**M ± SD**	**Test Value *p***	**M ± SD**	**Test Value *p***
Family type**				
Nuclear family	26.6 ± 6.70	–.846 .398	88.0 ± 10.64	–1.018 .309
Extended family	27.6 ± 6.72		84.8 ± 12.31	
Family income status***				
Income less than expenses	29.2 ± 6.26	9.837 .007	83.4 ± 10.94	7.702 .021
Income equivalent to expenses	25.7 ± 6.71		89.0 ± 10.71	
Income more than expenses	23.3 ± 3.05		94.6 ± 8.38	
Mother education status***				
Not literate	29.4 ± 5.22	2.784 .595	87.0 ± 14.32	4.626 .328
Literate	27.2 ± 3.94		89.5 ± 9.84	
Primary education	26.8 ± 7.75		88.7 ± 10.23	
High school	27.1 ± 5.61		83.9 ± 11.4	
University	24.8 ± 5.87		90.3 ± 11.21	
Child's gender*				
Female	26.7 ± 6.87	–0.368 .714	88.6 ± 10.37	1.916 .058
Male	27.2 ± 6.36		84.5 ± 12.03	
Diagnosis of the child***				
Type 1 diabetes	27.2 ± 6.52	2.917 .405	84.0 ± 12.51	7.334 .062
Hypothyroidism	27.1 ± 5.72		88.9 ± 9.26	
Early/late puberty	28.2 ± 9.87		85.8 ± 9.27	
Growth and development retardation	25.4 ± 6.51		91.5 ± 9.77	
Has your economic situation been affected during the pandemic?**				
Yes	27.8 ± 6.04	–2.661 .008	85.9 ± 11.10	–2.568 .010
No	23.3 ± 7.83		92.5 ± 9.30	
Has a relative of yours died due to COVID-19? **				
Yes	24.7 ± 6.31	–1.534 .125	86.3 ± 12.90	–0.259 .795
No	27.2 ± 6.71		87.5 ± 10.76	
Has your child been hospitalized during the pandemic?**				
Yes	26.9 ± 8.62	–0.247 .805	91.7 ± 9.53	–1.551 .121
No	26.8 ± 6.48		86.8 ± 11.13	
Did you have any problems with your child's illness during the pandemic?**				
Yes	29.3 ± 7.17	9.641 .002	84.0 ± 11.82	6.146 .015
No	25.4 ± 6.01		89.2 ± 10.20	

Note: Post hoc comparisons: Bonferroni correction, $p < .005$. Statistically significant values are indicated in bold.
COVID-19 = Coronavirus disease 2019; CSS = The Coping with Stress Scale; M = Mean; PSS-14 = The Perceived Stress Scale.
*Independent simple *t*-tests.
**Mann–Whitney *U*-test.
***Kruskal–Wallis.

et al., 2020). A study conducted in the United States reported that the parents of healthy children had higher stress and anxiety levels and suffered from sleep problems, and some parents had signs of depression due to COVID-19 (Brown et al., 2020). In a study conducted with the parents of healthy children in Turkey, it was determined that the stress level of the parents increased due to the negative situations caused by the pandemic (Başaran & Aksoy, 2020). In a study conducted by Cluver et al. (2020) on the COVID-19 pandemic, they reported that the stress of the parents about their children increased during the pandemic. The results of these studies reveal that the pandemic increased the stress level in parents of healthy children. Families of children with chronic illness are expected to experience more stress due to the stress associated with parental responsibilities as well as factors related to the monitoring of the chronic illness (for example, frequent clinic appointments, challenging treatment regimens) (Cousino & Hazen, 2013). In the present study, it was determined that the PSS mean score of mothers of children with chronic disease was 26.88 ± 6.69. Given that the PSS score ranges between 0 and 56 points and the higher the score is, the higher the perceived stress of the individuals, it can be asserted that the perceived stress of the mothers was moderate. In addition, the fact that mothers who had problems with their children's disease during the pandemic had a higher PSS mean score and lower CSS mean score than the others increased the stress level of mothers who had problems with their child's illness during the pandemic and negatively affected their ability to cope with stress. Likewise, Tso et al. (2020) found that parents (especially mothers) with children suffering from illness had higher stress levels during the COVID-19 pandemic. In another study, it was found that the anxiety levels of mothers of children diagnosed with cystic fibrosis in the COVID-19 pandemic were higher than mothers with healthy children (Senkalfa et al., 2020). In light of all this information, psychological support of children with chronic diseases and their families in difficult situations such as the pandemic can reduce the anxiety and stress levels of individuals (Vasudevan et al., 2020).

Individuals who provide care to a child suffering from chronic disease experience economic and social strain as well as psychological and physical fatigue. In addition, medical expenses related to the care of the child impose an economic burden on families (Khanna et al., 2015). It is reported that the economic crisis experienced in the event of a pandemic due to unemployment may cause stress, anxiety, and depression in people (Mucci et al., 2016). As a matter of fact, the economic changes caused by the pandemic affected parents financially and increased their perception of stress (Brown et al., 2020). In a study, it was found that the financial burden of parents of children with chronic diseases was high and families below the poverty line experienced more problems in family interaction than families above the poverty line (Khanna et al., 2015). In the present study, it was determined that families having an income less than their expenses had a higher PSS mean score. Moreover, the CSS mean scores of families having an income equal to expenses and mothers whose financial status was not affected during the pandemic were found to be higher. In light of all this information, it is an expected result in the present study that individuals who said that they had economic difficulties during the pandemic had higher stress levels. In addition, it can be thought that the mothers who did not have financial difficulties coped with their existing stress more easily.

Parents need support systems to cope with the difficulties they face at all stages of the chronic disease process (Morrow et al., 2012). The present study revealed that there was a weak and negative correlation between the PSS mean score and the CSS mean score ($r = -.190$; $p < .05$). It has been reported that the coping skills of the parents are an important determinant in the adjustment of both the family and the child, the parents using adaptive coping methods experienced less psychological problems and the psychosocial adjustment of the children is better (Rao et al., 2004). The development of parents' ability to cope with their stress will positively affect the care and treatment process of their children. In this sense, it is important for parents to develop effective coping methods in an extraordinary situation such as the COVID-19 pandemic.

Study Limitations

There are some limitations in the study. The findings of the study are limited to the data obtained from the mothers of the children who applied to the Endocrine Outpatient Clinic of a Training and Research Hospital in Istanbul and cannot be generalized to the mothers of all children with chronic diseases. It is limited to the measurement measured by the scales used in the study.

Conclusion and Recommendations

The COVID-19 pandemic has caused major changes in the lives of many people around the world. Children with chronic diseases and their parents have been affected physically, psychologically, medically, financially, and socially during this change process. In the study, it was found that families faced many different problems during the pandemic, such as the treatment and control of their children. In addition, as the stress level of mothers increased, they were insufficient to cope with stress. It is crucial to solving the physical, psychological, and social problems of children with chronic diseases and their families in the event of an epidemic that has great effects on the global scale. Nurses have important responsibilities in meeting the needs of children with chronic diseases and their families, and in providing support and guidance services. For this reason, nurses should create an action plan for the solution to the problems of children with chronic diseases and their families, and support families by planning guidance and counseling services in events such as epidemics, natural disasters, and war that cause vital changes. First of all, nurses should inform parents about the importance of not interrupting the routine follow-up of children with chronic diseases during the pandemic process. Instead of physical visits in the hospital environment or at home, online interviews should be planned in line with technological possibilities and the child should be followed up. During these interviews, the problems experienced by the children and their parents should be listened to and information should be given about appropriate solutions.

Ethics Committee Approval: Ethical committee approval was received from the Non-Interventional Clinical Trials Ethics Committee Ethics Committee of Biruni University (Approval No: 2021/48-04, Date: February 21, 2021).

Informed Consent: Written and verbal informed consent was obtained from the mothers of the children who agreed to take part in the study.

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References

Başaran, M., & Aksoy, A. B. (2020). Parents' views on the family lives in the corona-virus (COVID-19) outbreak. *Journal of International Social Research*, *13*(71), 668–678. [CrossRef]

Brown, S. M., Doom, J. R., Lechuga-Peña, S., Watamura, S. E., & Koppels, T. (2020). Stress and parenting during the global COVID-19 pandemic. *Child Abuse and Neglect*, *110*(2), 104699. [CrossRef]

Cousino, M. K., & Hazen, R. A. (2013). Parenting stress among caregivers of children with chronic illness: A systematic review. *Journal of Pediatric Psychology*, *38*(8), 809–828. [CrossRef]

Eskin, M., Harlak, H., Demirkıran, F., & Dereboy, Ç. (2013). The adaptation of the perceived stress scale into Turkish: A reliability and validity analysis. *New Symposium Journal*, *51*(3), 132–140.

Evliyaoğlu, O. (2020). Children with chronic disease and COVID-19. *Turk Pediatri Arsivi*, *55*(2), 93–94. [CrossRef]

Griffith, A. K. (2020). Parental burnout and child maltreatment during the COVID-19 pandemic. *Journal of Family Violence*, 1–7. [CrossRef]

Huang, Y., & Zhao, N. (2020). Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: A web-based cross-sectional survey. *Psychiatry Research*, *288*, 112954. [CrossRef]

Imran, N., Zeshan, M., & Pervaiz, Z. (2020). Mental health considerations for children & adolescents in COVID-19 pandemic. *Pakistan Journal of Medical Sciences*, *36*(COVID19–S4), S67–S72. [CrossRef]

Kang, C., Yang, S., Yuan, J., Xu, L., Zhao, X., & Yang, J. (2020). Patients with chronic illness urgently need integrated physical and psychological care during the COVID-19 outbreak. *Asian Journal of Psychiatry*, *51*, 102081. [CrossRef]

Khanna, A. K., Prabhakaran, A., Patel, P., Ganjiwale, J. D., & Nimbalkar, S. M. (2015). Social, psychological and financial burden on caregivers of children with chronic illness: A cross-sectional study. *Indian Journal of Pediatrics*, *82*(11), 1006–1011. [CrossRef]

Melnyk, B. M., Feinstein, N. F., Moldenhouer, Z., & Small, L. (2001). Coping in parents of children who are chronically ill: Strategies for assessment and intervention. *Pediatric Nursing*, *27*(6), 548–558.

Morrow, A. M., Hayen, A., Quine, S., Scheinberg, A., & Craig, J. C. (2012). A comparison of doctors', parents' and children's reports of health states and health-related quality of life in children with chronic conditions. *Child: Care, Health and Development*, *38*(2), 186–195. [CrossRef]

Mucci, N., Giorgi, G., Roncaioli, M., Fiz Perez, J. F., & Arcangeli, G. (2016). The correlation between stress and economic crisis: A systematic review. *Neuropsychiatric Disease and Treatment*, *12*, 983–993. [CrossRef]

Pınar Senkalfa, B. P., Sismanlar Eyuboglu, T., Aslan, A. T., Ramaslı Gursoy, T., Soysal, A. S., Yapar, D., & İlhan, M. N. (2020). Effect of the COVID-19 pandemic on anxiety among children with cystic fibrosis and their mothers. *Pediatric Pulmonology*, *55*(8), 2128–2134. [CrossRef]

Rao, P., Pradhan, P. V., & Shah, H. (2004). Psychopathology and coping in parents of chronically ill children. *Indian Journal of Pediatrics*, *71*(8), 695–699. [CrossRef]

Serlachius, A., Badawy, S. M., & Thabrew, H. (2020). Psychosocial challenges and opportunities for youth with chronic health conditions during the COVID-19 pandemic. *JMIR Pediatrics and Parenting*, *3*(2), e23057. [CrossRef]

Silva, C. A., Queiroz, L. B., Fonseca, C. B., Silva, L. E. V. D., Lourenço, B., & Marques, H. H. S. (2020). Spotlight for healthy adolescents and adolescents with preexisting chronic diseases during the COVID-19 pandemic. *Clinics*, *75*, e1931. [CrossRef]

Tso, W. W. Y., Wong, R. S., Tung, K. T. S., Rao, N., Fu, K. W., Yam, J. C. S., Chua, G. T., Chen, E. Y. H., Lee, T. M. C., Chan, S. K. W., Wong, W. H. S., Xiong, X., Chui, C. S., Li, X., Wong, K., Leung, C., Tsang, S. K. M., Chan, G. C. F., Tam, P. K. H., ...Ip, P. (2022). Vulnerability and resilience in children during the COVID-19 pandemic. *European Child and Adolescent Psychiatry*, *31*(1), 161–176. [CrossRef]

Türküm, A. S. (2002). The development of coping with stress scale: Validity and reliabilty studies. *Turkish Psychological Counseling and Guidance Journal*, *2*(18), 25–34.

Umucu, E., & Lee, B. (2020). Examining the impact of COVID-19 on stress and coping strategies in individuals with disabilities and chronic conditions. *Rehabilitation Psychology*, *65*(3), 193–198. [CrossRef]

Vasudevan, A., Mantan, M., Krishnamurthy, S., Pais, P., Mathew, G., Hari, P., Kanitkar, M., Gulati, S., Bagga, A., Mishra, O. P., & Indian Society of Pediatric Nephrology (2020). Managing children with renal diseases during the COVID-19 pandemic. *Indian Pediatrics*, *57*(7), 641–651. [CrossRef]

Wu, D., Wu, T., Liu, Q., & Yang, Z. (2020). The SARS-CoV-2 outbreak: What we know. *International Journal of Infectious Diseases*, *94*, 44–48. [CrossRef]

Zorcec, T., Jakovska, T., Micevska, V., Boskovska, K., & Cholakovska, V. C. (2020). Pandemic with COVID-19 and families with children with chronic respiratory diseases. *Prilozi (Makedon Akad Nauk Umet Odd Med nauki)*, *41*(2), 95–101. [CrossRef]