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Parenting Stress and Maternal Emotional Difficulty: Predicting Children's Attitudes and Anxiety about the COVID-19 Pandemic during lockdown

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Abstract

Background: *Due to the destructive effects of the COVID-19 pandemic and social crises, the present study aimed to investigate the role of parental stress and maternal emotions' difficulty in predicting children's attitudes and anxiety about the COVID-19 pandemic during lockdown.*

Methods: *This research aimed to conduct an applied study with a descriptive-correlational data collection approach. The target population comprised all female and male students in public preschool and primary schools in Kermanshah city during the academic year 2020-2021. A total of 150 samples through the convenience sampling method completed the Parental Stress Index—Short Form (PSI-SF), The Difficulties in Emotion Regulation Scale (DERS), The Knowledge and Attitude Scale toward COVID-19 Pandemic, and Spence Children's Anxiety Scale – Child (SCAS-Child). Statistical computations were performed using SPSS-22 software. The significant level was set at 0.05.*

Results: *The results of the Pearson correlation test showed that there was a significant positive relationship between the parent's distress component and the child's anxiety level due to COVID-19 disease (Pvalue<0.01; r=0.23). Additionally, there was a significant positive relationship between the Children in difficulty component and children's anxiety levels due to COVID-19 disease (Pvalue<0.01; r=0.48). In addition, there was a significant positive relationship between the dysfunctional parent-child interaction component and children's anxiety about COVID-19 disease (Pvalue<0.01; r=0.48). There was a significant positive relationship between parental stress and child anxiety due to COVID-19 disease (Pvalue<0.01; r=0.48).*

Conclusions: *According to the results of the present study, one of the important measures to maintain the mental health of children in critical situations is to educate parents, especially mothers, about controlling and regulating their own negative emotions. Complications due to their age and cognitive development should be presented to them.*

Keywords: Parenting Stress, Maternals' Emotional Dysregulation, Attitudes, Anxiety, COVID-19 Pandemic, Lockdown.
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Introduction

Research has shown that parental psychological disorders increase the risk of stunted child development and that children's mental and behavioral problems are often a direct result of parental stress. In children, maternal stress may be a significant factor in causing poorer psychological adjustment, while maternal anxiety is primarily linked to mental health[1]. Studies have revealed that COVID-19 is characterized by specific triggers, such as fear of danger and contamination, socioeconomic consequences, xenophobic fears, trauma stress symptoms, and coercive control[2]. The results suggest that mental health issues are more prevalent among women, younger individuals, and those who often ponder about the crisis[3]. The COVID-19 period has resulted in increased parental involvement, which has also led to a decline in children's behavior and mood, leading to increased stress and tightening of disciplinary measures. Individuals who had experienced past trauma were most prone to experiencing parental stress, self-criticism, and concerns about parenting skills.

During quarantine, mothers who experienced repeated trauma reported more behavioral and emotional changes in their children[4]. The majority of respondents in a Chinese study conducted during the COVID-19 pandemic were women, and 28.8% of them reported moderate to severe anxiety. Children's development is affected by the COVID-19 pandemic; Children's health is influenced by their experiences as well as those of the adults around them[5]. Studies show that parental stress during COVID-19 makes it difficult for mothers to regulate their emotions, and this emotional deficit causes the transmission of COVID-19 anxiety[6]. Maternal COVID-19-related anxiety positively predicted children's inhibition during the pandemic over and above maternal emotion regulation skills and children's pre-pandemic sadness regulation skills[7]. Jiao et al (2020) studied behavioral and emotional disorders in children during the Covid-19 pandemic. The results showed that the most important psychological and behavioral problems were distraction and irritability[8].

Furthermore, Yıldırım et al (2022) investigated in their study the mediating role of fear of COVID-19 and mental health, risk perception, and worry about COVID-19 in parents. The results showed a positive relationship between fear of COVID-19 and anxiety about COVID-19, and they concluded that mental health moderates the impact of COVID-19 risk on anxiety concern about COVID-19 among parents[9]. Similarly, Duan et al (2020) studied the mental health of children and adolescents in China during the Covid-19 outbreak. They concluded that the spread of COVID-19 has had a significant psychosocial impact on children and adolescents[10]. Liu et al (2021) studied the prevalence of behavioral problems in school-age children during the Covid-19 pandemic while

quarantined at home. The results showed a significant positive relationship between children's behavioral problems, such as conduct problems, peer problems, emotional problems, and COVID-19, and they concluded that children and parents with anxiety symptoms are more likely to experience emotional symptoms and global difficulties[11].

Furthermore, studies have highlighted the presence of psychological distress due to COVID-19 in children[5,6], with higher emotional and behavioral symptoms as well as social problems with friends of the same age[9,10]. In addition to the direct impacts of COVID-19 on children's psychological health, the important role of parents' perception of the pandemic as a traumatic event and resulting peri-traumatic distress has also been reported[12]. In this context, clinicians and researchers in the field of developmental psychology have shown that children tend to react to stressful events (such as the COVID-19 pandemic) based on their parents' interpretations and emotional reactions[6,7]. In particular, the presence of transmission of psychological symptoms from parents to children has been emphasized, also in the context of psychological responses to the COVID-19 pandemic[8-10]. Parents who experience COVID-19 as a traumatic experience, exhibit peri-traumatic symptoms in response to the pandemic and its restrictions and may transmit maladaptive emotional and behavioral responses the same applies to their children[12]. Consequently, the knowledge and attitudes of children are also affected by parenting stress and emotional dysregulation[3,14]. Zolfaghari & Elahi (2019) studied Children's level of anxiety in relation to their level of awareness and attitude towards COVID-19 based on the health belief model and the level of stress, anxiety, and depression of mothers. The results showed that there was a significant positive relationship between children's anxiety and mothers' anxiety on children's awareness level about COVID-19[13]. Meanwhile, stress, emotional trauma, and psychological problems of parents, especially mothers, can double the risk of mental disorders such as anxiety and depression in children and adolescents. According to the mentioned research background, it can be stated that the research background has investigated various psychological variables, but only a limited number of researchers have investigated the variables covered in this particular study. This indicates a gap in research in this area and makes the title of the study novel. Thus, the present study aimed to investigate the role of parental stress and maternal emotional difficulty in predicting children's attitudes and anxiety about COVID-19 Pandemic during lockdown.

Materials and Methods

This research aimed to conduct an applied study with a descriptive-correlational data collection approach. The target population comprised all female and male students in private and public preschool and primary schools in Kermanshah city during the academic year 2020-2021. The research sample consisted of 300 elementary school and preschool students (both male and female) at the preschool and primary levels. The sample size was determined using Morgan's table. To be included in the sample, the children had to be between the ages of 5 and 12, and the children could have any physical or mental disorders. Additionally, some of the questionnaires were left incomplete, and therefore, these individuals were also excluded from the analysis procedure. To ensure compliance with ethical guidelines during the research, the focus was on adhering to a moral framework and seeking guidance from educational materials. Random contact was made with multiple schools. The surveys were connected using the previously used PorsLine platform. The link to these surveys was shared with school principals through the online communication channel called the Shad system. It is worth mentioning that consent was obtained from two preschools and three primary schools. Due to the ramifications of the pandemic, including quarantine regulations and the closure of educational institutions, the survey had to be conducted digitally by mothers. The online questionnaires were distributed among virtual student communities, where the extent of participation relied on the school's willingness to engage in the process. As previously stated, the planned sample size was 300 individuals, but regrettably, only 200 questionnaires were received. The analyst excluded participants who had only completed a portion of the questionnaire. The final sample size was reduced to 150 participants, consisting of mothers, due to time constraints, the prevailing pandemic conditions, and the inability to administer face-to-face surveys. Participants were instructed to provide anonymous responses to ensure the confidentiality of the data. Parenting stress and maternal emotional difficulty were the dependent variables, while children's attitudes and anxiety about COVID-19 were considered independent predictors. Descriptive statistics (frequency, tables, graphs, mean, and standard deviation) were utilized for data analysis. Additionally, inferential statistics, including multivariate regression, were employed to examine the relationships between research variables. Statistical computations were performed using SPSS-22 software.

The Parental Stress Index—Short Form (PSI-SF): Parents completed the Iranian version of the PSI-SF for the assessment of the source and degree of stress and the level of stress associated with caring for their children through items devised to evaluate lack of social support, depression, and feeling of incompetence in the parenting role[15]. The PSI comprises 36 items rated on a 1 (strongly disagree) to 5 (strongly agree) scale. It contains 3 subscales (each with 12 questions): It is a 36-item representing three domains: parental stress (PD), parent-child dysfunctional interaction (P-CDI), and difficult child (DC) subscales. The PSI-SF is a valid and reliable measurement tool derived from the longer Parental Stress Index long-form of 120 items. Total parenting scores based on all three domains range from 36–180. Parental stress percentile scores within the 16–84th percentile are considered normal. Scores in the 85–89th percentile are considered high, and scores ≥ 90th percentile are considered to be clinically significant. The validity of each subscale is 0.80, 0.84, and 0.80, respectively, and 0.90 for the total score. The test-retest reliability is between 0.71 and 0.82[16].

The Difficulties in Emotion Regulation Scale (DERS): The scale is a self-report measure developed to assess clinically relevant difficulties in emotion regulation. It has 36 items that are rated on a five-point Likert scale, ranging from 1 (almost never) to 5 (almost always). 11 (1, 2, 6, 7, 8, 10, 17, 20, 22, 24, 34) items are rated inversely. DERS items are recoded so that

higher scores in every case indicate greater difficulties in emotion regulation (i.e., greater emotion dysregulation). The scale is composed of 6 factors: non-acceptance of emotional responses (Non-Acceptance); difficulties engaging in goal-directed behavior (Goal); impulse control difficulties (Impulse); lack of emotional awareness (Awareness); limited access to emotion regulation strategies (Strategy), and lack of emotional clarity (Clarity). The DERS has high internal consistency; Cronbach's α = 0.93 for total DERS & Cronbach's α>:80 for each factor; test-retest = 0.87 for total DERS and ranging from 0.69 to 0.89 for all factors[17]. In an Iranian normal sample, internal consistency of the scale using Cronbach's α ranged from 0.66 to 0.88 for all factors[18].

The Knowledge and Attitude Scale toward COVID-19 Pandemic: This questionnaire includes 23 questions measuring perceptions with responses (yes, no and don't know) and questions measuring the right attitude of the response spectrum (agree, no opinion, not agree) based on self-assessment. The evaluation method for this scale is a three-point Likert scale. The total score was provided (0 to 24). This tool is based on children's understanding of COVID-19 disease based on the health belief model[19] and questionnaires on knowledge and attitudes about AIDS, hepatitis, and diabetes have been used as a model to build this tool. To verify the validity of the instrument, content validity was confirmed and Cronbach's alpha coefficient was used to calculate its reliability. For measuring cognitive and attitudinal expressions, 0.78 and 0.73 were obtained respectively, and 0.76 for the entire instrument[19]. In the study by Zolfaghari & Elahi (2019), the content and content validity of this scale were confirmed by university professors[13]. To get the total score, it should add up the total score of each question. This score will range from -23 to +23[19].

Spence Children's Anxiety Scale – Child (SCAS-Child): The Spence Children's Anxiety Scale – Child is a 45-item self-report scale used to assess the severity of anxiety symptoms in children aged 8-15 years[20]. The SCAS-Child assesses six domains of anxiety which constitute six subscales:

- Separation Anxiety
- Social Phobia
- Obsessive Compulsive Problems
- Panic/Agoraphobia
- Generalized Anxiety/Overanxious Symptoms
- Fears of Physical Injury

The SCAS-Child can be used as part of a broader diagnostic assessment, but should not be used as the sole means for diagnosis. The scale can be used in clinical and non-clinical settings to evaluate the impact of anxiety interventions over time. There is also a parent-reported version (SCAS-Parent) of the same assessment. Administering the child and parent-reported version and comparing results can be helpful to inform a formulation. The SCAS demonstrated convergent validity with other measures of child anxiety and discriminant validity with a measure of child depressive symptoms[20]. The same study also showed significantly higher SCAS scores on all six subscales among clinically anxious children than those in a non-clinical control group. Scores consist of a total raw score (range from 0 to 114) and six sub-scale scores, with higher scores indicating greater severity of anxiety symptoms. A percentile score of more than 84 for any subscale score or the total SCAS score indicates clinically significant anxiety symptoms. Sub-scales are computed by summing the following items:

- Separation anxiety (items 5, 8, 12, 15, 16, 44)
- Social phobia (items 6, 7, 9, 10, 29, 35)
- Obsessive-compulsive (items 14, 19, 27, 40, 41, 42)
- Panic/agoraphobia (items 13, 21, 28, 30, 32, 34, 36, 37, 39)
- Physical Injury (items 2, 18, 23, 25, 33)
- Generalized anxiety (items 1, 3, 4, 20, 22, 24)

Items that are not scored in either the total score or the sub-scale scores are 11, 17, 26, 31, 38, 43, 45, and 46. They are not scored because they did not meet sufficient psychometric requirements. If the scale is administered on multiple occasions a graph is produced to track symptoms over time, representing the respondent's scores as a normative percentile. In Mousavi et al.'s research, the reliability of this questionnaire in the Iranian population was reported by Cronbach's alpha between 62% and 88%, and the validity of this questionnaire was confirmed by factor analysis[21].

Results

The survey was completed by 150 children (M=8 years; SD=1.83 years); 84 (56%) of them were male and 66 (44%) were female. According to the gender distribution of the research sample, 56% of the studied statistical sample were boys and 44% were girls. In addition, the statistical sample studied had 53% being the first child, 36% being the second child in the family, 9% being the third child, and 3% being the fourth child in the family. Distribution of the research sample according to parents' educational level shows that 14% of fathers in the statistical sample have a university degree, 31% have a university degree, 17% have a university degree, 23% have a bachelor's degree, 11% have a master's degree, and 5% have a doctorate. Percentage of mothers in the research sample with a university degree, 40% have a graduate degree, 16% have a postgraduate degree, 27% have a bachelor's degree, 4% have a master's degree, and 2% have a doctoral degree doctor. Regarding occupation, the statistical sample has 58% of fathers being self-employed, 5% being architects, 3% being doctors, 30% being civil servants, 2% being workers, and 1% having retired. Also 75% of mothers in the sample were housewives, 17% were employees, and 8% were self-employed (Table 1).

According to Table 2 the values (K-S) and value (sig) for each of the tests, the data distribution is normal and the normality of the data is confirmed.

The results of Table 3 adjusted square of multiple Pearson correlation coefficient showed that based on this parental stress model, mothers' emotional damage explains 0.19% of the

variance of children's attitude towards COVID-19. Therefore, it can be said that parents' stress and the emotional damage of mothers can explain children's attitudes towards COVID-19. The adjusted squared results of the multiple Pearson correlation coefficient show that based on the first step of parents' stress, 0.22%, and based on the second step of parents' stress, emotional damage explains 0.31% of the variance of children's anxiety due to COVID-19 disease. Therefore, it can be said that the components of parents' stress and emotional damage can explain children's anxiety about COVID-19.

The regression analysis test results presented in Table 4 demonstrated that according to this model, there is a significant relationship between mothers' emotional trauma and children's attitude toward corona disease (Pvalue<0.01 and F=19.36 (2,147)). However, parents' stress cannot predict children's attitudes towards COVID-19 disease, indicating that it does not contribute to the prediction. Furthermore, based on the standardized beta weight shown in Table 4, it can be concluded that a one standard deviation increase in emotional damage results in a -0.44 standard deviation decrease in children's attitude towards COVID-19 disease.

According to Table 5, the results of the Pearson correlation coefficient test, there is no significant relationship between the component of parental stress and children's knowledge and attitudes towards the COVID-19 pandemic (Pvalue>0.05; r=0.02). There is also a significant negative relationship between the difficult children component and children's knowledge and attitudes toward the COVID-19 pandemic (Pvalue<0.05; r=-0.16). In addition, there was a significant negative relationship between the dysfunctional parent-child interaction component and children's knowledge and attitudes toward the COVID-19 pandemic (Pvalue<0.05; r=-0.25). There was a significant negative relationship between parental stress and children's knowledge and attitudes toward the COVID-19 pandemic (Pvalue<0.05; r=-0.17).

The results of the Pearson correlation test show that there is a significant positive relationship between the parent's distress component and the child's anxiety level due to COVID-19 disease (Pvalue<0.01; r=0.23). Additionally, there was a significant positive relationship between the children in difficulty component and children's anxiety levels due to COVID-19 disease (Pvalue<0.01; r=0.48). In addition, there was a significant positive relationship between the dysfunctional parent-child interaction component and children's anxiety about COVID-19 disease (Pvalue<0.01; r=0.48). There was a significant positive relationship between parental stress and child anxiety due to COVID-19 disease (Pvalue<0.01; r=0.48). Therefore, this hypothesis was confirmed, which means that as parents become more and more distressed, children's anxiety level about COVID-19 disease also increases, that is, they become more anxious when facing COVID-19 disease.

The findings of the Pearson correlation coefficient analysis indicate a significant reverse association between maternal emotional trauma and children's perspective towards COVID-19 (Pvalue<0.01; r=-0.45). Likewise, the Pearson correlation coefficient analysis reveals a significant positive link between maternal emotional injuries and children's anxiety relating to COVID-19 (Pvalue<0.01; r=0.41). Consequently, a rise in the level of mothers' emotional harm corresponds to an increase in children's anxiety caused by COVID-19.

In Table 6 the results of regression analysis, based on the first parental stress model (Pvalue<0.01 and F(148.1)=43.53) and based on the second model, parental stress and emotional trauma (Pvalue<0.01 and F(147.2)=33.83) were significantly predictive of child COVID-19 anxiety.

The results in Table 7, considering the standardized beta weights based on the first model, show that one standard deviation of change in parental stress caused 0.48 standard deviations of Changes in children's anxiety due to COVID-19 disease. Based on the second model, one standard deviation of change in parental stress and emotional trauma vulnerability results in 0.39 and 0.31 standard deviations of change in anxiety levels, respectively.

Table 1. Demographic features

Variables		Groups	F	N
Gender		Boy	84	56
		Girl	66	44
Child order		1	79	53
		2	54	36
		3	13	9
		4	4	3
Education state	Father	High school	21	14
		diploma	46	31
		Associate degree	26	17
		Bachelor's degree	34	23
		Master's degree	16	11
		Ph.D.	7	5
	Mother	High school	16	11
		diploma	60	40
		Associate degree	24	16
		Bachelor's degree	41	27
		Master's degree	6	4
		Ph.D.	3	2
Job state	Father	Self-employed	87	58

	The architect	8	5
	Doctor	5	3
	Employee	45	30
	Manual worker	3	2
	Retired	2	1
	Housewife	113	75
Mother	Employee	26	17
	Self-employed	11	8

Table 2. Statistical indicators of research variables

Variables	Mean±SD	Min	Max	(K-S)	sig
Parental stress	83.36±19.56	37	131	0.81	0.53
Emotion Regulation of mothers	92.83±21.59	50	156	1.15	0.13
Children's Knowledge and Attitude toward COVID-19	16.82±6.75	16	23	1.49	0.081
Children's anxiety	23.02±12.54	0	78	0.81	0.52

Table 3. Regression model summary of parents' stress components and mothers' emotional damages on children's attitude and children's anxiety level towards the COVID-19

Variables	R	R2	AR2	SE
Parental stress- Mothers' emotional trauma	0.46	0.21	0.19	6.05
Parental stress	0.48	0.23	0.22	11.06
Parental stress- Children's anxiety	0.56	0.32	0.31	10.45

Table 4. Summary of analysis of variance for the significance test of the regression model of regression coefficients of prediction (emotional damage of mothers) of children's attitude towards COVID-19 disease

Model	Source of changes	S.S	d.f	M.S	F	Pvalue
1	Regression	1419.073	2	709.537	19.36	0.0001
	Remain	5386.42	147	36.642		
	Total	6805.493	149			
Model	**Coefficient**	**B**	**SE**	**Beta**	**t**	**Pvalue**
2	Fixed	31.094	2.71		11.471	0.0001
	Emotional trauma	-0.14	0.024	-0.44	5.779	0.0001
	Parental stress	-0.018	0.026	-0.051	-0.674	0.51

Table 5. Pearson's correlation between parents' stress with Children's Knowledge and Attitude toward the COVID-19 pandemic and the level of children's anxiety from COVID-19 disease

Parental stress index subscales	Statistical index	Children's knowledge and attitude toward COVID-19 pandemic	Children's anxiety
Parental stress	(r)	-0.02	0.23
	(Pvalue)	0.81	0.004
Difficult child	(r)	-0.16	0.48
	(Pvalue)	0.05	0.0001
Parent-child dysfunctional interaction	(r)	-0.25	0.47
	(Pvalue)	0.003	0.0001
Mothers' emotional trauma	(r)	-0.45	0.41
	(Pvalue)	0.0001	0.0001

Table 6. Summary of analysis of variance for significance test of regression model of predictor and criterion variables

Model	Source of changes	SS	df	MS	F	Pvalue
1	Regression	5330.1214	1	5330.214	43.53	0.0001
	Remain	18124.726	148	122.464		
	Total	23454.94	149			
2	Regression	7392.251	2	3696.126	33.83	0.0001
	Remain	16062.689	147	109.27		
	Total	23454.94	149			

Table 7. Predictive regression coefficients (parental stress and emotional trauma) of children's anxiety from COVID-19 disease

Model	Coefficient	B	SE	Beta	t	Pvalue
1	Fixed	-2.46	3.97		-0.62	0.54
	Parental stress	0.31	0.046	0.48	6.59	0.0001
2	Fixed	-14.65	4.68		-3.13	0.002

Parental stress	0.25	0.045	0.39	5.56	0.0001
Emotional trauma	0.18	0.041	0.31	4.34	0.0001

Discussion

The study aimed to test whether parenting stress and maternal emotional trauma predict children's attitudes and anxiety about the COVID-19 pandemic during lockdown. The results obtained from the data show that there is a significant association between parental stress and the mother's emotional trauma, as well as children's attitudes and anxiety levels towards the COVID-19 pandemic.

These findings are supported by previous studies, demonstrating that parental stress and negative emotions during COVID-19 are both associated with the severity of depressive symptoms[22-24].

In a study, Zolfaghari & Elahi (2019) concluded that COVID-19-related information should be provided based on children's age and cognitive development and that mothers' anxiety, stress, and depression were also a predictor of children's anxiety. The financial problems caused by this epidemic in families can have a negative and lasting impact on children and adolescents[13]. On the one hand, children are susceptible to negative events and disturbing feelings expressed by others; on the other hand, they may experience more pandemic-related anxiety due to a limited understanding of the outbreak and limited access to coping strategies[25]. Moreover, children are less able than adults to control the negative aspects of their thoughts[26] and to communicate them[27]. A different research found that the implementation of milder policies was linked to an increase in anxiety, internalizing, and externalizing issues identified by caregivers[28]. The findings suggest that the family functions as a cohesive unit, where the actions and behaviors of each impact the overall behavior of other family members. If one family member is experiencing problems or difficulties, it can negatively affect the functioning of the entire family system, leading to disruption in their collective functioning[24]. The parent-child stress theory suggests that families with high levels of parental stress and frequent parent-child problems experience elevated levels of stress. When the behavioral quality of parents declines, it leads to behavioral and emotional issues in children, such as aggression, defiance, and anxiety[23].

Stress during the pandemic may have posed challenges for parents who are trying to provide care. Stressed parents often find it challenging to understand and respond appropriately to their children's needs; they may be too overwhelmed to find appropriate ways to support their kids and address their questions and fears[29]. When children do not find appropriate answers to their concerns, they may exhibit increasing distress, often expressed through emotional and behavioral problems[30]. Importantly, mothers may be unable to hide their anxiety. When they over-protect while trying to support, they may exhibit their anxiety, thus increasing the chance of it spilling over. Of note, recent studies conducted in the Chinese context indicated that mothers' dysregulation of emotions predicted not only their emotion dysregulation a year later but also their spouses and their children's emotion dysregulation[31]. In another study, mothers' emotion dysregulation predicted their own and their spouses' supportive reactions (i.e., expressive encouragement, problem-focused responses, and emotion-focused responses[32] to children's negative emotions[33]. For children, family support emerged as a resource during the lockdown. A diary study demonstrated that parents' authoritative parenting of their 6- to 19-year-olds over the 21 days of the study during the first lockdown contributed to children's and adolescents' positive affect and lowered their emotional problems during this period of strain for the whole family (while controlling for relevant covariates). Family support also seemed to moderate changes in anxiety during the pandemic[34].

Previous indicated that there was a significant positive correlation between children's anxiety and mothers' anxiety regarding children's understanding of the COVID-19 virus. They concluded that information regarding COVID-19 should be tailored to suit children's age and cognitive development. Additionally, the researchers found that mothers' anxiety, stress, and depression were predictors of children's anxiety and their adherence to social distancing measures[13]. Previous research on children's cognitive development has demonstrated that young children primarily rely on their parents for information due to their limited cognitive abilities. Attitude serves as an underlying mechanism that guides behavior and influences opinions about individuals, objects, and events[34]. Attitude consists of three domains, namely cognition, behavior, and emotion. The cognitive aspect encompasses beliefs and information, whereas the emotional component includes feelings and emotions. The behavioral aspect is derived from an individual's attitude[30].

During the initial five to six years of a child's life, their attitudes are greatly influenced by their early encounters, social interactions, and personal experiences with individuals and groups. When children develop a negative attitude towards certain situations or events, it can make them feel fearful and anxious about those particular circumstances[13]. Understanding the disease, its transmission, and prevention methods can protect children's health, but excessive information can make them more susceptible to perceived risks and issues, potentially causing problems for them. Consequently, if anticipatory care or the knowledge and statistics provided are exaggerated or fail to consider the child's cognitive development level, it can result in elevated stress, anxiety, and mental health threats for children[30,13,34].

There are certain limitations to the research that should be recognized. One limitation is the restricted access to the statistical sample, resulting in a reduced number of samples. Additionally, the online method of data collection presents another limitation. The limited awareness and acceptance of this method among individuals may lead to a decrease in the number of participants and the exclusion of incomplete

questionnaires from the analysis process. The accuracy of the information obtained from participants cannot be guaranteed due to the distribution of online questionnaires. Furthermore, there is no way to verify if the participants followed the instructions provided at the beginning of the questionnaire. Another limitation of this method is the uncertainty of whether the questionnaires were completed by individuals within the desired age range. Moreover, the non-cooperation of school administrators in administering online questionnaires for virtual class groups further adds to the limitations.

Based on the regression analysis conducted, it has been ascertained that parental anxiety and stress, as well as mothers' inability to manage their emotions, significantly impact children's attitudes and their anxiety towards various events. Moreover, these factors influence the children's behavioral and social responses when facing risks. Enhancing parent-child relationships and promoting children's mental well-being can be achieved by imparting effective parenting techniques and improving parent-child communication, particularly among mothers.

Amid the COVID-19 pandemic, virtual platforms like the Shad program can be utilized to provide training on anxiety and stress management skills. Furthermore, training programs can also be designed to create a better understanding of the COVID-19 virus among children, thereby alleviating their anxiety and increasing their awareness. This study focused solely on the city of Kermanshah, indicating the need for further research to include other provinces to facilitate comparative analysis. In addition, it is advisable to explore other contributing factors to children's anxiety, such as parenting principles and self-care practices, as well as other dimensions of anxiety, including death-related anxieties.

The findings of this study reveal that mothers experiencing a lack of emotional control as a result of the COVID-19 pandemic and changing living circumstances exhibit heightened levels of stress, anxiety, and tension compared to other mothers. Consequently, this leads to increased stress levels among their children. These outcomes suggest that the persistence of anxiety, stress, and depression in mothers, along with their compromised mental well-being, give rise to various adverse consequences in children, including diminished self-assurance, academic under-performance, decreased social adjustment, aggression, and depression.

Ethical Considerations

The study was approved by the Ethics Committee of Islamic Azad University, Kermanshah branch under the ethical code of IR.KUMS.REC.1399.028.

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Conflict of Interest

The authors declared no conflict of interest.

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