Original Article

Corona Disease Anxiety And Parenting Stress: Predictions Of Ahvaz Children Anxiety During Home Quarantine Due To Corona Virus Outbreak

Reyhaneh Yahyaei[1], Mah Asa Rasoli[2] ,Mohammad Ismail Zand[3], Maryam sobhaninia[4*],Zahra Karimi Asl[5]

[1]M.Sc. of Educational Psychology, Azad University, Dezful Branch, Khuzestan, Iran
[2]M.Sc of Clinical Psychology, Azad University, Tehran West Branch, Iran
[3]M.Sc. of Family Counseling, Islamic Azad University, Qom branch, Iran
[4*]M.Sc of Counseling, Alzahra University, Tehran, Iran
[5]M.Sc of Educational Psychology, Yasuj University, Yasuj, Iran

***Corresponding author:** Maryam sobhaninia

[*]M.Sc of Counseling, Alzahra University, Tehran, Iran, Msobhaninia77@gmai.com
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Abstract

Anxiety is one of the important variables that can effect on the present and future life of children.The aim of this study was to predict children's anxiety through Corona Disease Anxiety and Parental Stress during coronavirus quarantine. The research method was correlational. The study statistical population was all primary children and their mothers of Ahwaz in the year 2019-20. Out of 400 eligible mothers, 300 mothers were selected as the sample by convenience sampling method and answered online the questionnaires including Corona Disease Anxiety Scale**,** short form of Parental Stress Questionnaire and Spence Children's Anxiety Scale- Parent Version. The Mothers completed Corona Disease Anxiety Scale**,** short form of Parental Stress Questionnaire and Spence Children's Anxiety Scale- Parent Version. Pearson correlation coefficient and stepwise regression were used to analyze the data.. The results indicated that there is a positive and significant correlation between corona disease anxiety and parenting stress with children's anxiety during coronavirus quarantine. Also, the results of regression analysis showed that corona disease anxiety and parenting stress can significantly predict 31% of changes in children's anxiety. Therefore, it is suggested that the necessary planning be done to reduce the anxiety of parents and children during epidemics.

Keywords: Corona Disease Anxiety, Parental Stress, Anxiety, Primary school children, Quarantine, Corona epidemic

INTRODUCTION

With the increase in the number of cases and deaths due to Covid-19 disease worldwide that has emerged since December 2019, additional stress has been placed on individuals and communities (Boyraz & Legros, 2020).Meanwhile, worldwide, there have been reports of increased levels of anxiety in children during the Covid-19 epidemic (Duan et al., 2020).

Children are highly vulnerable to persistent stress from epidemics and prolonged quarantine during critical developmental periods (Romeo, 2017; Fox, Levitt, & Nelson, 2010; Courtney et al., 2020; Romero et al., 2020), and this vulnerability is due to the fact that they have more limited resources to understand and interpret epidemic events (Romero et al., 2020).

It has also been observed in previous research on disasters (Norris et al., 2002). In addition, this high anxiety is associated with significant dysfunction (Gori et al., 2011), and the risk of depression and suicidal ideation (Renaud et al., 2008, Tan, Xia & Reece, 2016; Lew et al., 2019).Also, the rate of spontaneous improvement of anxiety symptoms in children is low and persists during development Thus, childhood is a high-risk age for anxiety (Teubert & Pinquart, 2011).

One of the factors that can affect children's anxiety during quarantine is parenting stress (Fegert et al., 2020; Pfefferbaum & North, 2020; Park et al., 2020; Liu et al., 2020). Parental stress is a distinct type of stress that arises when a parent's perception of the demands of parenting outstrip his or her resources (Coulacoglou, C., & Saklofske, 2017)

For about 5-20% of parents, parenting stress can increase to the level of parental burnout (Roskam, Brianda & Mikolajczak, 2018; Sejourne et al., 2018). Also, parenting stress, especially during the Covid-19 era, creates a kind of extreme anxiety and stress that affects the growth and anxiety of children because it causes strict and violent parenting (Eo and Kim, 2017; Romero et al., 2020; Chang et al., 2020).

In this regard, Brooks et al. (2020) recently found that during the coronavirus epidemic, parents have more conflicts with their children and use strict methods to communicate with their children, and these methods Strictness and stress are likely to exacerbate a child's anxiety and worry.

Spinelli et al. (2020) showed that the effect of quarantine on children's behavioral and emotional problems is due to parental stress, and that parents who report more problems with quarantine show more stress. This in turn increases children's problems.

Studies have shown that one-third of parents are highly anxious about the epidemic of Covid-19 and have corona anxiety (McCormack et al., 2020). Anxiety caused by coronavirus can have many negative consequences for children, so that

children with anxious parents had less visits to the park and more use of computers and the Internet (McCormack et al., 2020), which increased the level of anxiety among Children revolve (Duan et al., 2020).
In this regard, Zolfaghari et al. (2016) based on their study suggested that there is a significant relationship between maternal anxiety and child anxiety, so that the correlation between maternal anxiety and their children's anxiety was more than children's awareness of corona disease. The results also showed that children who spent more time with their anxious mothers and were at home during the quarantine of their strict mothers were more likely to experience anxiety than other children. In another study, Atadokht, Daneshvar et al. (2015) showed the effect of maternal anxiety and stress on anxiety and adolescents.
Finally, given that children are very vulnerable to persistent stress at critical times of development, their mental health during and after the epidemic deserves special attention. On the other hand, from what has been said, it seems that the way parents deal with the Covid-19 epidemic can affect children's anxiety during this period. In the research of Zolfaghari et al. (2016), general anxiety of mothers has been considered.
In the present study, anxiety due to coronavirus anxiety is considered. On the other hand, so far no research has examined the effect of parenting stress in stressful conditions of coronavirus epidemic on children's anxiety. The study of Atadokht et al. (2015), which showed the effect of maternal anxiety and stress on adolescent anxiety, under normal circumstances of this study examined maternal anxiety and general stress, and the study population was adolescents. In the present study, children in epidemic conditions are considered to be with their parents for a longer period of time due to quarantine conditions.
Finally, due to the emergence of the issue of Covid-19 epidemic and due to the lack of coherent and sufficient studies in this regard, it is necessary to identify the contributing factors to children's anxiety. Therefore, according to what has been said, the present study was conducted to determine the relationship between corona anxiety and parenting stress with children's anxiety during coronavirus quarantine. In this regard, the following hypothesis is proposed: Parenting stress and corona anxiety in parents can predict the anxiety of children during corona quarantine.

METHOD

The present study is descriptive. The statistical population of this study included all mothers of children aged 7 to 11 years in Ahvaz in 2020-2021. In order to estimate the sample size, the formula proposed by Tabakhnick & Fidell (2007) was used. Based on their proposed formula, the minimum sample size in correlation studies is calculated from the formula 50 + 8M <N. In this formula, N is the number of samples, M is the number of independent variables. In this study, there were 2 independent variables, but to ensure the sample size, 300 mothers were considered. To select sample people due to Commuting restrictions and prevention of coronavirus using social media (eg WhatsApp and Instagram) and through an online call from mothers of children aged 7 to 11 years in Ahvaz, invited Action was taken. 400 people expressed their readiness and satisfaction to participate in the study, of which 300 were selected by convenience sampling. Inclusion criteria include: no neurological disorders that lead to drug use (self-reported), age range 25 to 55 years, not divorced, having at least a diploma, agreeing to participate in the study Exclusion criteria included reluctance to participate in research ,and use of psychiatric drugs.
After voluntarily selecting the participants, the research tools were sent electronically to them and they were asked to answer questions based on the events experienced during the coronavirus epidemic. Finally, the statistical results were analyzed using SPSS software version 25 with Pearson correlation coefficient and stepwise regression tests.

MEASURING TOOL

Corona Disease Anxiety Scale (CDAS) : The Corona Anxiety Scale was developed by Alipour, Ghadami, Alipour and Abdollahzadeh (2019) to measure anxiety caused by the outbreak of coronavirus in Iran. The final version of this scale is 18 items and 2 components (agent). Articles 1 to 9 assess psychological symptoms and Articles 10 to 18 assess physical symptoms and are rated on a Likert scale from 0 (never) to 3 (always). The minimum and maximum scores are between 0 and 54, and a high score on this scale indicates a higher level of anxiety in individuals. The reliability of this scale was reported by Alipour et al. (2019) with Cronbach's alpha value of 0.919 for the whole scale of 0.87 for the first factor and 0.86 for the second factor. They also confirmed the validity of this scale using exploratory and confirmatory factor analysis. In the present study, the reliability of the scale was obtained by Cronbach's alpha coefficient for the overall score of the scale 0.879 and for psychological and physical symptoms 0.754 and 0.789, respectively.
Parenting Stress Index-Short Form (PSI-SF) : The short form of Parental Stress Questionnaire by Abidin(1995) has been prepared directly from the long form of this scale in order to measure stress in parent-child relationships that can be implemented in a limited time. The short form of the Parental Stress Scale is 36 items and includes the subscales of Parental Disorder, Dysfunctional Parent-Child Interactions, and Child Characteristics. The Parental Conflict subscale measures parents' feelings of parenting stress in relation to other personal stresses. The Child Characteristics subscale reflects children's behaviors that make parenting easier or more difficult. Finally, the parent-child dysfunctional subscale addresses parents' expectations of children to what extent child behavior reinforces parenting behavior. Reitman et al. (2002) reported Cronbach's alpha for the total index and subscales in the range of 0.88 to 0.95 and evaluated its validity using confirmatory factor analysis. In Iran, psychometric indices of this scale have also been confirmed by Fadai et al. (2010). In the present study, the reliability of the scale by Cronbach's alpha coefficient for the score of this questionnaire was 0.898.
Spence Child Anxiety Questionnaire (SCAS-P: Parent form): The Parent Form Anxiety Inventory, developed by Spence (1998), has 38 items and is used for ages 3 to 17 years. To score on this scale, responses are scored on a Likert scale from 0 (never) to 3 (always), with a maximum score of 114 and a minimum score of 0. In addition to the 6 subscales of separation

anxiety, social anxiety, obsessive-compulsive disorder, panic-market phobia, generalized anxiety disorder, and fear of bodily harm, this questionnaire also provides a total score that represents general anxiety. Spence (1998) reported comprehensive and plausible reliability and validity of this scale. This tool has been standardized by Mousavi et al. (2007) in one study (children 6-12 years old) and by Basaknejad et al. (2012) in another study (4-6 years old) in Iran. In the present study, the reliability of the questionnaire was obtained by Cronbach's alpha coefficient of 0.891.

Findings

The age range of children participating in this test was between 7 to 12 years and the mean and standard deviation of children's age were 9.22 and 1.84, respectively, and the age range of their mothers was between 25 and 55 with average and standard deviation of 41.20 and 7.16. Table 1 shows the mean and standard deviation of the research variables.

Table 1. Demographic information of variable level of education of mothers

Percentage	frequency	index
65.0	195	Bachelor
31.7	95	Master
3.33	10	Diploma
100	300	Total

The results of descriptive statistics in Table 1 showed that about 65% of mothers participating in the study (195 people) had a bachelor's degree, about 31% of mothers participating in the study (95 people) had a master's degree. About 3% of the mothers participating in the study (10 people) also had a diploma.

Table 2. Demographic information on coronary heart disease status in participating mothers

Percentage	frequency	index
66.7	200	History of Corona
33.3	100	No history of Corona
100	300	Total

Type According to the results of Table 2, about 67% (200 people) of the participating mothers had a history of corona disease and about 33% (100 people) had never had corona disease.

Table 3. Descriptive statistics of research variables

Kurtosis	Skewness	SD	M	Variables	
- 0.63	0.066	5.46	15.83	Psychological symptoms	Corona anxiety (parents)
- 0.47	- 0.411	5.69	16.71	Physical symptoms	
- 0.52	- 0.127	10.73	32.54	Total	
- 0.43	0.08	9.27	35.52	Parental confusion	Parenting stress
0.36	- 0.06	7.95	37.22	Dysfunctional parent-child interactions	
- 0.20	0.01	7.97	36.79	Problematic child characteristics	
0.604	0.168	22.25	108.53	Total	
- 0.39	0.168	18.67	67.34		Anxiety in children

Table 4 shows the correlation coefficients of corona anxiety test and parenting stress and their subscales with children's anxiety. As we can see in Table 2, there is a direct and significant relationship between corona anxiety and parenting stress with children's anxiety during corona quarantine ($p < 0.01$). There is a direct and significant relationship between psychological and physical symptoms of corona anxiety, parental confusion, dysfunctional parent-child interactions and the characteristics of a problematic child with anxiety in children during corona quarantine ($p < 0.01$).

Anxiety in children	Variables	
0.52**	Psychological symptoms	Corona anxiety (parents)
0.42**	Physical symptoms	
0.48**	Total	
0.38**	Parental confusion	Parenting stress
0.23**	Dysfunctional parent-child interactions	
0.34**	Problematic child characteristics	
0.37**	Total	

(** = $p < 0.01$).

Stepwise regression analysis was used to determine the role of corona anxiety and parental stress in predicting children's anxiety. Before predicting children's anxiety based on two variables of corona anxiety and parental stress, regression analysis assumptions were first examined:
Independence of errors from each other, which has been used to test this assumption, Durbin–Watson test and according to reliable sources, it can be said that if the statistical value of this test is between 1.5 to 2, the independence of observations is acceptable. And analysis can be continued (Tabakhnick, 2001). The results of Durbin–Watson statistics in the present study (1.584) were obtained to examine the independence of the residuals and it can be said that the assumption of the independence of the dependent variable data (child anxiety) has been observed. 2. The errors have a normal distribution with a mean of zero, which is also the assumption in the present study, and the errors have a relatively normal distribution, and the mean of the errors is very small and the standard deviation is close to one. 3. Lack of correlation between independent variables, which were analyzed using two statistics of tolerance and Variance Inflation Factor. As can be seen in Table 5, the value of the tolerance statistic is about one and the value of the variance inflation factor is less than two and relatively desirable, therefore, there is no correlation between the independent variables. This test can be used to test the hypotheses of the present study.

regression coefficient (B)		F P	RS	R		Statistical indicators	
Parental confusion	Mental anxiety				Step	The variable	dependent
	β=0.520 B= 1.77 t= 10.500 P= 0.001 VIF = 1 Tolerance =1	110.255 0.001	0.270	0.520	اول		anxiety
β= 0.283 B= 0.569 t= 5.863 P= 0.001 VIF = 1.056 Tolerance =0.947	β= 0.455 B= 1.553 t= 9.428 P= 0.001 VIF =1.056 Tolerance =0.947	78.486 0.001	0.346	0.588	دوم		

Table 5. Summary of stepwise regression results of children's anxiety through corona anxiety components and parenting stress

As shown in Table 5, according to the results of stepwise regression analysis, the multivariate correlation coefficient for the linear combination of corona anxiety and parenting stress with children's anxiety in the first step is equal to R = 0.520 and RS =0.270 was obtained and (F = 255/1105 and p <0.001). In the second step, R = 0.588 and RS = 0.346 were obtained (F = 78.486 and p <0.001). According to the value of (R2) RS, it was found that 34% of the variance of children's anxiety can be explained by predictor variables.

DISCUSSION AND CONCLUSION

The aim of this study was to predict children's anxiety based on corona anxiety and parenting stress during coronavirus quarantine. The results showed that corona anxiety (physical and mental) and parenting stress have a significant relationship with children's anxiety. The results also showed that corona anxiety and parenting stress can significantly predict children's anxiety during corona quarantine. These results are consistent with the research of Duane et al. (2020), Brooks et al. (2020), McCossack et al. (2020), Romero et al. (2020), Zolfaghari et al. (1399).
According to Moore, Whaley & Sigman (2004), mothers anxious have less heat in parenting than their children. Children of parents with corona anxiety may show more stress response to a psychosocial stress (Koszycki et al., 2019) and parental anxiety creates a specific context for anxiety disorders in children (Hirshfeld-Becker et al., 2008). Kaplan et al., 1996; Micco et al., 2009; Hughes et al., 2009). In addition, according to the model of health belief, people who are anxious about the disease and perceived the degree of fear or threat, motivate the person to perform health practices (Kazdin, 2000). Therefore, mothers who are anxious about the new coronavirus are more likely to engage in avoidant behaviors for themselves and their family members, which can lead children to avoid certain things, if they do, is anointed.
In a statement, anxious parents, especially those with corona heart disease, are more careful and sensitive to the rules of health and social distance due to the severity of their anxiety. Therefore, children with parents with high levels of corona disease will have more restrictions on outdoor activities, and in order to spend more time with their families, they will mainly focus on computer and Internet activities and games without the need for adequate mobility.
Will lead to changes in children's motor and behavioral patterns in the long run (McComack et al., 2020). Therefore, the interaction of psychosocial stress caused by house arrest and lifestyle changes in children can reduce mental health in the long run and cause symptoms such as anxiety and mental and physical arousal in them. In other words, according to social learning theory Children will learn this way of managing stress from their parents and as a result they will have more anxiety.

On the other hand, the role of parenting stress on children's anxiety can be expressed. At the behavioral level, when parents experience high levels of stress, they may vent their negative emotions through misbehaviors such as physical or verbal abuse (Rodriguez, 2010). In fact, parents may use ineffective coping strategies when faced with the challenges or crises of an epidemic. Therefore, due to the complex and increasing pressures during the Covid-19 pandemic, parents who do not have an appropriate coping strategy may be more likely to abuse their children (Abramson, 2020; Lawson et al., 2020). Therefore, increasing parental stress during an epidemic may lead to an increase in the use of inappropriate coping strategies during parenting, which due to these inefficient methods, transfer a lot of stress to children, which in turn increases children's anxiety.

One of the limitations of the present study is the implementation of research among mothers of children in Ahvaz. Therefore, be careful to generalize the results to other cities. In addition, according to the results of the study, since children are vulnerable to environmental hazards and their mental health in adulthood is affected in the early years, it is recommended that careful attention and planning to avoid any long-term consequences. Duration for children. Also, according to the results, it is suggested that in practice, the necessary planning to strengthen the ability of parents to cope with social and personal threats caused by the crisis to reduce parental stress and anxiety to be done so that parents, especially mothers with a positive Face the Covid-19 crisis.

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