

Investigation of COVID-19 Fear and Related Factors of Mothers with Children Between 2-6 Years Old**

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ABSTRACT:

Purpose: The research was conducted descriptively to examine the fear of COVID-19 and related factors of mothers with children aged 2-6 years.

Material and Methods: The sample of the study was calculated with the sample formula of unknown universe and the sample size was 566 mothers. The "Personel Information Form for the Mother and Child" was used to collect the data and the "COVID-19 Fear Scale" was used to assess mothers' fear of COVID-19. The data of the research was created via Google forms and mothers were reached via social media and WhatsApp between August 2020 and December 2020. The study data were analyzed with SPSS 25.0 program. Data were evaluated using independent samples t-test, multiple linear regression analysis.

Results: The mean score that the mothers got from the COVID-19 fear scale was determined as 19.37 ± 5.84 . It was determined that the effect of five variables on the COVID-19 fear score was 10.4%. Variables that have a significant effect on mothers' COVID-19 score are from most effective to least effective according to the standardized regression coefficient ($B=\beta$); it was determined that allowing the child to meet physically with friends, increasing the practices for hygienic care, taking the child to closed areas such as markets and shopping malls, mother's job and using a new disinfectant that was not used before.

Conclusion: As a result; it was determined that the COVID-19 fear scores of the mothers were affected by variables that allowing the child to meet physically with friends, increasing the practices for hygienic care, taking the child to closed areas such as markets and shopping malls, mother's job and using a new disinfectant. During the pandemic process, COVID-19 fear levels of mothers can be reduced by providing continuous and effective information about protection from COVID-19 disease.

Keywords: Mother, Child, COVID-19, Fear

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INTRODUCTION

Coronavirus disease (COVID-19) is an infectious viral disease that first appeared in Wuhan, China in December 2019. The coronavirus, which causes severe acute respiratory infections with unknown etiology, has affected many countries (Huang et al. 2020; Wang et al., 2020). It has been declared as a "pandemic" by the World Health Organization because of the rapid spread of the disease by means of physical contact, respiratory tract, and the rapid

increase in the number of infected people (WHO, 2020). The first coronavirus case in our country was seen on March 11, 2020 ("COVID-19 Daily Situation Report", 2020). The most common symptoms of the disease include fever, fatigue, muscle pain, dry cough, and shortness of breath (Naser et al., 2020; Wang et al., 2020). The lethal effect of the virus, whose transmission risk is the same for everyone, changes with age (Çobanoğlu, 2020). There is not yet a definitive treatment for coronavirus disease,

especially for those with severe chronic diseases (Akpınar and Üstün, 2020).

It is known that children, like adults, are more likely to become infected and can spread the disease rapidly (WHO, 2020). In a study conducted in China on COVID-19 in children, 2143 children were examined and it was determined that the children were sensitive to COVID-19 (Dong et al., 2020). For this reason, it is important for children to comply with personal isolation, hygiene and physical distance rules. Due to their level of cognitive development and insufficient medical knowledge, especially preschool children may find it difficult to understand the importance of issues such as epidemics or viruses. In addition to the fear of losing themselves or their children, this situation may cause mothers to experience fears such as the fear of not being able to reach health institutions, of being infected at any time or the fear of transmitting the virus to their children. Mothers' attitudes and protective attitudes that include excessive anxiety, exaggerated panic in this process can also negatively affect the mental health of children. (Demirbaş and Koçak, 2020; Jiao et al., 2020). Overprotective attitude negatively affects the child's ability to manage their own emotions and behaviors. It can lead to behaviors such as regression, waiting for support from others in reaching their goals, difficulty in making decisions and making it a habit to have someone else solve problems instead of them (Tönbul, 2019). Although parents are primarily responsible for ensuring that children healthily pass the COVID-19 process, pediatric nurses also have important responsibilities. Counseling on the measures to be taken against COVID-19 disease can help families and therefore children to have a healthier pandemic process both physically and mentally, and reduce the anxiety and fear experienced (Pars, 2020; Weaver and Wiener, 2020). It is important to reveal and interpret the socio-demographic variables of mothers and their approach to preventive practices, in terms of understanding the effects of COVID-19 disease, which is yet to be discovered with its different dimensions. Therefore, the study was conducted to examine the fear of COVID-19 and related factors of mothers with children aged 2-6 years.

MATERIAL and METHODS

Purpose and Type of the Study

The aim of the study was to examine the fear of COVID-19 and related factors of mothers with children aged 2-6 years. The research was carried out as a descriptive study.

Sampling and Participant

The universe of the study consists of mothers with children aged 2-6 years in Central Anatolia, South, Southeast Region in Turkey. The research sample consisted of mothers who could be reached within the data collection period. However, since the number of mothers using social media (Facebook, Instagram) and WhatsApp could not be determined during the data collection process of the research (August 2020-December 2020), the sample account with an unknown universe was used to calculate the sample of the study. The sample size was calculated based on the Turkish adaptation studies of the COVID-19 Fear Scale by Bakioğlu et al. (2021). According to the results of the study, the score obtained from the COVID-19 Fear scale was reported as 19.44 ± 6.07 (Bakioğlu et al., 2021). In this direction; the sample size was determined as 566 by using the formula $n = t^2\alpha^2/d^2 = (1.96)^2(6.07)^2/(0.5)^2$ were used to calculate the sample power of the study. The Post-hoc Statistical Power Calculator for Multiple Regression website (probability level 0.05, R^2 .10, number of predictors 20, Sample Size 566) and the sample power was determined as 0.99 (Soper, 2022). Snowball sampling method, one of the non-probabilistic sampling methods, was used to reach the determined sample size.

Data Collection Tools

Personal Information Form and COVID-19 Fear Scale were used to collect research data.

Personal Information Form

In the form, 11 related to the socio-demographic characteristics of the mothers (age, marital status, education status, profession, working style, number of children, age-gender of the child between 2-6 years old, family type, place of residence, home) There were a total of 21 questions, 10 of which were related to the practices for the child during the

COVID-19 pandemic process (Brown et al. 2020; Demirbaş and Koçak, 2020; Demir and Toprak, 2020).

COVID-19 Fear Scale

The scale developed by Ahorsu et al. (2020) was adapted to Turkish by Bakioğlu et al. (2021) (Ahorsu et al., 2020; Bakioğlu et al., 2021). The total score obtained from the scale reflects the level of coronavirus (COVID-19) fear experienced by the individual. The score of the one-dimensional and seven-item scale is between 7-35. As the score obtained from the scale increases, it means that the fear of coronavirus increases. The cronbach's alpha value of the scale was reported as .88 (Bakioğlu et al., 2021). The cronbach alpha value determined in this study was found to be .88.

Data Collection

Collection of research data was carried out online due to the COVID-19 pandemic. First of all, the survey questions were created via "Google Forms". Before the survey questions, an explanation section containing information about the research was included in order to inform the participants. The link address created was then shared via social media (Facebook, Instagram) and WhatsApp, and mothers were included in the study on a voluntary basis. The survey created on Google forms was left open for data acquisition for 90 days and the survey form was closed for data entry at the end of the 90th day. While creating survey questions in Google Forms, the "required to be filled" option was selected for all questions. Therefore, no missing data was found in the forms filled out by the participants. The research was conducted with a total of 566 mothers who filled the online questionnaire.

Statistical Analysis

In the analysis of the data obtained at the end of the study, IBM SPSS Statistics version 25.0 was used. In the evaluation of the data, the number, percentage, score and standard deviation were determined in

computer environment. The normal distribution of COVID-19 fear scale scores was evaluated with skewness and kurtosis values, and the data were found to have a normal distribution. Independent t test was used to compare two variables, and ANOVA was used to compare more than two variables. Multiple linear regression (Backward) analysis was used to evaluate the effect of independent variables on COVID-19 fear scale scores. In statistical evaluation, the significance level was determined as $p < .05$.

Ethical Approval

The approval of the University Social and Human Sciences Ethics Committee was obtained to conduct the study (decision dated 28.06.2020 and numbered 21.06.2020-5). In addition, the participants were informed about the content of the research by placing the explanation section at the beginning of the online survey.

RESULTS

Table 1 shows the scores of mothers on the fear of COVID-19 scale. It was determined that the mothers received the minimum 7 and the maximum 35 points on the COVID-19 fear scale. It was found that the mean total score the mothers got from the fear of COVID-19 scale was 19.37 ± 5.84 .

When the Fear of COVID-19 scores were examined according to the descriptive characteristics of the mothers, It was determined that there was no statistically significant difference in terms of age material, education, job, family type, living place, inhabited house, total number of children, child's age and gender, having chronic illness. Also it was determined that the mean scores for fear of COVID-19 were significantly higher than the mothers who were not working compared to the working mothers (Table 2) ($p < .000$).

Table 1. Mothers' scores on the fear of COVID-19 scale

| | n | Min | Max | Mean | Standart Deviation |
|---------------------|-----|------|-------|-------|--------------------|
| COVID-19 Fear Scale | 566 | 7.00 | 35.00 | 19.37 | 5.84 |

Table 2. The scores for fear of COVID-19 according to the mothers' introductory characteristics

| | n | % | Mean ± SD | t | P |
|---|--------|------|-------------|----------|-------------|
| Age | | | | | |
| Between 17-30 years | 121 | 21.4 | 19.92 ±5.97 | 1.163 | .245 |
| 31 years and older | 445 | 78.6 | 19.22±5.80 | | |
| Marital status | | | | | |
| Married | 553 | 97.7 | 19.39±5.80 | .332 | .740 |
| Single | 13 | 2.3 | 18.84±7.42 | | |
| | | | | F | P |
| Education status | | | | | |
| Primary education | 35 | 6.2 | 20.02±6.00 | 1.505 | .223 |
| High school | 59 | 15.7 | 20.23±5.81 | | |
| University and above | 442 | 78.1 | 19.15±5.82 | | |
| | | | | t | P |
| Job | | | | | |
| Working | 399167 | 70.5 | 18.91±5.76 | 2.953 | .003 |
| Not working | | 29.5 | 20.49±5.89 | | |
| Family type | | | | | |
| Nuclear family | 524 | 92.6 | 19.41±5.71 | .518 | .605 |
| Extended family | 42 | 7.4 | 18.92±7.28 | | |
| Living place | | | | | |
| District | 149 | 26.3 | 19.89±5.71 | 1.270 | .205 |
| City | 417 | 73.7 | 19.19±5.87 | | |
| Inhabited house | | | | | |
| Detached house | 68 | 12.0 | 18.42±5.51 | 1.434 | .152 |
| Apartment | 498 | 88.0 | 19.50±5.87 | | |
| The presence of people with COVID-19 disease at home | | | | | |
| Yes | 55 | 9.7 | 19.09±6.14 | .383 | .702 |
| No | 511 | 90.3 | 19.40±5.81 | | |
| Total Number of Children | | | | | |
| 1 child | 202 | 35.7 | 19.24±5.82 | .411 | .681 |
| 2 children and above | 364 | 64.3 | 19.45±5.85 | | |
| Child's age between 2-6 years | | | | | |
| 2-3 years | 258 | 45.6 | 19.62±5.76 | .902 | .367 |
| Between 4-6 years | 308 | 54.4 | 19.17±5.90 | | |
| Child's gender between 2-6 years | | | | | |
| Female | 259 | 45.8 | 19.40±5.76 | .088 | .930 |
| Male | 307 | 54.2 | 19.35±5.91 | | |
| Chronic illness of the child | | | | | |
| Has a chronic illness | 27 | 4.8 | 19.62±6.82 | .229 | .819 |
| Has not a chronic illness | 539 | 95.2 | 19.36±5.79 | | |

t: Independent sample t test F: ANOVA testi p<.000

Table 3 shows the scores for fear of COVID-19 according to the applications made by mothers to the child. The mean scores of fear of COVID-19 were found significantly higher in mothers who do not take the child out to play games, do not take the child to closed areas such as markets, shopping malls, do not allow the child to meet physically with his friends, making changes in nutrition, increasing the practices for hygienic care, using new disinfectants that were not used before for hygiene, wear a mask when they are in close proximity with others, sent to kindergarden before the pandemic but not now (p<.000).

The results of the multiple regression analysis

performed to evaluate the effects of five variables determined to have an effect on mothers' COVID-19 fear score are shown in Table 4. In the multiple regression analysis to evaluate the effect of 8 independent variables determined to have an effect on the fear of COVID-19 score of mothers; Four variables, “taking the child out to play games, making changes in nutrition, wearing a mask when the child is in close proximity with friends and sending to kindergarden before the pandemic”, were excluded from the regression model as they did not have sufficient impact. It was determined that the effect of five variables on the COVID-19 fear score was 10.4%. Variables that have a significant effect on

mothers' COVID-19 score are from most effective to least effective according to the standardized regression coefficient (B =beta); it was determined that allowing the child to meet physically with friends, increasing the practices for hygienic care, taking the child to closed areas such as markets and shopping malls, mother's job and using a new disinfectant that was not used before. It was determined that there is a positive correlation between the scores of fear of COVID-19 and allowing

them to meet physically with friends and taking them to closed areas such as markets and shopping malls. It was determined that there is a negative relationship between increasing hygienic care practices, mother's job and using new disinfectants that were not used previously. Mothers' scores for fear of COVID-19 decrease by -1.93 points compared to those who do not allow physical contact with their friends, -1.45 points for those who do not take them to closed areas such as markets, shopping malls.

Table 3. The scores for fear of COVID-19 according to the practices of mothers on the child

| | Mean ± SD | t | p |
|---|------------|-------|--------------|
| Taking the child out to play games | | | |
| Yes | 18.98±5.81 | 3.163 | 0.002 |
| No | 20.85±5.72 | | |
| Taking the child to closed areas such as markets, shopping malls | | | |
| Yes | 18.14±5.75 | 4.261 | 0.000 |
| No | 20.24±5.75 | | |
| Allowing the child to meet physically with his friends | | | |
| Yes | 18.36±5.67 | 5.186 | 0.000 |
| No | 20.91±5.76 | | |
| Making changes in nutrition (such as giving supplements of vitamins, increasing nutrition) | | | |
| Yes | 20.08±5.56 | 2.894 | 0.004 |
| No | 18.67±6.03 | | |
| Increasing the practices for hygienic care (such as bathing, hand washing frequency) | | | |
| Yes | 19.61±5.76 | 3.878 | 0.000 |
| No | 15.71±5.90 | | |
| Using new disinfectants that were not used before for hygiene | | | |
| Yes | 19.91±5.70 | 3.544 | 0.000 |
| No | 18.0±5.97 | | |
| Wearing a mask when the child is in close proximity with friends | | | |
| Yes | 19.56±5.57 | 1.695 | 0.087 |
| No | 18.43±7.02 | | |
| Sending to kindergarden before the pandemic | | | |
| Yes | 18.24±5.48 | 2.786 | 0.06 |
| No | 19.75±5.91 | | |

t: Independent sample t test F: ANOVA testi p<.000

Table 4. Regression analysis results of variables that affect mothers' fear of COVID-19

| | B | S. Errors | β | t | p | %95 Confidence Min-max | |
|---|-------|-----------|------|--------|------|------------------------|------|
| (Constant) | 16.90 | 1.0 | | 16.412 | .000 | 2.59 | 3.57 |
| Allowing the child to meet physically with his friends | -1.93 | .5 | .16 | -3.880 | .000 | .13 | .41 |
| Increasing the practices for hygienic care | 3.16 | .99 | -.13 | -3.182 | .002 | -.73 | -.17 |
| Taking the child to closed areas such as markets, shopping malls | -1.45 | .49 | .12 | -2.964 | .003 | .07 | .34 |
| Mother's job | 1.34 | .51 | -.10 | 2.617 | .009 | -.33 | -.04 |
| Using new disinfectants that were not used before for hygiene | 1.22 | .99 | -.09 | 2.275 | .023 | -.32 | -.02 |

R: .32 R²: .104 F: 1.993 p: .000 Dur bin Watson: 2.036

It was found that the score increased, 3.16 points for those who increase hygienic care practices compared to those who do not, and 1.34 for working, the new disinfectant users who were not used previously increased by 1.22 points compared to those who did not.

DISCUSSION

In this period of COVID-19 pandemic, individuals experience the social and communal change brought about by the pandemic. As the perception of threat caused by infectious diseases increases, people who experience panic and stress exhibit different behaviors than normal. Due to the COVID-19 epidemic, the anxiety, stress and fear that people experience both for themselves and their loved ones are accepted as normal (Jiao et al., 2020; Yanarates, 2020). This study aimed to examine mothers' fear of COVID-19 and associated factors with children aged 2-6 years. The results showed that mothers' fear of COVID-19 was 19.37 ± 5.84 (Table 1). Since there were no studies examining mothers' fear of COVID-19, it was not possible to discuss the study with the same sample group. However, when the study results are compared with general population studies; it was observed that mothers' mean scores for fear of COVID-19 were higher (Duman, 2020; Gencer, 2020; Reznik et al., 2020, Zolotov et al., 2020). It is thought that mothers may have higher COVID-19 fear scores due to the concern of infecting their children.

The study shows that mothers' fear of coronavirus is affected by some demographic variables. One of these variables is the mothers' job. It was found that not working mothers had higher scores for fear of COVID-19 compared to working (Table 2). The fact that the COVID-19 disease is a new event and therefore a longer stay at home has increased the interest in the news about the coronavirus (Demir and Toprak, 2020; Yıldırım, 2020). It is known that fear increases as a result of stress and anxiety (Aşkın et al., 2020). It may be thought that mothers who were not working have higher COVID-19 fear scores due to the longer time they stay at home and the time to learn about COVID-19 compared to working mothers.

It is thought that the fear and anxiety of disease, which increases with the pandemic, will lead to an

increase in hygiene and protection behaviors in order to prevent transmission. In the study conducted by Karataş (2020), it was reported that after the COVID-19 pandemic, the participants' avoiding crowded environments, cleaning, hygiene, using masks or gloves while going out and healthy eating efforts increased. In other studies, it has been determined that disease anxiety causes an increase in hygiene behavior (Stevenson et al., 2009, Altun, 2020). In the study, it was found that the score for fear of COVID-19 was higher in mothers who applied hygiene and preventive measures for children (Table 3).

Preschool period is one of the important periods in human life. During this period, children have gained the freedom to act partially independently from their parents. Children need protection of their parents because they touch everything, put their hands to their mouths, their immune systems are not fully developed, they are in close contact with other children, and their developmental levels are not at a level to take precautions against diseases (Aral et al., 2020). Due to this need, mothers may be more protective of their children and be more worried about disease transmission.

Among the mothers who participated in the study, the mothers who do not allow their children to go out to play games, do not take them to closed areas such as markets, shopping malls, do not allow them to meet with physically their friends, increase the practices regarding nutrition and hygienic care, and do not send their children to kindergarden have significantly higher COVID-19 fear score was found. This results can be interpreted as mothers with a high level of fear act more cautiously to protect their children and family. Although fear has such a positive effect, it is not something that people want to experience fear. It would be useful for nurses to plan interventions to reduce mothers' fear.

CONCLUSION

It was found that the mean total score the mothers got from the fear of COVID-19 scale was 19.37 ± 5.84 . It was determined that the effect of five variables on the COVID-19 fear score was 10.4%. Variables that have a significant effect on mothers' COVID-19 score are from most effective to least effective according

to the standardized regression coefficient (B=beta); it was determined that allowing the child to meet physically with friends, increasing the practices for hygienic care, taking the child to closed areas such as markets and shopping malls, mother's job and using a new disinfectant that was not used before.

The COVID-19 pandemic not only affects physical health, but also affects mental health, increasing anxiety and fear against coronavirus disease. The ability of children to go through this difficult process in a healthy way is primarily related to the protection of the mental health of mothers. During this period, pediatric nurses providing effective and continuous information to mothers to protect children who are among the vulnerable groups can reduce mothers' fears of COVID-19 disease. As a reflection of the fear of illness, it is observed that there is an increase in hygiene and preventive action behaviors. Although hygiene behaviors and protective measures, which are important in reducing the transmission of the disease, have approached to ideal levels during the pandemic period, it is recommended to provide training by pediatric nurses through online channels in order to ensure their continuity.

Limitations

The study data were collected through "Google Forms" created online due to the COVID-19 pandemic process. Therefore, the survey questions could not be explained personally by the researcher. In addition, the lack of physical conditions for the participants to fill out the questionnaire is considered as a limitation. The study is limited to the answers given by 566 mothers to the survey questions between August and December 2020 in terms of time.

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Conflict of Interest

No potential conflict of interest was reported by the authors.

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