



The Impact of Fear of Coronavirus (COVID-19) on Women's Reproductive Health Attitudes: A Cross-sectional Survey Study

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: many studies have been conducted on women's health during the pandemic period, there are a limited number of studies on women's reproductive health problems during the COVID-19 pandemic period. The purpose of this study was to determine the impact of fear of coronavirus (COVID-19) on women's reproductive health attitudes.

Materials and Methods: The research was carried out descriptive and cross-sectional. The population of the research consisted of women over the age of 18 who were registered at Güneyyurt Family Health Center and who were not in menopause, and the sample consisted of 317 married women. The data were collected with the Introductory Information Form, COVID- 19 Fear

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Scale and The Scale for Determining the Reproductive Health Preventive Attitudes of Married Women.

Results: It was determined that 68.1% of the women were not working, 37.2% were secondary school graduates and their average age was 35.0 ± 9.81 . It was found that women's COVID-19 Fear Scale mean score was 18.72 ± 8.34 , and their SDQ mean score was 141.81 ± 16.84 . It was determined that there was a relationship between the Women's Fear of COVID-19 Scale and the sub-dimensions of the MSDS, Going to the Doctor on Issues Concerning Reproductive Health, General Health Behaviors to Protect Reproductive Health, and Protection from Unintended Pregnancies ($p > 0.05$).

Conclusion: It can be said that the fear of the fear of Covid 19 positively affected most of women's attitudes towards protecting their reproductive health and created awareness on this issue.

Keywords: Pandemic; reproductive health; fear.

1. INTRODUCTION

Coronavirus (COVID-19), which emerged in December 2019 in Wuhan, a city in China's Hubei province, has affected the whole world. The World Health Organization (WHO) first announced this epidemic as a "public health emergency of international importance" and then declared the "COVID-19 pandemic". The first case of COVID-19 in our country was detected on March 11, 2020. Since then, cases have increased in our country as well as all over the world. Because COVID-19 spread in a very short time and can result in death, policies were implemented to prevent the disease spreading. These policies have affected the public physically, spiritually, socially, economically, and sexually [1,2].

The COVID-19 pandemic affects social life and institutions as much as it affects the health of individuals. The impact of the pandemic on primary healthcare is particularly worrying. During the active pandemic period, healthcare personnel in many countries were assigned to care for COVID-19 patients, healthcare services were restructured or closed to meet increasing healthcare needs, and the supply chain of materials and medicines was disrupted. The WHO states that the pandemic has affected all health services, including mental health, maternal health, newborn, child and adolescent health, nutrition, and essential health services for communicable and non-communicable diseases [3]. In the reports received by the WHO from 105 countries during the pandemic, it was found that 89% of countries reported that at least one basic health service was interrupted; family planning services had been interrupted in 68% of the countries and completely disrupted in 9%; prenatal care services were interrupted in 53%

of countries; and birth services were partially interrupted in 32% [3].

Reproductive health services were interrupted as the majority of health services were instead devoted to combating the pandemic [4]. While the delay in women's access to services for their genitourinary problems causes disruptions in the treatment of these problems, it may also cause the problems to become complicated during the post-pandemic normalization periods. Examination of the international and national literature on the subject shows that although many studies have been conducted on women's health during the pandemic period, there are a limited number of studies on women's reproductive health problems during the COVID-19 pandemic period [5,6].

Therefore, the purpose of this study is to determine the impact of fear of coronavirus (COVID-19) on women's reproductive health attitudes.

2. METHODOLOGY

2.1 Sample

This study is a cross-sectional and descriptive study. The study was conducted in the central district of Karaman between 01 June 2022 and 1 December 2022. Target population of the study consisted of women aged 15-49 in the city of Karaman. The minimum sample size of the study, which was exemplify of universe Which was calculated as 317 women by using the Epi info 7.0 software confidence limit 95% and the margin of error 5%. Güneyyurt Family Health Center, determined by lottery, was included in the research. 317 married women aged 15-49, who applied to the aforementioned FHC and

accepted to participate in the study, were included in the study. The sample selection criteria were as follows: (1) Being a primary school graduate, (2) Married, (3) agreed to participate in the study. The evaluation was made on 22 women, since two women left the job during the application and one of them did not want to fill out the forms.

2.2 Instruments

For the collection of research data, we used a Women Information Form, COVID- 19 Fear Scale and The Scale for Determining the Reproductive Health Preventive Attitudes of Married Women.

Women information form: This form prepared by the researchers in line with the literature consists of questions which aim at determining the socio-demographic and marital features, income status, residence, family type (nuclear, extended etc.) and educational background.

The fear of COVID-19 scale (FCV-19S): The scale was developed by Ahorsu et al. [7]. Cronbach's alpha internal consistency coefficient of the scale is .82. The scale was adapted to Turkish by Bakioğlu et al. [8]. It is a unidimensional scale with seven items. It has a 5-point Likert-type rating system (ranging from 1: Strongly disagree to 5: Strongly agree). There are no reverse items in the scale. The total score obtained from all items of the scale reflects the level of fear of Coronavirus (Covid-19) experienced by the individual. The scores that can be obtained from the scale vary between 7 and 35. A high score from the scale means having a high level of fear of Coronavirus.

The Scale for Determining the Reproductive Health Preventive Attitudes of Married Women: This scale was developed by Demirci et al. (2004) to determine the attitudes of married women towards reproductive health. It consists of 39 items. It has five subdimensions: Behavior of Going to the Doctor on Issues Concerning Reproductive Health (8 items), Protection from Reproductive Organ and Breast Cancer (4 items), General Health Behaviors to Protect Reproductive Health (10 items), Protection from Genital Infections (14 items) and Protection from Unwanted Pregnancy (3 items). The scale has a 5-item Likert type assessment. The lowest score to be obtained from the scale is 39 while the highest score is 195. In score calculation of the scale, the first 16 items are assessed reversely.

A high score implies that the individual has a positive attitude towards reproductive health. Cronbach alpha coefficients of the scale are 0.82 for the whole scale [9].

2.3 Procedure

In order for the interview to be carried out in an appropriate setting, a private room was preferred. Informed consent was obtained and women were taken by the researcher to a private room for the interview. Questionnaire and scales were conducted face to face between 01 June 2022 and 1 December 2022. In the study, the research was applied that "Women Information Form", "The Fear of COVID-19 Scale (FCV-19S)" and "The Scale for Determining the Reproductive Health Preventive Attitudes of Married Women" by using the face-to-face interview technique after the necessary explanations were made by the researcher. The data were collected within 30-40 minutes in total.

2.4 Data Analysis

It was used in the evaluation of research data number, percentage, mean, Kolmogorov-Smirnov and Correlation Test. A p value of <0.05 was thought to be crucial for all analyses. All analyses were carried out using the SPSS for Windows, release 20.0 (SPSS, Inc., Chicago, IL, USA). A p value of <0.05 was thought to be crucial for all analyses.

3. RESULTS

The women in training group had a mean age of 31.32 ± 5.69 years. In this group, 40.9% had graduated from elementary school, 68.2% had a nuclear family, 36.4% had been working for 7–14 years, and 51.8% had been married for 1–10 years. The mean age of their first pregnancy was 21.31 ± 3.63 and all of them had social security.

The average score on the Fear of COVID-19 Scale was 18.72 ± 8.34 (Table 1), and the average score on the Scale for Determining Reproductive Health Preventive Attitudes of Married Women was 141.81 ± 16.84 (Table 2).

The average score on the Behavior of Going to the Doctor on Issues Concerning Reproductive Health sub-scale was 31.42 ± 4.48 . The average score on the Protection from Reproductive Organ and Breast Cancer sub-scale was 12.00 ± 5.00 . The average score on the General Health Behaviors to Protect Reproductive Health sub-

scale was 34.87 ± 6.32 . The average score on the Protection from Genital Infections sub-scale was 52.66 ± 6.79 , and the average score on the Protection from Unwanted Pregnancy sub-scale was 10.85 ± 2.15 (Table 2).

There was no correlation between Fear of COVID-19 Scale results and Reproductive Health Preventive Attitudes of Married Women results in the correlation analysis ($r=.058$, $p>.05$) (Table 3).

Considering the correlation analysis between Fear of COVID-19 Scale and Reproductive Health Preventive Attitudes of Married Women and its sub-dimensions, a low and significant

positive correlation ($r=.159$) between Behavior of Going to the Doctor on Issues Concerning Reproductive Health sub-scale results was detected, as well as a low and significant positive correlation ($r=.106$) with General Health Behaviors to Protect Reproductive Health sub-scale results; and a low and significant positive correlation ($r=.169$) between Protection from Unwanted Pregnancy sub-scale results. These were all significant at the $p<.05$ level (Table 3).

No significant correlation was found between responses on the Fear of COVID-19 Scale and either the Protection from Reproductive Organ and Breast Cancer sub-scale or the Protection from Genital Infections sub-scale (Table 3).

Table 1. The distribution of women's total mean scores on Scale for Determining the Fear of COVID-19 Scale

	Items	Min-Max	Mean $\pm$ SD
Fear of COVID-19 Scale	7	7,00–35,00	18,72 $\pm$ 8,34

Table 2. The distribution of women's total mean scores on Scale for Determining Reproductive Health Preventive Attitudes of Married Women

Scale mean score	Items	Min-Max	Mean $\pm$ SD
Behavior of Going to the Doctor on Issues Concerning Reproductive Health	8	12,00–40,00	31,42 $\pm$ 4,48
Protection from Reproductive Organ and Breast Cancer	4	4,00–20,00	12,00 $\pm$ 5,00
General Health Behaviors to Protect Reproductive Health	10	17,00–50,00	34,87 $\pm$ 6,32
Protection from Genital Infections	14	33,00–68,00	52,66 $\pm$ 6,79
Protection from Unwanted Pregnancy	3	3,00–15,00	10,85 $\pm$ 2,15
Scale for Determining Reproductive Health Preventive Attitudes of Married Women	39	94,00–188,00	141,81 $\pm$ 16,84

Table 3. Determination of the relationship between the mean scores of fear of COVID-19 Scale and Reproductive Health Preventive Attitudes of Married Women (n=317)

Scale	Fear of COVID-19 Scale
Behavior of Going to the Doctor on Issues Concerning Reproductive Health	$r=0,159$ $p=0,005$
Protection from Reproductive Organ and Breast Cancer	$r=-0,032$ $p=0,573$
General Health Behaviors to Protect Reproductive Health	$r=0,106$ $p=0,040$
Protection from Genital Infections	$r=-0,089$ $p=0,113$
Protection from Unwanted Pregnancy	$r=0,169$ $p=0,003$
Scale for Determining Reproductive Health Preventive Attitudes of Married Women	$r=0,058$ $p=0,301$

4. DISCUSSION

The mental health of a society cannot be ignored, as fear and psychological consequences caused by fear may develop during pandemics. News of cases and deaths worry everyone and, in some people, can progress from anxiety to fear [10]. Constant COVID-19 news updates during the pandemic, particularly those appealing to fear, and those using information and experiences about COVID-19 as an element of fear, also affected the public [11, 12, 13, 14, 15].

Although COVID-19 significantly affects everyone around the world, it has affected some groups more severely, particularly the elderly, those with chronic diseases, the disabled and the poor. People aged 65 and over have experienced the psychosomatic and psychological effects of COVID-19 more than people aged 18–64, and women more than men. It has been determined that women have more fear of coronavirus than men and are more affected psychologically, and that women are more negatively affected by the epidemic than men. In a study where psychological and psychosomatic effects, acceptance/rejection, age and gender variables were evaluated, fear of coronavirus was found to be 66% [16]. According to a study in which participants were found to have a fear of coronavirus at a level close to the middle, it was determined that women had a higher fear of coronavirus than men [10].

In our study, average score on the Fear of COVID-19 Scale ($18,72 \pm 8,34$) was above the average score typically obtained from this scale (17,5), suggesting that women experience fear due to the COVID-19 pandemic. The COVID-19 pandemic is an important risk factor for psychological and spiritual problems such as mental distress—especially anxiety, depression, stress, fear and worry—among pregnant women in the perinatal period, after birth and in the normal population, and studies show that the pandemic and COVID-19 disease affect mental health [17, 18, 19, 20, 21, 22].

In our study, the average score on the Scale for Determining Reproductive Health Preventive Attitudes of Married Women was 141.81 ± 16.84 . In research conducted by Er et al. (2008), the average result on this scale was 156.0 ± 17.3 ; in Koştu and Taşçı's (2009) research, it was 122.14 ± 19.61 ; and in Erbil ve Göktaşlar (2010),

it was 142.80 ± 20.73 . The average score on this scale in our research was lower than the results in Er et al.'s research on married women who attend a postgraduate program, and higher than the results obtained by Koştu and Taşçı [9, 23, 24, 25]. Results derived in this study with regard to reproductive health were at a lower level than the results of the research conducted by Er et al. on married women who attend a post graduate program and at a higher level than the results obtained by Koştu and Taşçı. In our study, it is thought that the education level of nearly half of the women was at a high school (36.0%) or university (10.7%) level. These results suggest that educational background and working status may have a significant effect on reproductive health protective attitudes.

There was also a correlation between the status of women both in the family and society and their reproductive health [26]. The educational background of the woman, her working status in an income-generating job, the educational background of her husband and the economic status of the family are important factors in determining the status of the woman [26, 27, 28]. Studies have revealed that the educational background and working status of women affects reproductive health; accordingly, genital hygiene behaviors of women with higher educational backgrounds and working status were found to be more positive [24, 25, 29]. These results imply that women's age, education level and participation in work life improve their awareness regarding protecting their health and improving their health-seeking behavior. These results also imply that these factors are correlated with women attaching more importance to protecting reproductive health and paying attention to medical practices in parallel with the increase in age, education level and participation in work life.

Nevertheless, studies conducted in our country have revealed that women do not have sufficient knowledge about protective attitudes and behaviors with regard to reproductive health, which may result in their health behaviors not being at the desired level [24, 30, 31, 32].

In our study, it was determined that there was a significant positive correlation between Fear of COVID-19 points, and the Behavior of Going to the Doctor on Issues Concerning Reproductive Health, General Health Behaviors to Protect

Reproductive Health, and Protection from Unwanted Pregnancy sub-dimensions. These correlations suggest that women are afraid of COVID-19, and this situation is affected by their reproductive health.

Although many women experience health problems, many have been unable to access necessary health services due to the negative effects, restrictions and social inequalities brought by the pandemic, creating a significant health problem [33]. Sexual and reproductive health problems are exacerbated in the face of disasters and emergencies [34, 35]. Thus, there are increases in maternal and infant deaths, unmet family planning needs, sexually transmitted infections, voluntary curettages, stress, depression and related suicides [36, 37]. A report published by WHO using data obtained from 105 countries stated that, during the pandemic, the population of 89% of these countries could not access at least one basic health service, and that 53% of antepartum services, 32% of intrapartum services, and 68% of family planning services were interrupted [38]. Contrary to the literature, according to the data obtained in our study, there was a significant change in the sub-dimension of women's behavior in going to the doctor on issues related to reproductive health. Our results suggest that women's behavior in going to the doctor for reproductive health issues has increased due to their fear of coronavirus and they are being careful.

Resources allocated to the fight against COVID-19 worldwide have led to restricted access to basic health services [36, 37, 39]. During this period, people not going to the hospital or postponing it due to fear of disease transmission and the restriction of polyclinic appointments caused their health care needs to not be adequately met [40, 41]. However, in our study, there was a significant change in the sub-dimension of general health behaviors aimed at protecting women's reproductive health. Our results support the conclusion that women are more careful and attentive in their general health behaviors to protect their reproductive health due to the fear of coronavirus.

Maternal deaths have increased as a result of not being able to receive health services for sexual and reproductive health and women's lack of autonomy in these matters [42]. In Mali, women cannot access health services due to

fear of contracting the disease and confusion about which health services are or are not provided. Meanwhile, in Nepal and the United Kingdom, the reason for the increase in stillbirths and newborn deaths is reduced care due to health services focusing on the fight against COVID-19. It has been stated that keeping hospital stays short after birth makes it difficult to detect and treat postpartum complications [43, 44].

The negative effects of the pandemic on women's reproductive health are not limited to pregnancy or motherhood. As movement restrictions are imposed, supply chains are disrupted and businesses close; as such, some women may be at risk of unintended pregnancy due to their inability to obtain regular contraceptive methods or, if necessary, emergency contraceptives [45,46]. Therefore, in our study, there was a significant change in the sub-dimension of protecting women from unwanted pregnancies; women in our sample were being more careful and attentive to avoid getting pregnant due to the fear of coronavirus.

5. CONCLUSIONS

This research found that women in our sample had a moderate level of fear of COVID-19 and that their reproductive health attitudes were at a moderate level.

It was determined that there was a significant correlation between the sample's Fear of COVID-19 Scale results, and the Behavior of Going to the Doctor on Issues Concerning Reproductive Health, General Health Behaviors to Protect Reproductive Health, and Protection from Unwanted Pregnancy sub-scales.

It can be said that the fear of the fear of Covid 19 positively affected most of women's attitudes towards protecting their reproductive health and created awareness on this issue.

6. STRENGTH AND LIMITATION

Our study has several limitations. During the study, data were collected via personal statements. The results of this study only belong to the region where it is carried out and cannot be generalized to Turkey. Finally, the cross-sectional and descriptive design of the study limits conclusions about causality for some findings.

ETHICAL APPROVAL AND CONSENT

In order for the research to be carried out, the study was granted approval by the Ethical Board of University (Number: 1390). The participants were recruited to the study on a voluntary basis. In addition, the participants were informed about the study, and individual informed consent was obtained according to the principles of the Declaration of Helsinki.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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