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# EVALUATION OF WOMEN'S HEALTH ANXIETY AND CHILDBEARING DESIRE DURING COVID-19 PANDEMIC[1]

# COVİD-19 PANDEMİSİ SÜRECİNDE KADINLARIN SAĞLIK KAYGISI VE ÇOCUK DOĞURMA İSTEĞİNİN DEĞERLENDİRİLMESİ

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**Abstract: Aim:** This study aims to investigate the effect of women's health anxiety level on their desire to have children during the epidemic period.

**Method:** The Health Anxiety Inventory (HAI) and the Childbearing Motivation Scale (CMS) were used to collect data from women between the ages of 18-50.

**Results:** Among the women participants of the study, 94.5% expressed negative impacts due to the pandemic, and 76.6% expressed a lack of desire to conceive during the period of the COVID-19 pandemic. HAI scores were higher for women who reported being significantly affected by COVID-19, those who had contracted the COVID-19 infection, those who attributed their lack of desire for children to economic reasons, and those with chronic diseases, compared to others (p=0.00, p=0.046, p=0.01, and p=0.00 respectively). It was determined that women with chronic diseases, whose spouses were unemployed, who did not desire children during the COVID-19 period, who attributed their lack of desire to economic reasons and COVID-19, who had a monthly household income below the minimum wage, and who were highly knowledgeable about COVID-19, had statistically significantly higher average scores in the sub-dimensions of childbearing motivation and negative childbearing motivation (p=0.048, p=0.01, p=0.00, p=0.00, p=0.00, and p=0.009, respectively). A moderately positive, statistically significant relationship was found between the participants' mean CMS scores and their HAI scores (r = 0.323, p < 0.01).

**Conclusion:** It can be concluded that the presence of a chronic disease, being affected by COVID-19, having contracted COVID-19, and the reasons for not wanting to have children contribute to an increase in women's health anxiety. The majority of women participants in the study expressed a reluctance to have children during the COVID-19 period, attributing this to economic reasons, already having a large number of children, and concerns related to COVID-19. It is assessed that the health anxiety levels of these women adversely impact their inclination towards childbearing.

***Keywords:*** Health Anxiety, Childbearing Desire, COVID-19

**Öz: Amaç:** Bu çalışma kadınların salgın döneminde sağlık kaygı düzeyinin çocuk sahibi olma isteği üzerinde etkisinin araştırılması amacıyla yapılmıştır.

**Yöntem:** 18-50 yaş arası kadınlardan veri toplamak amacıyla Sağlık Anksiyete Envanteri (SAÖ), Çocuk Sahibi Olma Motivasyon Ölçeği (ÇSOMÖ) kullanıldı.

**Bulgular:** Çalışmaya katılan kadınların %94.5'i pandemiden olumsuz etkilendiğini, %76.6'sı COVID-19 pandemisi döneminde çocuk sahibi olmak istemediğini beyan etmiştir. COVID-19'dan çok fazla etkilendiğini ifade eden, COVID-19 enfeksiyonu geçiren, çocuk istememe nedeni ekonomik nedenlere bağlayan ve kronik hastalığı olan kadınların SAÖ puanları diğerlerinden daha yüksekti (sırasıyla p=0,00, p=0,046, p=0,01, p=0,00). Kronik hastalığı olan, eşi çalışmayan, COVID-19 döneminde çocuk istemeyen ve istememe sebebi ekonomik nedenler ve COVID-19 olan, aylık hane geliri asgari ücret altında olan, COVID-19 hakkında fazla bilgi sahibi olan kadınların çocuk sahibi olma motivasyonu ve olumsuz çocuk sahibi olma motivasyonu alt boyut puan ortalamalarının istatistiksel olarak anlamlı derecede yüksek olduğu saptandı (sırasıyla p=0,048, p=0,01, p=0,00, p=0,00, p=0.00, p=0,009). Hastaların ÇSOMÖ puan ortalamaları ile SAÖ puan ortalamaları arasında pozitif yönde orta düzeyde istatistiksel olarak anlamlı bir ilişki saptanmıştır (r = 0.323, p <0,01).

**Sonuç:** Kadınların kronik hastalığa sahip olmalarının, COVID-19'dan etkilenmelerinin, COVID-19 geçirmelerinin ve çocuk sahibi olmak istememe nedenlerinin sağlık kaygısını arttırdığı söylenebilir. Çalışmaya katılan kadınların büyük çoğunluğu COVID-19 döneminde ekonomik nedenler, fazla çocuğa sahip olma ve COVID-19 sebebiyle çocuk sahibi olmak istememektedir. Kadınların sağlık kaygı düzeylerinin çocuk sahibi olma isteğini olumsuz yönde etkilediği değerlendirilmektedir.

***Anahtar Kelimeler:*** Sağlık Kaygısı, Çocuk Doğurma İsteği, COVID-19

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## INTRODUCTION

COVID-19, which took hold of the entire world, is a virus that manifests itself through an acute respiratory syndrome in humans (Atay, 2020; Zhou et al., 2020). The constant spread of the virus and the increase in the number of infected and hospitalized individuals as well as deaths may cause people to experience fear of encountering the physiological effects of the disease and become isolated from their family and environment. Additionally, such pandemics may cause negative effects on mental health by evoking death. Prolonged home isolation to avoid the disease and the reduction of social relationships may lead to psychological problems such as depression, concern towards a potential inability to receive sufficient and efficient healthcare, sleep problems, anxiety, and, particularly, fear of death in individuals (Torales et al., 2020). According to a study conducted during the COVID-19 pandemic, the risk of transmission has caused the level of health anxiety to increase in 62% of the participants (Karataş, 2020). During the pandemic, individuals with high health anxiety may contribute to overcrowding in the healthcare system by frequently visiting physicians and hospitals. Conversely, those with high anxiety might avoid seeking medical assistance due to concerns about hospitals being transmission hotspots. In contrast, individuals with low health anxiety may be less inclined to adhere to guidelines aimed at controlling the pandemic, and may exhibit a more relaxed demeanor (Asmundson & Taylor, 2020).

COVID-19 has impacted life in all parts of the world, and it may have affected women's attitudes towards childbearing. According to a WHO report, based on data from 105 countries, the services most frequently disrupted during the pandemic were facility-based services (61%), diagnosis and treatment of non-communicable diseases (69%), and family planning and birth control (68%) (WHO, 2020). In the first studies that investigated the impact of COVID-19 on pregnant women, it was reported that COVID-19, was detected in 31 pregnant women in Iran (Karimi-Zarchi et al., 2020) and 9 and 16 pregnant women in two separate studies conducted in China (Chen et al., 2020; Zhang et al., 2019), was overcome with no serious complications in either the mother or the baby, and that the virus had no vertical transmission from the mother to the baby. However, considering the fact that the virus has been detected in a small number of infants in the early period in studies conducted in recent years, it is considered that vertical transmission may be possible, albeit at a low rate (Oncel et al., 2020). It is still unknown whether COVID-19 increases the risk of miscarriage and stillbirth. There are concerns about women whose pregnancy was terminated due to the risk of infection and teratogenicity in the fetus (Liang & Acharya, 2020). A 2020 study by the Guttmacher Institute has shown that the pandemic has affected women's plans to have children, with 40% of women changing their plans. Additionally, 41% of women with children expressed concerns about not being able to care for their children, and 33% of women experienced disruptions in their

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reproductive health services (Lindberg et al., 2020). While current data on COVID-19 are still partial and incomplete, in a retrospective look, they will help predict the consequences of coronavirus infection in pregnancy. As most coronavirus human infections are asymptomatic or paucisymptomatic, we have witnessed two serious pandemics in the last two decades: severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East coronavirus syndrome (MERS-CoV). During these periods, approximately one-third of infected pregnant women died from the disease (Alfaraj et al., 2019; Wong et al., 2004). According to some studies in the literature, the majority of couples planning to have children deciding to stop their efforts during quarantine due to difficulties in accessing healthcare, fear, and economic reasons confirms this situation (Micelli et al., 2020; Sienicka et al., 2022; Chen et al., 2022; Peng et al., 2022).

While intensive studies are being conducted on the pathophysiology, clinical results and treatment of COVID-19, its effects on women's childbearing desire should not be overlooked. Additionally, the fact that no studies are found in the literature evaluating women's health anxiety and attitude towards childbearing during the pandemic process is the unique aspect of the present study. For this reason, the authors aimed to investigate the effect of women's health anxiety levels on their desire to give birth during the pandemic period.

## OBJECTIVE

The present study was conducted with the purpose of investigating the impact of women's healthy anxiety level on childbearing desire during the pandemic.

## METHODS

### Study Design

The study was designed in descriptive and cross-sectional type.

### Study Questions

1. How are women's health anxiety levels in the COVID-19 pandemic process?

2. What is the level of women's Childbearing Motivations in the COVID-19 pandemic process?

3. Is there a correlation between women's health anxiety levels and childbearing motivations?

### Study Sample

The population of the present study consists of approximately 3000 women aged 18-49 registered at the Family Health Center located in the Baykan district of Siirt. The study sample consisted of all women who applied to Baykan Family Health Center and Baykan State Hospital between 06.05.2021 and 06.07.2021 and met the inclusion criteria presented below. Between the dates stated, 500 women were reached, 13 women were excluded due to not meeting the inclusion criteria, and a total of 487 women constituted the study sample.

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**Inclusion Criteria**

- Women who are aged 18 - 50

- Literate at the minimum,

- Able to operate smartphones

- Participating voluntarily.

**Data Collection**

The questionnaire including the participants' socio-demographic features and knowledge of COVID-19, the Health Anxiety Inventory (HAI), and the Childbearing Motivations Scale (CMS) were used as data collection tools. The data were collected through the electronic questionnaire prepared using Google Forms as a protective measure against COVID-19 for the women who applied to Baykan State Hospital and Baykan Family Health Center within the data collection dates. The link to the questionnaire was sent to the smartphones of the participants via text message while the forms of the participants who did not have smartphones were filled out through the tablet PC of the interviewer.

*Health Anxiety Inventory (HAI):* The 18-item inventory developed by Salkovskis et al. (2002) consists of two factors. The first 14 four-choice items involve ranked answers examining the mental condition of the patient. The remaining 4 items investigate the psychological state of the participants with the assumption that they may have severe diseases. Each item is scored from 0 to 3. The Turkish validity and reliability study of the inventory was conducted by Aydemir et al. (2013). The total score from the inventory ranges from 0 to 54. Higher scores indicate higher levels of health anxiety. The sub-dimension score from the first 14 items ranges from 0 to 42. Tyrer et al. regarded total scores of 20 and over from the first 14 questions as increased health anxiety (Tyrer et al., 2011). In the present study, scores of 20 and over were considered as high health anxiety. The Cronbach's alpha internal consistency coefficient of the inventory was determined as 0.910 and the Cronbach's alpha coefficient for the present study was calculated as 0.82.

*Childbearing Motivations Scale:* The scale developed by Guedes, Pereira, Pires, Carvalho & Canavarro (2013) was adapted into Turkish by Hüseyinzade Şimşek (2017). The scale consists of the sub-scales Positive Childbearing Motivations and Negative Childbearing Motivations.

The Positive Childbearing Motivations sub-scale consists of 22 items and 4 dimensions. For the positive items, the score '1' represents the answer 'not at all' while '5' represents 'completely'. The total score from this sub-scale ranges from 22 to 110. High scores indicate that individuals place high importance on these statements in the context of becoming a parent.

The Negative Childbearing Motivations sub-scale consists of 13 items and 5 dimensions. For the negative items, the score '1' represents the answer 'not at all' while '5' represents 'completely'. The total score from this sub-scale ranges from 13 to 65. High scores indicate that individuals place high importance on these statements in terms of not becoming a parent. The Cronbach's Alpha reliability coefficient for the overall scale was

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found as 0.916 while the Cronbach's alpha coefficient for the present study was calculated as 0.93.

### Statistical Analyses

In the evaluation of the findings obtained in the present study, the IBM SPSS Statistics 23 (IBM SPSS, Turkey) program was used for statistical analyses. In the evaluation of the study data, the Huck (2008) Skewness (±1) and Kurtosis (+2,-1) distribution tests were used for the normality of the distribution of parameters. Descriptive statistics were represented in the form of a number, percentage, mean, standard deviation, and minimum and maximum value. For the analysis of quantitative data, the independent Student t-test was used in normally-distributed pairwise groups (spouse employment status, chronic disease status, childbearing desire during the pandemic) while the One Way ANOVA test was used in groups of three and more (average monthly household income, number of children, knowledge of COVID-19, reason for not wanting to have children) and the Mann Whitney U test was used in pairwise groups with non-normal distribution (chronic disease). The Bonferroni Correction was used to determine the source of the difference in the comparison of three or more groups. In the absence of normal distribution, the relations between the parameters were sought using the Spearman Correlation analysis. In terms of the correlation coefficient (r), the interval of 0.00–0.24 was regarded as a weak correlation while 0.25–0.49 was regarded as moderate, 0.50– 0.74 was regarded as strong and 0.75–1.00 was regarded as very strong correlation (Karaoğlu et al., 2020; Aksakoğlu., 2006; Pamuk et al., 2014; Taş et al., 2019). Significance was evaluated at the level of $p<0.05$.

### Ethical Considerations

To conduct the present study, approval was obtained from a university's Health Sciences Ethics Committee of Non-Invasive Research (ethics committee no: 2021/65), Siirt Provincial Directorate of Health (no: E-71987595-604.02), and the T.R. Ministry of Health. At the beginning of the questionnaire applied to the participants face-to-face or sent to their smartphones, information was provided on the purpose and content of the study, and it was stated that participation was voluntary. Permission was obtained from the authors of the scales used in the study via e-mail. The identity information of the participants in the questionnaire was not recorded. The present study was carried out in line with the Principles of the Declaration of Helsinki.

## RESULTS

**Table 1.** Distribution of the Descriptive Features of the Participating Women

| Descriptive | | n | % |
|---|---|---|---|
| **Age:** 32.86 ± 7.70 (mean± SD ) years (min:18; max: 49) | | | |
| **Education Status** | Primary School | 349 | 71,6 |
| | High School | 68 | 14 |

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| | | | |
|---|---|---|---|
| | University | 70 | 14.4 |
| | **Housewife** | **406** | **83.4** |
| **Occupation** | Healthcare Personnel | 29 | 6 |
| | Educator | 27 | 5.5 |
| | Other | 25 | 5.1 |
| **Family Type** | **Nuclear Family** | **336** | **69** |
| | Extended Family | 151 | 31 |
| | Below Minimum Wage | 151 | 31 |
| **Average Monthly Household Income** | **Minimum Wage** | **192** | **39.4** |
| | Above Minimum Wage | 144 | 29.6 |
| | **Self-Employed** | **164** | **33.7** |
| | Healthcare Personnel | 23 | 4.7 |
| | Educator | 25 | 5.1 |
| **Occupation of Spouse** | Security Personnel | 107 | 22 |
| | Tradesman | 60 | 12.3 |
| | State Officer | 25 | 5.1 |
| | Other | 83 | 17 |
| **Employment Status of Spouse** | **Yes** | **350** | **71.9** |
| | No | 137 | 28.1 |
| | 0 Children | 40 | 8.2 |
| **Number of Children** | 1 Child | 93 | 19.1 |
| | 2 Children | 87 | 17.9 |
| | **3 or More Children** | **267** | **54.8** |
| | **0 Miscarriages or Stillbirths** | **290** | **59.5** |
| **Number of Miscarriages or Stillbirths** | 1 Miscarriage or Stillbirth | 114 | 23.4 |
| | 2 Miscarriages or Stillbirths | 61 | 12.5 |
| | 3 or more Miscarriages or Stillbirths | 22 | 4.5 |

*SD, standart deviation; min, minimum; max, maximum.*

The mean age of the participants is 32.86, with a standard deviation of 7.70. The youngest participant is 18 years old, and the oldest is 49 years old. Among the participants, 71.6% are primary school graduates, 14% are high school graduates, and 14.4% are university graduates. 83.4% of the participants are housewives; 6% are health personnel; 5.5% are educators; and 5.1% belong to other occupational groups. In terms of family structure, 69% of the participants have a nuclear family, while 31% have an extended family. Regarding income, 31% of the participants earn below the minimum wage, 39.4% earn above the minimum wage, and 29.6% have an income significantly above the minimum wage. Among the participants' spouses, 33.7% are self-employed, 22% are security personnel, 12.3% are tradesmen, 5.1% are educators, and 17% belong to other occupational groups. Additionally, 71.9% of the participants' spouses are employed, while 28.1% are not employed. Regarding children,

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8.2% of the participants are childless, 19.1% have one child, 17.9% have two children, and 54.8% have families with three or more children. Finally, 59.5% of the participants have never had a miscarriage or stillbirth, 23.4% have had one miscarriage or stillbirth, 12.5% have had two miscarriages or stillbirths, and 4.5% have had three or more miscarriages or stillbirths (Table 1).

**Table 2.** Distribution of the Participants' Answers to the Descriptive Questions Regarding the COVID-19 Pandemic

| | | n | % |
|---|---|---|---|
| Knowledge of COVID-19 | I have never heard of COVID-19 | 2 | 0.4 |
| | I have heard of COVID-19 but have inadequate knowledge. | 82 | 16.8 |
| | **I have moderate knowledge.** | **350** | **71.9** |
| | I have almost expert-level knowledge. | 53 | 10.9 |
| Impact of COVID-19 on Daily Life | Did not affect me at all | 27 | 5.5 |
| | Affected a little | 71 | 14.6 |
| | Moderately affected | 186 | 38.2 |
| | **Highly affected** | **203** | **41.7** |
| Impact of COVID-19 on Professional Life | Did not affect my professional life | 56 | 11.5 |
| | I was dismissed from my job due to the pandemic | 5 | 1 |
| | I was laid off to unpaid leave due to the pandemic | 8 | 1.6 |
| | I had to close my business due to the pandemic | 9 | 1.8 |
| | I have to work more due to the pandemic | 34 | 7 |
| | **Other (Housewife, Unemployed, etc.)** | **375** | **77** |
| Status of Contracting COVID-19 | **I or my family do not have COVID-19** | **286** | **58.7** |
| | I do not have COVID-19 but my family does | 58 | 11.9 |
| | I currently have/have had COVID-19, my family has not | 67 | 13.8 |
| | I currently have/have had COVID-19, and my family has too | 76 | 15.6 |
| Do you wish to have children during the pandemic? | Yes | 114 | 23.4 |
| | **No** | **373** | **76.6** |
| The reason for not wanting to have children during the pandemic | **No reason stated** | **192** | **39.4** |
| | Due to COVID-19 | 58 | 11.9 |
| | Economic reasons | 74 | 15.2 |
| | A sufficient number of children | 137 | 28.1 |
| | Other (My child is little, chronic disease, etc.) | 26 | 5.3 |
| HAI Physical sub-dimension | Low health anxiety | 418 | 85.8 |
| | High health anxiety | 69 | 14.2 |

*COVID-19, Coronavirus Disease.*

The proportion of participants who stated they have no knowledge about COVID-19 is 0.4%, while 16.8% have heard about COVID-19 but possess insufficient knowledge. 71.9% of the participants have moderate knowledge, and 10.9% have near-expert knowledge. Regarding the impact of COVID-19 on daily life, 5.5% reported being unaffected, 14.6% reported being slightly affected, 38.2% reported being moderately affected, and 41.7% reported being highly affected. The impact of COVID-19 on professional life was reported as follows: 11.5% of the participants were not affected, 1% lost their jobs due to the pandemic, 1.6% took unpaid leave due to the pandemic, 1.8%

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had to close their workplaces due to the pandemic, and 7% had to work more due to the pandemic. Participants in other situations (such as housewives, unemployed, etc.) are 77%. Among the participants, 58.7% reported that neither they nor their family contracted COVID-19. Among those who contracted COVID-19, 11.9% were individuals only, 13.8% were family members only, and 15.6% included both the individual and their family. The rate of participants who want to have children during the pandemic is 23.4%, while 76.6% do not want to have children. The reasons for not wanting children include unspecified reasons (39.4%), COVID-19 (11.9%), economic reasons (15.2%), and having enough children (28.1%). Additionally, 85.8% of the participants had a low level of health anxiety, while 14.2% had a high level of health anxiety (Table 2).

**Table 3.** Factors Affecting the Health Anxiety Levels of the Women

| | **Oversensitivity and anxiety towards physical symptoms dimension** | | **Negative outcomes of the disease dimension** | | **Overall health anxiety score** | |
|---|---|---|---|---|---|---|
| | **Mean ± S.D** | **Median (IQR)** | **Mean ± S.D** | **Median (IQR)** | **Mean ± S.D** | **Median (IQR)** |
| **Miscarriage and Stillbirth** | | | | | | |
| None | 12.93±6.38 | 13 (7) | 2.72±2.18 | 2 (3) | 15.65±7.70 | 15 (9) |
| 1 | 14.35±6.07 | 14 (8.25) | 3.06±1.91 | 3 (2) | 17.42±7.19 | 18 (9.25) |
| 2 | 14.09±6.03 | 14 (8) | 3.04±2.02 | 3 (3.50) | 17.14±7.00 | 17 (7.50) |
| 3 or more | 15.68±7.64 | 15 (13.75) | 2.9±2.02 | 3 (2.25) | 18.59±8.36 | 17,5 (13) |
| Test | χ2=9.33 | | χ2=5.19 | | χ2=10.52 | |
| P | **0.025*** | | 0.158 | | 0.15 | |
| **Impact of COVID-19** | | | | | | |
| No impact | 11.25 ±5.27 | 11 (6) | 2.22 ±1.64 | 2 (2) | 13.48 ±5.41 | 13 (7) |
| Little impact | 13.25 ±4.75 | 13 (5) | 2.09 ±1.70 | 2 (2) | 15.35 ±5.57 | 15 (6) |
| Moderate impact | 12.14 ±5.55 | 13 (8) | 2.83 ±1.88 | 3 (3) | 14.98 ±6.60 | 15 (9) |
| Severe impact | 15.21 ±7.13 | 15 (9) | 3.21 ±2.36 | 3 (3) | 18.42 ±8.70 | 18 (9) |
| Test | χ2=24.35 | | χ2=16.04 | | χ2=23.75 | |
| P | **<0.01**** | | **<0.01**** | | **<0.01**** | |
| **Contracting COVID-19** | | | | | | |
| I or my family do not have COVID-19 | 13.41±6.28 | 13 (8) | 2.75±2.00 | 3 (3) | 16.17±7.40 | 15 (9) |
| I don't have COVID-19, my family does | 13.50±4.91 | 14 (5.25) | 2.79±1.90 | 3 (3) | 16.29±5.89 | 17 (8) |
| I have COVID-19, and my family does not | 12.58±9.37 | 13 (8) | 3.14±2.56 | 3 (3) | 15.73±10.44 | 14 (10) |
| I and my family have COVID-19 | 14.88±5.40 | 14.5 (9) | 2.98±2.13 | 3 (2.75) | 17.86±6.11 | 18 (7.75) |
| Test | χ2=9.42 | | χ2=1.11 | | χ2=8.02 | |
| P | **0.024*** | | 0.773 | | **0.046*** | |
| **Reason for not wanting to have children** | | | | | | |
| No reason | 13.05±6.91 | 13 (7) | 3.10±2,29 | 3 (3) | 16.16±8.48 | 16 (9) |
| COVID-19 pandemic | 15.03±5.86 | 14.5 (7.25) | 2.65±2,22 | 2 (3) | 17.68±.06 | 18 (7) |
| Economic reasons | 15.94±6.21 | 14.5 (7) | 3.10±2,07 | 3 (2) | 19.05±7.53 | 17 (8.25) |
| A sufficient number of children | 12.87±5.50 | 13 (7) | 2.40±1,66 | 2 (2.50) | 15.28±6.13 | 15 (9) |
| Other | 10.38±5.29 | 10 (10) | 3.00±2,07 | 3 (2.25) | 13.38±6.11 | 12.5 (9.25) |
| Test | χ2=22.90 | | χ2=8.76 | | χ2=17.84 | |
| P | **<0.01**** | | 0.067 | | **<0.01**** | |
| **Chronic diseases** | | | | | | |
| Yes | 15.6±5.23 | 15.5 (7) | 2.81±2.00 | 3 (3) | 18.68±6.25 | 18.5 (7.25) |

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| | | | | | | |
|---|---|---|---|---|---|---|
| No | 12.95±6.48 | 13 (7) | 2.86±2.12 | 3 (3) | 15.81±7.76 | 15 (9) |
| Test | z=-4.832 | | z =-0.002 | | z =-4.285 | |
| P | **<0.01**** | | 0.999 | | **<0.01**** | |

*COVID-19, Coronavirus Disease; SD, standart deviation. *p<0.05, **p<0.01 z= Mann-Whitney U Test, χ2=Kruskal Wallis Test.*

The participants had a mean score of 16.39±7.56 on the overall HAI, 13.53±6.36 from the oversensitivity and anxiety towards physical symptoms sub-dimension and 2.85±2.09 from the negative outcomes of the disease sub-dimension.

It was found that the participants who stated to have been highly affected by COVID-19 (χ2=23.75, P <0.01), contracted COVID-19 (χ2=8.02, P=0.046), and did not want to have children due to economic reasons and COVID-19 (χ2=17.84, P<0.01) and chronic diseases (z=-4.285, P<0.01) had higher HAI score medians to a statistically significant extent (Table 3).

**Table 4.** Factors Affecting the Participants' Level of Childbearing Motivation

| | **Positive Childbearing Motivation Sub-dimension Mean ± SD** | **Negative Childbearing Motivation Sub-dimension Mean ± SD** |
|---|---|---|
| **Spouse Employment Status** | | |
| Yes | 64.31±17.78 | 26.87±11.91 |
| No | 64.72±16.99 | 30.91±12.72 |
| Test Value | t=–0.236 | t=–3.297 |
| P Value | 0.813 | **<0.01**** |
| **Chronic Disease Status** | | |
| Yes | 68.5±16.29 | 30.20±12.38 |
| No | 63.40±17.72 | 27.46±12.19 |
| Test Value | t=2.717 | t=1.985 |
| P Value | **0.007*** | **0.048*** |
| **Childbearing desire during the pandemic** | | |
| Yes | 63.85±18.53 | 24.15±9.61 |
| No | 64.60±17.26 | 29.19±12.75 |
| Test Value | t=–0.402 | t=–4.507 |
| P Value | 0.688 | **<0.01**** |
| **Average Monthly Household Income** | | |
| Below are the minimum wage[a] | 64.84±16.51 | 30.80±12.58 |
| Minimum wage[b] | 65.95±16.22 | 11.82±0.85 |
| Above the minimum wage[c] | 61.95±20.00 | 11.79±0.98 |
| Test Value | F=2.208 | F=9,472 |
| P Value | 0.111 | **<0.01**** **(a>b,c)** |
| **Number of Children** | | |
| None[a] | 67.72±18.06 | 23.77±10.77 |
| 1 child[b] | 68.13±18.95 | 26.61±11.21 |
| 2 children[c] | 62.24±18.41 | 28.45±12.70 |
| 3 and more children[d] | 63.35±16.48 | 28.98±12.56 |
| Test Value | F=2.666 | F=2.623 |
| P Value | **0.047*** **(a>c,d)** **(b>c,d)** | 0.050 |
| **Knowledge of COVID-19** | | |
| I have never heard of COVID-19[a] | 86.5±3.53 | 46.00±1.41 |
| I have heard of COVID-19 but have inadequate knowledge[b] | 59.39±16.15 | 30.06±12.68 |

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| | | |
|---|---|---|
| I have moderate knowledge[c] | 65.60±16.87 | 27.18±11.88 |
| I have almost expert-level knowledge[d] | 63.66±22.20 | 29.66±13.45 |
| Test Value | F=3.93 | F=3.091 |
| P Value | **0.009* (a>b,c,d)** | **0.027* (a>b,c,d)** |
| **Reason for not wanting to have children** | | |
| No reason stated[a] | 62.49±18.76 | 26.46±11.14 |
| COVID-19 pandemic[b] | 71.60±16.04 | 30.03±10.94 |
| Economic reasons[c] | 69.62±12.99 | 36.09±11.47 |
| I have enough children[d] | 62.44±16.22 | 26.24±12.90 |
| Other[e] | 58.38±22.38 | 21.26±11.31 |
| Test Value | F=6.077 | F=13.048 |
| P Value | **<0.01** (b>c,a,d, e)** | **<0.01** (c>a, b, d, e)** |

*COVID-19, Coronavirus Disease; SD, standart deviation. *p<0.05, **p<0.01, t= Independent Samples test, F= one-way ANOVA test.*

In the present study, when the overall childbearing motivation score averages of the women with chronic diseases (t=2.717, p=0.007), with no children or 1 child (f=2.666, p=0.047), who did not wish to have children due to the COVID-19 pandemic (f=6.077, p<0.001) and had little knowledge regarding the pandemic (f=3.930, p=0.009) were compared, it was found that the positive childbearing motivation sub-dimension score averages were higher to a statistically significant degree.

When the overall childbearing motivation score averages of the women with chronic diseases (t=1.985, P=0.048), whose spouses are unemployed (t=-3.297, p<0.01), who did not want to have children during the pandemic (t=-4.507, p<0.01), had an average monthly household income below the minimum wage (f=9.472 p<0.01), did not want to have children due to economic reasons and COVID-19 (f=13.047, p<0.01) and had a significant level of knowledge on COVID-19 (f=3.091, p=0.027) were compared, it was found that the negative childbearing motivation sub-dimension score averages were higher to a statistically significant degree (Table 4).

**Table 5.** The Relationship Between the Women's Childbearing Motivations and Health Anxiety Levels

| **Childbearing Motivations Scale** | | **Health Anxiety Inventory** | | |
|---|---|---|---|---|
| | | **Oversensitivity and anxiety towards physical symptoms** | **Negative outcomes of the disease** | **Overall scale score** |
| Positive Childbearing Motivations sub-dimension | r | 0.332 | -0.072 | 0.273 |
| | p | **<0.01*** | 0.111 | **<0.01*** |
| Negative Childbearing Motivations sub-dimension | r | 0.293 | 0.69 | 0.275 |
| | P | **<0.01*** | 0.129 | **<0.01*** |
| Overall Scale | r | 0.369 | -0.003 | 0.323 |
| | p | **<0.01*** | 0.943 | **<0.01*** |

**p<0.01, r= Spearman Correlation test*

While a positive and moderate relationship was found between the scores from the Childbearing Motivations Scale and the oversensitivity and anxiety towards physical symptoms sub-dimension (r =0.369, p <0.01), no relationship was found with the

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negative outcomes of the disease sub-dimension (r =-0.003, p = 0.943). On the other hand, a positive and moderate relationship was found between the women scores on the Childbearing Motivations Scale and the scores from the HAI (r = 0.323, p <0.01) (Table 5).

## DISCUSSION

It was found that the women who participated in the present study (n=487) had a mean score of 16.39±7.56 on the overall Health Anxiety Inventory, 13.53±6.36 from the oversensitivity and anxiety towards physical symptoms sub-dimension and 2.85±2.09 from the negative outcomes of the disease sub-dimension. Considering that the maximum score that can be obtained from the inventory is 54, it can be said that the health anxiety levels of the women who participated in the present study are not high. In comparison with other studies, it was found that the health anxiety levels of the participants were similar to those of the individuals in other samples (Özdin & Bayrak Özdin, 2020).

In this study, it was found that women with chronic diseases had higher overall score averages than HAI. Having a chronic disease is one of the factors that impact health anxiety levels. Previous studies have determined that chronic diseases are the most important risk factors for deaths due to COVID-19 (Zhou et al., 2020). Additionally, individuals with chronic diseases have a high risk of contracting the disease (Wang et al., 2020). In a study, an increase in health anxiety, depression, and anxiety levels was observed in individuals with chronic diseases during the COVID-19 period (Özdin & Bayrak Özdin, 2020). In the present study, the fact that the healthy anxiety levels of the individuals with chronic diseases were found to be high can be attributed to the reduction or decrease of physical functions, the fact that emotional coping methods are more frequently used compared to problem-oriented coping methods and the presence of symptoms that disrupt the quality of life, such as pain. It was found that another important factor that affects the health anxiety level of the women in this study was contracting COVID-19 and being impacted by COVID-19. In the study conducted by Newby et al. during the COVID-19 process in Australia in 2020, it was determined that one-tenth of the participants experienced health anxiety (Newby et al., 2020). According to another study, it was found that approximately 24.9% of students experienced anxiety due to the COVID-19 outbreak (Huang et al., 2020). In a 2020 study conducted by Reizer et al., it was reported that there was a positive relationship between the fear of COVID-19 in women and psychological distress (Reizer et al., 2020). In the study carried out by Unal et al. in 2020, it was shown that women have higher anxiety levels and that they are more sensitive compared to men in terms of the necessary precautions to be taken. It was expected situation that COVID-19, which affects large masses and for which no certain treatment is identified, would similarly increase the health anxiety levels of the women in the present study (Unal et al., 2020).

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It was determined that the score averages from the oversensitivity and anxiety towards physical symptoms sub-dimension of health anxiety were lower in the participants who suffered miscarriage or stillbirth. It has been determined that there is a potential link between COVID-19 infection and miscarriage in pregnant women (Magnus et al., 2019). In another study, it was determined that 16.4% of women with an anxiety rate of 63% during the COVID-19 pandemic experienced miscarriages (Jiang et al., 2023). Therefore, it is not surprising that the women who previously suffered miscarriage or stillbirth had low mean scores from the oversensitivity and anxiety towards physical symptoms sub-dimension of the HAI.

In the present study, it was found that the women who indicated the COVID-19 pandemic and economic reasons as the reasons for not wanting to have children had a high mean score on the overall HAI. A previous study indicates that the decision to postpone or avoid childbirth is associated with participants having lower perceptions of financial security and poorer mental health conditions during the pandemic (Malicka et al., 2021). Since COVID-19 blurs out future events in both medical and economic terms, it may have increased the level of anxiety and delayed the participants' desire to have children.

In this study, it was found that the women with chronic diseases who had more than 2 children and had an adequate level of knowledge regarding COVID-19 had a high mean score from the Positive Childbearing Motivation sub-dimension. Additionally, the participants whose spouses were unemployed had a low average monthly household income and did not wish to have children due to COVID-19 and economic reasons had a high mean score from the Negative Childbearing Motivation sub-dimension.

One of the important factors that influence childbearing desire is the COVID-19 pandemic. In this study, it was found that although the women had moderate knowledge regarding COVID-19 during the pandemic, they still lacked an adequate level of knowledge concerning the impacts of the disease on humans and that COVID-19 affected the daily life of the women. In addition, 76.6% of women did not want to have children during this period, as approximately half of the participants or their relatives were infected with COVID-19. In a study conducted in Italy, it was reported that more than a third (37.3%) of couples planning to have a child before the COVID-19 pandemic decided to suspend these plans during the quarantine period (Micelli et al., 2020).

In the current study, it was determined that the participants' average scores regarding the number of children and economic status, which are sub-dimensions of Negative Childbearing Motivation, were high. Previous studies have indicated that the closure of schools during the pandemic, the additional burden of childcare on parents, and the reduction in women's employment have led to a decrease in the desire for additional childbearing (Derndorfer et al., 2021; Lindberg et al., 2020; Malicka et al., 2021). In

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a study conducted in China, it was revealed that the largest factor affecting women's fertility intentions during the pandemic was economic pressure. The income reduction caused by the pandemic became a significant factor in preventing women from having children (Maiti et al., 2020). The conflict between work and childbearing remains a significant factor influencing the fertility intentions and number of children of women who are still of childbearing age.

While a positive and moderate relationship was found between the scores on the Childbearing Motivations Scale and the score averages from the oversensitivity and anxiety towards physical symptoms sub-dimension, no statistically significant relationship was found with the mean scores from the negative outcomes of the disease sub-dimension. On the other hand, a positive and moderate relationship was found between the participants' scores on the Childbearing Motivations Scale and HAI mean scores. In a study conducted in Jordan that examined the relationship between the desire to have children and the level of health anxiety, it was indicated that the fear of contracting COVID-19 infection during pregnancy, health anxiety, and the associated potential risks affected women's desire to have children (Albeitawi et al., 2022). Yassa et al. (2020) reported that anxiety and concerns regarding pregnancy and childbearing increased during the COVID-19 pandemic (Yassa et al., 2020). In a study conducted in Iran, it was found that anxiety induced by COVID-19 hurt childbearing desire, an intended behavior (Banaei et al., 2021). Liu et al. concluded that the basic attitudes towards COVID-19 could be easily altered through anxiety and stress (Liu et al., 2020). The public concern greatly varies throughout the course of the COVID-19 outbreak. Considering recent evidence, it is concluded that quarantined individuals have significant levels of anxiety, stress and anger (Brooks, 2020). According to the existing findings, anxiety induced by COVID-19 had a negative and significant relationship with childbearing desire. Micelli et al. showed that the worry and anxiety caused by the COVID-19 pandemic influence the wants of couples who plan to have children (Micelli et al., 2020). In another study, it was reported that knowledge on COVID-19 had a negative relationship with symptoms of general anxiety, depression, and psychological distress (Bäuerle, 2020). In general terms, as a result of the present study, it can be said that anxiety decreases childbearing desire and, due to being a serious health problem, COVID-19 increases health anxiety and effected childbearing desire.

**Limitations of the Study**

The primary limitation of the present study is the fact that the study was carried out in only one center and that the sample consisted of volunteering participants prevented the results to be generalized to the population. Additionally, the answers given are based on the statements provided by the women. No observational assessment was performed.

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## CONCLUSION

In conclusion, it can be said that the health anxiety levels of the women participating in the present study were not very high during the COVID-19 period although having a history of miscarriages, having chronic diseases, having been impacted by COVID-19, having contracted COVID-19, economic reasons, and not wanting to have children due to the COVID-19 pandemic are factors that increase health anxiety.

It was determined that the large majority of the women who participated in the study had low childbearing motivations due to economic reasons during the pandemic, having a large number of children, and the COVID-19 pandemic. Additionally, it can be said that the health anxiety levels of the women are related to their childbearing motivations. Therefore, it can be suggested to provide consultancy services to women who wish to have children and experience anxiety along with their spouses, conduct studies to observationally evaluate the results of these services, and carry out multicenter studies on health anxiety and childbearing with large, society-based samples that can be generalized to the population.

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