



Anxiety levels of pregnant and their attitudes towards breastfeeding during the Covid-19 pandemic

Gebelerin Kovid-19 pandemisinde kaygı durumları ve emzirmeye karşı tutumları

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ABSTRACT

Objective: This research aims to determine the level of anxiety experienced by pregnant women and their breastfeeding attitudes during the Covid-19 pandemic.

Methods: The sample of the descriptive study consisted of 482 pregnant women at the 32nd week of gestation and above. Personal Information Form, Breastfeeding Attitude Form and State Anxiety Inventory (DCI) were used as data collection tools during the Pandemic (Covid-19) process. The analysis process of the research data was examined under 4 headings. In the first stage, the distribution of demographic characteristics and descriptive statistics were examined, in the second stage, the construct validity of the survey used as a measurement tool in the study was examined, and in the third stage, the reliability of all scales was examined with Cronbach's alpha coefficient. In the fourth stage, the relationships between the scale scores were examined by correlation analysis. In our study, the Cronbach's alpha value of DCI was determined as 0.817. The Cronbach Alpha internal consistency coefficient of the breastfeeding attitude form prepared by the researchers is 0.717.

Results: The average age of 482 participants in the study was determined as 28.57 ± 5.334 years. The anxiety scores of pregnant women whose follow-up frequency did not change after the Covid 19 epidemic were found to be significantly higher than those whose follow-up frequency decreased. During the Covid-19 epidemic, the anxiety scores of those who received information about postpartum breastfeeding were significantly higher than those who received partial information. The anxiety scores of those who are considering not breastfeeding after birth due to the Covid-19 outbreak are significantly higher than those who are considering or partially considering breastfeeding.

Conclusion: It is important to train pregnant women online when on-site training is not possible during the Covid-19 outbreak. In the Covid-19, it is recommended to eliminate the thoughts and concerns of women about breastfeeding, and to evaluate and improve the knowledge, attitudes and behaviors of health personnel about breastfeeding, and to closely monitor the mental health of mothers and health personnel in this process.

Keywords: Breastfeeding; Covid-19; pregnant anxiety

ÖZET

Amaç: Bu çalışmada, Kovid-19 pandemi sürecinde gebelerin yaşadığı kaygı düzeyi ve emzirme tutumlarının belirlenmesi amaçlanmaktadır.

Yöntem: Tanımlayıcı olarak yapılan araştırmanın örneklemini 32. gebelik haftası ve üzerindeki 482 gebe oluşturmuştur. Veri toplama aracı olarak Kişisel Bilgi Formu, Pandemi (Kovid-19) süreci içinde Emzirme Tutum Formu ve Durumluluk Kaygı Envanteri (DKE) uygulanmıştır. Araştırma verilerinin analiz süreci 4 başlık altında incelenmiştir. Birinci aşamada demografik özelliklerin dağılımları ve tanımlayıcı istatistikler, ikinci aşamada çalışmada ölçme aracı olarak kullanılan anketin yapı geçerliği incelenmiş ve üçüncü aşamada ise Cronbach alfa katsayısı ile tüm ölçeklerin güvenilirliğine bakılmıştır. Dördüncü aşamada ise ölçek puanları arasındaki ilişkiler korelasyon analizi ile incelenmiştir. Çalışmamızda DKE'nin Cronbach alfa değeri 0,817 olarak belirlenmiştir. Araştırmacılar tarafından hazırlanan emzirme tutum formunun Cronbach Alpha iç tutarlılık katsayısı 0,717'dir.

Bulgular: Araştırmaya katılan 482 katılımcının yaş ortalaması 28.57 ± 5.334 olarak belirlenmiştir. Kovid-19 salgınından sonra izlem sıklığı değişmeyen gebelerin kaygı puanları, izlem sıklığı azalan gebelerden anlamlı derecede fazla saptanmıştır. Kovid-19 salgını sürecinde doğum sonrası emzirme ile ilgili bilgi alanların kaygı puanları kısmen bilgi alanlardan anlamlı derecede daha fazladır. Kovid-19 salgını dolayısıyla doğum sonrası emzirmemeyi düşünenlerin kaygı puanları emzirmeyi düşünen ve kısmen düşünenlerden anlamlı derecede daha fazladır.

Sonuç: Kovid-19 salgını sırasında yerinde eğitimin mümkün olmadığı durumlarda gebelerin online olarak eğitilmesi önemlidir. Kovid-19 salgınında kadınların emzirme konusundaki düşünce ve endişelerini giderme de sağlık personelinin de emzirme bilgi, tutum ve davranışlarının değerlendirilmesi, iyileştirmesi ve bu süreçte anne ve sağlık personelinin ruh sağlıklarının yakından izlenmesi önerilir.

Anahtar Kelimeler: Emzirme; Kovid-19; gebelik kaygısı

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Introduction

Covid-19 is a severe disease that began in China in late December 2019 and affected the whole world in a short period. The virus that causes Covid-19 has been named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first case of Covid-19, which affects millions of people around the world, was reported in our country on March 11, 2020 (WHO, 2020).

Constant publications in the press and broadcasting in the mass media, maintaining the social distancing to prevent the transmission of the disease, shutting schools and some workplaces, self-imprisonment and beyond any doubt, the ambiguity of this period caused the mental health of the society to be affected adversely. It has been determined in the studies, which were performed in the previous years, during the epidemics such as SARS, MERS, and in studies conducted in recent months on people who have not been infected with Covid-19, that there is a high risk of being affected psychologically and hence, there is a relationship between this impact and taking measures to prevent the disease (WHO, 2020).

The gestation age is a period when the psychological, hormonal, and immune systems change. Throughout this period when the Covid-19 pandemic is experienced, a pregnant female is vulnerable to viral diseases, cause to has both anxiety with her health and anxiety about her fears of how she can give birth to her baby, whether she will be able to breastfeed her baby or will she infect her baby (Özcan, Elkoca & Yalçın 2020). It was revealed in the guideline published by WHO on March 13, 2020, that there is no significant difference between the prevalence and clinical manifestations of Covid-19 pandemic among pregnant women and the normal population (Özcan et al., 2020).

In the guide published about Covid-19 infection during pregnancy and postpartum period; It has been announced that the idea that the virus can be transmitted through respiratory droplets rather than breast milk will cause concern, and that breastfeeding mothers should wash their hands before touching the baby and wear a three-layer surgical mask (Poon et al., 2020).

In this study, we aimed to determine the psychological responses of the pregnant women to the Covid-19 pandemic and their views and feelings of anxiety over breastfeeding their babies. Even though there is no such research in our country yet, we consider that the data to be obtained from this study will guide both public mental health care services and maternal-child health care services.

Research Question

Does the anxiety of pregnant women during the pandemic period affect their attitudes towards postpartum breastfeeding?

Methods

Between May 2020 and August 2020, we reached pregnant women with the cooperation of breastfeeding consultants registered with Volunteers Association, who support the education of healthcare professionals and the society on breast milk and breastfeeding, share scientific up-to-date information on the subject and play a role in creating sustainable policies to increase breastfeeding rates. The study was applied to 482 pregnant women at or over 32 weeks of gestation. A Personal Information Form was used to identify the demographic characteristics of the participants, while a Breastfeeding Attitude Questionnaire was utilized to determine the thoughts of the pregnant women on breastfeeding throughout the pandemic (Covid-19), and a State Anxiety Inventory (SAI) to specify their anxiety levels.

1. Personal Information Form

Personal Information Form involved 22 queries. Queries included descriptive information such as the age of the pregnant women, gestational week, educational status, and descriptive questions related to the Covid-19.

2. State Anxiety Inventory

The State Anxiety Inventory was developed by Spielberger and Gorsuch in 1964 to measure the state anxiety levels in normal and abnormal individuals. The scale made up of 20 items. Items in the scale are enumerated between 1 to 4 and are in the Likert type. In the State Anxiety Inventory, 1 represents "none" and 4 represents "completely". The scores obtained from the scale theoretically range between 20 to 80. There are 10 reversed items in the State Anxiety Inventory. In reversed items, responses of 4 reveal low anxiety, whereas those of 1 reveals high anxiety. Cronbach's alpha value of the scale, validity, and reliability of which was adapted to Turkish by Öner and Le Compte (1985) was determined to be 0.94 (Köroğlu, 2009). Value for Cronbach's alpha was determined as 0.817 in our study.

3. Attitudes of Pregnant Women towards Breastfeeding throughout the Pandemic (Covid-19)

The form, which was prepared by the researchers through reviewing the literature to identify the breastfeeding attitudes of pregnant women throughout the Covid-19 pandemic, consists of 7 queries (CDC, 2020; Li, Feng & Shi 2020; Rasmussen, Smulian, Lednický, Wen & Jamieson, 2020). The items, which are helpful in determining the attitudes of pregnant women regarding postpartum breastfeeding during the Covid-19 pandemic, have been included in the queries of this measurement model. The items of this section are scored as strongly agree-5, agree-4, neutral-3, disagree-2, strongly disagree-1. The higher score indicates that pregnant women have a higher positive attitudes towards breastfeeding. The highest score that could be obtained from this questionnaire is 35, whereas the lowest score is 7. As the obtained score increases the breastfeeding attitude improves more positively. This measurement model, which was established to verify its structure comprised of 7 items and one dimension, was analyzed through confirmatory factor analysis. Meanwhile, based on the construct validity results of our study, it was determined that the internal consistency coefficient for the Cronbach's Alpha of the model was highly reliable with a value of 0.717.

Data Analysis

Data were analyzed using SPSS (IBM SPSS Statistics 23 and IBM SPSS Amos 21). In the assessment of the data, distributions of frequencies, and descriptive statistics (mean $\pm$ SD) were used for the categorical variables, and numerical variables respectively. The scale and survey scores of the participants were obtained by summing up the related items. Accordingly; in order to decide on the analyzes to be applied Kolmogorov-Smirnov test for normality was performed to the scores of the scale. As a result of the test, it was detected that the scores ensured the assumption of normality and thus parametric tests were used to compare them. Pearson Correlation Coefficient analysis was performed to identify the strength of the association between two numerical variables. The statistically significant differences between more than two independent groups were investigated through one-way Analysis of Variance (ANOVA), and in case of determining significant differences between the two groups, Tukey's multiple comparison test was performed. The differences between the two independent groups were examined by Independent Sample T-Test.

Ethical Permission

This study is a cross-sectional study, and approval was received for the study from İnönü University Non-Interventional Clinical Research Ethics Committee (2020\702) and the Ministry of Health.

Study Limitations

The strengths of this study are that it was conducted in the early period of the pandemic, appropriate sample size, and reliable data regarding the study objectives.

One of the limitations of this study is that statistics regarding pregnant women with Covid-19 were not clear during the study period. Access to data on maternal mortality rates or pregnant women hospitalized with Covid-19 was limited. Therefore, these components could not be mentioned due to the scarcity of statistics.

Results

The mean age of 482 participants in the research was 28.57 ± 5.334 years and 61.8% (n = 298) of them were between 17 and 29 years old. Of the participants, 39.2% (n = 189) were university graduates with the highest number, while 69.1% (n = 333) were housewives, and 69.3% (n = 334) were between the gestational weeks of the 32nd and 36th. The sociodemographic characteristics of the participants are presented in Table 1.

Table 1. Distribution of the demographic features and descriptive statistics

n=482	Number	Percent
Age (Mean=28.57 ± 5.334)		
Aged 17-29	298	61.8
Aged 30-49	184	38.2
Educational Level		
Illiterate	33	6.8
Primary School Graduate	47	9.8
Secondary School Graduate	95	19.7
High School Graduate	97	20.1
University Graduate	189	39.2
Post Graduate	21	4.4
Employment Status Throughout the Pandemic		
Full-Time Employee	6	1.2
On Administrative Leave	81	16.8
Leave of Absence with Pay	25	5.2
On Leave without pay	17	3.5
Has Flexible Working Hours	12	2.5
Working at home	8	1.7
Unemployed	333	69.1
Gestational Week (Mean=35.30 ± 2.123)		
32-36	334	69.3
37-41	148	30.7
Having any Chronic Disease		
Yes	41	8.5
No	441	91.5
Having Child		
Yes	260	53.9
No	222	46.1
Breastfeeding Previous Children (n = 260)		
Yes	249	95.8
No	11	4.2
To Have Had Breastfeeding Training During This Pregnancy		
Yes	238	49.4
No	244	50.6

Of the participants, 34.4% reported that they have experienced a partial increase in their housework burden during the pandemic, while 82.6% (n = 398) of them stated that they learned the latest information from the TV/Newspaper and there were no diagnosed individuals in the family of 95.6%.

Table 2. Distribution of the changes and anxiety states in the individual's life due to the Covid-19

n=482	Number	Percent
Having Housework Burden During Pandemic		
Partially	166	34.4
Yes	164	34.0
No	152	31.5
Updated Information Source for Covid-19		
TV/Newspaper	398	82.6
Social Media	280	58.1
Healthcare Professionals	99	20.5
Relatives or Neighbors	48	10.0
Articles	40	8.3
Covid-19 Diagnostic Status of Family/Friends		
No one has been diagnosed with the disease	461	95.6
Yes, some of my family members/close friends were diagnosed with the Covid-19	20	4.1
Yes, some of our family members were diagnosed with the disease	1	0.2
Having Complaints within the Recent 14 Days		
I haven't had any complaint	71	85.3
I have had a complaint	41	14.7
Type of the Complaint		
Headache	31	6.4
Muscle Pain	19	3.9
Diarrhea	14	2.9
Sore Throat	12	2.5
Cough	10	2.1
Shortness of Breath	9	1.9
Nasal Discharge	7	1.5
Skin Lesions	2	0.4
Fever	2	0.4
Have Your Psychology Been Affected Adversely By The Outbreak?		
Partially	234	48.5
Yes	173	35.9
No	75	15.6
Most Prevalent Anxiety Reasons for Covid-19		
I have no anxiety, I think that it is exaggerated	32	6.6
My health condition	286	59.3
Health condition of my baby	395	82.0
Health condition of my family and relatives	274	56.8
Economical concerns	199	41.3
Academic concerns	8	1.7
Feeling anxiety to infect someone else	84	17.4
Feeling anxiety over not getting adequate treatment when necessary	103	21.4
Feeling anxiety over whether I have a balanced diet	48	10.0
The thought that the treatment of the disease could not be discovered ultimately	128	26.6
Security concern	37	7.7
Uncertainties related to the pandemic	155	32.2
Anxiety that family ties and social relations might deteriorate	72	14.9
Pregnancy Follow-Up rate Following the Covid-19		
Decreased	229	47.5
Rates remained constant	236	49.0
Increased	17	3.5

It was determined that 14.7% (n = 71) of the participants had complaints that might be associated with Covid-19 and the most prevalent complaint was headache with a rate of 6.4%. Upon the question of whether they have experienced any psychological problem due to the pandemic, merely 15.6% (n = 75) of them reported that they had not experienced any adverse psychological effect. It was determined that the most common cause of anxiety for pregnant women during the pandemic was the health condition of their baby with a rate of 82% (n = 365). The changes that pregnant women experienced in their life throughout the pandemic and the causes for feeling anxiety are shown in Table 2.

The related data about how and from whom the participants acquired the information on breastfeeding and their views on breastfeeding the baby are presented in Table 3.

Table 3. Distribution of participants' knowledge on breastfeeding throughout the Covid-19 pandemic

n=482	Number	Percent
Have been Informed about Postpartum Breastfeeding during the Covid-19 Pandemic		
Yes	204	42.3
No	200	41.5
Partially	78	16.2
Information source		
Hospital (Physician/Midwife/Nurse)	153	31.7
Family Health Center	138	28.6
TV/Magazine/Newspaper	71	14.7
Social Media	70	14.5
From My Relatives (Friend/Relative)	29	6.0
Having the opinion not to breastfeed the baby after delivery due to the Covid-19 Pandemic		
No	409	84.9
Partially	37	7.7
Yes	36	7.5

It was found out that there was a statistically significant difference between the scores of the anxiety and the variables including; to have had breastfeeding training during the pregnancy, being effected psychologically due to the Covid-19 , frequency of pregnancy follow-up after Covid-19 pandemic, the status of being informed about postpartum breastfeeding during Covid-19 pandemic, the status of learning the latest developments and measures in preventing the disease through medical staff (Physician/Midwife/Nurse), having the opinion not to breastfeed the baby after delivery due to the Covid-19 Pandemic ($p < 0.05$). Based on this finding, it was detected that the anxiety scores of those who had breastfeeding training in the pregnancy were significantly higher than those who did not receive training. Those whose psychology were affected by Covid-19 had significantly less anxiety scores than those who were not affected and those who were partially affected. In addition to that, it was found that anxiety scores of those who maintained their frequency of having pregnancy follow-up following the Covid-19 outbreak were significantly higher than those who reduced the frequency of having pregnancy follow-up. Moreover, the anxiety scores of those who received information related to postpartum breastfeeding throughout the Covid-19 pandemic were significantly higher than those who were informed partially. The anxiety level of pregnant women who received information from social media, newspapers, magazines, TV and friends was lower, while the source of information about breastfeeding was hospital (doctor / midwife / nurse) and primary care. Because of the Covid-19 outbreak, those who think not to breastfeed after birth are significantly higher than those who think and partially think about breastfeeding.

When Table 4 was examined, it was found that there was a positive linear correlation ($r = 0.093$; $p < 0.05$) with a low level of significance between the scores of Attitudes of Pregnant Women on Breastfeeding during the Pandemic (Covid-19) and the State Anxiety. Furthermore, it was determined that the mean score of the

Attitudes of the Pregnant Women about Breastfeeding during the Pandemic (Covid-19) was 14.48 ± 3.385 , while the mean score of the State Anxiety was 47.08 ± 7.121 .

Table 4. Results of correlation analysis between the scores of attitudes of pregnant women on breastfeeding during pandemic (Covid-19) and State Anxiety Scales

		1	2
1) The Scale of Breastfeeding Attitudes of Pregnant Women throughout the Pandemic (Covid-19)	r	1	
	p		
2) State Anxiety Inventory	r	0.093*	1
	p	0.041	
Mean		14.48	47.08
SD		3.385	7.121
Min-Max		4-20	29-68

* $p < 0.05$ r =Pearson Correlation Coefficient p =Level of Significance

Discussion

Being breastfed is the most innate right of every baby and it is the most ideal food that can be given to a baby to have a healthier future. Considering the recent findings that particularly babies who are breastfed are more protected from chronic diseases as well as diseases of our age such as cancer, mothers should not feed their babies with any food other than breast milk for the first 6 months. However, the pandemic that we have experienced as of 2020 caused intricacy in the field of health care, as in many other fields, and led to confusion in mothers' views on breastfeeding.

Thanks to the developing technology, people can access all kinds of information more rapidly through the internet and media. According to a study conducted in the USA, it was revealed that people access information related to the field of health through the internet (Chen, Li, Liang & Tsai, 2018). Meanwhile, based on a survey performed in Turkey, the rate of acquiring information on health care through the internet was reported to be 55% (Statista, 2018). In another study by Lagan et al., it was determined that the internet was the source of information on health care in 83% of pregnant women (Lagan, Sinclair & Kernohan, 2010). Meanwhile, it was found in our study that 82% of the pregnant women acquired information on Covid-19 through TV broadcasts. This difference is attributed to holding daily briefings on TV about the recent developments in Covid-19 by the Science Commission of the Ministry of Health.

It is well-known that the enforcement of quarantine due to the pandemic has increased fear, anxiety, and exasperation across the world (Brooks et al., 2020). It was put forward in the literature that the psychological well-being of particularly vulnerable groups such as children and pregnant women can be affected much more rapidly (Brazendale et al., 2017). Likewise, WHO remarks that approximately 10% of pregnant women and 13% of puerperants experience psychological effects at different levels varying in a broad range, notably depression, due to Covid-19 disease. In our study also it was found that 84% of pregnant women had psychological problems, supporting the findings in the literature (Statista, 2018). In the light of the information unveiled by WHO that Covid-19 could cause fewer health problems in pregnant women, mentioning of this finding in both outpatient clinics and briefings via remote access network could help in reducing the anxiety pregnant women experience and help the baby to grow up with a better mental health in the long-run. When the anxiety experienced by pregnant women were compared in terms of having the breastfeeding counseling, it was determined that those who had breastfeeding counseling had higher levels of anxiety. This finding has been referred to the fact that medical information might be conveyed more accurately to the mothers and the healthcare staff might have conveyed their anxiety directly to the pregnant women during the trainings since the incident was more acute. It was found out in our study, which also verifies our hypothesis, that those who

obtained information about Covid-19 from the health care staff were more anxious than those who received information from other sources, and those whose frequency of pregnancy follow-ups remained still had higher scores of anxiety than those who had lower frequency of follow-up.

There is no compelling evidence that breast milk could cause the transmission of Covid-19 to the baby or the baby should not be breastfed to prevent the transmission of Covid-19. Based on the latest recommendations, there is concern that there might occur a transmission to baby via droplets rather than a transmission through breast milk. Hence, it is recommended that the mother should wash her hands and wear a face mask before breastfeeding. If the mother has Covid-19, since the mother will already be under treatment, it is recommended that the baby and the mother should be in the same room, but the baby's bed should be placed 2 meters away from the mother's bed. That is to say, there is no need to separate the baby and mother's room. Yüksel and Çakmak revealed in their study that most of the videos of pregnant women about Covid-19 recorded on youtube were shot by physicians (Yüksel & Çakmak 2020). Considering that of the pregnant women who participated in our study, those who intend not to breastfeed the baby have higher levels of anxiety, and 82% of them are concerned about the health of their baby mothers should be informed in the light of the above-mentioned information.

In Kaplan's study, it was determined that during the quarantine period due to the epidemic, all family members were at home and the care and nutrition needs of individuals changed in relation to the epidemic, and the intensity of domestic work increased (Kaplan, 2021). Similarly, it was found that 34% of the pregnant women who participated in our study had increased workload at home during the pandemic, and 53% of them had another child at home. This shows that the mother is more tired and is worried about the health of other household members. However, the fact that the anxiety scores of those who thought they were psychologically affected in our study were lower than those who thought they were not affected, could not be fully explained and showed that studies with larger participation should be conducted on this subject. It was identified that the housework burden of 34% of the pregnant women who participated in our study increased and 53% of them were with another child. This finding indicates that the mother gets tired much more compared to other members of the family and that she feels anxiety about the health of the other family members.

Durankuş and Aksu have found in their study that the Covid-19 pandemic increased the anxiety level and frequency of depression in pregnant women (Durankuş & Aksu, 2022). Breastfeeding self-confidence of mothers in the early postpartum period affects breastfeeding success (Ceylan & Şahin, 2020). Mirzadeh et al. revealed in their study that Covid-19 pandemic increased the stress or anxiety of pregnant women regarding their babies' health and remarked that this situation might have irreversible effects on the health condition of mother and child (Mirzadeh & Khedmat, 2022). It is well-documented that having depression and anxiety during pregnancy increase the risk of preterm delivery, leads to fetal growth problems, and even increased postpartum complications (Grigoriadis et al., 2013; Ciesielki & Marsit, 2015). Upon examining the relationship between the anxiety levels of the mothers and the thought of breastfeeding her baby, we found in our study that as the level of anxiety increased the mother's attitudes towards breastfeeding her baby decreased. It is evident that with the addition of psychological and physical problems, which might occur since the mother is not breastfeeding her baby, on the complications caused by the existing depression, much bigger problems could be experienced in the long term. Therefore, it is very crucial to reduce the level of anxiety by providing educations for pregnant women and enabling mothers to breastfeed their babies in a controlled way during the period of the pandemic.

Conclusion

As a result, it seems that the treatment of the epidemic has not yet been discovered in the early period of the pandemic and the fact that healthcare professionals do not have a clear idea about when the epidemic will

end complicates the situation. We believe that during pandemic periods, pregnant women should be given distance education if necessary, and the mental health status of the healthcare personnel who will provide the training should be closely monitored, and the education given to pregnant women, especially in the prenatal period, should be within this framework. Health professionals who will provide training to pregnant women through in-service training on issues such as coping with their anxiety and gaining self-confidence need to be supported. Additional studies are needed to determine methods of coping with pregnancy anxiety in epidemic disease situations and other factors associated with breastfeeding attitudes. It is obvious that supporting national and international non-governmental organizations operating in our country, such as Temas Association, that draw attention to the importance of breastfeeding and breast milk, and disseminating their studies throughout the country will benefit the attitude towards breastfeeding in crisis situations.

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