



Research Article

**BREASTFEEDING SELF-EFFICACY IN PREGNANT WOMEN AND EFFECTIVE FACTORS IN THE COVID-19 PANDEMIC**

**Hamide AYGOR\***<sup>1</sup> **Kazım GEZGİNÇ**<sup>2</sup> **Kübra Memnune GÜNDOĞAN**<sup>3</sup>

<sup>1</sup> Necmettin Erbakan University, Nursing Faculty, Dep. of Labor and Women Disease Nursing, Konya, Turkey

<sup>2</sup> Necmettin Erbakan University, Medical Faculty, Department of Obstetrics and Gynecology, Konya, Turkey

<sup>3</sup> Yozgat City Hospital, Department of Obstetrics and Gynecology, Yozgat, Turkey

\* Corresponding author; hamidedindas@hotmail.com

**Abstract:** *This study was conducted to identify the factors affecting the breastfeeding self-efficacy of pregnant women during the COVID-19 pandemic. This descriptive correlational study was conducted between 15 January and 15 June 2021. The sample consisted of 320 pregnant women, who were in their third trimester, had a singleton pregnancy and a healthy fetus, a spontaneous pregnancy, and no health problems. The data of the study were collected using an Information Form and the Prenatal Breastfeeding Self-Efficacy Scale. The mean total Prenatal Breastfeeding Self-Efficacy Scale score of the participants was  $79.08 \pm 13.86$ . The seven variables with significant effects on the mean total Prenatal Breastfeeding Self-Efficacy Scale scores of the participants were being knowledgeable on COVID-19, thinking breastfeeding is beneficial for the baby, visiting the outpatient clinic for prenatal follow-ups on time, gestational week, educational level, age, and receiving breastfeeding consultancy in the COVID-19 pandemic. Especially young pregnant women who have low educational levels and are not experienced or knowledgeable about breastfeeding should be provided with counseling on breastfeeding. This study is believed to contribute to the literature and guide interventional studies to be conducted in the future by evaluating prenatal breastfeeding self-efficacy levels and affecting factors.*

**Keywords:** *Breastfeeding, Breastfeeding self-efficacy, COVID-19, Pandemic, Pregnancy*

*Received: October 4, 2022*

*Accepted: December 03, 2022*

## 1. Introduction

Breast milk is the most ideal source of nutrition for babies under any condition, be it natural disasters or even pandemics. The fact that breast milk is an especially important source of antibodies makes it a necessity for breastfeeding to be provided and continued, especially in these days when we are experiencing the COVID-19 pandemic. WHO has deemed breastfeeding to be safe under all circumstances in the COVID-19 pandemic [1].

Numerous factors affecting breastfeedings, such as the mother's age, educational level, economic status, and insufficient breast milk, have been reported in the literature [2-4]. One of these factors is the mother's breastfeeding self-efficacy [3-5]. Breastfeeding self-efficacy affects whether the mother will breastfeed, her thoughts on breastfeeding, and her skills of coping with the emotional difficulties that she is likely to encounter during this process [6]. Breastfeeding self-efficacy starts to develop in the

prenatal period. This self-efficacy that is expected to develop in the prenatal period is also highly important in the successful management of breastfeeding behaviors in the postpartum period [7].

Breastfeeding self-efficacy is a strong indicator of the duration of breastfeeding which can be affected by a set of factors in various situations including crises [8]. In the COVID-19 pandemic, which is indeed a crisis period, planning and implementation efforts during the prenatal period with information based on evidence by identifying the factors affecting breastfeeding self-efficacy have become more important compared to other periods in terms of maternal and infant health. Moreover, the breastfeeding self-efficacy of the mother should be improved during the prenatal period for breastfeeding to start as soon as possible in the postpartum period and in terms of successful breastfeeding outcomes [20, 21, 22]. Therefore, this study was conducted to identify the factors affecting the breastfeeding self-efficacy levels of pregnant women during the COVID-19 pandemic.

## **2. Materials and Methods**

### **2.1. Research Design**

The study has a descriptive correlational design.

### **2.2. Sample**

The population of the study comprised all pregnant women presenting to the obstetrics outpatient clinic of a university hospital. Having predicted the effect size of the independent variables on the prenatal breastfeeding self-efficacy scale scores of pregnant women to be  $f^2:0.08$  (small effect) based on the multiple regression analysis results, it was determined that at least 285 pregnant women should participate in the study as per the sample size calculation made using the G\*Power (3.1.9.2) software with a 5% alpha margin of error (two-tailed) and 90% power. Taking into account the possibility of data losses during the data collection process, it was decided to include 314 pregnant women in the study, 10% higher than the number found in the sample size calculation step. Pregnant women who were in their third trimester (27<sup>th</sup> gestational week and later), had a singleton pregnancy and a healthy fetus, a spontaneous pregnancy, and no health problems were included in the study.

### **2.3. Measurement**

The data were collected using an Information Form and the Prenatal Breastfeeding Self-Efficacy Scale. The Information Form was prepared by the researchers, and it consisted of twenty-five questions on the characteristics of the participants, including their sociodemographic, obstetric, and breastfeeding characteristics, as well as their knowledge related to COVID-19.

The Prenatal Breastfeeding Self-Efficacy Scale (PBSES) was created by Wells et al. (2006) to determine the breastfeeding self-efficacy perceptions of pregnant women in the prenatal period [10]. Cronbach's alpha coefficient of the scale was reported as 0.89. The validity and reliability study of the scale that was adapted to Turkish was conducted by Aydın and Pasinlioğlu (2018), and its Cronbach's alpha coefficient was found 0.85 [10]. The scale consists of 20 items in total and has four subscales. These; information collection (1, 2, 3, 5, 17), ability (6, 7, 8, 9, 10, 11, 12), breastfeeding and breastfeeding nearby other people (13, 14, 15, 16), and wishes (18, 19). It is a 5-point Likert-type scale. The minimum and maximum scores to be obtained from the scale are 20 and 100. Higher scores reflect higher levels of breastfeeding self-efficacy. The Cronbach's alpha coefficient of PBSES in this study was determined to be 0.90 for the overall scale, 0.76 for the information collection subscale, 0.82 for the ability subscale, 0.74 for the breastfeeding nearby other people subscale, and 0.64 for the wishes subscale.

## 2.4. Data Collection

The data were collected by the researcher between 1 March 2021 and 1 June 2021 using the random sampling method, which is a non-probability sampling method. The purpose of the study was explained to the pregnant women, who visited the hospital for routine follow-ups, after their examinations, and their verbal consent was taken before data collection.

## 2.5. Data Analysis

The data obtained in the study were analyzed using SPSS Statistics Version 20.0 (IBM Inc., Armonk, NY, USA). The frequency, percentage, mean, and standard deviation values of the data are provided as descriptive statistics. To analyze the differences among the mean PBSES scores of the participants based on the independent variables, the independent-samples t-test and Mann-Whitney U test ( $n < 30$ ) were used in the comparisons of two independent groups, and one-way analysis of variance (ANOVA) (post hoc analysis: Tukey's HSD) and Kruskal-Wallis test were used for comparing more than two independent groups. The relationships between the numeric independent variables and the participants' PBSES scores were analyzed with correlation analyses. The independent variables that were discovered to have a significant effect on PBSES scores in the univariate analyses were analyzed using the multiple regression (backward method) analysis methods. The statistical significance level was accepted to be  $p < 0.05$ .

## 2.6. Ethical Statement

Before starting the study, approval was obtained from the Non-Invasive Clinical Studies Ethics Committee of the Meram Faculty of Medicine at Necmettin Erbakan University (decision no: 2021/3018; Date: January 8, 2021).

## 3. Results

The pregnant women who participated in this study were between 18 and 43 years of age, 44.7% of them were 25 years old or younger, 21.5% held at least a bachelor's degree, and 89.4% were not working. Among their partners, 20.3% held at least a bachelor's degree, and 95.9% were employed. All participants were married. The mean duration of their marriages was  $6.26 \pm 5.48$  years. The mean gestational week of the participants was  $33.25 \pm 3.66$ , 33.8% were primiparous, and 66.2% were multiparous. The majority of the participants did not have a history of miscarriage (65.3%) or abortion (79.1%). When asked about which sex they would want their babies to be, 19% answered female, 13% answered male, and 68% stated that they did not mind either way. When asked about the sex of their babies, 40.7% answered female, 51.2% answered male, and 8.1% said that they did not know. Of all participants who thought of breastfeeding after giving birth, 96.3% thought that breastfeeding is beneficial for the mother, and 91.9% thought that it is beneficial for the baby. During the COVID-19 pandemic period, 25.9% of the participants had received breastfeeding consultancy, while 74.1% had not. It was found that 15.6% of the participants had been tested for COVID-19, and 7.2% had tested positive. When questioned about their knowledge of COVID-19, 80.9% claimed to be knowledgeable about COVID-19, while 19.1% claimed to be partially knowledgeable about it. While 58.1% of the participants stated their source of information as social media/internet, 39.4% and 2.5% expressed their sources of information to be TV and health personnel, respectively. It was stated 84.1% of the participants that isolated themselves at their homes, and 98.4% reported that they complied with mask/social distancing/hygiene rules during the pandemic period. While 49.1% of the participants thought that the pandemic affected their pregnancy when asked about the feeling that they had for most

of the time in the pandemic period, 37.1% answered it was fear, 24.1% felt sadness, 23.8% felt haste, 9.1% claimed to feel nothing/be neutral, and 5.9% felt hopelessness.

The total PBSES scores of the participants ranged between 27 and 100, and their mean score was found as  $79.08 \pm 13.86$ . It was observed that the mean PBSES score of the participants who were 26 years old or older was significantly higher than that of the participants aged 25 or younger ( $p < 0.05$ , Table 1). It was also determined that the participants holding at least a bachelor's degree had a significantly higher mean total PBSES score than those who had high school or lower degrees ( $p < 0.05$ ), and the significance of this difference was high ( $p < 0.001$ ).

**Table 1.** Differences in PBSES Total Scores Based on the Independent Variables

Independent Variables	n	PBSES $\bar{X} \pm SD$	test	p
<b>Age</b>				
≤ 25	143	77.20±13.28	t*: 2.188	0.029
≥ 26	177	80.59±14.17		
<b>Educational Level</b>				
Literate/elementary school <sup>a</sup>	151	77.97±13.83	F**: 14.990	0.000
High school <sup>a</sup>	100	75.57±14.56		(a < b)
Bachelor's degree or higher <sup>b</sup>	69	86.58±9.64		
<b>Working</b>				
Yes	34	85.24±13.15	t: 2.768	0.006
No	286	78.35±13.79		
<b>Partner's Educational Level</b>				
Literate/elementary school <sup>a</sup>	147	77.67±15.26	F: 3.589	0.029
High school <sup>a</sup>	108	78.59±12.33		(a < b)
Bachelor's degree or higher <sup>b</sup>	65	83.08±12.31		
<b>Number of births</b>				
1	108	79.94±11.97	t: .797	0.426
2 or above	112	78.64±14.74		
<b>Has a history of abortion</b>				
Yes	111	80.01±12.60	t: .875	0.382
No	209	78.58±14.50		
<b>Has a history of miscarriage</b>				
Yes	67	82.54±10.92	t: 2.712	0.008
No	253	78.16±14.42		
<b>The sex of the baby</b>				
Girl	130	78.84±15.48	KW***: .064	0.969
Boy	164	79.01±13.11		
<b>The desired sex of the baby</b>				
Female <sup>a</sup>	61	74.90±12.34	F: 3.557	0.030
Male <sup>b</sup>	40	79.25±14.66		(a < c)
It does not matter <sup>c</sup>	219	80.21±13.96		
<b>Attends prenatal follow-ups on time</b>				
Yes	267	80.72±12.31	t: 3.863	0.000
No	53	70.79±17.90		

Independent-samples t-test, df:318, \*\*Analysis of variance, intergroup/intragroup comparisons between groups/within groups 2/317/319, \*\*\*Kruskal-Wallis test df:2

The participants who were working had a significantly higher mean scale score than the non-working participants ( $p < 0.01$ ). The participants whose partners had at least a bachelor's degree were determined to have a significantly higher PBSES mean score than those whose partners had high school or lower degrees ( $p < 0.05$ ). The participants with a history of miscarriage were determined to have a significantly higher mean score than those with no such history, and the significance of this difference was high ( $p < 0.01$ ).

The participants who did not mind the sex of their babies had a significantly higher PBSES mean score compared to those desiring to have a female baby ( $p < 0.05$ ). The participants who visited the outpatient clinic for their prenatal follow-ups on time had a significantly higher PBSES mean score than the ones who did not, and the significance of this difference was ( $p < 0.01$ ).

It was seen that the participants who considered breastfeeding to be beneficial for the mother had a higher PBSES mean score than those who were indecisive about the benefits of breastfeeding, however, this difference was not significant ( $p > 0.05$ ). It was also found that the participants who considered breastfeeding to be beneficial for the baby had a higher PBSES mean score than those who were indecisive about the benefits of breastfeeding for the baby ( $p < 0.01$ ). The participants who had received breastfeeding consultancy during the COVID-19 pandemic period had a significantly higher PBSES mean score than those who had not received such consultancy ( $p < 0.05$ , Table 2).

**Table 2.** Comparison of PBSES Total Scores of the Participants Based on Their Thoughts about Breastfeeding

	n	PBSES $\bar{X} \pm SD$	test	p
<b>Thinks breastfeeding is beneficial</b>				
Yes	308	79.23±13.96	U*: 1315.5	0.090
Indecisive	12	75.08±10.98		
<b>Thinks breastfeeding has benefits for the baby</b>				
Yes	294	80.07±12.94	U: 2284.5	0.001
Indecisive	26	67.88±18.70		
<b>Receiving breastfeeding consultancy in the COVID-19 pandemic</b>				
Yes	83	82.35±12.55	**t: 2.519	0.012
No	237	77.93±14.14		

\*Mann-Whitney U test, \*\*independent-samples t-test df:318

With a highly significant difference, it was found that the participants who were knowledgeable about COVID-19 had a higher PBSES mean score compared to those who were not ( $p < 0.001$ ). The participants who thought that the pandemic did not affect their pregnancy had a significantly higher PBSES mean score than those who thought otherwise ( $p < 0.05$ , Table 3).

**Table 3.** The Effects of Independent Variables on PBSES Scores: Multiple Linear Regression Analysis Results

Independent Variables	n	PBSES $\bar{X} \pm SD$	test	p
<b>Has a diagnostic test for COVID-19</b>				
Yes	50	79.22±17.05	t*: 0.079	0.937
No	270	79.05±13.23		
<b>COVID-19 diagnostic test result</b>				
Positive	23	78.91±16.57	KW**: 0.886 (df: 2)	0.642
Negative	27	79.48±17.76		
Did not get tested	270	79.05±13.23		
<b>Knowledge of COVID-19</b>				
I have knowledge	259	81.27±11.98	t: 4.932	0.000
I have partial knowledge	61	69.79±17.22		
<b>Information source</b>				
Health personnel	8	79.38±9.59	KW: .673 (df: 2)	0.714
TV	126	78.26±14.47		
Social media/internet	186	79.62±13.63		
<b>Self-isolation at home during the pandemic</b>				
Yes	269	79.67±12.88	t: 1.393	0.169
No	51	75.98±18.04		
<b>Complied with mask /social distancing/hygiene rules</b>				
Yes	315	79.09±13.93	U***: 4225.5	0.214
No	5	78.20±9.93		
<b>Emotions felt during the pandemic</b>				
Fear	119	79.55±12.83	KW: 5.647 (df: 4)	0.227
Haste	76	78.83±17.27		
Despair	19	83.95±10.85		
Hopelessness	77	77.23±13.13		
Felt nothing/neutral	29	79.48±11.29		
<b>Thinking that the pandemic affected her pregnancy</b>				
Yes	157	77.32±15.00	t: 2.226	0.027
No	163	80.77±12.49		

\* Independent-samples t-test, df: 318, \*\* Kruskal-Wallis test, \*\*\*Mann-Whitney U test

No significant relationship was found between the participants' marriage durations and their PBSES scores ( $r: -0.05, p>0.05$ , Table 4). A weak, negative, and statistically highly significant relationship was found between the gestational weeks of the participants and their PBSES scores ( $r: -0.16, p<0.01$ ). As the participants were further along in their pregnancy, their PBSES scores decreased.

**Table 4.** Relationship between the Marriage Durations and the Gestational Weeks of the Participants and Their PBSES Scores

Independent Variables	PBSES Total Score	
	r*	p
Marriage duration (years)	-0.05	0.341
Gestational week	-0.16	0.005

\* Pearson's correlation analysis

A multiple linear regression analysis (backward method) was conducted to evaluate the overall effects of 13 independent variables determined to affect the PBSES scores of the participants in the univariate analyses. No high-level autocorrelation was found among the independent variables included in the regression model based on the correlation analysis and the multicollinearity statistics (Table 5). Among the independent variables included in the regression model, five independent variables, namely employment status, thinking the pandemic had an effect on one’s pregnancy, partner’s educational level, desired sex of the baby, and abortion history, were excluded from the regression model since they did not have significant effects on PBSES scores ( $p>0.05$ ).

The order of the significance levels of the remaining seven variables with significant effects on the participants’ PBSES scores based on the  $\beta$  coefficient (from the most significant to the least significant) was as follows: status of being knowledgeable on COVID-19, thinking to breastfeed is beneficial for the baby ( $p<0.001$ ), visiting the outpatient clinic for prenatal follow-ups on time, gestational week, educational level ( $p<0.01$ ), age, and status of having received any breastfeeding consultancy on the pandemic ( $p<0.05$ ). These seven independent variables explained 25% of the total variance in the participants’ PBSES scores (Table 3).

The PBSES scores of the participants who stated they were knowledgeable on COVID-19 were higher by 8.14 points than the scores of those who stated they were partly knowledgeable on the subject matter. The scores of the participants thinking to breastfeeding is beneficial for the baby were higher by 9.10 points than the scores of those who were indecisive about its benefits for the baby. The scores of the participants attending their prenatal follow-ups on time were higher by 6.16 points than the scores of those who did not attend their follow-ups on time. A one-unit increase in the pregnancy durations of the participants corresponded to a 0.62-unit decrease in their PBSES scores. The scores of the participants with at least a bachelor's degree were higher by 5.47 points than the scores of those who had high school or lower degrees. The scores of the participants aged 26 or older were higher by 3.49 points than the scores of those aged 25 or younger. The scores of the participants who had received breastfeeding consultancy during the COVID-19 pandemic period were higher by 3.34 points than the scores of those who had not participated in such consultancy processes.

**Table 5.** The Effects of Independent Variables on PBSES Scores: Multiple Linear Regression Analysis Results

Independent Variables	B	SS	$\beta$	t	p	95% Confidence Interval for B		Collinearity statistics	
								Tolerance	VIF
(Fixed)	75.61	7.44		10.165	0.000	60.97	90.25		
Knowledge of COVID-19	8.14	1.78	0.23	4.566	0.000	4.63	11.65	0.921	1.085
Thinking that breastfeeding has benefits for the baby	9.10	2.56	0.18	3.559	0.000	4.07	14.12	0.927	1.079
Prenatal follow-up on time	6.16	1.91	0.17	3.220	0.001	2.40	9.93	0.893	1.120
Gestational week	-0.62	0.20	0.16	3.158	0.002	-1.01	-0.23	0.880	1.137
Educational Status	5.47	1.75	0.16	3.122	0.002	2.02	8.92	0.870	1.149
Age	3.49	1.41	0.13	2.470	0.014	0.71	6.27	0.915	1.092
Receiving breastfeeding consultancy in the COVID-19 pandemic	3.34	1.65	0.11	2.026	0.044	0.10	6.59	0.863	1.159

#### 4. Discussion

Breastfeeding as soon as possible after giving birth and a successful breastfeeding process is crucial. To this end, the mother should decide to breastfeed during the prenatal period, be informed on the subject matter and encouraged for it, have self-confidence, and as such, develop her breastfeeding self-efficacy. In this study, the mean total PBSES score of the pregnant women was  $79.08 \pm 13.86$ . This means the score was reported as  $73.5 \pm 8.0$  in another study conducted in Turkey,  $70 \pm 11.9$  in a study conducted in Iran, and  $51.79 \pm 11.94$  in a study conducted in Spain [4, 10, 11, 12]. It was a satisfactory result that the breastfeeding self-efficacy levels of the participants of this study were high during the pandemic period. Being in a pandemic period can also be considered to increase sensitivity.

In this study, it was found that as the ages of the participants, so did their breastfeeding self-efficacy. In studies that have been conducted before the COVID-19 pandemic, it has been stated that there is a significant relationship between age and breastfeeding self-efficacy, and as age increases, so do breastfeeding self-efficacy levels, similar to the results of this study [11, 14]. As age increases, people's awareness and experiences soar as well.

It was also determined in this study that as the educational status of the participants increased, so did their breastfeeding self-efficacy. Sultana and Yasin (2021) stated that educational background had a significant relationship to awareness of breastfeeding practices during the COVID-19 pandemic period [14]. Dennis (2006) reported that mothers with high educational levels had higher breastfeeding self-efficacy levels than those with low educational levels. It was thought that people do more research about the pandemic and become more knowledgeable about it as their educational levels increase, and accordingly, they decide to breastfeed their baby; therefore, their breastfeeding self-efficacy is developed and increased [6].

It was determined in this study that the participants visiting their outpatient clinics for routine prenatal follow-ups on time had a higher PBSES mean score than those who did not visit their outpatient clinic on time. While the majority of pregnant women in Turkey stated that they visited their doctors for prenatal follow-ups before the COVID-19 pandemic [15], pregnant women participating in studies carried out during the pandemic period have stated that they do not visit their doctors for their follow-ups, postpone their follow-ups, or attend their follow-ups but not on time [16-18]. In these studies, the reason for not going to follow-ups, postponing follow-ups, or not going to follow-ups on time has been stated to be "anxiety/concern" over attending prenatal follow-ups [16, 19, 20]. Besides, precautions implemented in several countries such as curfews, limitation of social life, and social isolation practiced for protection from the disease are thought to be effective in not attending prenatal follow-ups. Thus, it was thought that the disruption of breastfeeding education, which is a component of prenatal care, affected breastfeeding self-efficacy, which is expected to develop in the prenatal period. Among the pregnant women who participated in this study, those who thought breastfeeding is beneficial for the baby had a higher mean breastfeeding self-efficacy score than those who did not think so. No participant thought breastfeeding is harmful to the baby. This result is thought to be important in that it specifies those who need to be supported for higher prenatal breastfeeding self-efficacy, indecisive women.

It was determined that the participants of this study who were knowledgeable about COVID-19 had a higher PBSES mean score than those who were not. No study on this topic has been found in the literature review that was conducted in this study. According to the data obtained in COVID-19-related studies carried out so far and the opinions of WHO, there is no evidence that COVID-19 infection can be transmitted by breast milk. In this period in which COVID-19 has spread to many countries and become a pandemic, it is crucial for breastfeeding mothers to know the important points to look out for when breastfeeding their babies to protect the baby's health.



## 5. Conclusions and recommendations

In this study, it was determined that having knowledge about COVID-19, thinking that breastfeeding is beneficial for the baby ( $p < .001$ ), attending prenatal follow-ups on time, gestational age, educational level, age, and status of having received breastfeeding consultancy during the COVID-19 pandemic period affected breastfeeding self-efficacy levels. Mothers should start and continue breastfeeding by following health protocols during the COVID-19 pandemic period. Accordingly, evaluating breastfeeding self-efficacy in the prenatal period and planning and implementing effective interventions to encourage and support the mother has gained more importance during the pandemic period. Especially young pregnant women who have low educational levels and are not experienced or knowledgeable about breastfeeding should be provided with counseling on breastfeeding and things to consider about breastfeeding during the COVID-19 pandemic period.

**Ethical Statement:** Before starting the study, approval was obtained from the Non-Invasive Clinical Studies Ethics Committee of the Faculty of Medicine at Necmettin Erbakan University (Decision no: 2021/3018; Date: January 8, 2021).

**Conflict of interest:** The authors have no conflicts of interest to declare.

**Financial Disclosure:** The authors received no financial support for the research, authorship, and/or publication of this article.

**Author Contributions;** Concept/Design: HA, KG; Data acquisition: KMG; Data analysis and interpretation: HA, KG; Drafting manuscript: HA, KMG; Critical revision of the manuscript: HA, KG; Final approval and accountability: HA, KG.

## References

- [1] World Health Organization. Breastfeeding and COVID-19: scientific brief, [https://apps.who.int/iris/bitstream/handle/10665/332639/WHO2019nCSci\\_BriefBreastfeeding2020.1-eng.pdf](https://apps.who.int/iris/bitstream/handle/10665/332639/WHO2019nCSci_BriefBreastfeeding2020.1-eng.pdf) [accessed 23 May 2022].
- [2] Kathryn, C., Debbie, K., Deborah, D., "Investigating predictors of prenatal breastfeeding self-efficacy", *The Canadian Journal of Nursing Research*, 53(1), 56-63, 2021. <https://doi.org/10.1177/0844562119888363>.
- [3] Sağlam, H., Özerdoğan, N., Gursoy, E., Çağan, Ö., "Factors related to the initiation and continuation time of women working", *Mersin University School of Medicine Lokman Hekim Journal of History of Medicine and Folk Medicine*, 10(3), 468-480, 2020. <https://doi.org/10.31020/mutfd.774842>.
- [4] Hamid, S.B.A., Zaidi, N.M., "Predictors of prenatal breastfeeding self-efficacy in Malaysian women: a cross-sectional study", *Jurnal Gizi dan Pangan*, 15(1), 53-62, 2020. <https://doi.org/10.25182/jgp.2020.15.1.53-62>.
- [5] Merdikawati, A., Choiriyah, M., "Breastfeeding self-efficacy: comparison between antenatal and postpartum period", *Jurnal Ilmu Keperawatan: Journal of Nursing Science*, 7(1), 105-111, 2019. <https://doi.org/10.21776/ub.jik.2019.007.01.10>.
- [6] Dennis, C.L.E., "Identifying predictors of breastfeeding self-efficacy in the immediate postpartum period", *Research in Nursing & Health*, 29(4), 256-268, 2006. <https://doi.org/10.1002/nur.20140>.

- [7] Gümüşdaş, M., Apay, S.E., "The relationship between the marital adjustment and social support in pregnancy", *Journal of Health Sciences and Professions*, 3(1),1-8, 2016. <https://doi.org/10.17681/hsp.16572>.
- [8] Beheshti, M.A.Z., Alimoradi, Z., Bahrami, N., Allen, K.A., Lissack, K., "Predictors of breastfeeding self-efficacy during the COVID-19 pandemic", *Journal of Neonatal Nursing*, 2021. <https://doi.org/10.1016/j.jnn.2021.08.012>.
- [9] Wells, K.J., Thompson, N.J., Kloebler Tarver, A.S., "Development and psychometric testing of the prenatal breast-feeding self-efficacy scale", *American Journal of Health Behavior*, 30(2), 177-187, 2006. <https://doi.org/10.5555/ajhb.2006.30.2.177>.
- [10] Aydin, A., Pasinlioglu, T., "Reliability and validity of a Turkish version of the prenatal breastfeeding self-efficacy scale", *Midwifery*, 64, 11-16, 2018. <https://doi.org/10.1016/j.midw.2018.05.007>.
- [11] Charoghchian Khorasani, E., Peyman, N., Esmaily, H., "Relations between breastfeeding self-efficacy and maternal health literacy among pregnant women", *Evidence-Based Care*, 6(4), 18-25, 2017. Doi: 10.22038/ebcj.2016.7986.
- [12] Khresheh, R.M., Ahmed, N.M., "Breastfeeding self-efficacy among pregnant women in Saudi Arabia", *Saudi Medical Journal*, 39(11), 1116-1122, 2018. <https://doi.org/10.15537/smj.2018.11.23437>.
- [13] Nurhidayati, S., Kurniati, N., "Maternal age and length of work influencing breastfeeding self-efficacy in primiparous pregnant women at Istri Utami midwifery care", *International Journal of Health Science and Technology*, 2(1), 68-74, 2020. <https://doi.org/10.31101/ijhst.v2i1.1828>.
- [14] Sultana, R., Yasin, I., "Awareness about breastfeeding practices among pregnant and postnatal women during COVID-19 pandemic", *Annals of PIMS Shaheed Zulfiqar Ali Bhutto Medical University*, 17(1), 12-16, 2021. <https://doi.org/10.48036/apims.v17i1.409>.
- [15] Turkey Demographic and Health Survey, Hacettepe University Institute of Population Studies, T.C. Ministry of Development and TUBITAK, 2018, Ankara, Turkey.
- [16] Brooks, S.K., Weston, D., Greenberg, N., "Psychological impact of infectious disease outbreaks on pregnant women: rapid evidence review", *Public Health*, 189:26-36, 2020.:
- [17] Okuyan, E., Gunakan, E., Esin, S., "Awareness of pregnant women for COVID-19 infection", *Tropical Health and Medical Research* 2021;3(1):1-6. <https://doi.org/10.1101/2020.04.16.20068031>.
- [18] Ding, W., Lu, J., Zhou, Y., Wei, W., Zhou, Z., Chen, M., "Knowledge, attitudes, practices, and influencing factors of anxiety among pregnant women in Wuhan during the outbreak of COVID-19: a cross-sectional study", *BMC Pregnancy and Childbirth*, 21(1), 1-9, 2021. <https://doi.org/10.1186/s12884-021-03561-7>.
- [19] Nanjundaswamy, M.H., Shiva, L., Desai, G., Ganjekar, S., Kishore, T., Ram, U., "COVID-19-related anxiety and concerns expressed by a pregnant and postpartum women-a survey among obstetricians", *Archives of Women's Mental Health*, 23(6), 787-790, 2020. <https://doi.org/10.1186/s12884-021-03561-7>
- [20] Toptaş B, Aksu H, Özsoy S, Dündar T. Gebelerde sosyal destek durumu ve etkileyen faktörler. *Journal of Human Sciences*. 2019;16(3):736-45.

- [21] Denoual H, Dargentas M, Roudaut S, J Sizun. Father's role in supporting breastfeeding of preterm infants in the neonatal intensive care unit: a qualitative study. *BMJ Open*. 2016; 23;6(6):104-70.
- [22] Gümüřdař M, Ejder Apay S. The relationship between the marital adjustment and social support in pregnancy. *HSP*. 2016;3(1):1-8.