

Information, attitudes and behaviors of mothers about breastfeeding behavior during the COVID-19 pandemic process

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ABSTRACT

Objectives: In this study, besides the factors affecting breastfeeding, such as the tendency to breastfeed, the number of children, educational status, maternal age, working style, it was investigated how the breastfeeding behavior was affected during the epidemic.

Methods: At least 384 mothers were included in the study with a 95% confidence level, 0.05 margin of error, and 403 mothers were included in the study. A questionnaire form prepared by the researchers was used as a data collection tool and consent form was obtained from the participants.

Results: The mean age of the mothers participating in the study was 29.2 ± 5.9 years (range:18 to 52 years). Two hundred and one (49.8%) mothers participating in the study do not find it safe for mothers with COVID-19 to breastfeed their baby. However, only 20.2% of mothers think that COVID-19 can be transmitted to the baby through breast milk. Ninety-eight (24.4%) mothers stated that they could breastfeed their babies even if they had COVID-19, and 15.5% stated that mothers with COVID-19 around them could breastfeed their babies.

Conclusions: Although the COVID-19 epidemic had a negative impact on all aspects of life globally, it did not generally change the breastfeeding decisions of breastfeeding mothers. In fact, due to the closures and extended maternity leave, mothers spent more time with their babies and enabled them to breastfeed more frequently. However, it should not be neglected that misinformation is at a substantial level. In the studies conducted, wrong or incomplete information was observed in a significant part of the mothers who did not consider breastfeeding due to the epidemic, although the rates were low. For this reason, besides health professionals, media organs should be actively used for information.

Keywords: COVID-19, breastfeeding, pandemic

Effective breastfeeding is defined as the continuation of breast milk with only breast milk in the first month of the baby, and then with supportive foods until the age of two [1]. Breastfeeding can be considered the baby's first vaccine as it strengthens the baby's

immune system with antibodies passed from the mother. Effective breastfeeding is the most effective global intervention for promoting health and development in infants. It reduces the risk of disease development and disease severity in childhood and has a high

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life-saving potential by preventing half a million infant deaths and 13% of child deaths worldwide [2].

While breastfeeding is the most cost-effective and recommended nutritional practice, its implementation globally is still not optimal. Effective breastfeeding practice is high in low- and middle-income countries, while formula is more commonly used in Western Europe, Australia, and North America. In effective breastfeeding practices, besides cultural and sociodemographic characteristics, physiological, health policies, encouraging (excessive maternity leave, assistance from spouse or family, etc.) or restrictive (inability of mothers working in the private sector to take maternity leave, insufficient maternity leave, etc.) factors are known to be important. The physiological burden of pregnancy and breastfeeding on mothers (nipple infections, postpartum problems) should not be forgotten [3].

The COVID-19 virus, which affected more than 600 million people globally and caused the death of 6.5 million people, also affected 17 million people in our country and caused the death of more than 100 thousand people [4]. The virus has deeply affected socioeconomic status and health practices. Throughout the epidemic, breastfeeding behaviors were also affected positively or negatively. Examples of positive effects are that mothers spend more time with their babies due to the prolonged maternity leave, and spouses stay at home longer, and mothers find more support through this. While the World Health Organization does not recommend stopping breastfeeding even when infected, mothers' interruption of breastfeeding when infected and difficulties in accessing the health care they need due to closures can be given as examples of negative effects [3].

In this study, besides the factors affecting breastfeeding, such as the tendency to breastfeed, the number of children, educational status, maternal age, and the way of working, it was investigated how the breastfeeding behavior was affected during the epidemic.

METHODS

Study Design

The study was carried out in accordance with the 1975 Declaration of Helsinki, after obtaining approval from

the Turkish Republic Ministry of Health, ethics committee approval (No:2021/09-01) from local ethics committee. The research is a cross-sectional and descriptive study. The research was carried out in Adiyaman-Kahta district between January 2022 and May 2022. The population of the study consisted of breastfeeding mothers who applied to the Kahta State Hospital Pediatrics Polyclinic. At least 384 mothers were planned to be included in the study with a 95% confidence level and a 0.05 margin of error and 403 mothers were included. A questionnaire form prepared by the researchers was used as a data collection tool and consent form was obtained from the participants.

Statistical Analysis

Qualitative data were given as number and % frequency, and Chi-Square test was used for comparisons between groups. A p value of < 0.05 was accepted as statistically significant.

RESULTS

The mean age of the mothers participating in the study was 29.2 ± 5.9 years (range 18 to 52 years). The descriptive characteristics of the mothers are presented in Table 1. Two hundred and one (49.8%) mothers participating in the study do not find it safe for mothers with COVID-19 to breastfeed their baby. However, only 20.2% of mothers think that the COVID-19 virus can be transmitted to the baby through breast milk. Ninety-eight (24.4%) mothers stated that they could breastfeed their babies even if they had COVID-19, and 15.5% stated that mothers with COVID-19 around them could breastfeed their babies.

The rate of mothers who did not wash their hands before breastfeeding was 42.8% and the rate of cleaning their breasts was 34.6%. The rate of mothers wearing masks while breastfeeding their babies is 35.8%, the rate of removing items such as rings and wristbands is 32.6%, the rate of using gloves is 35.6%, the rate of using visors is 28.7%, the rate of using caps is 30.7% and the rate of using protective clothing is 29.4%.

When the mothers participating in the study were examined according to age, there was no significant difference between finding breastfeeding safe during COVID-19. The proportion of those who are unde-

Table 1. Descriptive characteristics of the mothers participating in the study

Characteristics	n	%
Age		
18-24 age	83	20,6
25-34 age	253	62,8
35 and above	67	16,6
Mother's educational status		
Illiterate	20	5,0
Literate/primary/secondary school graduate	276	68,5
High school graduate	63	15,6
College/university or higher	44	10,9
Perception of the economic situation		
Very good	30	7,4
Good	149	37
Moderate	168	41,7
Bad	43	10,7
Very bad	13	3,2
Number of children		
Not parent	13	3,2
1	115	28,5
2	157	39,0
3	60	14,9
4	38	9,4
5 and above	20	4,9
Breastfeeding status		
Yes	294	73,5
No	106	26,5
Age of the child breastfed		
0 age	80	21,2
1 age	158	41,9
2 age	88	23,3
3 age	45	11,9
4 age	6	1,6
COVID-19 infected		
Yes	288	71,5
No	115	28,5
COVID-19 infected relatives		
Yes	350	86,8
No	53	13,1

Table 2. Breastfeeding knowledge and attitudes of the mothers participating in the study about breastfeeding during the COVID-19 pandemic process

	Agreed %	Not-agreed %	Hesitant %
It is safe for a mother with COVID-19 to breastfeed her baby.	36.8	49.8	13.4
COVID-19 can be passed to an infant through breast milk.	20.2	45.6	34.2
I would breastfeed my baby even if I had COVID-19.	24.4	47.9	27.7
Mothers with COVID-19 around me should breastfeed their babies.	15.5	52.1	32.4
It wouldn't upset me if I couldn't breastfeed my baby due to COVID-19.	22.7	55.9	21.4
COVID-19 should use the method of expressing rather than breastfeeding directly.	25.1	43.5	31.3

cided on this issue increases with age. There was no significant difference between finding breastfeeding safe while having COVID-19, according to the educational status of the mothers and the status of having COVID-19 in their relatives. Compared to mothers with moderate and poor economic status, the rate of finding breastfeeding safe during COVID-19 is significantly lower. The rate of finding breastfeeding safe during COVID-19 is significantly lower in mothers with one child compared to mothers with two or more children. The rate of finding breastfeeding safe during COVID-19 is significantly lower in lactating mothers compared to non-breastfeeding mothers. The rate of finding breastfeeding safe while having COVID-19 is

significantly higher in mothers whose children are 0 and 1 years old compared to mothers who are 2 years and older. The rate of finding breastfeeding safe while suffering from COVID-19 is significantly lower in mothers who have had COVID-19 compared to mothers who have not.

DISCUSSION

Although breastfeeding is a feeding method as old as human history, effective breastfeeding is not practiced sufficiently in many countries [2]. The COVID-19 pandemic has emerged as a new problem in the lives

Table 3. Breastfeeding behaviors of the mothers participating in the study about breastfeeding during the COVID-19 pandemic process

	Always or very often %	Sometime %	Never %
I wash my hands before breastfeeding my baby.	42,8	24,3	33,0
I wear a mask while breastfeeding my baby.	35,8	31,5	32,7
I take off items such as rings and bracelets while breastfeeding my baby.	32,6	35,7	31,6
I use gloves while breastfeeding my baby.	35,6	27,9	36,4
I clean my breast before breastfeeding my baby.	34,9	33,6	31,6
I use a visor while breastfeeding my baby.	28,7	33,4	38,0
I use a bonnet while breastfeeding my baby.	30,7	37,0	32,2
I use protective clothing while breastfeeding my baby.	29,4	37,7	32,9

Table 4. According to the descriptive characteristics of the mothers participating in the study, the rates of those who found breastfeeding safe while they had COVID-19

Characteristics	n	Those who think breastfeeding is safe while suffering from COVID-19		X ²	p value
		Number	%		
Age					
18-24 age	83	36	43.4	3.90	0.143
25-34 age	252	87	34.5		
35 and above	67	25	37.3		
Mother's educational status					
Under high school	295	107	36.3	7.01	0.136
High school graduate	63	25	39.7		
College/university or higher	44	16	36.4		
Perception of the economic situation					
Very good/good	178	48	27.0	26.71	0.001
Moderate	168	76	45.2		
Bad/very bad	56	24	42.9		
Number of children					
1	115	30	26.1	8.08	0.018
2 and above	274	108	39.4		
Breastfeeding status					
Yes	393	98	33.4	48.14	0.001
No	106	48	45.3		
Age of the child breastfed					
0 - 1 age	238	94	39.5	16.92	0.001
2 age and above	139	39	28.1		
COVID-19 infected					
Yes	288	94	32.6	12.13	0.002
No	114	54	47.4		
COVID-19 infected relatives					
Yes	350	122	39.4	4.52	0.104
No	52	26	50.0		

of breastfeeding mothers. However, it was determined that vertical virus transmission from pregnant to baby was not possible during the process [5]. Later, WHO recommended that the mother continue to breastfeed her baby with standard precautions as long as the mother's health permits [6].

Although 36.8% of the mothers who participated in our study found it safe for a mother with COVID-

19 to breastfeed her baby, the rate of mothers who would breastfeed their baby when they have covid increases to 47.9%. In a study conducted with 114 women in Sedwick, Kansas, it was observed that 68.5% of the participants did not change their breastfeeding plans/tendencies [7]. Likewise, in a study conducted in Belgium with 6470 women, 3823 of whom were breastfeeding, 91% of the participants stated that

their breastfeeding behaviors would not change, and 82% of them stated that the duration of breastfeeding became longer because the duration of stay at home was prolonged [8]. An online study by Brown and Shenker [9] also showed that breastfeeding behaviors were positively affected by 41.8%. Although breastfeeding behaviors are affected positively during the epidemic in general, it is a problem frequently expressed by pregnant/breastfeeding women in the surveys; It is stated that it is difficult to reach professional health support when needed [3].

In a study conducted with 390 mothers in Thailand, breastfeeding behaviors of mothers were questioned during the epidemic, while the duration of breastfeeding increased as the education level and economic status increased, while in our study there was no significant difference according to education level, it was observed that mothers who defined their economic status as poor had a longer breastfeeding period [10]. It has been interpreted that this may be due to the fact that breastfeeding is an economical feeding method and the food costs cannot be met. In the study conducted with 104 mothers in Egypt, knowledge and behaviors about breastfeeding were found to be strongly positive as the education level increased. was observed to be affected [11].

Studies have shown that multiparous pregnant women have significantly higher breastfeeding knowledge and tendencies than nulliparous pregnant women [2]. In our study, mothers with two or more children breastfeed their children longer than mothers with one child. In addition, in our study, it was observed that if the child breastfed by the mother is younger than one year old, there is a tendency to breastfeed for a longer period of time. In a study conducted in China in 2019, it was found that multiparous pregnant women approached breastfeeding more positively than nulliparous pregnant women [12].

In our study, the mothers answered the question "Can the COVID-19 virus be transmitted to the baby through breast milk?" 20.2% of the participants answered that it could pass, while 45.6% could not exceed it. In a study conducted in India with 1636 participants, 28% of the participants answered that the virus can be transmitted to the baby through breast milk, and this rate increased significantly when the women of productive age were examined [13]. In a study conducted with 623 pregnant participants in

Hong Kong, 11.6% of the participants stated that they decided not to breastfeed their babies due to the COVID-19 outbreak, and 77.8% of them stated that they believed that the virus could be transmitted to their babies through breast milk [14].

In a study conducted with 104 mothers in Egypt, it was observed that mothers who had previously had COVID-19 breastfed their babies for a longer period of time, and their knowledge and behavior regarding breastfeeding was significantly higher than that of mothers who had not had COVID-19 before [11]. In our study, it was seen that mothers who have had COVID-19 before have less knowledge about breastfeeding their babies and they tend to breastfeed their babies less.

In our study, 25.1% of the participants stated that the method of expressing should be used instead of breastfeeding while they have COVID-19. In a study conducted on 125 COVID-19 positive mothers in Turkey, it was observed that 71.5% of the mothers fed their babies with formula, and 36% fed their babies with the milking method [15]. In a study conducted with 200 pregnant participants in India, 47% of the participants who were asked about the breastfeeding method of COVID-19 positive mothers preferred formula, 25% answered the milking method and 17% answered breastfeeding [16].

It was determined in our survey study that the rate of mothers who confidently look after the breastfeeding of COVID-19 positive mothers decreases as the maternal age increases. In a study conducted in Thailand, it was observed that the duration of breastfeeding shortened with increasing maternal age [10].

CONCLUSION

Although the COVID-19 epidemic has had a negative impact on all aspects of life globally, it has not generally changed the breastfeeding decisions of breastfeeding mothers. In fact, due to the closures and extended maternity leave, mothers spent more time with their babies and enabled them to breastfeed more frequently. However, it should not be neglected that misinformation is at a substantial level. In the studies conducted, wrong or incomplete information was observed in a significant part of the mothers who did not consider breastfeeding due to the epidemic, although

the rates were low. For this reason, besides health professionals, media organs should be actively used for information.

Authors' Contribution

Study Conception: MEP, DE, VB; Study Design: MEP, EÖ, OK; Supervision: DE, EÖ, VB; Funding: N/A; Materials: N/A; Data Collection and/or Processing: MEP, DE; Statistical Analysis and/or Data Interpretation: EÖ, DE, VB; Literature Review: MEP, DE, OK; Manuscript Preparation: MEP, EÖ, OK, VB and Critical Review: DE, OK, VB.

Conflict of interest

The authors disclosed no conflict of interest during the preparation or publication of this manuscript.

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REFERENCES

1. World Health Organization. Indicators for Assessing Infant and Young Child Feeding Practices. Part 1: Definitions. Conclusions of a consensus meeting held 6-8 November 2007 in Washington DC, USA. World Health Organization, 2008.
2. Chekol Abebe E, Ayalew Tiruneh G, Asmare Adela G, Mengie Ayele T, Tilahun Muche Z, Behaile T/Mariam A, et al. Levels and determinants of prenatal breastfeeding knowledge, attitude, and intention among pregnant women: a cross-sectional study in Northwest Ethiopia. *Front Public Health* 2022;10:920355.
3. Pacheco F, Sobral M, Guiomar R, de la Torre-Luque A, Caparrós-González RA, Ganho-Ávila A. Breastfeeding during COVID-19: a narrative review of the psychological impact on mothers. *Behav Sci (Basel)* 2021;11:34.
4. World Health Organization. <https://covid19.who.int/> last access date: 11.11.2022
5. Giuliani C, Li Volsi P, Brun E, Chiambretti A, Giandalia A, Tonutti L, et al. Breastfeeding during the COVID-19 pandemic: suggestions on behalf of woman study group of AMD. *Diabetes Res Clin Pract* 2020;165:108239.
6. WHO. Update 65 – Breastfeeding and newborn care in the context of COVID-19. 2021.
7. Ahlers-Schmidt CR, Hervey AM, Neil T, Kuhlmann S, Kuhlmann Z. Concerns of women regarding pregnancy and childbirth during the COVID-19 pandemic. *Patient Educ Couns* 2020;103:2578-82.
8. Ceulemans M, Verbakel JY, Van Calsteren K, Eerdeken A, Allegaert K, Foulon V. SARS-CoV-2 infections and impact of the COVID-19 pandemic in pregnancy and breastfeeding: results from an observational study in primary care in Belgium. *Int J Environ Res Public Health* 2020;17:6766.
9. Brown A, Shenker N. Experiences of breastfeeding during COVID-19: lessons for future practical and emotional support. *Matern Child Nutr* 2021;17:e13088.
10. Nuampa S, Ratinthorn A, Patil CL, Kuesakul K, Prasong S, Sudphet M. Impact of personal and environmental factors affecting exclusive breastfeeding practices in the first six months during the COVID-19 pandemic in Thailand: a mixed-methods approach. *Int Breastfeed J* 2022;17:73.
11. Amer ST, Al-Rafay SSE, Sadek BN, Mohamed HR. Knowledge and practices of breastfeeding mothers regarding protective measures for their neonates against COVID-19. *Egypt J Health Care* 2022;13:964-81.
12. Hamze L, Mao J, Reifsnider E. Knowledge and attitudes towards breastfeeding practices: a cross-sectional survey of post-natal mothers in China. *Midwifery* 2019;74:68-75.
13. Sahoo S, Pattnaik JI, Mehra A, Nehra R, Padhy SK, Grover S. Beliefs related to sexual intimacy, pregnancy and breastfeeding in the public during COVID-19 era: a web-based survey from India. *J Psychosom Obstet Gynaecol* 2021;42:100-7.
14. Lok WY, Chow CY, Kong CW, To WWK. Knowledge, attitudes, and behaviours of pregnant women towards COVID-19: a cross-sectional survey. *Hong Kong Med J* 2022;28:124-32.
15. Oncel MY, Akın IM, Kanburoglu MK, Tayman C, Coskun S, Narter F, et al. A multicenter study on epidemiological and clinical characteristics of 125 newborns born to women infected with COVID-19 by Turkish Neonatal Society. *Eur J Pediatr* 2021;180:733-742.
16. Kaur TP, Rana A, Perumal V, Sharma A, Dadhwal V, Kulshrestha V, et al. A cross-sectional analysis to evaluate knowledge, attitude and practices among pregnant women during COVID-19 pandemic. *J Obstet Gynaecol India* 2021;71:18-27.



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