

# Anxiety and Behavior of Breastfeeding Mothers During the COVID-19 Pandemic in Surabaya Indonesia

## Ansiedad y comportamiento de las madres que amamantan durante la pandemia de COVID-19 en Surabaya Indonesia

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### SUMMARY

**Introduction:** *The COVID-19 pandemic has already hit almost all countries in the world. Diseases that are transmitted very quickly and often show no symptoms make some people feel scared and anxious. Nursing mothers are one of the vulnerable groups and a pandemic can cause confusion when it comes to breastfeeding infants. The anxiety that occurs in nursing mothers will interfere with the process of breastfeeding. The purpose of this study is to find out the relationship of anxiety to breastfeeding behavior in nursing mothers during the COVID-19 pandemic.*

**Methods:** *The design of this research is descriptive and analytical with a cross-sectional approach, conducted over two months. The population was nursing mothers with infants aged 0-24 months in the Surabaya area. Samples were taken using the purposive sampling techniques, totaling 100 people. The data*

*collection used questionnaires using a Google Form and anxiety was measured using the Hamilton Anxiety Rating Scale (HARS). The scores and behavior of the nursing mothers were able to be seen in relation to the aspects of knowledge, attitudes, and practices of breastfeeding during the COVID-19 pandemic. The data were analyzed using the multivariate statistic test of Spearman Rho to determine the correlation.*

**Results:** *Anxiety in nursing mothers has a statistically significant relationship with knowledge ( $p$ -value = 0.002) and attitude ( $p$ -value = 0.003). Anxiety has no significant association with breastfeeding practices. In addition, anxiety has no significant association with breastfeeding practices.*

**Conclusion:** *Anxiety in nursing mothers can be affected by the factors of knowledge and attitude. The breastfeeding practice during the pandemic does not indicate a link to anxiety in nursing mothers but the level of maternal knowledge can affect breastfeeding practices.*

**Keywords:** *Anxiety, Breast milk, COVID-19*

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### RESUMEN

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**Introducción:** *La pandemia de COVID-19 ya ha afectado a casi todos los países del mundo. Las enfermedades que se transmiten muy rápidamente y que a menudo no muestran síntomas hacen que algunas personas se sientan asustadas y ansiosas. Las madres lactantes son uno de los grupos vulnerables y una pandemia puede causar confusión cuando se trata de amamantar a los bebés. La ansiedad que se presenta en las madres lactantes interferirá en el proceso de lactancia. El propósito de este estudio es averiguar la relación de la ansiedad con el comportamiento*

*de amamantamiento en madres lactantes durante la pandemia de COVID-19.*

**Métodos:** *El diseño de esta investigación es descriptivo y analítico con un enfoque transversal, realizado durante dos meses. La población eran madres lactantes con bebés de 0 a 24 meses en el área de Surabaya. Se tomaron muestras mediante la técnica de muestreo intencional, totalizando 100 personas. La recopilación de datos utilizó cuestionarios utilizando un Formulario de Google y la ansiedad se midió utilizando la Escala de Calificación de Ansiedad de Hamilton (HARS). Se pudieron apreciar los puntajes y comportamientos de las madres lactantes en relación a los aspectos de conocimientos, actitudes y prácticas de lactancia materna durante la pandemia de COVID-19. Los datos se analizaron mediante la prueba estadística multivariada de Spearman Rho para determinar la correlación.*

**Resultados:** *La ansiedad en las madres lactantes tiene una relación estadísticamente significativa con el conocimiento ( $p$ -valor = 0,002) y la actitud ( $p$ -valor = 0,003). La ansiedad no tiene una asociación significativa con las prácticas de lactancia. Además, la ansiedad no tiene una asociación significativa con las prácticas de lactancia.*

**Conclusión:** *La ansiedad en las madres lactantes puede verse afectada por los factores de conocimiento y actitud. La práctica de amamantar durante la pandemia no indica un vínculo con la ansiedad en las madres lactantes, pero el nivel de conocimiento materno puede afectar las prácticas de amamantamiento.*

**Palabra clave:** *Ansiedad, leche materna, COVID-19.*

## INTRODUCTION

Breast milk is indispensable for the health and development of children and maternal health. The World Health Assembly passed Resolution no 55.25 in 2002 to protect and legalize all mothers and children around the world. This resolution states that the Gold Standard of infant food includes the process of breastfeeding starting immediately after birth, known as early breastfeeding initiation (IMD). This is followed by exclusive breast milk (breast milk only) for six months, family breast milk (MP-ASI) companion food after the baby is 6 months old, and where breast milk is continued until at least two years of age (1).

Babies who get exclusive breast milk for 6 months can reduce the incidence of gastrointestinal infections as well as provide

good effects on maternal health (2–4). Based on RISKESDAS (Basic Health Research) 2018 data on the breastfeeding patterns of infants 0-5 months in Indonesia, as much as 37 % of babies get exclusive breast milk. Besides this, the achievement of exclusive breastfeeding in East Java is as much as 40 %. This figure is still far from the target set by the Ministry of Health of the Republic of Indonesia of 80 %, therefore efforts need to be made to increase the coverage of exclusive breastfeeding. The coverage of exclusive breastfeeding in Surabaya is as much as 65 % and this is still below the national target (5).

The failure to breastfeed is influenced by several factors including socio-cultural, psychological, maternal physical, and health worker factors. Psychological factors can affect the smoothness of the breast milk because the stress that the mother is experiencing can inhibit and increase the levels of oxytocin needed to produce breast milk (6). A calm psychiatric and emotional condition will affect the smooth running of breast milk. Being stressed, depressed, unable to stop worrying, anxious, sad, and tense can affect the smoothness of breast milk. Non-smooth breast milk can be one of the causes of breastfeeding failure (7).

COVID-19 is a novel coronavirus disease that emerged in December 2019 originating in Wuhan, China. Since it has spread throughout the world. The virus causes the acute respiratory syndrome. Since then, the COVID-19 virus has resulted in a global pandemic, including in Indonesia. Data dated May 25, 2020, shows the number of COVID-19 positive people totaling as many as 20 796 people, including 5 057 cured and 1 326 dead. The increasing number of incidents can make people feel afraid (8,9). The amount of information about the novel coronavirus, starting from prevention efforts and government protocols, can have both positive and negative impacts. Information obtained continuously can have an impact on mental health, including potentially triggering stress, anxiety, panic, and fear (10-13).

Anxiety is a natural thing during the COVID-19 pandemic. People will feel depressed and worried. If this continues to happen, it can cause psychological, physical, and cognitive disorders (10,14,15). Anxiety that occurs in

nursing mothers can have an impact on the process of breastfeeding. Anxiety will affect the smoothness of the breast milk and improper breast milk will result in the mother no longer being able to breastfeed her baby (16). The benefits of breast milk for children are very large, one of which is that it helps to form antibodies. Breast milk can reduce the incidence of gastrointestinal infections and others. During the COVID-19 pandemic, a weak immune system facilitates the virus being able to develop in the body (17,18).

Efforts can be made so then the baby can get enough breast milk, starting from the mother's desire to give breast milk. Having a strong motivation will affect the physical and psychic qualities of the mother to enable them to produce breast milk. Support from their family and husband will affect the smoothness of their breast milk and reduce their anxiety, creating a comfortable state where the mother feels relaxed, meaning that the production of breast milk will be smooth (16).

The current condition of anxiety can arise at any time due to the outbreak of COVID-19, including among nursing mothers. Based on the description above, the author was interested in researching to analyze the relationship between anxiety and the behavior of nursing mothers during the COVID-19 pandemic in the Surabaya area of Indonesia.

## METHODS

This study used a correlational analysis with a cross-sectional design through purposive sampling techniques. The population of this study was mothers breastfeeding babies aged 0-24 months with a sample size totaling as many as 100 mothers in Surabaya, especially North Surabaya. This study was conducted from May 2020 to June 2020 with the inclusion criteria of being a breastfeeding mother, the age of the child being breastfed being 0-24 months, not being confirmed to have COVID-19, and being willing to be a respondent.

The independent variable was anxiety, and the dependent variable was the behavior of the breastfeeding mothers. Data retrieval was

done by disseminating questionnaires using a Google Form to measure the mother's anxiety and behavior to do with breastfeeding. The study measured maternal anxiety using the Hamilton Rating Scale for Anxiety (HRS-A). The questionnaire consisted of 14 question items developed by Max Hamilton. The behavior of the nursing mothers was measured by looking at the aspects of knowledge about breastfeeding, attitudes towards breastfeeding, and breastfeeding practices during the COVID-19 pandemic. The questionnaires were tested for validity and reliability.

The research process was carried out in accordance with ethical principles such as informed consent, anonymity, and confidentiality. The data analysis method used in this study was rank spearman correlation ( $\alpha = 0.05$  and CI = 95 %) to determine the relationship between the variables.

## RESULTS

Univariable analysis was used to look at the respondent's demographic data. Table 1 shows that the majority of mothers were of reproductive age (20-35 years) as much as 78 % and that the level of education for the majority was that of college graduates, as much as 53 %. Most mothers are housewives, and the number of children was mostly two to four. Most gave birth to their child normally (57 %) and the age of the child when the data retrieval was conducted was mostly <6 months (49 %).

Table 2 shows the results of the cross-tabulation between the dependent variables (anxiety) and independent variables (knowledge, attitudes, and breastfeeding practices). The majority of respondents did not have anxiety at 88 %, followed by mild anxiety at 7 %, moderate anxiety at 3 %, and severe anxiety for as many as 2 %. The results of the analysis show a statistically significant relationship between anxiety and knowledge, with a p-value = 0.02, and with attitude with a p-value = 0.03. In this analysis, we also obtained the result showing an absence of a statistically significant relationship with breastfeeding practices during the COVID-19 pandemic (p-value = 0.457).

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Table 1  
Demographic Data (n-100)

Variable	n (%)
Age	
< 20 years	6 (6)
20-35 years	78 (78)
>35 years	16 (16)
Education Stage	
University	53 (53)
Senior High School	40 (40)
Junior High School	7 (7)
Number of Children	
<2	45 (45)
2-4	53 (53)
>4	2 (2)
Work	
Private	38 (38)
Housewife	62 (62)
Income	
Low	66 (66)
High	34 (34)
Type of Labor	
Caesarian section	43 (43)
Normal	57 (57)
Age of children	
<6 months	49 (49)
6-12 months	26 (26)
12-24 months	25 (25)

Table 2  
Cross-tabulation of the independent and dependent variables

Variable	n (100)	%	p-value
Knowledge			0.002
Good	45	45	
Sufficient	52	52	
Less	3	3	
Attitude			0.03
Positive	90	90	
Negative	10	10	
Breastfeeding Practice			0.457
Good	95	95	
Not good	5	5	

DISCUSSION

Mothers have a statistically significant relationship with maternal knowledge (p value=

0.02). There is no anxiety in the mother if she is influenced by a high degree of knowledge. The better the understanding of the mother of breastfeeding, the less likely it is that they will feel anxiety. In line with the research by Corby et al. (2021), the success of breastfeeding in both primigravida and multigravida requires self-efficacy which includes anxiety and knowledge. Those who have good self-efficacy and who plan to breastfeed their baby have better results compared to those who do not have good self-efficacy (19).

The level of knowledge of breastfeeding may affect the intention to breastfeed (20). Breastfeeding can be given if the production of breast milk is present. The smooth production of breast milk can be influenced by psychological conditions such as anxiety. This is because a strong motivation to breastfeed will increase the ability of the hormones to increase the production of breast milk (21). Because of the importance of this anxiety factor, Sharifi et al., (2016) recommended the need for anxiety screening before and during pregnancy (22).

In addition to knowledge, anxiety is also associated with attitude (p-value=0.03). High anxiety indicates a lack of attitude to breastfeeding. In addition to anxiety, another factor that affects babies with low birth weight is low family income. This is a factor predictor of a poor attitude towards breastfeeding behavior (23). A similar study was conducted by Khodabandeh et al., (2020) who found anxiety and attitude have a statistically significant relationship but the ridge pattern is opposite/negative (24).

The study is also not in line with a systematic review conducted looking into the impact of stress on nursing mothers. The review showed there to be a negative relationship between anxiety and breastfeeding behavior, inclusive of the length of breastfeeding and exclusive breastfeeding (25). Other findings are that physiological responses such as anxiety in nursing mothers can affect maternal confidence, which will affect breastfeeding behavior (24).

The results of the analysis show there to be no significant association between anxiety and breastfeeding practices during the COVID-19 pandemic. A European study showed that 10 % of nursing mothers experience mental health

problems such as chronic mental illness, chronic illness during puberty, smoking, and having an unwanted pregnancy (26). The cessation of breastfeeding is not affected by maternal anxiety levels but instead influenced by the method of childbirth and the factor of intention before the pandemic to breastfeed (27) performed between April and May 2020, aimed to investigate the effect of restricted partners' visiting policies on non-infected mother's anxiety symptoms, the perceived postpartum support, and the breastfeeding outcomes at discharge. A cross-sectional study was conducted in a neonatal tertiary referral center in northern Italy during Italy's lockdown. We enrolled mothers with a negative nasopharyngeal swab for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

The literature review conducted by Lubbe et al. (2020) shows no evidence to suggest that respiratory viruses can be transmitted through breast milk, meaning that nursing mothers during the COVID-19 pandemic can still breastfeed. Nursing mothers who are exposed to and infected with the COVID-19 virus are recommended to wash their hands frequently in accordance with the recommendations of both national and international organizations. If the mother wants to pump breast milk, she should not use a pump that is shared with other mothers (28).

## CONCLUSION

Anxiety during the pandemic is very likely to occur in nursing mothers. This study shows that anxiety is related to the mother's knowledge about breastfeeding and the mother's attitude to breastfeeding. However, anxiety is not related to the implementation of breastfeeding practices during the COVID-19 pandemic. This could be because there is no transmission of COVID-19 through breast milk. Still, nursing mothers have to engage in frequent hand washing and not share tools with other mothers.

## REFERENCES

1. WHO. Postnatal Care for Mothers and Newborns Highlights from the World Health Organization 2013 Guidelines. 2015.
2. Kramer MS, Kakuma R. Optimal duration of exclusive breastfeeding. *Cochrane Database Syst Rev.* 2002;(1):CD003517.
3. Chowdhury R, Sinha B, Sankar MJ, Taneja S, Bhandari N, Rollins N, et al. Breastfeeding and maternal health outcomes: A systematic review and meta-analysis. *Acta Paediatr.* 2015;104(467):96-113.
4. Yunitasari E, Narendra YH, Pradanie R. Factors associated with exclusive breastfeeding based on transcultural nursing. *EurAsian J Biosci.* 2020;14(2):2757-2766.
5. Dinas Kesehatan Pemerintah Kota Surabaya. Profil Kesehatan 2018. Dinas Kesehatan Pemerintah Kota Surabaya. 2019.
6. Hardiani RS. Status Paritas Dan Pekerjaan Ibu Terhadap Pengeluaran Asi Pada Ibu Menyusui 0-6 Bulan. *NurseLine J.* 2017;2(1):44-51.
7. Korompis G. Hubungan Kecemasan Dengan Kelancaran Pengeluaran Asi Pada Ibu Post Partum Selama Dirawat Di Rumah Sakit Ibu Dan Anak Kasih Ibu Manado. *J Keperawatan.* 2019;7(1).
8. Satuan Tugas Penanganan COVID-19. Peta Sebaran COVID-19 Update Tanggal 22-05-2020. Satuan Tugas Penanganan COVID-19. 2019.
9. Mudatsir M, Wulandari L, Fajar JK, Soegiarto G, Ilmawan M, Purnamasari Y, et al. Predictors of COVID-19 severity: A systematic review and meta-analysis. *F1000Research.* 2020;9:1107.
10. Roestriyani YS. Mengelola Cemas pada Masa Pandemi Covid-19. *niversitas Gadjah Mada.* 2020.
11. MHPSS Reference Group. Catatan Tentang Aspek Kesehatan Jiwa dan Psikososial Wabah Covid. *Iasc.* 2020:1-20.
12. Pramukti I, Strong C, Sitthimongkol Y, Setiawan A, Pandin MGR, Yen C-F, et al. Anxiety and suicidal thoughts during the COVID-19 pandemic: Cross-country comparative study among Indonesian, Taiwanese, and Thai university students. *J Med Internet Res.* 2020;22(12).
13. Nursalam, Sukartini T, Priyantini D, Mafula D, Efendi F. Risk Factors For Psychological Impact and Social Stigma Among People Facing Covid-19: A Systematic Review. *Syst Rev Pharm.* 2020;11(6):1022-1028.
14. Setiawati Y, Wahyuhadi J, Joestandari F, Maramis MM, Atika A. Anxiety and resilience of healthcare workers during COVID-19 pandemic in Indonesia. *J Multidiscip Healthc.* 2021;14:1-8.
15. Priyantini D, Nursalam N, Sukartini T. Analysis of Factors Affecting the Mental Health Crisis of Coronavirus Disease Infection in Java Island. *J Ners.* 2021;16(1).
16. Qiftiyah M. Studi Tingkat Kecemasan Ibu Post Partum Terhadap Kelancaran ASI Pada Ibu Nifas Hari Ke-5 (Di BPM Asri Dan Polindes Permata Bunda Tuban).

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- LPPM AKES Rajekwesi Bojonegoro. 2018;8(2):39-43.
17. Toscano M, Grandi R De, Grossi E, Drago L. Role of the human breast milk-associated microbiota on the newborns' immune system: A mini-review. *Front Microbiol.* 2017;8:1-5.
  18. Turista DDR, Islamy A, Kharisma VD, Ansori ANM. Distribution of COVID-19 and phylogenetic tree construction of SARS-CoV-2 in Indonesia. *J Pure Appl Microbiol.* 2020;14:1035-1042.
  19. Corby K, Kane D, Dayus D. Investigating Predictors of Prenatal Breastfeeding Self-Efficacy. *Can J Nurs Res = Rev Can Rech en Sci Infirm.* 2021;53(1):56-63.
  20. Suárez-Cotelo MDC, Movilla-Fernández MJ, Pita-García P, Arias BF, Novío S. Breastfeeding knowledge and relation to prevalence. *Rev Esc Enferm USP.* 2019;53:e03433.
  21. Kusumawati PD, Damayanti FO, Wahyuni C, Setiawan A. Analisa Tingkat Kecemasan Dengan Percepatan Pengeluaran ASI Pada Ibu Nifas. *J Qual Women's Heal.* 2020;3(1):22/10/2020 Pukul 12:45 WIB.
  22. Sharifi F, Nouraei S, Shahverdi E. The Relation of Pre and Postnatal Depression and Anxiety with Exclusive Breastfeeding. *Electron Physician.* 2016;8(11):3234-3239.
  23. Arifunhera JH, Srinivasaraghavan R, Sarkar S, Kattimani S, Adhisivam B, Vishnu Bhat B. Is maternal anxiety a barrier to exclusive breastfeeding? *J Matern Neonatal Med Off J Eur Assoc Perinat Med Fed Asia Ocean Perinat Soc Int Soc Perinat Obstet.* 2016;29(17):2798-2801.
  24. Khodabandeh M, Kashani L, Pirastehfar Z, Dashti Dargahloo S, Tabarestani M, Dordeh M, et al. Relationship between Attitude towards Breastfeeding and Postpartum Depression in Kerman, Iran. *Int J Pediatr.* 2020;8(8):11751-11759.
  25. Hoff CE, Movva N, Rosen Vollmar AK, Pérez-Escamilla R. Impact of Maternal Anxiety on Breastfeeding Outcomes: A Systematic Review. *Adv Nutr.* 2019;10(5):816-826.
  26. Ceulemans M, Foulon V, Ngo E, Panchaud A, Winterfeld U, Pomar L, et al. Mental health status of pregnant and breastfeeding women during the COVID-19 pandemic-A multinational cross-sectional study. *Acta Obstet Gynecol Scand.* 2021;100(7):1219-1229.
  27. Morniroli D, Consales A, Colombo L, Bezze EN, Zanotta L, Plevani L, et al. Exploring the impact of restricted partners' visiting policies on non-infected mothers' mental health and breastfeeding rates during the COVID-19 pandemic. *Int J Environ Res Public Health.* 2021;18(12):6347.
  28. Lubbe W, Botha E, Niela-Vilen H, Reimers P. Breastfeeding during the COVID-19 pandemic - a literature review for clinical practice. *Int Breastfeed J.* 2020;15(1):82.