



Breastfeeding Self-Efficacy and COVID-19 Pandemic Anxiety in Post-Partum Mothers

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Abstract

The COVID-19 pandemic has affected people worldwide, and this condition is also prone to postpartum maternal circumstances. This study investigates the impact of COVID-19 on maternal anxiety and breastfeeding confidence during postpartum. This study has a quantitative, cross-sectional design and includes 1018 mothers with children aged 0-24 months (July-September 2021). The instrument used in this study was Self-Efficacy Scale-Short Form (BSES-SF). The bivariate analysis found a significant association between anxiety in COVID-19 and changes in income (p-value 0.008), number of children (p-value 0.09), and age of children (p-value 0.029). According to the findings of multivariate logistic regression, maternal confidence in breastfeeding was associated with the number of children (OR=0.62; 95%CI=0.42-0.91) and early breastfeeding initiation shortly after delivery (OR=1.47; 95%CI=1.11-1.95). Anxiety about the COVID-19 pandemic was associated with the number of children (OR=0.58), changes in income (OR=1.98; 95%CI 1.34-2.95), type of delivery (OR=1.53; 95%CI 1.4-2.24), child age (OR=0.70; 95%CI = 0.49-0.99), and having been diagnosed with COVID-19 (OR=0.65; 95%CI = 0.44-0.97). Breastfeeding confidence is connected to the number of children and the history of Early Breastfeeding Initiation (EBI). The following interventions should include evidence-based practices and minimal birthing measures to reduce maternal anxiety and improve breastfeeding success.

Introduction

Globally, the whole world is experiencing a pandemic caused by the coronavirus (COVID-19). This case began with information from the World Health Organization (WHO) on December 31, 2019, which stated that there was a case of cluster pneumonia with unclear etiology in Wuhan City, Hubei Province, China (Kemenkes RI, 2020). In Indonesia, the first case of COVID-19 was reported on March 2, 2020, with 2 confirmed cases of COVID-19 (Setiawaty *et al.*, 2020). From increasing cases of transmission of COVID-19 in more than half of the world's countries, on March 11, 2020, WHO has declared COVID-19 a global pandemic (World Health Organization, 2020c).

The number of positive cases of COVID-19

in Indonesia with a total number of cases reached 14,749 people. Patients who recovered were 3,063 cases and those who died were 1,007 cases. Most of the positive COVID-19 patients in Indonesia are at productive age, including breastfeeding mothers. Approximately 54% are in the age group of 30 to 59 years (Kemenkes RI, 2020). Cases of COVID-19 in infants have been confirmed to have occurred in newborns, but all infants were infected by mothers who all also tested positive for COVID-19. The youngest babies were declared infected after 30 hours post-birth (Chen *et al.*, 2020). Data on COVID-19 in neonates is still very limited because transmission to neonates is rare. Neonatal cases with COVID-19 have no symptoms, very mild to moderate symptoms

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may be encountered (Procianoy *et al.*, 2020). Children with cystic fibrosis or severe asthma increase in severity if they are exposed to COVID-19, so children with comorbidities are included in a vulnerable group that needs special monitoring (Sinha *et al.*, 2020). This case also makes mothers more afraid to breastfeed their babies, especially breastfeeding mothers who are affected by COVID-19 and the lack of support makes it worse for mothers psychologically to start breastfeeding again and results in failure of exclusive breastfeeding.

Breastfeeding is the optimal method for feeding and caring for babies (American Dietetic Association, 2009). Thus, the World Health Organization and the American Academy of Pediatrics recommend exclusive breastfeeding for the first 6 months of a baby's life, with continued breastfeeding for at least 1 or 2 years (Lawrence M *et al.*, 2005; World Health Organization, 2003). Despite these benefits and recommendations, not all mothers start and continue breastfeeding (Kasmita *et al.*, 2023). Breastfeeding self-efficacy is a woman's belief in her ability to breastfeed (Noel-Weiss *et al.*, 2006) and is a prominent variable in the initiation and duration of breastfeeding. The impact of COVID-19 has been recognized as the cause of Acute Respiratory Distress Syndrome (ARDS) and the mental health of the population is one of the greatest challenges facing humanity in the twenty-first century (Kamboj *et al.*, 2020). Especially for mothers who are breastfeeding, it will have an impact related to the mental health of the mother, mothers who are breastfeeding will also experience anxiety, in dealing with COVID-19. Therefore this study will also explore anxiety in breastfeeding mothers using the COVID-19 anxiety scale (CAS) instrument (Silva *et al.*, 2022)

Breastfeeding not only provides optimal nutrition for babies but also has short-term and long-term health benefits for babies and mothers (Richard *et al.*, 2018). WHO and UNICEF recommend that mothers start breastfeeding their babies within the first hour after birth, breastfeed exclusively, for six months, and maintain breastfeeding for at least the first two years of life (World Health Organization, 2003). Despite these recommendations, recent studies have found that only 37% of infants

under six months in low- and middle-income countries are exclusively breastfeeding (Victora *et al.*, 2016), far below the WHO target of 90%. To overcome these problem situations it is necessary to identify breastfeeding behavior problems. International literature shows that breastfeeding self-efficacy (BSE) is one of the most important and modifiable factors that affect breastfeeding behavior in postpartum women (Lau *et al.*, 2018; Victora *et al.*, 2016).

BSE is a woman's belief in her ability to breastfeed (Noel-Weiss *et al.*, 2006) and is a prominent variable in the initiation and duration of breastfeeding (Silva *et al.*, 2022). The self-confidence possessed by individuals in something that has not been done and can increase motivation is called *self-efficacy*. BSE is a mother's self-confidence in terms of breastfeeding which can predict whether the mother will decide to breastfeed, how much effort is made to breastfeed, whether she has a constructive or destructive mindset, and how to respond to various problems and difficulties during breastfeeding. Research shows that BSE is an important factor related to the initiation, duration, and exclusivity of breastfeeding (Mcqueen *et al.*, 2011). Within the aim of this study, the researchers wanted to see the level of confidence of breastfeeding mothers during the COVID-19 pandemic and other factors.

Methods

This study was conducted using a cross-sectional design to analyze factors related to breastfeeding self-efficacy and anxiety about the COVID-19 pandemic in post-partum mothers. The population and sample in this study were all breastfeeding mothers in Indonesia in 2021 who had babies aged 0-24 months and internet access to fill out surveys and were willing to be research respondents. The minimum number of samples obtained with a 5% margin of error is 382 respondents. During data collection, the number of samples obtained was 1018, with this number it can reduce the margin of error. Data collection was carried out in collaboration between researchers and non-profit organizations that focused on educating breastfeeding mothers, it is the Indonesian Breastfeeding Mothers Association (AIMI) which was carried out online via WhatsApp,

email, Facebook, and social media in July-September 2021.

The questionnaire consisted of sociodemographic characteristics, type of delivery, completeness of breastfeeding, history of being infected with COVID-19, mother's confidence in breastfeeding using the Self-Efficacy Scale-Short Form (BSES-SF) instrument, and anxiety assessment of the COVID-19 pandemic using the COVID-19 instrument anxiety scale (CAS). The Self-Efficacy Scale-Short Form (BSES-SF) instrument consists of 14 statements (Handayani *et al.*, 2013). Both instruments have been tested for validity and reliability on 35 respondents to get rxy values of more than the r-table and Cronbach's α value of more than 0.7.

Statistical analysis consisted of descriptive analytics to explore the sociodemographic characteristics of the participants, type of delivery, completeness of breastfeeding, history of being infected with COVID-19, mother's confidence while breastfeeding, and mother's anxiety in dealing with the COVID-19 pandemic. Bivariate chi-square and independent T-tests were conducted to analyze the relationship between demographic characteristics, type of delivery, completeness of breastfeeding, and history of being infected with COVID-19 with the mother's confidence while breastfeeding, and the mother's anxiety in facing the COVID-19 pandemic. Logistic regression to identify factors that contribute to mothers' confidence when breastfeeding and mothers' anxiety in facing the COVID-19 pandemic. The study has been cleared by the Ethics Committee of the Respati Indonesia University Research and Community Service Institute, Number 196/SK.KEPK/UNR/VII/2021. All participants signed informed consent as their agreement to participate. The authors declare that there is no conflict of interest.

Result and Discussion

The respondents are all breastfeeding mothers in Indonesia in 2021 who had babies aged 0-24 months and internet access to fill out the survey and are willing to be research respondents. The survey was conducted in society, with the number of respondents

1018 participants completed the survey questionnaire. Data collection is through an indirect online questionnaire distributed from July to September 2021. Result demographic characteristics are shown in Table 1.

Table 1. Sociodemographic Descriptive Analysis and Mother Characteristics

Variable	Frequency (n)	Percentage (%)
Age of Respondent		
≤30 year	586	57.6
>30 year	428	42.0
Missing	4	0.4
Educational Background		
Elementary School	2	0.2
Junior High School	16	1.6
Senior High School	159	15.6
University/Collage	841	82.6
Resident Island		
Java	785	77.1
Bali	28	2.8
Sumatera	86	8.4
Kalimantan	63	6.2
Sulawesi	41	4.0
Nusa tenggara & Eastern Indonesia	15	1.5
Residential Area		
Rural	221	21.7
Urban	797	78.3
Job Loss		
yes	175	17.2
No	843	82.8
Income Change		
No Income	25	2.5
Decreased Income	457	44.9
Same Income	480	47.2
Increased Revenue	56	5.5
Total	1018	100

Source: primary data, 2021

It was found that respondents aged ≤30 years were 57.8% and the rest were >30 years 42%. Higher education has the first rank of 82.6%, followed by respondents with high school education at 15.6%. for respondents' residences spread over 6 regions in Indonesia with the most respondents in Java at 77.1%. Respondents who live in urban areas are 78.3%

Table 2. Sociodemographic Relationship and Mother's Characteristics on Anxiety in Facing COVID-19

Variable	Worried about COVID-19 (CAS Instrument)				Total		p-value	OR (95% CI)
	yes		no					
	n	%	n	%	n	%		
Ages of Respondent								
≤30 year	490	83.6	96	16.4	586	100	0.842	-
>30 year	355	82.9	73	17.1	428	100		
Educational Background								
Elemenytary School (SD)	2	100	0	0.0	2	100	0.747	-
Junior Haihj School (SMP)	12	75.0	4	25.0	16	100		
Senior High School (SMA)	133	83.6	26	16.4	159	100		
University/Collage	702	83.5	139	16.3	841	100		
Resident Island								
Jawa	656	83.6	129	16.4	785	100	0.652	-
Bali	25	89.3	3	10.7	28	100		
Sumatera	67	77.9	19	22.1	86	100		
Kalimantan	53	84.1	10	15.9	63	100		
Sulawesi	36	87.8	5	12.2	41	100		
Nusa Tenggara & Indonesia	12	80.0	3	20.0	15	100		
Bag. Timur								
Residential Area								
Rural	180	81.4	41	18.6	221	100	0.436	-
Urban	669	83.9	128	16.1	797	100		
Job Loss								
Yes	148	84.6	27	15.4	175	100	0.729	-
No	701	83.2	142	16.8	843	100		
income change								
No Income	21	84.0	4	16.0	25	100	0.008	-
Decreased Income	401	87.7	56	12.3	457	100		
Same Income	383	79.8	97	20.2	480	100		
Increased Revenue	44	78.6	12	21.4	56	100		
Total	924	100	94	100	1018	100		

Source: primary data, 2021

and the remaining 21.7% are in rural areas. During the COVID-19 pandemic, 82.8% of the respondents did not lose their jobs and the rest 17.2% lost their jobs. for changes in income that occurred during the COVID-19 pandemic, respondents who said their income was the same and decreased were almost the same, 47.2%, and income decreased by 44.9% (Table 1).

Based on the results of the bivariate analysis in Table 2, it is known that only the

variable income changes are related to anxiety in facing COVID-19 with a p-value of 0.008, and for the variables age, education, island of residence, region place of residence and employment status have no effect (table 2).

Based on the results of the analysis of the relationship between the type of delivery, completeness of breastfeeding, history of COVID-19, and anxiety in COVID-19, it is known that the number of children (p-value 0.09), and the age of the child (p-value 0.029)

have a significant relationship to anxiety in COVID-19. 19, and the rest are unrelated (Table 3).

Table 4 explains that there is a difference in the score (p-value <0.05) of Breastfeeding Self-Efficacy in the two age groups of participants, last education, number of children, performing EBI, and breastfeeding. The difference in the range of the highest mean score is in the breastfeeding variable. It is known that the group of mothers who breastfeed their babies has a higher mean score of 6.19 compared to the group of mothers who do not breastfeed their babies. The group of mothers aged >30 years had a higher mean score of 0.56 compared to the group of mothers aged ≤30

years. The group of mothers with a history of recent tertiary education had a higher mean score of 1.52 compared to the group of mothers with a history of high school, junior high, and elementary school education. The group of mothers who had more than two children got a higher mean score of 1.54 compared to the group of mothers who had ≤2 children. The group of mothers who did IMD shortly after giving birth had a higher mean score of 1.80 than the group of mothers who did not do IMD immediately after giving birth.

Logistic regression analysis showed that the mother's confidence in breastfeeding was related to the number of children (OR=0.62; 95%CI=0.42 to 0.91) and to initiate early

Table 3. Relationship between Type of Delivery, Completeness of Breastfeeding, History of COVID-19 and Anxiety in COVID-19

Variable	Worried About COVID-19 (CAS Instrument)				Total		p-value	OR (95% CI)
	yes		no					
	n	%	n	%	n	%		
Number of Children								
>2 child	125	77.6	36	22.4	161	100	0.039	0.633 (0.418 – 0.958)
≤2 child	724	84.6	132	15.4	161	100		
Type of childbirth								
Caesarean section	399	85.8	66	14.2	465	100	0.166	
Assisted delivery (vacuum, etc.)	18	81.8	4	18.2	22	100		
vaginal delivery	432	81.4	99	18.6	531	100		
Performing Early Breastfeeding Initiation								
No	332	83.2	67	16.8	399	100	0.964	
yes	517	83.5	102	16.5	619	100		
Child Age								
≤6 month	257	79.6	66	20.4	323	100	0.029	0.673 (0.478 – 0.948)
>6 month	590	85.3	102	14.7	692	100		
Give breast milk								
Yes	770	83.3	154	16.7	924	100	0.976	
No	79	84.0	15	16.0	94	100		
History COVID-19								
Yes	179	79.6	46	20.4	225	100	0.098	
No						100		
Total	924	100	94	100	1018	100		

Source: primary data, 2021

Table 4. Analysis of Sociodemographic Differences, Mother Characteristics, Type of Childbirth, Completeness of Breastfeeding and Ever Diagnosed with COVID-19 on the Mother's Confidence Score in Breastfeeding with the BSES (Breastfeeding Self Efficacy) Instrument

Variable	Mean	SD	SE	p-Value	N
Age of Respondent					
≤30 year	44.17	8.228	0.340	0.003	586
>30 year	45.73	8.093	0.391		428
Educational background					
Non-College Education	43.56	8.904	0.669	0.025	177
College Education	45.08	8.027	0.277		841
Residential area					
Rural	44.58	8.614	0.579	0.633	221
Urban	44.88	8.088	0.286		797
Number of children					
>2 child	46.11	9.188	0.724	0.029	161
≤2 child	44.57	7.989	0.273		856
Job Loss					
Yes	44.15	9.702	0.733	0.240	175
No	44.95	7.854	0.271		843
Performing Early Breastfeeding Initiation (EBI)					
No	43.72	8.516	0.426	0.001	399
Yes	45.52	7.920	0.318		619
Child Age					
≤6 month	44.34	8.971	0.499	0.216	323
>6 month	45.02	7.825	0.297		692
Breastfeeding					
No	39.20	11.339	1.170	<0.0001	924
yes	45.39	7.591	0.250		94
Diagnosed with COVID-19					
Yes	44.96	8.069	0.538	0.761	225
No	44.78	8.244	0.293		793
Worried about COVID-19 (CAS Instrument)					
Yes	44.73	8.057	0.277	0.467	849
No	45.24	8.906	0.685		169

Source: primary data, 2021

breastfeeding shortly after delivery (OR=1.47; 95%CI=1.11 to 1.95). Anxiety about the COVID-19 pandemic is related to the number of children (OR=0.58; 95%CI= 0.36 to 0.94), changes in income (OR=1.98; 95%CI 1.34 to 2.95), type of delivery (OR=1.53; 95% CI = 1.4 to 2.24), child's age (OR=0.70; 95% CI = 0.49 to 0.99), and previously diagnosed

with COVID-19 (OR=0.65; 95% CI = 0.44 to 0.97). The analysis explained that the mother's confidence in breastfeeding and anxiety about the COVID-19 pandemic had no relationship between the mother's age, last education, island of residence, area of residence, job loss, and exclusive breastfeeding.

A woman's health during pregnancy

affects the health outcomes of their infants. The anxiety can come from a behavioral response to stress or a trigger such as the COVID-19 pandemic (Nicolás-López *et al.*, 2022) particularly, for pregnant women and lactating mothers. The alarming infectious risk together with the lockdown period could affect the emotional state of mothers-to-be, as well as breastfeeding rates, mother-baby bonding, or neonatal weight gain. The aim of this study is to describe the impact of this world health emergency in mother-baby pairs right after the first wave of Sars-Cov-2 pandemic (from March to May 2020). Several factors can influence the occurrence of anxiety or psychological distress that have been identified (Lee *et al.*, 2021; Lee *et al.*, 2021) such as receiving inadequate support during childbirth or feeling unsafe in the hospital, discomfort during childbirth due to issues regarding isolation in patients infected with COVID-19 (Stepowicz *et al.*, 2020) as well as to indicate the social and medical factors that could contribute to stress and anxiety. A total of 210 patients were enrolled in the study. Two well-established test-tools were applied: State-Trait Anxiety Inventory (STAI (Mollard & Wittmaack, 2021) 885 women were consented and participated in the study; 22.5% of women reported hypertension, 33.8% reported anxiety, 18.6% reported depression, and 1.13% reported testing positive for COVID-19. Of this, 61% of women reported inadequate support for childbirth, and 20.5% reported that they did not feel safe giving birth in the hospital. Women who tested positive for COVID-19 were more likely to be of Asian race, have a cesarean delivery, not have a birth partner present, and discontinue breastfeeding before 6 weeks. Pandemic-related changes to maternity care practices may have impacted birthing women's perceptions of safety and support in the hospital environment and affected symptoms of stress. Health care policy and maternity care practices should promote feelings of safety and control and overall experience for women giving birth in the hospital during a pandemic (Mollard & Wittmaack, 2021). There was elevated prevalence of post-traumatic stress, anxiety and loneliness in pregnant and post-partum women in 64 countries during the COVID-19 pandemic. Feelings of insecurity regarding the

safety of hospital services also make it difficult for mothers to early breastfeeding initiate (EBI) (Ceulemans *et al.*, 2021). Mothers who are breastfeeding will have an impact related to the mental health of the mother, self-requirement that the mother has in terms of breastfeeding which can predict whether the mother will decide to breastfeed, how much effort is made to breastfeed, whether she has a constructive or destructive mindset and how responding to various problems and difficulties, during the COVID-19 pandemic, mothers who breastfeed experience double worries, mothers will also experience anxiety and anxiety in dealing with COVID-19. Therefore, this study explores the confidence of mothers in breastfeeding and the anxiety experienced by breastfeeding mothers during the COVID-19 pandemic.

Table 5. describes the variables that are predictors of a mother's confidence in breastfeeding. History of EBI is a determinant of the mother's confidence in breastfeeding (OR=1.47; 95% CI=1.11 to 1.95). Mothers who have high breastfeeding self-efficacy have longer and more exclusive breastfeeding durations 1-6 months after delivery and ethnicity affects breastfeeding self-efficacy. Furthermore (Mossman *et al.*, 2008) conducted a study that found that mothers with higher prenatal breastfeeding behavior scores had significantly more initiation of breastfeeding. In addition, mothers with high prenatal breastfeeding behavior scores and high breastfeeding confidence scores tend to continue to breastfeed until 4 months after delivery. Social support and mothers' confidence in breastfeeding also become a determinant. Research that Otsuka, (Otsuka *et al.*, 2008) showed less than 40% of mothers gave breast milk after 4 weeks postpartum, most mothers used formula milk, and 73% mentioned insufficient milk as the main reason for supplementation or stopping exclusive breastfeeding. Social support and self-confidence are significantly correlated with postpartum depression (Leahy-Warren *et al.*, 2012). The number of children is the second predictor that determines a mother's confidence in breastfeeding (OR=0.62; 95% CI=0.42 to 0.91), it is known that mothers who have more than two children are protective and give mothers better confidence in breastfeeding

(Hamid & Zaidi, 2020). This explains that mothers with multiparas have more experience when breastfeeding than first-time mothers. This personal experience is very important in determining the mother's attitude, subjective norms, and the mother's confidence in subsequent breastfeeding behavior (Bartle & Harvey, 2017).

Mothers' confidence in breastfeeding has also been disrupted by the emergence of the COVID-19 pandemic. It is known that there are 5 predictors related to maternal anxiety in dealing with the COVID-19 pandemic. The main predictor of this variable is decreased family income during the COVID-19 pandemic (OR=1.98; 95%CI 1.34 to 2.95). This also determines the confidence of mothers in breastfeeding coupled with the anxiety that arises during the COVID-19 pandemic. It is known that 47.4% of respondents in this study experienced a decrease in income up to loss of income, and 17.2% of respondents lost their jobs. One study explained that a sad experience experienced for more than 6 months is considered a chronic psychological stressor which is associated with the appearance of early signs of illness which is associated with the impact of social isolation, loneliness, and financial pressures that have an impact on mental health during the COVID pandemic. -19 (McDermid *et al.*, 2022). Based on research using the Mental Health Inventory, it was explained that during the COVID-19 pandemic, respondents often felt nervous, down, and depressed. Financial stress, which is a psychological concept, is characterized by saving and having consumer debt before the pandemic outbreak, which then increased financial pressure during the COVID-19 pandemic (Basyouni & El Keshky, 2021). Anxiety about finances during the COVID-19 pandemic does not only occur in developing countries but also developed countries (Bareket-Bojmel *et al.*, 2021).

The next predictor that is also related to anxiety during the COVID-19 pandemic is mothers who experience caesarean sections during childbirth (OR=1.53; 95% CI= 1.4 to 2.24). This was explained in previous studies regarding the possibility of postpartum anxiety in patients with a history of CS delivery. This study

shows that in certain time settings the mother's perspective changes, and found evidence of the emergence of depressive and anxiety symptoms that differ longitudinally. The researchers also explained the severity of the mood to the point of being depressed. The findings of this study also suggest risk prevention and further assessment of the outcomes of CS deliveries as well as services and greater attention to ongoing assessment of psychological well-being among mothers undergoing elective CS deliveries (Kuo *et al.*, 2014). Another study also stated that prenatal anxiety, Postpartum Depression (PPD) symptoms that occurred in the early postoperative stages, and pain at 6 weeks postpartum were associated with the incidence of PPD in women undergoing SC (Lin *et al.*, 2022).

The predictor of the number of children has a relationship with the anxiety of the mother during the COVID-19 pandemic. It is known that mothers who have more than two children protect against the occurrence of anxiety in mothers during a pandemic by 1.72 times compared to mothers who have less than two children (OR = 0.58; 95% CI = 0.36 to 0.94) this explains that multiparous mothers have more experience in managing stress management when taking care of their children (Bartle & Harvey, 2017; Hamid & Zaidi, 2020) especially when having to breastfeed in a pandemic situation, it is also explained that the variable number of children is a predictor of a mother's confidence in breastfeeding. This contrasts with the results of a randomized control trial study that had been conducted previously, that the number of children was not related to the mother's belief in child feeding patterns (Admasu *et al.*, 2022). The next predictor was mothers who had babies ≤ 6 months to protect against anxiety during a pandemic COVID-19 is 1.43 times compared to mothers who have children > 6 months (OR=0.70; 95%CI = 0.49 to 0.99). This is possible because mothers who have babies less than 6 months still have intense and even exclusive breastfeeding activities where the breastfeeding process can reduce postpartum anxiety and depression (Sun *et al.*, 2020).

The last predictor is information about having been infected with COVID-19. It is known

that mothers who were previously infected with COVID-19 protected against anxiety during the pandemic 1.67 times compared to mothers who had never been infected with COVID-19 (OR=0.65; 95% CI = 0.44 to 0.97). This is associated with the many symptoms that appear, such as fever, cough, fatigue, shortness of breath, headache, congestion or runny nose, nausea, and vomiting, to shortness of breath, in contrast to mothers who have experienced infection for the first time, if they are infected with COVID-19 returns, the symptoms that arise can become lighter because this creates anxiety about a symptom that has never been experienced before and then becomes severe (Larsen *et al.*, 2021).

Conclusion

In conclusion, it is known that the number of children and the age of the children are related to the anxiety of the mother during the COVID-19 period. childbirth also increases the potential for anxiety for post-partum mothers during the COVID-19 period. The implications for suggestions and subsequent practical interventions are that it is very important to carry out EBI and minimally intervention deliveries to reduce maternal anxiety and increase breastfeeding success. Apart from that, protection on the determination of income and family livelihoods is a common factor that can affect this condition.

References

- Admasu, J., Egata, G., Bassore, D.G., & Feleke, F.W., 2022. Effect of Maternal Nutrition Education on Early Initiation and Exclusive Breast-Feeding Practices in South Ethiopia: A Cluster Randomised Control Trial. *Journal of Nutritional Science*, 11.
- American Dietetic Association., 2009. Position of the American Dietetic Association: Promoting and Supporting Breastfeeding. *Journal of the American Dietetic Association*, 109(11), pp.1926–1942.
- Badan Pusat Statistik., 2021. *Potret Sensus Penduduk 2020 Menuju Satu Data Kependudukan Indonesia*. Badan Pusat Statistik, pp.28.
- Bareket-Bojmel, L., Shahar, G., & Margalit, M., 2021. COVID-19-Related Economic Anxiety Is As High as Health Anxiety: Findings from the USA, the UK, and Israel. *International Journal of Cognitive Therapy*, 14(3), pp.566–574.
- Bartle, N.C., & Harvey, K., 2017. Explaining Infant Feeding: The Role of Previous Personal and Vicarious Experience on Attitudes, Subjective Norms, Self-Efficacy, and Breastfeeding Outcomes. *British Journal of Health Psychology*, 22(4), pp.763–785.
- Basyouni, S.S., & El Keshky, M.E.S., 2021. Job Insecurity, Work-Related Flow, and Financial Anxiety in the Midst of COVID-19 Pandemic and Economic Downturn. *Frontiers in Psychology*, 12, pp.632265.
- Chen, H., Guo, J., Wang, C., Luo, F., Yu, X., Zhang, W., Li, J., Zhao, D., Xu, D., Gong, Q., Liao, J., Yang, H., Hou, W., & Zhang, Y., 2020. Clinical Characteristics and Intrauterine Vertical Transmission Potential of COVID-19 Infection in Nine Pregnant Women: A Retrospective Review of Medical Records. *Lancet (London, England)*, 395(10226), pp.809.
- Ceulemans, M., Foulon, V., Ngo, E., Panchaud, A., Winterfeld, U., Pomar, L., Lambelet, V., Cleary, B., O'Shaughnessy, F., Passier, A., Richardson, J.L., Hompes, T., & Nordeng, H., 2021. Mental Health Status of Pregnant and Breastfeeding Women During the COVID-19 Pandemic—A Multinational Cross-Sectional Study. *Acta Obstetrica et Gynecologica Scandinavica*, 100(7), pp.1219–1229.
- Dai, X., & Dennis, C.L., 2003. Translation and Validation of the Breastfeeding Self-Efficacy Scale into Chinese. *Journal of Midwifery and Women's Health*, 48(5), pp.350–356.
- Dennis, C.L., 1999. Theoretical Underpinnings of Breastfeeding Confidence: A Self-Efficacy Framework. *Journal of Human Lactation: Official Journal of International Lactation Consultant Association*, 15(3), pp.195–201.
- Hamid, S.B.A., & Zaidi, N.M., 2020. Predictors of Prenatal Breastfeeding Self-Efficacy in Malaysian Women: a Cross-Sectional Study. *Jurnal Gizi Dan Pangan*, 15(1), pp.53–62.
- Handayani, L., Md Kosnin, A., & Kee Jiar, Y., 2013. Translation and Validation of Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF) into Indonesian: a Pilot Study. *KESMAS*, 2013.
- Kamboj, S., Kamboj, R., Kamboj, S., Guarve, K., & Dutt, R., 2020. Novel Coronavirus 2019 Outbreak: A Global Epidemic. *Letters in Drug Design & Discovery*, 17(12), pp.1458–1464.

- Kasmita, N.T., & Titen, D.S., 2023. Stunting in Toddlers (6-60 Months): Parenting Pattern, Mother's Education Level, Infectious Diseases, and Breastfeeding. *Jurnal Kesehatan Masyarakat*, 18(4), pp.564–570.
- Kemenkes RI., 2020. *Pedoman Pencegahan dan Pengendalian Coronavirus Disease (COVID-19)*.
- Kuo, S.Y., Chen, S.R., & Tzeng, Y.L., 2014. Depression and Anxiety Trajectories among Women Who Undergo an Elective Cesarean Section. *Plos One*, 9(1), pp.e86653.
- Larsen, J.R., Martin, M.R., Martin, J.D., Hicks, J.B., & Kuhn, P., 2021. Modeling the Onset of Symptoms of COVID-19: Effects of SARS-CoV-2 variant. *Plos Computational Biology*, 17(12), pp.e1009629.
- Lau, C.Y.K., Lok, K.Y.W., & Tarrant, M., 2018. Breastfeeding Duration and the Theory of Planned Behavior and Breastfeeding Self-Efficacy Framework: A Systematic Review of Observational Studies. *Maternal and Child Health Journal*, 22(3), pp.327–342.
- Lawrence M.G., Jane Morton, Ruth A.L., Audrey J.N., Donna, O., Richard J.S., & Arthur I.E., 2005. Breastfeeding and the Use of Human Milk. *Pediatrics*, 115(2), pp.496–506.
- Lee, H., Kim, K.E., Kim, M.Y., Park, C.G., Han, J.Y., & Choi, E.J., 2021. Trajectories of Depressive Symptoms and Anxiety During Pregnancy and Associations with Pregnancy Stress. *International Journal of Environmental Research and Public Health*, 18(5), pp.1–12.
- Leahy-Warren, P., McCarthy, G., & Corcoran, P., 2012. First-Time Mothers: Social Support, Maternal Parental Self-Efficacy and Postnatal Depression. *Journal of Clinical Nursing*, 21(3–4), pp.388–397.
- Lin, R., Lu, Y., Luo, W., Zhang, B., Liu, Z., & Xu, Z., 2022. Risk Factors for Postpartum Depression in Women Undergoing Elective Cesarean Section: A Prospective Cohort Study. *Frontiers in Medicine*, 9, pp.1001855.
- McDermid, P., Soopiyaragath, S., Craig, A., Sheel, M., Blazek, K., Talty, S., & Seale, H., 2022. Psychological and Financial Impacts of COVID-19-Related Travel Measures: An International Cross-Sectional Study. *Plos One*, 17(8), pp.e0271894.
- Mcqueen, K.A., Dennis, C.L., Stremmler, R., & Norman, C.D., 2011. A Pilot Randomized Controlled Trial of a Breastfeeding Self-Efficacy Intervention with Primiparous Mothers. *Journal of Obstetric, Gynecologic, and Neonatal Nursing: Jognn*, 40(1), pp.35–46.
- Mossman, M., Heaman, M., Dennis, C.L., & Morris, M., 2008. The Influence of Adolescent Mothers' Breastfeeding Confidence and Attitudes on Breastfeeding Initiation and Duration. *Journal of Human Lactation*, 24(3), pp.268–278.
- Mollard, E., & Wittmaack, A., 2021. Experiences of Women Who Gave Birth in US Hospitals During the COVID-19 Pandemic. *Journal of Patient Experience*, 8, pp.1–6.
- Nicolás-López, M., González-Álvarez, P., Sala de la Concepción, A., Giralte-López, M., Lorente, B., Velasco, I., Wichner, P.S.V., & Ginovart, G., 2022. Maternal Mental Health and Breastfeeding Amidst the Covid-19 Pandemic: Cross-Sectional Study in Catalonia (Spain). *BMC Pregnancy and Childbirth*, 22(1), pp.1–13.
- Noel-Weiss, J., Bassett, V., & Cragg, B., 2006. Developing a Prenatal Breastfeeding Workshop to Support Maternal Breastfeeding Self-Efficacy. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 35(3), pp.349–357.
- Otsuka, K., Dennis, C.L., Tatsuoaka, H., & Jimba, M., 2008. The Relationship Between Breastfeeding Self-Efficacy and Perceived Insufficient Milk Among Japanese Mothers. *JOGNN - Journal of Obstetric, Gynecologic, and Neonatal Nursing*, 37(5), pp.546–555.
- Procianoy, R.S., Silveira, R.C., Manzoni, P., & Sant'Anna, G., 2020. Neonatal COVID-19: Little Evidence and the Need for More Information. *Jornal de Pediatria*, 96(3), pp.269.
- Richard, S.A., McCormick, B.J.J., Seidman, J.C., Rasmussen, Z., Kosek, M.N., Rogawski, E.T., Petri, W., Bose, A., Mduma, E., Maciel, B.L.L., Chandyo, R.K., Bhutta, Z., Turab, A., Bessong, P., Mahfuz, M., Caulfield, L.E., Acosta, A.M., De Burga, R.R., Chavez, C.B., & Svensen, E., 2018. Relationships among Common Illness Symptoms and the Protective Effect of Breastfeeding in Early Childhood in MAL-ED: An Eight-Country Cohort Study. *The American Journal of Tropical Medicine and Hygiene*, 98(3), pp.904.
- Setiawaty, V., Kosasih, H., Mardian, Y., Ajis, E., Prasetyowati, E.B., Siswanto, & Karyana, M., 2020. The Identification of First COVID-19 Cluster in Indonesia. *The American Journal of Tropical Medicine and Hygiene*, 103(6), pp.2339–2342.
- Silva, W.A.D., De Sampaio, B.T.R., & Pereira, C.R., 2022. COVID-19 Anxiety Scale (CAS): Development and Psychometric Properties. *Current Psychology (New Brunswick, N.J.)*,

- 41(8), pp.5693–5702.
- Sinha, I.P., Harwood, R., Semple, M.G., Hawcutt, D.B., Thursfield, R., Narayan, O., Kenny, S.E., Viner, R., Hewer, S.L., & Southern, K.W., 2020. COVID-19 Infection in Children. *The Lancet. Respiratory Medicine*, 8(5), pp.446–447.
- Stepowicz, A., Wencka, B., Bienkiewicz, J., Horzelski, W., & Grzesiak, M., 2020. Stress and Anxiety Levels in Pregnant and Post-Partum Women During the COVID-19 Pandemic. *International Journal of Environmental Research and Public Health*, 17(24), pp.1–9.
- Sun, J., Zhu, Y., Li, Y., Li, N., Liu, T., Su, X., Dai, Z., Zhang, Y., Pan, L., Jiang, W., & Zhu, W., 2020. Maternal Postpartum Feeding Anxiety was Associated with Infant Feeding Practices: Results from the Mother-Infant Cohort Study of China. *BMC Pregnancy and Childbirth*, 20(1), pp.1–9.
- Victora, C.G., Bahl, R., Barros, A.J.D., França, G.V.A., Horton, S., Krasevec, J., Murch, S., Sankar, M.J., Walker, N., Rollins, N.C., Allen, K., Dharmage, S., Lodge, C., Peres, K.G., Bhandari, N., Chowdhury, R., Sinha, B., Taneja, S., Giugliani, E., & Richter, L., 2016. Breastfeeding in the 21st Century: Epidemiology, Mechanisms, and Lifelong Effect. *Lancet (London, England)*, 387(10017), pp.475–490.
- World Health Organization., 2003. *Global Strategy for Infant and Young Child Feeding*.
- World Health Organization., 2020a. *Breastfeeding and COVID-19*.
- World Health Organization., 2020c. *WHO Director-General's Opening Remarks at the Media Briefing on COVID-19*. WHO Media.
- Wu, Z., & McGoogan, J.M., 2020. Characteristics of and Important Lessons from the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72314 Cases from the Chinese Center for Disease Control and Prevention. *JAMA - Journal of the American Medical Association*, 323(13), pp.1239–1242.
- Yuliana, A., Zen Rahfiludin, M., & Nugraheni, A., 2019. Factors Affecting Pregnant Women in Preparation of Early Breastfeeding Initiation