

Determinant Factors for Preparedness in Facing COVID-19 Vaccinations: A Cross-Sectional Study Among Breastfeeding Mothers in Denpasar, Bali

Gusti Ayu Dwina Mastrayung^a, Ni Putu Sri Haryati^b, Ni Komang Sri Ariani^c,
Ni Made Ayu Yulia Raswati Teja^d and Ni Made Nurtini^e
Bachelor of Midwifery Program, Faculty of Health, Institute of Technology and Health Bali, Indonesia

Keywords: Breastfeeding, Vaccination, COVID-19, Cross-Sectional Study.

Abstract: Severe acute respiratory syndrome coronavirus 2 is the infectious disease that causes coronavirus disease 2019, also known as COVID-19 (SARS-CoV-2). According to a study by the National Immunization Expert Advisory Committee, the COVID-19 vaccine can be provided to individuals 60 years of age and older, comorbid individuals, COVID-19 survivors, and nursing mothers after considering relevant medical histories. This study aimed to examine the factors that affect the preparedness of breastfeeding mothers facing the COVID-19 vaccination. This was a correlation analytic study with a cross-sectional approach. The sample was breastfeeding mothers who visited a private clinic at Denpasar and had not received the COVID-19 vaccine, with as many as 54 respondents. The sampling technique was non-probability sampling. Data were collected through a questionnaire. Data were processed through a non-parametric analysis, namely Spearman's rho correlation. The results show that there was a relationship between level of knowledge and breastfeeding mothers' readiness ($p < 0.05$), and there was a relationship between perception of drugs and breastfeeding mothers' readiness ($p < 0.05$). In conclusion, breastfeeding mothers' knowledge and perception affect readiness in carrying out COVID-19 vaccinations.

1 INTRODUCTION

On December 2019, the World Health Organization (WHO) first identified COVID-19 in the city of Wuhan, China. The infection can occur at any age. The infection fatality rate is around 1%, but is much higher in older people or those with pre-existing medical conditions such as heart disease, diabetes, and chronic obstructive pulmonary disease. COVID-19 is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and is spread through direct contact with sputum droplets from an infected person (coughing and sneezing) or indirectly through contact with virus-contaminated surfaces (Rodrigues et al., 2020)

On July 1st, 2021, the President of Indonesia officially announced the implementation of an emergency implementation of restrictions on social activities in Java and Bali from July 3rd-20th, 2021, due to the drastic spike in COVID-19 cases. As a result of this announcement, several policies have been taken, one of which is promoting a vaccine program for pregnant women, breastfeeding mothers, and school-age children ranging from 12-18 years old (Ferdiansyah, 2022).

The Indonesian Ministry of Health (Kemenkes) through the Directorate General of Disease Prevention and Control issued circular letter number HK.02.02/11/368/2021 regarding the implementation of the COVID-19 vaccination. This circular contained technical instructions for COVID-19 vaccination for the elderly, comorbid, nursing mothers, and COVID-

^a <https://orcid.org/0000-0002-1758-8678>

^b <https://orcid.org/0000-0001-9218-2275>

^c <https://orcid.org/0000-0002-8346-7997>

^d <https://orcid.org/0000-0003-4544-1347>

^e <https://orcid.org/0000-0003-3376-8967>

19 survivors. One of the points outlined was that breastfeeding mothers were now allowed to get the COVID-19 vaccine (Kementerian Kesehatan RI, 2021). Vaccines are a key strategy to stop the escalation of the COVID-19 pandemic. As of April 2020, there were more than 100 COVID-19 vaccine candidates that had been developed by scientists (Pogue et al., 2020).

Understanding of vaccines is very important to receiving the vaccine itself. Vaccine effectiveness greatly affects vaccine acceptance, but some people think that vaccine effectiveness is still low (Mannan & Farhana, 2021). Unlimited access to information or news about the COVID-19 pandemic can expose one to sensational and worrying images (Klemm et al., 2016). Various myths, rumours, and misinformation can quickly spread through online media, especially social media (Vosoughi et al., 2018). This implies that social media has an important role in disseminating information about COVID-19, including about vaccines.

The pregnancy and breastfeeding periods are natural and physiological processes for every woman. The postpartum period is the recovery period for all female reproductive organs to recover before the next pregnancy. Since March 2020, the WHO has strongly recommended that breastfeeding mothers who are confirmed positive for COVID-19 breastfeed according to health recommendations and existing health protocols. Breast milk is the most appropriate food for babies because it has many benefits such as containing antibodies that help protect against various kinds of diseases. It is safe, clean, and provides all the energy and nutrients a baby needs for their first month of life. It continues to provide up to half or more of a child's nutritional needs during the second half of the first year, and up to one third of the second year (Pereira et al., 2020).

Until now, not much research has been done on the spread of the COVID-19 virus to babies through breast milk. The National Immunization Expert Advisory Committee has submitted a study that COVID-19 vaccines can be administered to the 60 and over age group, comorbid individuals, COVID-19 survivors, and breastfeeding mothers by first reviewing additional health history (Kementerian Kesehatan RI, 2021)

Reluctance to get vaccinated is a well-known phenomenon and a serious threat. Reluctance to vaccinate against COVID-19 can be a limiting step in global efforts to control the current pandemic. Various concerns are held by breastfeeding mothers when carrying out the COVID-19 vaccination. It is necessary to conduct a deeper study of the factors that

affect breastfeeding mothers' readiness to carry out the COVID-19 vaccination, including knowledge and perception of the number of pregnancies. This will allow later efforts to be made to increase breastfeeding mothers' awareness about the importance of COVID-19 vaccination.

2 METHOD

The research design used was correlative analytic with a cross-sectional study approach. The population in this study were breastfeeding mothers with a sample size of 54 people obtained through a total sampling technique. The inclusion criteria were breastfeeding mothers with children aged 0-6 months who had never received the COVID-19 vaccine and were willing to be respondents.

The independent variable in this study was level of knowledge and perception, while the dependent variable was breastfeeding mothers' readiness. The primary data collection tool was a questionnaire. The questionnaire used in this study was developed based on the literature review and discussion within the research team. The questionnaire was reviewed by experts in survey research for face validity. Data collection was carried out over the course of two months with data analysed using SPSS for Windows version 26, with a non-parametric statistical test using Spearman's rho technique. Research ethics approval was issued from ITEKES Bali.

3 RESULT

Based on the research that has been done, the following results were obtained:

3.1 Respondents' Characteristics

Table 1: Frequency distribution of respondents' characteristics based on age, occupation, and education (n = 54).

Characteristics	Sample	F	(%)
Age group			
20-30 years old		54	100
Occupation			
Housewife		32	59.3
Self-employed		1	1.9
Private sector		21	38.9
Education			
Middle School		3	5.6
High School		44	81.4
College		7	13

Table 1 shows that the respondents had an age range of 20-30 years (100%), with most being housewives (59.3%) who were senior high school graduates (81.4%).

3.2 Knowledge Level

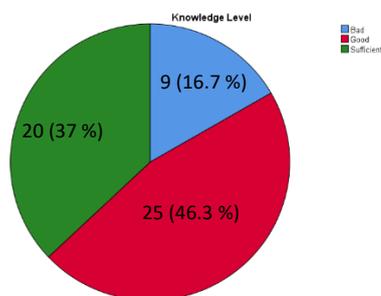


Figure 1: Breastfeeding mothers' knowledge levels about the COVID-19 vaccine (n = 54).

Based on Figure 1, 25 breastfeeding mothers had good knowledge about the COVID-19 vaccine (46.3%), 20 mothers had sufficient knowledge (37%), and nine had poor knowledge (16.7%).

3.3 Breastfeeding Mothers' Perception

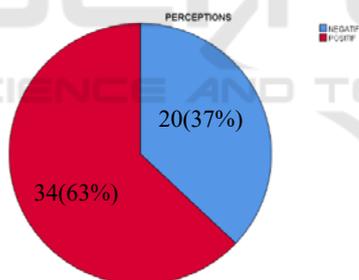


Figure 2: Breastfeeding mothers' perceptions of the COVID-19 vaccine (n = 54).

Figure 2 shows that the majority of breastfeeding mothers had a positive perception of the COVID-19 vaccine, with as many as 34 respondents holding this view (63%). as the remaining 20 mothers (37%) had a negative perception of the COVID-19 vaccine.

3.4 Breastfeeding Mothers' Readiness

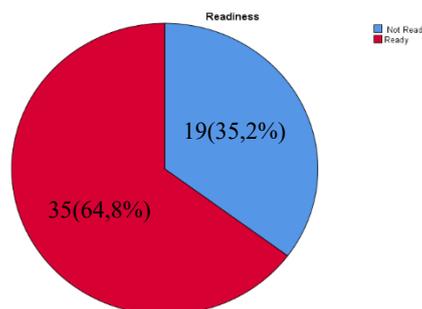


Figure 3: Breastfeeding mothers' readiness in facing COVID-19 vaccination (n = 54).

Diagram 4 shows that 35 of the breastfeeding mothers were ready to face the COVID-19 vaccination (64.8%), while the remaining 19 (35.2%) felt unprepared.

3.5 Bivariate Analysis

Based on the analysis results using Spearman's rho test, it was found that the relationship between breastfeeding mothers' knowledge with COVID-19 vaccination readiness had a p-value of below 0.01 (n = 54), which means there was a relationship between knowledge and breastfeeding mothers' readiness in facing COVID-19 vaccination.

The bivariate analysis between breastfeeding mothers' perception and readiness in facing COVID-19 vaccination obtained a p-value of less than 0.01, which means there was a relationship between breastfeeding mothers' perception and readiness in facing COVID-19 vaccination.

4 DISCUSSION

Vaccination is the provision of vaccines that are specifically made to actively generate or increase a person's immunity against a disease. If one day they are exposed to the disease, they will then not get sick or only experience mild illness and will not become a transmission source (Indonesian Ministry of Health, 2020). This is in line with research conducted by those who found that receiving the COVID-19 vaccine was associated with a decrease in the percentage of reported COVID-19 events (Mannan & Farhana, 2021)

The Indonesian Ministry of Health (Kementerian Kesehatan RI, 2021), through the Directorate General of Disease Prevention and Control, issued circular

letter number HK.02.02/11/368/2021 regarding COVID-19 vaccination implementation. This contained technical instructions for COVID-19 vaccination for the elderly, comorbid individuals, nursing mothers, and COVID-19 survivors. One of the points outlined was that breastfeeding mothers were now allowed to receive the COVID-19 vaccine

Based on the results of the study, it was found that 25 of the breastfeeding mothers had sufficient knowledge about the COVID-19 vaccine (46.3%), while the rest had good (37%) and lacking knowledge (16.7%). These results are in line with research (Kalpana Kartika, 2021) concerning "The Relationship between Knowledge and Community Readiness in Receiving the COVID-19 Vaccine at the Padang Laweh Health Center, Sijunjung Regency" which stated that high knowledge (54 respondents; 54%) was due to the large amount of information circulating about COVID-19 through social media, mass media, as well as physical posters and banners about COVID-19. This high knowledge was also influenced by respondents' high educational levels. This allowed for the public to know about the COVID-19 vaccination, its targets, the people to get it, its benefits, and its side effects. In line with research conducted by (Nancy Otieno et al., 2020), knowledge was found to be related to the pregnant women's acceptance of the influenza vaccine in Kenya.

5 CONCLUSION

This study consisted of 54 breastfeeding mothers, with the majority in the 20–30 year age range. Their educational backgrounds mostly stopped at senior high school and they were mostly housewives.

In terms of knowledge, most respondents had sufficient COVID-19 vaccination knowledge with the majority having a positive perception and ready to carry out the COVID-19 vaccine. Based on the data analysis, it was found that there was a relationship between knowledge, perception, and mothers' readiness to breastfeed in receiving the COVID-19 vaccine. The drawback in this study was the small number of respondents, meaning further research needs to be done with a larger sample size and with mixed methods.

REFERENCES

- Augusto Pereira, S. C.-M.-M. 2020. Breastfeeding mothers with COVID-19 infection: a case series. *International Breastfeeding Journal*, 15(69), 2-8. doi:https://doi.org/10.1186/s13006-020-00314-8
- Bali, D. K. 2020. *Profil kesehatan provinsi bali*. Denpasar ; Dinas Kesehatan Provinsi Bali. Bali.
- Carina Rodrigues, I. B. 2020, November. Pregnancy and Breastfeeding During COVID-19 Pandemic: A Systematic Review of Published Pregnancy Cases. *Frontiers in Public Health*, 1-13. Retrieved from https://www.frontiersin.org/articles/10.3389/fpubh.2020.558144/full
- Celine Klemma, E. D. 2014. Swine flu and hype: a systematic review of media dramatization of the H1N1 influenza pandemic. *Journal of Risk Research*, 1-22.
- Farhana, K. A. 2020. Knowledge, Attitude and Acceptance of a COVID-1 Vaccine : A Global Cross-Sectional Study. *International Research Journal of Business and Social Science*, 6, 1-23.
- Ferdiansyah, A. R. 2022. *ANALISIS DAMPAK SOSIAL EKONOMI KEBIJAKAN PEMERINTAH (STUDI KASUS PPKM LEVEL 4 COVID-19 JAWA-BALI 2021)*. JURNAL JISPENDIORA.
- Indonesia, K. K. 2020. *Buku Saku Info Vaksin*. Jakarta: Kementerian Kesehatan Republik Indonesia.
- Indonesia, K. K. 2020. *Pedoman Pencegahan Dan Pengendalian Coronavirus Disease (COVID-19)*. Jakarta: Pusat Data Dan Informasi Kementerian Kesehatan R.I.
- Kalpana Kartika, I. S. 2021. HUBUNGAN PENGETAHUAN DENGAN KESIAPAN MASYARAKAT DALAM MENERIMA VAKSIN COVID 19 DI PUSKESMAS PADANG LAWEH KABUPATEN SIJUNJUNG. *JURNAL KESEHATAN TAMBUSAI*, 323-328.
- Kendall Pogue, J. L. 2020. Influences on Attitudes Regarding Potential COVID-19 Vaccination in the United States. *Vaccines Journal MDPI*, 1-14.
- Marco Ciotti, M. C.-C.-B. 2020. The COVID-19 pandemic. *CRITICAL REVIEWS IN CLINICAL LABORATORY SCIENCES*, 365–388.
- Nancy A. Otieno, B. N.-C.-A. 2020. Knowledge and attitudes towards influenza and influenza vaccination among pregnant women in Kenya. *Elsevier*, 6832-6838.
- Negeri, K. D. 2020. *Pedoman Umum Menghadapi Pandemi COVID-19 Bagi Pemerintah Daerah*. Jakarta.
- Raffaele Falsaperla, G. L. 2021. COVID-19 vaccination in pregnant and lactating women: a systematic review. *EXPERT REVIEW OF VACCINES*, 20, 1619-1628. doi:https://doi.org/10.1080/14760584.2021.1986390
- RI, K. K. 2021. *TENTANG PELAKSANAAN VAKSINASI COVID-19 PADA KELOMPOK SASARAN LANSIA, KOMORBID DAN PENYINTAS COVID-19 SERTA SASARAN TUNDA*. Jakarta: SURAT EDARAN Nomor : HK.02.02/111 .
- RI, K. K. 2021. *SURAT EDARAN Nomor : HK.02.02/368/2021 tentang PELAKSANAAN VAKSINASI COVID-19 PADA KELOMPOK SASARAN*

LANSIA KOMORBID DAN PENYINTAS COVID-19 SERTA SASARAN TUNDA. Jakarta.

Soroush Vosoughi, D. R. 2018. *Supplementary Materials for The spread of true and false news online.* doi:DOI: 10.1126/science.aap9559

Valdenise Martins Laurindo Tuma Calil, V. L. 2020. Guidance on breastfeeding during the Covid-19 pandemic. *REV ASSOC MED BRAS* , 541-546.

