



Early Breastfeeding Initiation, Caesarean Section, And Pre-Lacteal Feeding Practices

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Abstract

Pre-lacteal feeding practices prevalence in Indonesia was 45%. This study's objective was to analyze factors that correlate with pre-lacteal feeding practices in Kedungsari Village, Tarokan District, Kediri Regency. This study was a cross-sectional design with 104 subjects. The subject recruited by total sampling technique was a mother of 6 – 24month-old children who came to Integrated Health Pos (Posyandu) in Kedungsari Village in January 2022. The variables studied included pre-lacteal feeding practices, socio-demographic factors, and birth-related factors. Data analyzed were univariate, bivariate, and multivariate. The bivariate analysis used the Kendall Tau b correlation test, while the multivariate analysis used the multiple logistic regression test. Pre-lacteal feeding practices prevalence among those under 24 months old in Kedungsari Village was 44.2%. History of caesarean section delivery was a risk factor of pre-lacteal feeding practices ($p=0.029$ and $95\%CI=1.140 - 12.226$). Early breastfeeding initiation was a protective factor of pre-lacteal feeding practices ($p=0.036$ and $95\%CI= 0.093 - 0.921$). Only 20.9% of pre-lacteal feeding practices can be predicted by early breastfeeding initiation and history of cesarean delivery, while 79.1% other predicted by factors outside this study. Further research is needed to analyze other factors that contributed to pre-lacteal feeding practices in Kedungsari Village.

Keywords: Pre-Lacteal Feeding Practice; Early Breastfeeding Initiation; Caesarean Section; Human Milk; Breastfeeding

INTRODUCTION

Pre-lacteal feeding practice can be describe as the giving of food/drink other than breastmilk to newborns in the first 3 days of birth (Jimoh et al., 2018; Khanal et al., 2013; World Health Organization (WHO), 2009). Although WHO has recommended that newborns up to 6 months of age should be exclusively breastfeeding, as many as 823.000 children under 5 still do not receive exclusive breastfeeding each year. Of of the reason is due to the pre-lacteal feeding practice (Jones et al., 2014; Victora et al., 2016). Pre-lacteal feeding is one of exclusive breastfeeding practices determinant (Puwanti & Sujono, 2022).

Pre-lacteal feeding practices can also increase the risk of infection and infant mortality (Amele et al., 2019; Legesse et al., 2014). Pre-lacteal feeding practices can reduce the body immunity benefit produced by colostrum. It can also have a negative impact on health status because it can increase the risk of child infection (Central Statistical Agency Ethiopia & MEASURE DHS - ICF Macro, 2011; Meshram et al., 2012; Nguyen et al., 2013). Pre-lacteal feeding practices have been reported that gives 45% contribution to neonatal mortality, 30% mortality caused by diarrhea, and 18% of children mortality caused by Acute Respiratory Infection (Chea & Asefa, 2018; WHO, 2009). Based on recent studies, infants

who are given pre-lacteal food/drink are also more at risk of stunting and wasting (Meshram et al., 2012).

Pre-lacteal feeding are harmful practices to the infant (Legesse et al., 2014). Pre-lacteal feeding practices is a challenge to optimizing breastfeeding and the fulfillment of adequate child nutrition (Hitachi et al., 2019; WHO/UNICEF, 2009). Pre-lacteal feeding can make the child's stomach full and affect the reducing suckling frequency and bonding between mother and baby. This will have an impact on insufficient milk production (Amele et al., 2019; Bililign et al., 2016; Central Statistical Agency Ethiopia & MEASURE DHS - ICF Macro, 2011; Leach et al., 1999; Legesse et al., 2014; Nguyen et al., 2013).

Later studies have reported the risk of pre-lacteal feeding practices such as low maternal education, gestational interval less than 24 months, low Ante Natal Care (ANC), type of delivery, home delivery, and low birth weight (Berde & Ozcebe, 2017; Ibadin et al., 2013; Khanal et al., 2013; Legesse et al., 2014; Teshale et al., 2021). There were also reported that cesarean section type of delivery and early breastfeeding initiation are factors that contributed to pre-lacteal feeding practices (Ogundele et al., 2019; Yalçın et al., 2020). Another study reported that protective factors from pre-lacteal feeding practices were mothers who did not work, mothers who received education regarding Infant and Young Children Feeding Practices (IYCF), and delivery at health facilities (Akello et al., 2021). Studies by Boccolini et al (2015) shows that caesarean section delivery in low socioeconomic families also increases the risk of pre-lacteal feeding practices according to (Boccolini et al., 2015). Other study reports that cesarean section delivery, gender, maternal age, maternal education, and number of

children has a correlation with pre-lacteal feeding practices (Abdel-rahman et al., 2020).

Studies in the Asia Pacific region report that introduction of food/drinks other than breastmilk earlier than WHO recommendations was become the challenge of exclusive breastfeeding (Inoue & Binns, 2014). The practices of pre-lacteal feeding are still a problem that occurs in many developing countries, including Indonesia. A study based on Indonesian Demography and Health Survey (IDHS) 2017 data shows that around 45% infants in Indonesia is given pre-lacteal food/drink with the most given being formula milk (25%). Other study based on IDHS 2017 give information that there was no relationship between residence in rural/ urban areas and the practice of pre-lacteal feeding, but there was a relationship between residency in rural/urban areas and the type of pre-lacteal food given (Purwanti et al., 2022). Factors related to the pre-lacteal feeding practices were wealth quintiles in rural areas, low birth weight, cesarean delivery in public/private facilities, and not having a breastfeeding initiation. Prevalence of Pre-lacteal feeding practices were reported to be lower in mothers with second, third, and subsequent births, and mothers who had undergone ANC (Rahmartani et al., 2020). There are more informations about factor correlate with pre-lacteal feeding practices, but limited study was specific located in rural. In pandemic condition, study about this topic also rarely. Based on the described background, researcher want to analyze the factors related with pre-lacteal feeding practices in Kedungsari Village, Tarokan District, Kediri Regency.

METHOD

The research was a cross-sectional design located in Kedungsari Village, Kediri Regency. The subjects were 104 pair of mothers and children under five which Subjects who were taken by using a total

sampling technique. The inclusion criteria were mothers of children aged 6 - 24 months who came to the Posyandu in Kedungsari Village in January 2022. The independent variables in this study included the type of gender, birth weight, birth length, birth history, mother's characteristic (history of health problems, occupation and education), father's characteristic (occupation and education), and early breastfeeding initiation practice. The dependent variable was the practice of pre-lacteal feeding. Data was collected through interviews with structured questionnaire whose question items were taken from the 2017 IDHS questionnaire (14 question) for related variables. Data processing and analysis were carried out using computer software. The data obtained were analyzed univariate, bivariate, and multivariate. Kendall Tau b was used to correlation test, while the multiple logistic regression test used to the multivariate analysis.

RESULT AND DISCUSSION

Characteristics of research subjects

Pre-lacteal feeding practices prevalence among children under two in Kedungsari Village is 44.2%. This prevalence is almost equivalent to the results of the 2017 IDHS study, which is about 45% of infants in Indonesia are given pre-lacteal food/drink with the most type given is formula milk (25%) (Rahmartani et al., 2020). In line with the result of this study, the most consumed type of pre-lacteal food/beverage was formula milk (Badan Penelitian dan Pengembangan Kesehatan, 2018; Barati et al., 2018; Rahmartani et al., 2020; Rahmawati et al., 2016). However, type of pre-lacteal feeding given is different with study based on IDHS that split on rural and urban setting. The study report that pre-lacteal foods frequently given in rural areas are water, sugar water, honey, and coffee. In the other hand, milk other than breast milk and formula milk is pre-lacteal food frequently given in urban areas (Purwanti et al., 2022).

In this study, formula milk is the most type given. Even though this research was conducted in rural areas, not urban. This can be due to the different research periods so that the distribution of rural and urban in these two studies is less equal to compare.

Pre-lacteal feeding practices were more common in families whose fathers worked as farmers and laborers (75% and 68.8%). Pre-lacteal feeding practices were also more common in families where the father's last education being Elementary School (57.1%). Pre-lacteal feeding practices were the least found in families with higher education of parents (71.4%).

Tabel 1. Characteristics of children and their families based on pre-lacteal feeding practices

No	Variable	Pre-lacteal feeding practices				
		no		yes		
		n	%	n	%	
1	child gender	man	36	55.4%	29	44.6%
		woman	22	56.4%	17	43.6%
2	birth weight category	Normal birth weight ($\geq 2500g$)	55	56.7%	42	43.3%
		Low birth weight ($< 2500g$)	3	42.9%	4	57.1%
		normal	28	51.9%	26	48.1%
3	birth length category	short	19	54.3%	16	45.7%
		no	53	55.2%	43	44.8%
4	mother's history of health problems	yes	5	62.5%	3	37.5%
		no	53	55.2%	43	44.8%
5	mother's occupation	housewife	53	59.6%	36	40.4%
		Private employee	2	33.3%	4	66.7%
		self-employed	0	0.0%	2	100.0%
		teacher	2	66.7%	1	33.3%
		farmer	0	0.0%	1	100.0%
		laborer	1	50.0%	1	50.0%
		student	0	0.0%	1	100.0%
		Elementary school	8	57.1%	6	42.9%
6	mother's education	Junior High School	16	47.1%	18	52.9%
		Senior High School	29	59.2%	20	40.8%
		Higher education	5	71.4%	2	28.6%
		Normal	34	50.7%	33	49.3%
7	Type of delivery	Cesarean section	24	64.9%	13	35.1%
		Private employee	29	63.0%	17	37.0%
8	father's occupation	self-	22	64.7%	12	35.3%

		employed				
		teacher	2	25.0%	6	75.0%
		farmer	5	31.3%	11	68.8%
9	father's education	Elementary school	9	42.9%	12	57.1%
		Junior High School	17	54.8%	14	45.2%
		Senior High School	27	60.0%	18	40.0%
		Higher education	5	71.4%	2	28.6%
10	Early breastfeeding initiation	yes	33	62.3%	20	37.7%
		no	25	49.0%	26	51.0%

Factors correlated to pre-lacteal feeding practices

Based on table 2, factor correlated to the pre-lacteal feeding practices is the father's occupation. Pre-lacteal feeding practices was higher between families with father's occupation as laborers (68.8%) and farmers (75%).

Child characteristics such as gender, birth weight, and birth length did no correlation with pre-lacteal feeding practice. Babies born male or female, low birth weight (LBW)/not, and short or not are related to pre-lacteal feeding practices based on the results of this study. Maternal characteristics such as age, occupation, education, and medical history are also unrelated to pre-lacteal feeding practices. Father education and job doesn't have a significant correlation with pre-lacteal feeding in the multivariate analysis. But, the descriptive test of this study shows that children given pre-lacteal feeding were more common in groups with fathers worked as farmers or laborers and had lower secondary education. It develops a hypothesis that there is the contribution of knowledge and income factors that were not tested in this study.

Almost families with less education and socioeconomic had a minimum knowledge about the importance of exclusive breastfeeding, early breastfeeding initiation, and negative impact of giving pre-lacteal food/drink. It can result in a higher

prevalence of the practices of pre-lacteal feeding. The higher the father's education, the lower of the practices of pre-lacteal feeding (71.4%). When the father has an occupation as a private employee or self-employed, there is more exposure to information and more knowledge related to nutrition and health. So, the practice of pre-lacteal feeding is lower than fathers who work as farmers/laborers.

Table 2. Correlation between characteristics of children and parents with pre-lacteal feeding practices in Kedungsari Village

No	Variable	pre-lacteal feeding practices		
		Correlation Coefficient	P	n
1	child gender	-0.010	0.920	104
2	birth weight	0.119	0.230	104
3	birth length	-0.020	0.849	89
4	Mother's health history	-0.039	0.693	104
5	Mother's age	0.135	0.173	104
6	Mother's occupation	0.184	0.061	104
7	Mother's education	-0.098	0.321	104
8	Type of delivery	-0.136	0.168	104
9	Number of children	0.042	0.670	104
	Number of children under five	-0.058	0.567	101
11	Father's age	0.070	0.479	104
12	father's occupation	0.217*	0.027	104
13	father's education	-0.146	0.139	104
14	Early breastfeeding initiation	0.133	0.177	104

Based on the results of the bivariate tests, it is known that the father's occupation is related to the practice of pre-lacteal feeding. However, multivariate analysis showed that the factors associated with pre-lacteal feeding practices were breastfeeding initiation and history of cesarean delivery. The results of this study are in line with the findings of previous studies in various regions, including Indonesia (Boccolini et al., 2015; Ogundele et al., 2019; Rahmartani et al., 2020; Yalçın et al., 2020).

Table 3. Predictive models of pre-lacteal feeding practices

No	Variabel	B	Sig.	Exp(B)	95% C.I.for Exp(B)	
					Lower	Upper
1	Type of delivery (caesarean section)	1.317	0.029	3.734	1.140	12.226
2	Breastfeeding initiation	- 1.227	0.036	0.293	0.093	0.921

Nagelkerke R Square = 20,9%

The multivariate analysis done by including factors that have a p-value <0.25. The results of multivariate analysis are shown in table 3. Factors that are associated with the pre-lacteal feeding practices are Early Initiation of Breastfeeding (EIBF) and history of delivery. Caesarean section delivery was a risk factor for PLF (p=0.029 and 95% CI=1.140 – 12.226) but EIBF was a protective factor of the pre-lacteal feeding practice (p=0.036 and 95% CI= 0.093 – 0.921).

Early breastfeeding initiation can provide an opportunity between mother and baby for skin-to-skin contact from an early age. This contact can provide comfort for the baby and relaxation for the mother. It will have a good impact on the success of breastfeeding (Tawia et al., 2020). Early breastfeeding initiation is one of 10 keys to successful breastfeeding (World Health Organization (WHO), 2018). Early breastfeeding initiation has been shown to be associated with breast milk production (Pani, 2019). The sooner the early breastfeeding initiation is done, the faster the colostrum will come out and the milk production will run more smoothly (Maryunani, 2012). Smooth milk production will make mothers more confident to breastfeed, so they don't give pre-lacteal food/drink. Therefore, the success of early breastfeeding initiation is related to the non-practice of pre-lacteal feeding (Boccolini et al., 2015; Ogundele

et al., 2019; Peven et al., 2020; Rahmartani et al., 2020; Yalçın et al., 2020; Zarshenas et al., 2019).

On the other hand, if the mother feels anxious or worried that her breast milk is not enough for her baby or lacks knowledge about exclusive breastfeeding and the importance of early breastfeeding initiation can result in pre-lacteal feeding practices. This phenomenon is generally in Indonesia (Berde & Ozcebe, 2017; Khanal et al., 2013). Therefore, mothers who are giving birth for the first time need support and motivation from other to increase breast milk production, successfully breastfeeding practices, and exclusive breastfeeding practices.

History of cesarean delivery was a risk factor of pre-lacteal feeding practices (p=0.029 and 95% CI=1.140 – 12.226). Mother with history of cesarean delivery have 3,734 greater risk to give pre-lacteal feeding than mother with normal delivery. Caesarean section is a risk factor of pre-lacteal feeding practices (Benedict et al., 2018; Berde & Ozcebe, 2017; Nguyen et al., 2013; Rahmartani et al., 2020). Mother with cesarean delivery giving pre-lacteal feeding caused by the pain experienced by the postoperative mother (Albokhary & James, 2014). Pre-lacteal feeding also caused by hormonal influences which make breastmilk production is limited or not smooth, early breastfeeding initiation failure because of postoperative mother and baby condition, and bonding difficulties between mother and baby (Hyde et al., 2012). On the other hand, infant formula promotion by the health system can also play a role (Feeley et al., 2016; Merewood et al., 2008; Pries et al., 2016; Rosenberg et al., 2008; Susiloretni et al., 2019). However, there is no evidence about it in this study. Next studies needed to analyze why delivery in health care facilities in Indonesia does not reduce the risk of giving pre-lacteal feeding practices.

This study found no relationship between the children, father, and mother characteristics and pre-lacteal feeding practices. The coefficient of determination was 20.9% (only 20.9% of pre-lacteal feeding practices predicted by early breastfeeding initiation and history of cesarean delivery). It shows that there were still many contributions (79.1%) from another factor.

CONCLUSION

History of caesarean section delivery was a risk factor ($p=0.029$ and 95% CI= 1.140 – 12.226) but EIBF was a protective factor in the pre-lacteal feeding practices ($p=0.036$ and 95% CI= 0.093 – 0.921). About 20.9% of pre-lacteal feeding practices were predicted by early breastfeeding initiation and history of cesarean delivery, while the other 79.1% predicted by other factors not examined in this study. Further research is needed to analyze other factors that contribute to the practice of pre-lacteal feeding in Kedungsari Village.

REFERENCES

- Abdel-rahman, M. E., El-heneidy, A., Benova, L., & Oakley, L. Early feeding practices and associated factors in Sudan: a cross-sectional analysis from multiple Indicator cluster survey. *International Breastfeeding Journal*. 2020; 7, 1–11.
- Akello, R., Kimuli, D., Okoboi, S., Komuhangi, A., & Izudi, J. Pre-lacteal feeding among infants within the first week of birth in eastern Uganda: evidence from a health facility-based cross-sectional study. *International Breastfeeding Journal*. 2021; 16(77), 1–11. <https://doi.org/https://doi.org/10.1186/s13006-021-00425-w>
- Albokhary, A. A., & James, J. P. Does cesarean section have an impact on the successful initiation of breastfeeding in Saudi Arabia? *Saudi Medical Journal*. 2014; 35(11), 1400–1403.
- Amele, E. A., Demissie, B., & Desta, K. W. Pre-lacteal feeding practice and its associated factors among mothers of children age less than 24 months old in. *Italian Journal of Pediatrics*. 2019; 45(15), 1–8.
- Badan Penelitian dan Pengembangan Kesehatan. *Riset Kesehatan Dasar (Riskesdas) 2018*. 2018; Kementerian Kesehatan RI.
- Barati, Z., Purwestri, R. C., Wirawan, N. N., Beitze, D. E., Srour, L., Moehring, J., & Scherbaum, V. Breastfeeding and complementary feeding practices among children living in a rice surplus area, Central Java, Indonesia. *Nutrition & Food Science*. 2018; 48(4), 589–604. <https://doi.org/10.1108/NFS-07-2017-0144>
- Benedict, R. K., Craig, H. C., Torlesse, H., Stoltzfus, R. J., & Foundation, M. G. *Effectiveness of programmes and interventions to support optimal breastfeeding among children 0 – 23 months , South Asia : A scoping review*. 2018; 14, 1–13. <https://doi.org/10.1111/mcn.12697>
- Berde, A. S., & Ozcebe, H. Risk factors for pre-lacteal feeding in sub-Saharan Africa: A multilevel analysis of population data from twenty-two countries. *Public Health Nutrition*. 2017; 20 (11), 1953–1962. <https://doi.org/10.1017/S1368980017000659>
- Bililign, N., Kumsa, H., Mulugeta, M., & Sisay, Y. Factors associated with pre-lacteal feeding in North Eastern Ethiopia: A community based cross-sectional study. *International Breastfeeding Journal*. 2016; 11(1), 1–7. <https://doi.org/10.1186/s13006-016-0073-x>
- Boccolini, C. S., Pérez-escamilla, R., Regina, E., Giugliani, J., Moraes, P. De, & Boccolini, M. Inequities in Milk-Based Pre-lacteal Feedings in Latin America and the Caribbean : The Role of Cesarean Section Delivery. *Journal of Human Lactation*. 2015; 31(1), 89–98. <https://doi.org/10.1177/0890334414559074>
- Central Statistical Agency Ethiopia, & MEASURE DHS - ICF Macro. Ethiopia Demographic and Health Survey 2011: Preliminary Report. *Edhs*. 2011; 1–29.
- Chea, N., & Asefa, A. Pre-lacteal feeding and associated factors among newborns in rural Sidama, south Ethiopia: A community based cross-sectional survey. *International Breastfeeding Journal*. 2018; 13(1), 1–8. <https://doi.org/10.1186/s13006-018-0149-x>
- Feeley, A. B., Coly, A. N., Yaga, N., Gueye, S., Diop, E. I., Pries, A. M., Champeny, M., Zehner, E. R., & Huffman, S. L. Promotion and consumption of commercially produced foods among children : situation analysis in an urban setting in Senegal. *Maternal and Child Nutrition*. 2016; 12 (Ansd 2015), 64–76. <https://doi.org/10.1111/mcn.12304>
- Hitachi, M., Honda, S., Kaneko, S., & Kamiya, Y. Correlates of exclusive breastfeeding practices in rural and urban Niger: a community-based cross-sectional study. *International Breastfeeding Journal*. 2019; 14(32), 1–9.

- Hyde, M. J., Mostyn, A., Modi, N., & Kemp, P. R. The health implications of birth by Caesarean section. *Biological Reviews*. 2012; 87(1), 229–243. <https://doi.org/https://doi.org/10.1111/j.1469-185X.2011.00195.x>
- Ibadin, O., Ofili, N., Monday, P., & Nwajei, C. Prolactal feeding practices among lactating mothers in Benin City, Nigeria. *Nigerian Journal of Paediatrics*. 2013; 40(2), 139–144. <https://doi.org/10.4314/njp.v40i2.6>
- Inoue, M., & Binns, C. W. *Introducing Solid Foods to Infants in the Asia Pacific Region*. Nutrients. 2014; (6) 276–288. <https://doi.org/10.3390/nu6010276>
- Jimoh, A. O., Adaji, S. E., Adelaiye, H. A., Olorukooba, A. A., Garba, C., Mfuh, A. L., Bawa, U., Idris, S., & Shittu, O. S. Factors associated with prolactal feeding practices in a rural Northern nigerian setting. *South African Journal of Clinical Nutrition*. 2018; 31(2), 13–18. <https://doi.org/10.1080/16070658.2017.1359391>
- Jones, A. D., Ickes, S. B., Smith, L. E., Mbuya, M. N. N., Chasekwa, B., Heidkamp, R. A., Menon, P., Zongrone, A. A., & Stoltzfus, R. J. World Health Organization infant and young child feeding indicators and their associations with child anthropometry: A synthesis of recent findings. *Maternal and Child Nutrition*. 2014; 10(1), 1–17. <https://doi.org/10.1111/mcn.12070>
- Khanal, V., Adhikari, M., Sauer, K., & Zhao, Y. (2013). *Factors associated with the introduction of prolactal feeds in Nepal: findings from the Nepal Demographic and Health Survey 2011*. *International Breastfeeding Journal*. 2013; 8(9), 1–9.
- Leach, A., McArdle, T. F., Banya, W. A., Krubally, O., Greenwood, A. M., Rands, C., Adegbola, R., de Francisco, A., & Greenwood, B. M. Neonatal mortality in a rural area of The Gambia. *Annals of Tropical Paediatrics*. 1999; 19(1), 33–43. <https://doi.org/10.1080/02724939992617>
- Legesse, M., Demena, M., Mesfin, F., & Haile, D. Prolactal feeding practices and associated factors among mothers of children aged less than 24 months in Raya Kobo district, North Eastern Ethiopia: a cross-sectional study. *International Breastfeeding Journal*. 2014; 9(189), 1–8. <https://doi.org/10.1186/s13006-014-0025-2>
- Maryunani, A. *Inisiasi Menyusui Dini: Asi Eksklusif dan Manajemen Laktasi*. Trans Info Media. 2012. 1-229
- Merewood, A., Fonrose, R., Singleton, M., Grossman, X., Navidi, T., Cook, J. T., & Pomales, T. From Maine to Mississippi Hospital Distribution of Formula Sample Packs Along the Eastern Seaboard. *Archives of Pediatrics & Adolescent Medicine*. 2008; 162(9), 823. <https://doi.org/10.1001/archpedi.162.9.823>
- Meshram, I. I., A, L., K, V., & N V, B. G. Impact of feeding and breastfeeding practices on the nutritional status of infants in a district of Andhra Pradesh, India. *The National Medical Journal of India*. 2012; 25(4), 201–206.
- Nguyen, P. H., Keithly, S. C., Nguyen, N. T., Nguyen, T. T., Tran, L. M., & Hajeebhoy, N. Prolactal feeding practices in Vietnam: challenges and associated factors. *BMC Public Health*. 2013; 13(932), 1–11.
- Ogundele, T., Ogundele, O. A., & Adegoke, A. I. Determinants of prolactal feeding practices among mothers of children aged less than 24 months in Ile-Ife Southwest Nigeria: a community cross-sectional study. *Pan African Medical Journal*. 2019; 8688, 1–11. <https://doi.org/10.11604/pamj.2019.34.172.17642>
- Pani, W. *Hubungan Inisiasi Menyusu Dini dan Rawat Gabung dengan Produksi Air Susu Ibu pada Postpartum di RSUD Anutapura Palu*. *Jurnal Bidan Cerdas*. 2019; 1(2), 87–93.
- Peven, K., Purssell, E., Taylor, C., Bick, D., & Lopez, V. K. Breastfeeding support in low and middle-income countries: Secondary analysis of national survey data. *Midwifery*. 2020; 82, 1–12. <https://doi.org/10.1016/j.midw.2019.102601>
- Pries, A. M., Huffman, S. L., Mengkheang, K., Kroeun, H., Champeny, M., Roberts, M., & Zehner, E. Original Article Pervasive promotion of breastmilk substitutes in Phnom Penh, Cambodia, and high usage by mothers for infant and young child feeding. *Maternal and Child Nutrition*. 2016; 12(2), 38–51. <https://doi.org/10.1111/mcn.12271>
- Purwanti, R., Rahadiyanti, A., Kurniawati, D. M., & Irawan, G. C. *Praktik Pemberian Makan Prolakteal di Daerah Urban dan Rural Indonesia: studi data Survei Dasar Kesehatan Indonesia 2017*. *Health Information Journal Penelitian*. 2022; 14(2), 184–199.
- Puwanti, R., & Sujono, M. S. R. Faktor-faktor yang berhubungan dengan praktik pemberian ASI eksklusif pada anak usia 6-24 bulan di masa pandemi Covid-19. *Majalah Kesehatan*. 2022; 9(September), 142–150.
- Rahmartani, L. D., Carson, C., & Quigley, M. A. Prevalence of prolactal feeding and associated risk factors in Indonesia: Evidence from the 2017 Indonesia Demographic Health Survey. *PLoS ONE*. 2020; 15(12 December), 1–19. <https://doi.org/10.1371/journal.pone.0243097>
- Rahmawati, W., Wirawan, N., Nugroho, F. A., & Habibie, Y. *Gambaran Masalah Gizi pada 1000 HPK di Kota dan Kabupaten Malang, Indonesia*. *Indonesian Journal of Human Nutrition*. 2016;

- 3(supl) 3)
<https://doi.org/10.21776/ub.ijhn.2016.003.Suplemen.3>
- Rosenberg, K. D., Eastham, C. A., Kasehagen, L. J., & Alfredo, P. Marketing Infant Formula Through Hospitals : the Impact of Commercial Hospital Discharge Packs on Breastfeeding. *American Journal of Public Health*. 2008; 98(2), 290–295. <https://doi.org/10.2105/AJPH.2006.103218>
- Susiloretzni, K. A., Hadi, H., Blakstad, M. M., Smith, E. R., & Shankar, A. H. Does exclusive breastfeeding relate to the longer duration of breastfeeding? A prospective cohort study. *Midwifery*. 2019; 69, 163–171. <https://doi.org/10.1016/j.midw.2018.11.008>
- Tawia, S., Bailey, C., Mcguire, E., & James, J. Breastfeeding : Australian Breastfeeding Association volunteers are positive deviants in Australian society. *Women and Birth*. 2020; 33(4), e385–e390. <https://doi.org/10.1016/j.wombi.2019.09.001>
- Teshale, A. B., Worku, M. G., & Tessema, Z. T. Prolactal feeding practice and its associated factors among mothers having children less than 2 years of age in East Africa : a multilevel analysis of the recent demographic and health surveys. *International Breastfeeding Journal*. 2021; 16(68), 1–16.
- Victora, C. G., Bahl, R., Barros, A. J. D., França, G. V. A., Horton, S., Krasevec, J., Murch, S., Sankar, M. J., & Walker, N. Breastfeeding in the 21st century : epidemiology , mechanisms , and lifelong effect. *The Lancet*. 2016; 387(january 30), 475–490. [https://doi.org/10.1016/S0140-6736\(15\)01024-7](https://doi.org/10.1016/S0140-6736(15)01024-7)
- WHO/UNICEF. *Baby-friendly hospital initiative : revised, updated and expanded for integrated care. Section 3, Breastfeeding promotion and support in a baby-friendly hospital: A 20-hour course for maternity staff. 2009*
- WHO. *Global Health Risks*. 2009. http://www.who.int/healthinfo/global_burden_disease/GlobalHealthRisks_report_full.pdf
- World Health Organization (WHO). *Infant and young child feeding Model Chapter for textbooks for medical students and allied health professionals*. 2009
- World Health Organization (WHO). *ten-steps-to-successful-breastfeeding*. 2018; <https://www.who.int/nutrition/bfhi/ten-steps/en/>
- Yalçın, S. S., Yalç, S., Çaylan, N., Yalç, S., & Eryurt, M. A. Trends and determinants of prelacteal feeding in Turkey : analysis of 2003 – 2018 demographic and health surveys. *Public Health Nutrition*. 2020; 23(18), 3269–3282. <https://doi.org/10.1017/S1368980020002037>
- Zarshenas, M., Zhao, Y., Binns, C. W., & Scott, J. A. Determinants of in-hospital feeding practices in Shiraz, Iran: Results of a prospective cohort study. *Birth (Berkeley, Calif.)*. 2019; 46(1), 137–145. <https://doi.org/10.1111/birt.12385>