Analysis of the Needs of Breastfeeding Mothers in Workplace

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Abstract: Indonesia's infant and children under-five mortality rate has decreased recently, however, it is still higher than in other Southeast-Asia countries. One strategy to decrease those rates is by increasing the coverage of Exclusive Breastfeeding. The coverage of Exclusive Breastfeeding in Indonesia was 50.67%. However, there were several obstacles for mothers to breastfeed their babies, namely breast problems, lack of knowledge and skill, barriers due to being working mothers, and failure practices in health facilities. Working mothers are usually faced with workloads, no time for expressed breastmilk and no facilities to express/pump and stored the breastmilk in the workplace. The purpose of this study is to know what breastfeeding mothers need in the workplace. This is a descriptive qualitative study with in-depth interviews with employees in a government institution by snowball sampling to find the informants. The main informants are 14 female employees (pregnant, having babies aged 0-6 months, and breastfed). There were 7 triangulation sources (colleagues, superiors and health officers in the institution's health facilities). We did thematic analysis by creating and coding all transcriptions. As a result, 12 informants expressed breastmilk in the workplace, 1 informant expressed breastmilk at home, and 1 informant did not do it because there were no facilities at the office. Informants expressed the breastmilk in their working room, other working rooms which are quieter or not to be used, superior working room, bathroom, kitchen, prayer room dan private car. Some informants stored the breastmilk in the refrigerator, which is available at the office, while others used their cooler bags. Based on the result, the informants expect that the office will provide a lactation room, give permission to express breastmilk between working hours, and having maternity leave, especially for contract workers who did not know exactly about their leave entitlements.

Keywords: Exclusive Breastfeeding, lactation, working mothers, workplace

INTRODUCTION

For preparing future generations for country's development, a country must give special attention to health, especially infant and children's health. The Human Development Index (HDI) is influenced by the under-five child mortality rate per 1000 live births (Azuine et al., 2015). Indonesia's infant mortality rate and under-five mortality rate per 1000 live births declined from 20.84 (in 2018) to 19.5 (in 2020) and from 24.64% (in 2018) to 22.94% (in 2020), respectively (WHO, 2023a, 2023c). Moreover, the coverage of exclusive breastfeeding is increasing year by year with 40.93% in 2012 and 50,57% in 2017 (WHO, 2023b). Even though these indicators have been showing improvements, Indonesia needs to maintain and improve these indicators. Other countries have

better achievements in these indicators. For example, in South Korea, the coverage was 71,4% in 2017 and the infant mortality rate per 1000 live birth was between 2.85 and 2.57 from 2017 until 2020 (WHO, 2023a, 2023b).

The coverage of exclusive breastfeeding is the strongest predictor of infant mortality and under-five mortality rate. The increase of 10% coverage of exclusive breastfeeding gave the effect a decrease of 5 points on under-five children (Azuine et al., 2015; Biks et al., 2015). Furthermore, exclusive breastfeeding could prevent stunting in children from 6 to 59 months old besides other factors such as giving additional food at the appropriate age, vaccination status, and taking dewormed and vitamin A pills (Bukusuba et al., 2017). Due to the situation, the country needs to increase the coverage of exclusive breastfeeding.

There are many factors which affect the success of exclusive breastfeeding. Mothers usually experience several barriers to exclusive breastfeeding. Breastfeeding barriers are from mother, child, health provider, workplace, and promotion. From the mother, the problems are breast problems (e.g., nipple problems, pain), lack of knowledge (perception of insufficient breastmilk, the babies are not satisfied), lack of skill and training about breastfeeding, lack of information, etc. The condition of babies is also a barrier, e.g., when the infant gets ill. While some hospitals sometimes do failure practice giving formula milk to babies. Moreover, the working mother usually faces challenges in the workplace. The challenges are workload, short maternity leave, no break time, and facilities for pumping/expressing and storing the breastmilk. Furthermore, the success of exclusive breastfeeding also faces an onslaught of infant food industry promotion which not suitable with the International Code of Marketing of Breast-Milk Substitute (Abekah-Nkrumah et al., 2020; Bueno-Gutierrez & Chantry, 2015b, 2015a; Gayatri, 2021; Jiravisitkul et al., 2022; Paramashanti et al., 2022; Tejeda et al., 2021).

A study showed that the working mother had less experience in breastfed than the mother who did not (Chen et al., 2019; Gayatri, 2021; Paramashanti et al., 2022). Due to the challenges of the working mother being more than non-working mothers to breastfeed, we did this study to know the working mothers' need for breastfeeding in their workplace for a general purpose.

METHODS

Study design and participants

This was a descriptive qualitative study. Data collection was conducted in a government institution through in-depth interviews. The main informants were 14 employees (pregnant, having babies

aged 0-6 months, and had breastfed). We used snowball sampling to find the informants, because there was no data about the pregnant and breastfed employees. For checking the validity data, we also did interviews with seven triangulation sources (main informants' colleagues, superiors and health officers in the institution's health facilities).

Data collection

We developed three semi-structured guidelines in Bahasa Indonesia (for pregnant employees; employees who have babies aged 0-6 months and had breastfed; and triangulation sources). The guidelines were reviewed by an expert (a lactation counsellor in Asosiasi Ibu Menyusui Indonesia in Central Java Province). The questions were about knowledge about breastfeeding, how to breastfeed directly, express breastmilk (time, location, method), supports needed (from co-workers, superiors), expected office facilities (work leave, work time, place expressing breastmilk, etc.), reasons for giving additional drink/food. We did interviews trial as input for revising the guidelines.

The authors did the recorded interview for about 30-45 minutes/informants and were helped by two research assistants. The assistants were female students of the Public Health science Department, with consideration of informant convenience. The authors also gave training to the assistants before the data collection.

Data Analysis

For analysis, the recordings were transcribed and coded by the authors. The initial codes were from interview guidelines. We did a thematic analysis and checked the data from informants with the triangulation sources.

RESULTS

There were 14 informants, and seven triangulation sources were shown in Table 1 and 2. Based on the result, we divided it into four themes. The result will be described as follow.

Table 1. Study's Informants

Informant (I)	Age	Criteria
1	28	Had breastfed
2	30	Had breastfed
3	26	Having breastfeeding
4	27	Having breastfeeding
5	29	Pregnant and had breastfed
6	30	Having breastfeeding
7	36	Had breastfed
8	28	Had breastfed
9	27	Had breastfed
10	35	Had breastfed
11	29	Pregnant and had breastfed
12	31	Had breastfed and having breastfeeding
13	28	Pregnant
14	-	Had breastfed

Table 2. Triangulation sources

Triangulation sources (TS)	Criteria
1	Superior
2	colleagues
3	colleagues
4	Superior
5	colleagues
6	Superior
7	health officers in the institution's health facilities

Types of food/drinks for babies aged 0-6 months

Eight informants gave only breastmilk to their babies aged 0-6 months. One of them said that she followed by giving infant formula. Five informants gave breastmilk and infant formula to their babies. Two pregnant informants stated that their first child did not get exclusive breastfeeding. Moreover, they said the reason why they gave breastmilk and infant formula and stated that they would do exclusive breastfeeding for the second child. The following are their statements.

"[I will] keep exclusive breastfeeding if I can. The problem is that the first child was already exclusively breastfed but only three months... For the second one, I want to keep exclusive breastfeeding, if [I] possible"

(I11)

"Full breastmilk was two months, then I started working, then there isn't much breastmilk, you know. Finally, I mixed with formula milk [mention the brand]. Plans for a second child, I will try to do exclusive breastfeeding, but I can't make any promises"

(15)

The informants who planned to give breastmilk to their babies (0-6 months) stated that breastmilk has the nutritional contents needed by the babies. Breastfeeding is also an investment for child health and immunity, increasing the bonding of mother and child, and due to the physicians' advice.

The way of serving/giving breastmilk (direct breastfeeding, pumping/expressing, serving) Breastfeeding history

The informants were asked about how they gave breastmilk to their babies. Twelve informants have ever pumped/expressed their breastmilk in the office. Whereas one informant stated that she has never pumped/expressed in the office due to insufficient place, and another said that she never pumped/expressed in the office or at home. Moreover, the triangulation source said that it is better to express in the office.

"Expressed in the office. I did it because (my home is) far. About 45 minutes" (18)

" In the office (the facilities) is not adequate, so I do not express in the office. I expressed after work, usually at night....at 7, before going to work"

(17)

The way of pumping/expressing the breastmilk

A mother can release the breastmilk by hand expressing, pumping using manual and automatic pump. Twelve informants expressed/pumped their breastmilk. Among them, four informants did hand-expressed, eight informants using manual pump, and one informant did these both way.

"to express, I do manual. It is more comfortable, though it needs time to expressed out.. it could be for one hour"

(14)

Location for pumping/expressing the breastmilk

The informants mentioned that they used various locations for pumping/expressing breastmilk. The locations were workroom, friends or superior's, or modified the workroom, e.g. by opening the filing cabinet or under the work table. Besides, the others used the bathroom/toilet, prayer room, kitchen and their car. A triangulation source, a superior of four informants, also supported the statement about modification of the workroom by opening the filing cabinet.

"Wow, that's troublesome, it used to be in finance (department). There is a filing cabinet. You can pull it out... When I was breastfeeding, it wasn't only me. Some finance employees also breastfeed. When I had my first child, a place was made for me by them. They were the ones who managed it. There is a chair, tissue, I only used it"

(I1)

"I made this by myself. At that time, I expressed it in the bathroom. Pumping in the bathroom isn't comfortable.. standing up, it smells too...then in the end, I proposed to make that room. Usually I pumped in this room (a small prayer room). There weren't. After I gave birth, I suggested to create a prayer room so I could pump. Rather than in the toilet, there will be a queue"

(19)

An informant showed confusion due to the location for pumping/expressing the breastmilk. She had an uncomfortable experience using the bathroom. Triangulation sources 2 and 3) agreed with this statement. One informant was fighting for the lactation room for pumping/expressing in her department.

"Frankly speaking, I have no place, I am confuse. My friends recommend to use under the desk, but it was not comfortable. Then I went to the bathroom, but I was uncomfortable, because it had long queue and banged. I only have 15 minutes. (for expressing breastmilk) at least half an hour. Sometimes they shouted. "Is there anyone there?". I am uncomfort. Then, I was not routine, so I am not confident, so I got a little breastmilk"

(18)

"In my own opinion, it is better to go home. The problem is due to inadequate facilities. If in the bathroom, of course, it is not hygienist, even if they go under the desk"

(TS3)

Time for pumping/expressing breastmilk

Based on the interviews, the informants pumped/expressed breastmilk at office between one and three times per day. They pumped/expressed in the morning (9 - 10 am), afternoon (12 – 13 pm) and 15 pm. However, an informant often forget to pump/express breastmilk at office.

The way for saving the breastmilk

The informants saved the pumped breastmilk, especially in the refrigerator/freezer in the office, cooler bag (with ice gel) or at room temperature. The informant stored the pumped breastmilk in the cooling box because of an unrepresentative refrigerator. The respondent who kept the pumped breastmilk at room temperature said she usually goes home as soon as possible (before 6 hours). She did it because she felt uncomfortable saving the breastmilk in a male superior's refrigerator.

"I can only pump at noon. In an open room, breastmilk can sit out for 6 hours. So I am in a hurry to go home. Deliver (breastmilk). I had ice gel. I bought but it leaked. I raced for 6 hours... My friends store it in our boss' fridge. He allowed. But I'm embarrassed because my boss is a man".

(18)

Supports

Supports from colleagues and superior

Several informants obtained support from their colleagues and superiors, whereas the others did not. Informants who did not receive support from colleagues felt that gender affected providing support. Women colleagues gave more support than man colleagues. However, there was also a man superior who supported by allowing for storing the breastmilk in his workroom refrigerator. The superior also approved serving the lactation room in the office.

Supports form

The informants received supports from colleagues and superiors. For example, the superiors asked about baby condition and allowed to pump/express breastmilk when there was no important meeting; the colleagues reminded the informants to pump breastmilk, allowed to store the breastmilk in office refrigerator and gave support and motivation. One of triangulation source (superior of four informants) said as follow.

"If you have time to express, please. as long as it does not interfere with work. Here you can set your own time, for example, when there is no meeting. If there is a meeting, you can arrange it by yourself".

(TS1)

Facility for breastfeeding mothers

Current facility

The result showed that facilities received by the informants were maternity leave. They did not receive other facilities like a lactation room. The maternity leave is for three months (one month before and two months after giving birth or two weeks before and two and half months after giving birth). Moreover, the contract employee did not know about her maternity leave. The office only asked doctor's letter. The employee asked for one month because she needs to do work after that.

"There is no special breastfeeding room. We propose we have a fridge... breastfeeding mothers are facilitated, so after pumping, they can store it" (114)

Expected facility

Based on the interview, most informants asked for a lactation room with some facilities inside. However, the triangulation source thought that lactation rooms are not a permanent necessity.

"There should be a comparison between man and woman. Here are many women. So every period there must be. So we need a lactation room" (15)

"The lactation room has to be comfortable, there has to be an electric socket, and air conditioning so you won't get sweaty. May be a musical instrument provided... while listening to classical music or something to make it comfortable. If you're uncomfortable, your milk won't come out"

(16)

"...If the facility is only temporary, for example, buying the curtains...it's not a problem. But, because not every time I have a friend who breastfeeds. Now there is none either. It means that the need is not permanent".

(TS4)

DISCUSSION

The informants understood the benefit of exclusive breastfeeding. Then, they wanted to breastfeed even though they failed with the first child. The benefits of breastfeeding prevent from infectious disease, stunting, high body mass index, infant and under-five child mortality, increasing better eating practices, beneficial weight gain, better cognitive and behavioural development, and HDI (Abdulla et al., 2022; Azuine et al., 2015; Biks et al., 2015; Bukusuba et al., 2017; Germano Rodrigues Couto, n.d.). Moreover, the result of this study showed that an informant said that her breastmilk was insufficient for her baby. This perception also found in another study (Paramashanti et al., 2022).

One of the barriers for the working mother is the location for expressing/pumping breastmilk. The availability of proper breastfeeding facilities and support programs influenced about 2.62 and 5.93 times more than the office that did not have facilities and programs (Basrowi et al.,

2015). In Indonesia, there is a regulation that offices must provide facilities for breastfeeding workers (Menteri Kesehatan, 2013; Pemerintah Republik Indonesia, 2012). In this study, some informants experienced pumping in the bathroom. Informants in another study experienced the same situation that felt rushed when pumping in the bathroom. They considered the bathrooms unsuitable for pumping locations because of their uncleanness. The same study also found that women who worked in a small environment could pump breastmilk in their working room. This study found the same information as the previous study (Chen et al., 2019). A review study also supported that the comfortable working place for expressing/pumping breastmilk is a crucial factor in the success of exclusive breastfeeding (Vilar-Compte et al., 2021).

The informants said that they require a lactation room with the equipment. Based on the Ministry of Health regulation, an office must provide a permanent lactation room which a minimum of 3x4m2, can be a locked door, and pollution free. The facilities are a table, chair with backrest, sink, refrigerator, ice pack, cooler bag, sterilizer, dispenser, AC/fan, nursing apron/curtain, tissue, etc (Menteri Kesehatan, 2013).

Some informants in this study could save the breastmilk in the refrigerator in the office, while others did not. Supporting from offices like refrigerators and electricity (for electric breast pumps) are needed. The results of this study are the same as another study (Chen et al., 2019). In addition, a study found that informants were concerned about contamination when storing breast milk in the refrigerator, which mixed with other items in the office (Jiravisitkul et al., 2022). In this study, an informant had good knowledge about the durability of breastmilk in a temperature room. Breastmilk could be saved at room temperature (16-29oC) for 4 hours (optimal) until 8 hours (very clean condition); in refrigerator (-4oC) for 4 days (optimal) and 5-8 days (very clean condition); and in freezer (-4oC) for 6 months (optimal) and 12 months is still acceptable (Eglash & Simon, 2017).

This study showed that the informants could pump/express breastmilk about three times in their working time. Additionally, there was support from colleagues and superiors to pump in the work time due to the flexible time in their working place. Another research found that informal employment (e.g. farmers, self-employed) had flexible work time and faced fewer barriers than women who have a night shift (Ahmad et al., 2022; Chen et al., 2019). The different results showed in a study with hospital workers as the informants. The study found that most of the informants had difficulty having a break time for pumping (Jiravisitkul et al., 2022).

Maternity leave brings more possibility for the mother to prolong the duration of breastfeeding. A study found that an informant had a prolonged maternity leave during the COVID-

19 outbreak (Jiravisitkul et al., 2022). Regulation in Indonesia stated that the employee could get 1,5 months of paid maternity leave before and after delivery (Presiden Republik Indonesia, 2003). While in European Union countries, there are maternity, paternity and paternal leave with various lengths and percentages of payment. For example, Estonia gives 4 and 16 weeks for prenatal and postnatal mandatory paid maternity leave, respectively (European Parliament, 2022).

CONCLUSION

Most of the informants expressed breastmilk in the workplace. Two informants expressed breastmilk at home and did not do it because lack of facilities at the office. Informants expressed/pumped the breastmilk in the working room, other working work, superior working room, bathroom, kitchen, prayer room and private car. For storing the breastmilk, they used office refrigerators and cooling bags. Based on the result, the office should provide a lactation room, refrigerator and giving maternity leave for contract workers.

Conflict of Interest

All the authors declare that there is no conflict of interest.

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REFERENCES

- Abdulla, F., Hossain, M. M., Karimuzzaman, M., Ali, M. & Rahman, A. (2022). Likelihood of infectious diseases due to lack of exclusive breastfeeding among infants in Bangladesh. *PLOS ONE*, *17*(2), e0263890. https://doi.org/10.1371/JOURNAL.PONE.0263890
- Abekah-Nkrumah, G., Antwi, M. Y., Nkrumah, J. & Gbagbo, F. Y. (2020). Examining working mothers' experience of exclusive breastfeeding in Ghana. *International Breastfeeding Journal*, *15*(1), 1–10. https://doi.org/10.1186/S13006-020-00300-0/TABLES/1
- Ahmad, R. S., Sulaiman, Z., Nik Hussain, N. H. & Mohd Noor, N. (2022). Working mothers' breastfeeding experience: a phenomenology qualitative approach. *BMC Pregnancy and Childbirth*, 22(1), 1–8. https://doi.org/10.1186/S12884-021-04304-4/TABLES/3
- Azuine, R. E., Murray, J., Alsafi, N. & Singh, G. K. (2015). Exclusive Breastfeeding and Under-Five Mortality, 2006-2014: A Cross-National Analysis of 57 Low- and-Middle Income Countries. *International Journal of MCH and AIDS*, *4*(1), 13. https://doi.org/10.21106/IJMA.52
- Basrowi, R. W., Sulistomo, A. B., Adi, N. P. & Vandenplas, Y. (2015). Benefits of a Dedicated Breastfeeding Facility and Support Program for Exclusive Breastfeeding among Workers in

- Indonesia. *Pediatr Gastroenterol Hepatol Nutr*, 18(2), 94–99. https://doi.org/10.5223/pghn.2015.18.2.94
- Biks, G. A., Berhane, Y., Worku, A. & Gete, Y. K. (2015). Exclusive breast feeding is the strongest predictor of infant survival in Northwest Ethiopia: a longitudinal study. *Journal of Health, Population and Nutrition*, 34(1), 9. https://doi.org/10.1186/s41043-015-0007-z
- Bueno-Gutierrez, D. & Chantry, C. (2015a). "Life does not make it easy to breast-feed": using the socio-ecological framework to determine social breast-feeding obstacles in a low-income population in Tijuana, Mexico. *Public Health Nutrition*, 18(18), 3371–3385. https://doi.org/10.1017/S1368980015000452
- Bueno-Gutierrez, D. & Chantry, C. (2015b). Using the socio-ecological framework to determine breastfeeding obstacles in a low-income population in Tijuana, Mexico: healthcare services. *Breastfeeding Medicine: The Official Journal of the Academy of Breastfeeding Medicine*, 10(2), 124–131. https://doi.org/10.1089/BFM.2014.0109
- Bukusuba, J., Kaaya, A. N. & Atukwase, A. (2017). Predictors of Stunting in Children Aged 6 to 59 Months: A Case–Control Study in Southwest Uganda. *Food and Nutrition Bulletin*, *38*(4), 542–553. https://doi.org/10.1177/0379572117731666
- Chen, J., Xin, T., Gaoshan, J., Li, Q., Zou, K., Tan, S., Cheng, Y., Liu, Y., Chen, J., Wang, H., Mu, Y., Jiang, L. & Tang, K. (2019). The association between work related factors and breastfeeding practices among Chinese working mothers: A mixed-method approach. *International Breastfeeding Journal*, *14*(1), 1–13. https://doi.org/10.1186/S13006-019-0223-Z/TABLES/6
- Eglash, A. & Simon, L. (2017). ABM clinical protocol #8: Human milk storage information for home use for full-term Infants, Revised 2017. In *Breastfeeding Medicine* (Vol. 12, Issue 7, pp. 390–395). Mary Ann Liebert Inc. https://doi.org/10.1089/bfm.2017.29047.aje
- European Parliament. (2022). *Maternity and paternity leave in the EU*. https://www.europarl.europa.eu/RegData/etudes/ATAG/2022/698892/EPRS_ATA(2022)698892_EN.pdf
- Gayatri, M. (2021). Exclusive Breastfeeding Practice in Indonesia: A Population-Based Study. Korean Journal of Family Medicine, 42(5), 395. https://doi.org/10.4082/KJFM.20.0131
- Germano Rodrigues Couto, V. D. I. de J. O. (n.d.). *View of Benefits of exclusive breastfeeding: An integrative review*. Retrieved May 15, 2023, from https://publish.kne-publishing.com/index.php/NPT/article/view/4034/3109
- Jiravisitkul, P., Thonginnetra, S., Kasemlawan, N. & Suntharayuth, T. (2022). Supporting factors and structural barriers in the continuity of breastfeeding in the hospital workplace. *International Breastfeeding Journal*, 17(1), 1–15. https://doi.org/10.1186/S13006-022-00533-1/TABLES/10
- Menteri Kesehatan. (2013). Peraturan Menteri Kesehatan Republik Indonesia Nomor 15 Tahun 2013 Tentang Tata Cara Penyediaan Fasilitas Khusus Menyusui dan/atau Memerah Air Susu Ibu.
- Paramashanti, B. A., Dibley, M. J., Huda, T. M. & Alam, A. (2022). Breastfeeding perceptions and exclusive breastfeeding practices: A qualitative comparative study in rural and urban Central Java, Indonesia. *Appetite*, 170. https://doi.org/10.1016/J.APPET.2021.105907
- Pemerintah Republik Indonesia. (2012). Peraturan Pemerintah Republik Indonesia Nomor 33 Tahun 2012 tentang Pemberian Air Susu Ibu Ekskusif.
- Presiden Republik Indonesia. (2003). Undang-undang Nomor 13 Tahun 2003.
- Tejeda, M. F., De anda, I. & Bueno, D. (2021). Breastfeeding Obstacles at Primary Healthcare Centers in Northern Mexico. *Current Developments in Nutrition*, *5*(Supplement_2), 822–822. https://doi.org/10.1093/CDN/NZAB046_119

- Vilar-Compte, M., Hernández-Cordero, S., Ancira-Moreno, M., Burrola-Méndez, S., Ferre-Eguiluz, I., Omaña, I. & Pérez Navarro, C. (2021). Breastfeeding at the workplace: a systematic review of interventions to improve workplace environments to facilitate breastfeeding among working women. *International Journal for Equity in Health*, 20(1), 1–21. https://doi.org/10.1186/S12939-021-01432-3/TABLES/8
- WHO. (2023a). *Infant mortality rate* (between birth and 11 months per 1000 live births). https://www.who.int/data/gho/data/indicators/indicator-details/GHO/infant-mortality-rate-(probability-of-dying-between-birth-and-age-1-per-1000-live-births)
- WHO. (2023b). Infants exclusively breastfed for the first six months of life (%). https://www.who.int/data/gho/data/indicators/indicator-details/GHO/infants-exclusively-breastfed-for-the-first-six-months-of-life-(-)
- WHO. (2023c). *Under-five mortality rate* (per 1000 live births) (SDG 3.2.1). https://www.who.int/data/gho/data/indicators/indicator-details/GHO/under-five-mortality-rate-(probability-of-dying-by-age-5-per-1000-live-births)