

Simulation-Based Teaching in Increasing Knowledge of Expressed Breast Milk Management in Baby Mothers

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ABSTRACT

Exclusive breastfeeding had many benefits for mothers and babies. Maternal employment was one of the factors that was closely related to the decline in exclusive breastfeeding coverage. Therefore, there was a need for education for mothers of toddlers to continue providing breast milk even though they are working. Objective of this research was to analyze the effect of simulation-based teaching on about the management of expressed breast milk on the mother's knowledge of the baby in Toddler Posyandu in Pelem Village, Bendo Community Health Center. The method was research quantitative. The reasearch was carried out at the Posyandu Balita in Pelem Village, Bendo Community Health Center on Saturday, January, 20th 2024. This activity was attended by 40 mothers of toddlers. There was an influence of health education using the simulation-based teaching method on the mother's knowledge about the management of expressed breast milk with a wilcoxon test result of 0.002.

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INTRODUCTION

Nutrition for babies is one of the important determinants of children's health, with recommendations for breastfeeding as the main nutrition for babies. The World Health Organization (WHO) recommends that babies be breastfed exclusively for six months. Apart from that, babies only receive breast milk from their mother or wet nurse, or expressed breast milk, and no other liquids or solids, except for oral rehydration solutions, drops, or syrups containing vitamins, minerals, supplements, or medicines. first six months after birth (World Health Organization (WHO), 2009). There is evidence in the literature that shows that exclusive breastfeeding provides more benefits regarding the child's current and future health compared to children who have been given additional food and drink. For example, exclusive breastfeeding between six and two years is associated with reduced infant mortality and morbidity rates (Tawiah-Agyemang et al., 2008), (Onah et al., 2014), (Mullany et al., 2008), lower risk of allergic disease, obesity, type II diabetes, hypertension and hypercholesterolemia in later life (Godfrey & Lawrence, 2010). There is also evidence in advanced countries that exclusive breastfeeding protects against gastrointestinal and respiratory infection (Ip et al., 2009). These suggest that optimum growth and evelopment can be ensured through exclusive breastfeeding of infants (Ip et al., 2009). For mothers, exclusive breastfeeding decreases the chance of developing chronic illnesses related to obesity and the development of ovarian and breast cancer (Mullany et al., 2008), as well as postpartum bleeding (Godfrey & Lawrence, 2010). In addition, existing evidence suggests that mothers who exclusively breastfeed their babies are less likely to

develop depressive symptoms (Stuebe et al., 2013).

Although exclusive breastfeeding has been proven to have a positive effect, the coverage of exclusive breastfeeding is still very low. Globally, the coverage of exclusive breastfeeding was 30-50% (Laksono et al., 2021), but was around 35,7% in Indonesia (Laksono et al., 2021), 67% in East Java (*Profil Kesehatan Provinsi Jawa Timur, 2023*), and 59,3% in Kediri District (*Profil Kesehatan Kabupaten Kediri Tahun 2022, 2022*). In developing countries such as India, China, Nigeria, Mexico and Indonesia poor breastfeeding is responsible for >236,000 child deaths every year among children under 5 years of age (InsightIAS, 2017).

Maternal employment is one of the factors that is closely related to the decline in exclusive breastfeeding coverage. Mothers working on a work-from-office (WFO) basis give breast milk to their babies before they are 6 months old as a substitute for breast milk and as a complement to breast milk. WFO working mothers provide breast milk substitutes at the age of 3-4 months because maternity leave has ended. In contrast, WFO working mothers who provide breast milk along with breast milk feel that the breast milk they receive is not enough for the baby's needs. In line with research by Mustika (2017), which concluded that maternal employment factors have a significant impact on exclusive breastfeeding. Working from the office (WFO) is a challenge for breastfeeding mothers because they have to schedule time to express breast milk between working hours. Based on the background above, it is necessary to design counseling/socialization about increasing knowledge and the manner to give EBF.

Objective of this research is to analyze the effect of simulation-based teaching on about the management of expressed breast milk on the mother's knowledge of the baby in Toddler Posyandu in Pelem Village, Bendo Community Health Center.

METHODS

This research is research quantitative. Before being given an intervention simulation-based teaching respondents were given a pretest to measure their knowledge. After that, the respondents were given a posttest to measure knowledge after being given intervention using the simulation-based teaching method. The population in this study is a baby mother at the Toddler Posyandu in Pelem Village, Bendo Community Health Center a total of 40 respondents. This research was conducted in January 2024. A variable in this research is knowledge Mother's knowledge about expressed breast milk management of expressed breast milk. The hypothesis in this research is there are differences in average knowledge before and after being given the intervention using the simulation-based teaching method. The Sig value was obtained. $0.002 < 0.05$, then it can be said that H_0 is rejected and H_1 accepted, which means there are differences significant mean between the pretest and posttest.

RESULTS

Table 1.1 Frequency distribution of respondents' knowledge before and after being given health education about the management of expressed breast milk using the simulation-based teaching method

Knowledge	Pre test		Post test	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Less	0	0	0	0
Enough	22	55	14	35
Good	18	45	26	65
Total	40	100	40	100
Mean	7,30		8,00	
Standard deviation	1,043		1,414	
Statistical test	p = 0.002 <i>Wilcoxon Signed Rank Test</i>			

A total of 22 respondents (55%) had sufficient knowledge and 18 respondents (45%) had good knowledge before receiving health education about breast milk management using the simulation-based teaching method. Respondents with good knowledge increased to 26 (65%) after receiving health education about breast milk management using the simulation-based teaching method. Respondents who expressed concern decreased to 14 (35%) after receiving health education about breast milk management using the simulation-based teaching method, and there were no respondents who lacked knowledge.

The mean value of respondents' knowledge before health education was 7.30 with a standard deviation of 1.043, which increased after being given health education to 8.00 with a standard deviation of 1.414. The results of the Wilcoxon Signed Rank Test showed that the value was $p < \alpha$ ($p = 0.002$), so H_1 was accepted, meaning that health education for breast milk management uses the simulation-based teaching method, influence knowledge about breast milk management.

DISCUSSION

Expressed breast milk management is a procedure for managing breast milk that is obtained by pumping either by hand, manual pump, or electric pump. This is done as a strategy to support the sustainability of the exclusive breastfeeding program. Mothers who know about good management of expressed breast milk will not be confused when imagining a situation where they cannot breastfeed or the baby cannot breastfeed, while breast milk production is still good. Management of expressed breast milk allows mothers to be able to store their breast milk as a breastfeeding reserve for their babies even when faced with conditions that make it impossible.

After maternity leave, giving breast milk to the babies to be continued. Expressed breast milk can be given gradually. Expressed breast milk is obtained by expressing/squeezing breast milk from the breast and then placing it in a glass bottle or other place to be given to the baby. Expressed breast milk is generally given when the mothers are away from the babies for a long time, for example when the mothers go to work. Breast milk can be expressed when the breasts feel full. To make the exclusive breastfeeding program successful for working mothers, adequate conditions are needed in the workplace so that mothers can express breast milk to provide supplies for the baby when they leave work the next day. Even though mothers don't need a large place, mothers need a closed room with a lockable door to express breast milk.

Family support also significantly influences exclusive breastfeeding (Kristina et al., 2019). Parental/family support is the external factor that has the greatest influence on exclusive breastfeeding because family support has a huge influence on the mother's self-confidence. A strong sense of self-confidence and belief in the adequacy of breast milk can provide a positive attitude in providing exclusive breastfeeding (Astuti, 2013). On the other hand, mothers who lack self-confidence tend to have difficulty facing challenges and difficulties in breastfeeding their babies (Fahriani et al., 2016).

Improper breast milk expression procedures will have consequences for the mother and baby, including breast milk not being able to express optimally, milk production decreasing, and swollen breasts. Many mothers do not express themselves properly due to limited rest hours and many special rooms for expressing breast milk are not provided by the company.

Mothers who chose not to continue exclusive breastfeeding before the infant reached 6 months, were deemed to have negative attitudes toward breastfeeding. Their reasons included feeling too shy to breastfeed, especially in public (Osibogun et al., 2018), thinking their milk was insufficient, finding breastfeeding difficult and inconvenient, and failing to breastfeed after trying (AM et al., 2018). Some mothers were worried about their weight gain and needed to adopt a certain diet plan to lose weight. Other mothers cited being busy and occupied with household chores as reasons for not breastfeeding (AM et al., 2018). Therefore, in many cases, mother's attitudes toward breastfeeding were highly dependent on their knowledge of and experience in breastfeeding. Previous studies have shown that the infants of working mothers with a good knowledge of exclusive breastfeeding received only breast milk without any supplements in the first 6 months (Altamimi et al., 2017).

Negative attitudes toward breastfeeding existed because the mothers faced many challenges which was obviously noticed when they had to return to work, such as a lack of support in their workplace; thus, less than 50% were able to exclusively breastfeed once they returned to work (AM et al., 2018). The literature has shown that the practice of exclusive breastfeeding is influenced by the mother's attitude toward and knowledge of breastfeeding, as well as other challenges associated with

the mother.

CONCLUSION

There is an influence of health education using the simulation-based teaching method on the mother's knowledge about the management of expressed breast milk with a wilcoxon test result of 0.002.

REFERENCES

- Altamimi, E., Al Nsour, R., Al Dalaen, D., & Almajali, N. (2017). Knowledge, Attitude, and Practice of Breastfeeding among Working Mothers in South Jordan. *Workplace Health and Safety*, 65(5), 210–218. <https://doi.org/10.1177/2165079916665395>
- AM, E., MK, M., NM, S., ME, E.-R., Ali WH, A., SS, A., EE, E., & A, E.-S. (2018). Knowledge, Attitude and Practice of Breastfeeding Among Working and Non-Working Mothers in Saudi Arabia. *Egyptian Journal of Occupational Medicine*, 42(1), 133–150. <https://doi.org/10.21608/ejom.2018.4944>
- Astuti, I. (2013). Determinan Pemberian ASI Eksklusif Pada Ibu Menyusui. *Health Quality*, 4, 1–76.
- Fahriani, R., Rohsiswatmo, R., & Hendarto, A. (2016). Faktor yang Memengaruhi Pemberian ASI Eksklusif pada Bayi Cukup Bulan yang Dilakukan Inisiasi Menyusu Dini (IMD). *Sari Pediatri*, 15(6), 394. <https://doi.org/10.14238/sp15.6.2014.394-402>
- Godfrey, J. R., & Lawrence, R. A. (2010). Toward optimal health: The maternal benefits of breastfeeding. *Journal of Women's Health*, 19(9), 1597–1602. <https://doi.org/10.1089/jwh.2010.2290>
- InsightIAS. (2017). *Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources* (Issue December, pp. 1–15).
- Ip, S., Chung, M., Raman, G., Trikalinos, T. A., & Lau, J. (2009). A summary of the agency for healthcare research and quality's evidence report on breastfeeding in developed countries. *Breastfeeding Medicine*, 4(SPECIAL ISSUE). <https://doi.org/10.1089/bfm.2009.0050>
- Kristina, E., Syarif, I., & Lestari, Y. (2019). Determinan pemberian Asi Eksklusif pada Ibu Bekerja di Instansi Pemerintah Kabupaten Bungo Provinsi Jambi. *Jurnal Ilmiah Universitas Batanghari Jambi*, 19(1), 71. <https://doi.org/10.33087/jiubj.v19i1.568>
- Laksono, A. D., Wulandari, R. D., Ibad, M., & Kusriani, I. (2021). The effects of mother's education on achieving exclusive breastfeeding in Indonesia. *BMC Public Health*, 21(1), 1–7. <https://doi.org/10.1186/s12889-020-10018-7>
- Mullany, L. C., Joanne, K., Li, Y. M., Khatry, S. K., LeClerq, S. C., Darmstadt, G. L., & Tielsch, J. M. (2008). Breastfeeding Patterns, Time to Initiation, and Mortality Risk among Newborns in Southern Nepal. *National Institute of Health*, 23(1), 1–7. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3624763/pdf/nihms412728.pdf>
- Mustika, I. (2017). Determinan Pemberian ASI Eksklusif pada Ibu Menyusui Tinjauan Sistematis Penelitian Tahun 2011 - 2016. *Journal of Health Science and Prevention*, 1(1), 15–21.
- Onah, S., Osuorah, D. I. C., Ebenebe, J., Ezechukwu, C., Ekwochi, U., & Ndukwu, I. (2014). Infant feeding practices and maternal socio-demographic factors that influence practice of exclusive breastfeeding among mothers in Nnewi South-East Nigeria: A cross-sectional and analytical study. *International Breastfeeding Journal*, 9(1), 1–10. <https://doi.org/10.1186/1746-4358-9-6>
- Osibogun, O. O., Olufunlayo, T. F., & Oyibo, S. O. (2018). Knowledge, attitude and support for exclusive breastfeeding among bankers in Mainland Local Government in Lagos State, Nigeria. *International Breastfeeding Journal*, 13(1), 1–7. <https://doi.org/10.1186/s13006-018-0182-9>
- Profil Kesehatan Kabupaten Kediri Tahun 2022*. (2022).
- Profil Kesehatan Provinsi Jawa Timur*. (2023). WWW.DINKES.JATIMPROV.GO.ID

- Stuebe, A. M., Grewen, K., & Meltzer-Brody, S. (2013). Association between maternal mood and oxytocin response to breastfeeding. *Journal of Women's Health*, 22(4), 352–361. <https://doi.org/10.1089/jwh.2012.3768>
- Tawiah-Agyemang, C., Kirkwood, B. R., Edmond, K., Bazzano, A., & Hill, Z. (2008). Early initiation of breast-feeding in Ghana: Barriers and facilitators. *Journal of Perinatology*, 28, S46–S52. <https://doi.org/10.1038/jp.2008.173>
- World Health Organization (WHO). (2009). *Infant and Young Child Feeding: Model Chapter for textbooks for medical students and allied health professionals*. WHO Press. https://doi.org/10.5005/jp/books/11894_132