Section A-Research paper

EFFICACY OF LACTATION-ENHANCING TREATMENTS IN BREASTFEEDING MOTHERS USING POMA VIDEO

Anita Anita[1]*, Nurlaili Ramli[1], Nuswatul Khaira[2]

[1] Lecturer of Midwifery Study Program, Politeknik Kesehatan Aceh, Kementerian Kesehatan, Aceh Besar, Aceh, 23231, Indonesia

[2] Lecturer of Nursing Study Program, Politeknik Kesehatan Aceh, Kementerian Kesehatan, Aceh Besar, Aceh, 23231, Indonesia

Email : anita@poltekkesaceh.ac.id

ABSTRACT

The coverage of exclusive breastfeeding in Aceh 2021 is recorded at 66.6 percent, which is still below the national target of 80 percent. The low coverage of breast milk is a serious problem. Low knowledge, lack of family support, and promotion of formula milk are considered obstacles to increasing the coverage. One of the innovations to improve the implementation of exclusive breastfeeding is breastfeeding education through videos. Video development can be applied to pregnant and postpartum women. this study aims to determine the efficacy of lactation-enhancing treatments in breastfeeding mothers using POMA Video. This type of research is an experimental design with a quasi-experimental design with a nonequivalent control group design approach. The sample was pregnant women with gestational age above 36 weeks according to the inclusion and exclusion criteria; the sample's technique was accidental sampling with a selection of 35 women in the treatment group and 35 women in the control group. Data analysis using univariate analysis, bivariate with Chi-Square statistical test ($\chi 2$). The provision of video POMA is effective for exclusive breastfeeding for 1 month to infants in Darul Imarah District (p-value = 0.004). The use of Video Poma was 4.3 times more effective for exclusive breastfeeding mothers for one month in Darul Imarah District. among the mothers who received the POMA video, 74.3% still breastfeed their babies exclusively for one month, and 40% of the mothers who received the leaflet still breastfeed their babies exclusively for one month. Using POMA Video is effective in improving lactation-enhancing treatments for breastfeeding mothers.

Keywords: lactation-enhancing treatments, breastfeeding, POMA Video

INTRODUCTION

Through the Ministry of Health, the Indonesian government has introduced exclusive breastfeeding for 6 months as one of its nutrition improvement programs for infants and young children [1]. The World Health Organization (WHO) and UNICEF have also recommended exclusive breastfeeding programs for infants up to six months of age [2,3]. Exclusive breastfeeding during the first six months of life stimulates the infant's immune system and protects against diarrhea and acute respiratory infections [4,5]. According to the Ministry of Health's Basic Health Research (Riskesdas) 2018 data, the national breastfeeding rate is about 37.3%. However, during the COVID-19 pandemic, breastfeeding rates decreased in Indonesia [6]. Riskesdas 2021 data stated

that only half of the 2.3 million babies aged less than six months were exclusively breastfed, which is a 12% decrease from 2019 [7]. Meanwhile, Early Initiation of Breastfeeding decreased from 58.2% in 2019 to 48.6% in 2021. The Ministry of Health reported an increase in exclusive breastfeeding rates in Aceh from 62.81% in 2019 to 66.6% in 2021. Breastfeeding can protect children from diseases such as diarrhea, pneumonia, and reduce their risk of obesity [8,9,10]. Additionally, increased breastfeeding can save over 820,000 children per year [11]. Compared to formula-fed infants, breastfed infants have lower rates of diarrhea [12], respiratory disease [13], acute otitis media [14], and urinary tract infections [15]. The failure of breastfeeding can be caused by factors related to the mother's and baby's condition [16]. Other factors that contribute to breastfeeding failure include delayed initiation, inexperienced mothers, parity, age, lack of support, insufficient knowledge, sociocultural factors, and hospital policies that do not support lactation [17-19]. Nutritional status before pregnancy, during pregnancy, and breastfeeding also plays a role in breastfeeding failure [20]. Maternal body fat mobilization during breastfeeding leads to the utilization of maternal fat stores with lower nutritional content than normal fat stores [21]. The use of audiovisual videos as a promotional tool has been found to be effective in increasing exclusive breastfeeding rates. The development of communication and information technology has made it easier to disseminate information about the benefits of exclusive breastfeeding [22-24]. Multimedia, especially videos, are effective tools for teaching and learning. The use of proportional multimedia videos can facilitate the learning process of exclusive breastfeeding promotion [25]. A study found that educational videos did not affect the duration of breastfeeding or exclusive breastfeeding in low-income women but can be a useful component of a comprehensive program to promote breastfeeding [26]. This study aims to evaluate the efficacy of lactation-enhancing treatments for breastfeeding mothers using POMA video.

`MATERIALS AND METHOD

The type of research conducted is quasi-experimental (quasi-experimental). Quasi-experimental research is the least research that can be done in research where one condition can be manipulated, while in other conditions it is considered constant and also differences in conditions or variables can be measured. This means that in the experimental group condition, not all variables can be controlled by the researcher. This study uses a Non-Equivalent Post-Test Only Control Group Design. The experimental design used 2 groups. The experimental group received special treatment, which was given a POMA video. This was done to see the differences in the control and experimental groups, especially in the aspect of knowledge given the post-test. However, the control group was only given leaflets. The general design of this study is shown in figure1.

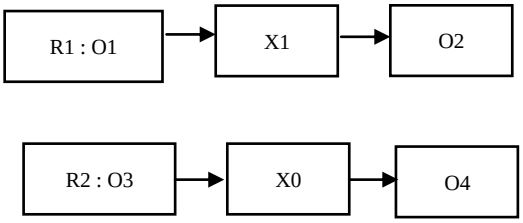

Figure1 Research Design scheme

Notes:

R: Treatment Group

X: Giving Intervention

O: Post test in the treatment group

This research was conducted in Darul Imarah District from July to October which consisted of 32 villages. The population in this study were all pregnant women in Darul Imarah District. While the sample is third-trimester pregnant women who meet the inclusion and exclusion criteria. The inclusion criteria were: pregnant women with a gestational age of 36 weeks, willing to be research subjects by signing informed consent, babies born vaginally, and having a normal birth weight (2500-4000gram). Meanwhile, the exclusion criteria were that the mother had certain anatomical abnormalities/diseases so that she could not breastfeed her baby. babies are born with certain anatomical abnormalities/diseases so that they cannot breastfeed their mothers and cannot be analyzed until the baby is 1 month old due to the death of the mother/infant or suffering from certain diseases. The sample size in this study was 70 people, 35 people in the Poma video group and 35 people in the leaflet group. The sampling technique used was accidental sampling.

The independent variable in this study was the use of POMA videos in pregnant women's classes which were defined as activities carried out in pregnant women's classes to motivate mothers to give exclusive breastfeeding through Poma videos using Android phones in the treatment group, the control group was given leaflets containing information about exclusive breastfeeding. While the dependent variable is exclusive breastfeeding which is defined as the behavior of breastfeeding only from babies born without providing additional fluids or food except for medicines, vitamins, and minerals until the baby is 1 month old. Statistical analysis was performed to analyze univariate and bivariate data. Bivariate analysis to determine the relationship between the dependent variable and the independent variable using the chi-square test, with RR (95% Cl).

RESULTS

Data were collected in two (2) groups, namely the intervention group who received Video Poma and the control group who received leaflets. The results of data collection can be seen in the following table:

Table 1. Characteristics of Respondents based on age, parity, education, occupation and exclusive breastfeeding for 1 month in Darul Imarah District

Characteristics	Intervension Group (n=35)		Control Group (n=35)		(n=70)	
	F	%	f	%	F	%
Age						
Risk	11	31,4	19	54,3	30	42,8
No Risk	24	68,6	16	45,7	40	57,1
Parity						
Primigravida	13	7,1	11	31,4	24	34,3
Multigravida	22	62,9	24	68,6	46	65,7
Work						
Housewife	32	91,4	0	85,7	52	88,6
civil servant	2	5,7	2	5,7	4	5,7
Private employees	1	2,9	2	5,7	3	4,3
Businessman	0	0	1	2,9	1	1,4
Last Education		0				
No school	0	5,7	0	0	0	0
Primary school	2	14,3	1	2,9	3	4,3
Junior High School	5	62,9	4	11,4	9	12,9
Senior High School	22	17,1	17	48,6	39	55,7

College	6		13	37,1	18	27,1
1 Month Exclusive Breastfeeding						
Yes	26	74,3	14	40	40	57,1
Not breastfeed	9	25,7	21	60	30	42,9

Based on table 1, the results show that the majority of respondents' age in the non-risk category is 57.1%, parity of multigravida mothers is 65.7%, the majority of mothers work as Housewife is 88.6%. The majority of respondents' last education is senior high school by 55.7%. and the majority of respondents gave exclusive breastfeeding of 57.1% in both treatment groups.

Table 2. Bivariate test results research on the effectiveness of Poma videos in the class of pregnant women on exclusive breastfeeding in Darul Imarah District

Characteristics	Intervension Group (n=35)		Control Group (n=35)		X^2	*P-Value*	RR	CI 95%
	f	%	f	%				
Excusive Breastfeeding								
Yes	26	74,3	14	40	8,4	0,004	4,3	1,57-11,96
Not	9	25,7	21	60				

Table 2 shows that exclusive breastfeeding is 4.3 times more effective for mothers who received Video POMA compared to mothers who received information through Leaflet

DISCUSSIONS

The provision of POMA videos was found to be effective in promoting exclusive breastfeeding for infants up to one month in Darul Imarah District (p value = 0.004). Mothers who received the POMA videos were 4.3 times more likely to exclusively breastfeed compared to those who received information through leaflets. The intervention significantly increased the mothers' knowledge about the importance of exclusive breastfeeding for their children. This study showed that health education using videos was highly effective in teaching mothers about proper breastfeeding techniques, expressing and storing breast milk, and supporting exclusive breastfeeding. Videos are a more engaging medium that help respondents better absorb information. Additionally, the convenience of being able to review the education provided through cellphones anytime further enhances the accessibility of the information. The study is consistent with previous research that shows that exclusive breastfeeding is 1.80 times more likely for mothers who attend classes for pregnant women compared to those who do not [28]. Furthermore, providing POMA videos and lactation consultants was found to increase the proportion of mothers who exclusively breastfed for three months by 2.60 times and decrease it at six months by 2.40 times [29]. In Singapore, using a 16-minute breastfeeding video accompanied by 15 minutes of counseling by a lactation counselor during the prenatal period resulted in increased exclusive breastfeeding and breastfeeding for up to six weeks to six months postpartum [30]. YouTube videos that provide information on breastfeeding have also shown to be effective in promoting breastfeeding, although their usage is limited to patients [31]. Educational videos played by real players were found to be more effective in changing patient behavior than graphically or verbally designed videos [32].

Finally, behavioral interventions evaluated at 30-34 weeks of gestation and 40 days postpartum have demonstrated a significant increase in knowledge, attitudes, subjective norms, intentions, and breastfeeding behavior. Several studies have been conducted to evaluate the effectiveness of using video to improve mothers' breastfeeding skills and knowledge. A 2017 study published in the BMC Pregnancy and Childbirth journal evaluated the use of video among mothers in Bangladesh. The results showed that mothers who received the video intervention had better knowledge and skills in breastfeeding compared to the control group. Another study published in the International Journal of Nursing Practice in 2019 evaluated the use of video in improving the knowledge and skills of mothers in Indonesia to provide exclusive breastfeeding for the first 6 months[33]. The results showed that mothers who received the video intervention had better knowledge and longer duration of exclusive breastfeeding compared to the control group.

However, there are also several studies that show different results regarding the effectiveness of using video in improving breastfeeding skills and the duration of exclusive breastfeeding. A study conducted in India in 2016 found that although video can increase mothers' knowledge about breastfeeding, there was no significant difference in the duration of exclusive breastfeeding between the intervention and control groups [34]. In this regard, it is important to remember that the use of video is only one of many strategies that can be used to improve breastfeeding skills and the duration of exclusive breastfeedingv[35]. Social support from family and healthcare providers, holistic breastfeeding education, and supportive environments are also important in promoting optimal breastfeeding practices. The effectiveness of using video to improve breastfeeding skills and the duration of exclusive breastfeeding may vary depending on other factors such as social support, maternal knowledge and perception of breastfeeding, as well as biological and environmental factors. Therefore, the use of video should be combined with other strategies such as social support and holistic breastfeeding education.

CONCLUSION

Using POMA Video is effective in improving lactation-enhancing treatments for breastfeeding mothers. The use of Video Poma was 4.3 times more effective for exclusive breastfeeding mothers for one month in Darul Imarah District. Among the mothers who received the POMA video, 74.3% still breastfeed their babies exclusively for one month, and 40% of the mothers who received the booklet still breastfeed their babies exclusively for one month. In this regard, it is important to remember that the use of video is only one of many strategies that can be used to improve breastfeeding skills and the duration of exclusive breastfeeding. Social support from family and healthcare providers, holistic breastfeeding education, and supportive environments are also important in promoting optimal breastfeeding practices.

CONFLICT OF INTEREST

The author declares no conflict of interest

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REFERENCES

1. Laksono, A. D., Wulandari, R. D., Ibad, M., & Kusrini, I. (2021). The effects of mother's education on achieving exclusive breastfeeding in Indonesia. BMC Public Health, 21(1), 1–6. https://doi.org/10.1186/s12889-020-10018-7 PMID: 33402139

2. World Health Organization, & United Nations Children's Fund. (2018, April 11). WHO and UNICEF issue new guidance to promote breastfeeding in health facilities globally [Press release]. Retrieved from https://www.who.int/news/item/11-04-2018-who-and-unicef-issue-new-guidance-to-promote-breastfeeding-in-health-facilities-globally
3. UNICEF Data. (n.d.). Breastfeeding: A mother's gift, for every child. Retrieved November 23, 2022, from https://data.unicef.org/resources/breastfeeding-a-mothers-gift-for-every-child/
4. Paramashanti, B. A., Hadi, H., & Alit Gunawan, I. M. (2016). Timely initiation of breastfeeding is associated with the practice of exclusive breastfeeding in Indonesia. Asia Pacific Journal of Clinical Nutrition, 25(Suppl 1), S52–S56. https://doi.org/10.6133/apjcn.072015.supp1.ob.17 PMID: 28027632
5. Basrowi, R. W., Sastroasmoro, S., Sulistomo, A. W., Bardosono, S., Hendarto, A., Soemarko, D. S., Sungkar, A., Khoe, L. C., & Vandenplas, Y. (2018). Challenges and Supports of Breastfeeding at Workplace in Indonesia. Pediatric Gastroenterology, Hepatology & Nutrition, 21(4), 248. https://doi.org/10.5223/pghn.2018.21.4.248 PMID: 30345237
6. Badan Penelitian dan Pengembangan Kesehatan. (n.d.). Laporan Hasil Riset Kesehatan Dasar (Riskesdas). Retrieved November 23, 2022, from https://www.litbang.kemkes.go.id/laporan-riset-kesehatan-dasar-riskesdas/
7. Institute for Health Metrics and Evaluation. (2018). Indonesia Basic Health Research 2018 [Data set]. Global Health Data Exchange. https://doi.org/10.34688/gydx-p574
8. North, K., Gao, M., Allen, G., & Lee, A. C. (2022). Breastfeeding in a Global Context: Epidemiology, Impact, and Future Directions. Clinical Therapeutics, 44(2), 228–244. https://doi.org/10.1016/j.clinthera.2022.01.009 PMID: 34973827World Health Organization. The Case for Investing in Public Health A Public Health Summary Report for EPHO 8. Denmark: Phoenix Design Aid. (2020)
9. Walters, D. D., Phan, L. T. H., & Mathisen, R. (2019). The cost of not breastfeeding: global results from a new tool. Health Policy and Planning, 34(6), 407-417. https://doi.org/10.1093/heapol/czz050
10. Siregar, A. Y. M., Pitriyan, P., & Walters, D. (2018). The annual cost of not breastfeeding in Indonesia: The economic burden of treating diarrhea and respiratory disease among children (< 24mo) due to not breastfeeding according to recommendation. International Breastfeeding Journal, 13(1), 1-10. https://doi.org/10.1186/s13006-018-0152-2
11. Gupta, A., Suri, S., Dadhich, J. P., Trejos, M., & Nalubanga, B. (2019). The World Breastfeeding Trends Initiative: Implementation of the Global Strategy for Infant and Young Child Feeding in 84 countries. Journal of Public Health Policy, 40(1), 35-65. https://doi.org/10.1057/s41271-018-00169-y
12. 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., Horta, B., Maia, F., de Mola, C. L., Hajeebhoy, N., Lutter, C., Piwoz, E., Martines, J. C., & Richter, L. (2016). Breastfeeding in the 21st century: Epidemiology, mechanisms, and lifelong effect. The Lancet, 387(10017), 475-490. https://doi.org/10.1016/S0140-6736(15)01024-7
13. Kramer, M. S., & Kakuma, R. (2012). Optimal duration of exclusive breastfeeding. Cochrane Database of Systematic Reviews, (8). https://doi.org/10.1002/14651858.cd003517.pub2
14. Bowatte, G., Tham, R., Allen, K., Tan, D., Lau, M., Dai, X., & Lodge, C. (2015). Breastfeeding and childhood acute otitis media: A systematic review and meta-analysis. Acta Paediatrica, 104(467), 85-95. https://doi.org/10.1111/apa.13128
15. Huang, P., Yao, J., Liu, X., & Luo, B. (2019). Individualized intervention to improve rates of exclusive breastfeeding: A randomized controlled trial. Medicine, 98(47), e18190. https://doi.org/10.1097/md.0000000000018190

16. Riaz A, Bhamani S, Ahmed S, Umrani F, Jakhro S, Qureshi AK, Ali SA. (2022). Barriers and facilitators to exclusive breastfeeding in rural Pakistan: a qualitative exploratory study. International Breastfeeding Journal, 17(1). https://doi.org/10.1186/s13006-022-00415-9 PMID: 3598633
17. Stuebe, A. (2009). The Risks of Not Breastfeeding for Mothers and Infants. Reviews in Obstetrics & Gynecology, 2(4), 222-231. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2812877/ PMID: 20111658
18. Lawrence, R. M. (2011). Transmission of Infectious Diseases Through Breast Milk and Breastfeeding. Clinics in Perinatology, 38(2), 433-+. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7152307/
19. Chan, S. M., Nelson, E. A. S., Leung, S. S. F., & Li, C. Y. (2000). Breastfeeding failure in a longitudinal post-partum maternal nutrition study in Hong Kong. Journal of Paediatrics and Child Health, 36(5), 466-471. https://pubmed.ncbi.nlm.nih.gov/11036803/ PMID: 11036803
20. Shofiya, D., Sumarmi, S., & Ahmed, F. (2020). Nutritional status, family income and early breastfeeding initiation as determinants to successful exclusive breastfeeding. Journal of Public Health Research, 9(2), 110-112. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7376458/ PMID: 32728560
21. Maharlouei, N., Pourhaghighi, A., Shahraki, H. R., Zohoori, D., & Lankarani, K. B. (2018). Factors Affecting Exclusive Breastfeeding, Using Adaptive LASSO Regression. International Journal of Community Based Nursing and Midwifery, 6(3), 260-269. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6048001/ PMID: 30035142
22. Ghiasi, A. (2019). Health information needs, sources of information, and barriers to accessing health information among pregnant women: A systematic review of research. BMC Pregnancy and Childbirth, 19(1), 1-11. https://doi.org/10.1080/14767058.2019.1634685
23. Vogels-Broeke, M., Daemers, D., Budé, L., de Vries, R., & Nieuwenhuijze, M. (2022). Sources of information used by women during pregnancy and the perceived quality. BMC Pregnancy and Childbirth, 22(1), 1-12. https://doi.org/10.1186/s12884-022-04422-7
24. Grimes, H. A., Forster, D. A., & Newton, M. S. (2014). Sources of information used by women during pregnancy to meet their information needs. Midwifery, 30(1), 63-70. https://doi.org/10.1016/j.midw.2013.07.001
25. Kellams, A. L., Gurka, K. K., Hornsby, P. P., Drake, E., & Conaway, M. R. (2018). A randomized trial of prenatal video education to improve breastfeeding among low-income women. Breastfeeding Medicine, 13(10), 666-673. https://doi.org/10.1089/bfm.2018.0115
26. McLeod, K., Waller, J., & Wyatt, T. R. (2021). Using videos to teach medical learners how to address common breastfeeding problems. MedEdPORTAL, 17, 11136. https://doi.org/10.15766/mep_2374-8265.11136
27. Lumbiganon, P., Martis, R., Laopaiboon, M., Festin, M. R., Ho, J. J., & Hakimi, M. (2016). Antenatal breastfeeding education for increasing breastfeeding duration. Cochrane Database of Systematic Reviews, (12), CD006425. https://doi.org/10.1002/14651858.CD006425.pub4
28. Kedokteran Masyarakat, B., Andayani, D., Emilia, O., Ismail, D., Biostatistik, D., Kesehatan Populasi dan, Kedokteran F., & Gadjah Mada U. (2017). Peran kelas ibu hamil terhadap pemberian ASI Eksklusif di Gunung Kidul. Berita Kedokteran Masyarakat, 33(7), 317-324. https://doi.org/10.22146/bkm.18048
29. Jeihooni, A. K., Kashfi, S. M., & Harsini, P. A. (2019). Impact of an educational intervention on breastfeeding behaviour among pregnant women. British Journal of Midwifery, 27(1), 33-42. https://doi.org/10.12968/bjom.2019.27.1.33
30. Su, L. L., Chong, Y. S., Chan, Y. H., Chan, Y. S., Fok, D., Tun, K. T., Ng, F. S. P., & Rauff, M. (2007). Antenatal education and postnatal support strategies for improving rates of exclusive breast

feeding: Randomised controlled trial. BMJ, 335(7620), 596-599. https://doi.org/10.1136/bmj.39279.656343.55

31. Orbatu, D., Karaca, S. Y., Alaygut, D., & Karaca, I. (2021). Educational features of YouTube videos depicting breastfeeding: Quality, utility, and reliability analysis. Breastfeed Med, 16(8), 635-639.
32. Abu Abed, M., Himmel, W., Vormfelde, S., & Koschack, J. (2014). Video-assisted patient education to modify behavior: A systematic review. Patient Educ Couns, 97(1), 16-22. https://doi.org/10.1016/j.pec.2014.06.016
33. Khanal, V., Sauer, K., Zhao, Y., & Binns, C. W. (2017). Video intervention improves breastfeeding in Bangladesh. BMC Pregnancy and Childbirth, 17(1), 274.
34. Purwanto, D., Rachmawati, I. N., & Yuniarti, T. (2019). The Effect of Exclusive Breastfeeding Video on the Duration of Exclusive Breastfeeding and Breastfeeding Knowledge of Indonesian Mothers. International Journal of Nursing Practice, 25(3), e12718.
35. Joglekar, R. R., Meshram, I. I., Lohiya, A. G., Mundhe, R. S., & Singh, R. B. (2016). The effectiveness of breastfeeding video on maternal breastfeeding knowledge and exclusive breastfeeding duration in the first six weeks of life. The Journal of the Association of Physicians of India, 64(12), 28-32.