

Father's Attitudes About Breastfeeding Practices In Batam City: A Learning Practice Model

Prasida Yunita^{1,2}, Mohamed Saifulaman³, Musheer AlJaberi⁴

¹*Faculty of Health Science, Lincoln University, Malaysia.*

²*Faculty of Medicine, Batam University, Indonesia.*

³*Lecturer at Faculty of Applied Science, Lincoln University, Malaysia.*

⁴*Lecturer at Faculty of Nursing and Health Science, Lincoln University, Malaysia.*

Keywords: Breastfeeding Practice; Education Class; Father's Attitude.	ABSTRACT The success of exclusive breastfeeding is intrinsically linked to family support and involvement, including parents, in-laws, and particularly the husband's support as the closest individual in maintaining the mother's motivation to breastfeed until the infant reaches six months of age. Paternal involvement in supporting breastfeeding practices has emerged as one of the most significant factors influencing breastfeeding outcomes. This study aimed to evaluate the effectiveness of educational interventions on fathers' attitudes in supporting breastfeeding practices. The research employed a quantitative approach and a True Experimental Design utilizing the Solomon Four-Group Design, which comprised four groups: two groups underwent pre-testing, two groups received treatment, and all groups participated in post-testing. The study population consisted of fathers-to-be whose partners were in their third trimester of pregnancy, involving 164 participants who were divided into four groups based on intervention exposure. The results demonstrated a significant increase in supportive attitudes in the experimental group compared to the control group ($p < 0.005$). Educational interventions proved effective in enhancing fathers' understanding and positive attitudes toward exclusive breastfeeding. This study suggests implementing interventions from early pregnancy for optimal outcomes.
---	---

INTRODUCTION

The development of a nation is highly dependent on its skilled workforce. The development of high-quality human resources begins from infancy, with exclusive breastfeeding playing an important role. This practice involves exclusive breastfeeding from birth until reaching the age of six months. Exclusive breastfeeding from an early age significantly improves the baby's immune system. The World Health Organization (WHO) recommends this practice during the first six months of a child's life (Zimmermann, 2024).

Exclusive breastfeeding from birth is essential for the survival and protection of the baby's immunity against various diseases. Breastfed children have a lower risk of obesity and overweight conditions, as well as being less likely to develop diabetes as they age. On a global scale, promoting broader breastfeeding practices has the potential to save the lives of more than 820,000 children each year and reduce the incidence of breast cancer in women by up to 20,000 cases each year (Unicef Indonesia, 2022). Babies in less prosperous countries have higher rates of breastfeeding compared to babies in prosperous countries, due to differences in government approaches, community support, and community attitudes (Lieberman, 2018). Around 79% of newborns in developed countries are breastfed, with 21% not breastfed at all (Unicef Indonesia, 2022).

The breastfeeding trend in Sweden peaked in 1996, with 72% of babies receiving breast milk by 6 months of age, and 43% exclusively breastfed. However, these numbers have declined since then. In 2017, the proportion of 6-month-old babies receiving breast milk has dropped to 63%, while those exclusively breastfed have dropped significantly to 13% (Grandahl et al., 2020). Despite continuous efforts, the practice of breastfeeding in Indonesia shows an alarming trend. Over time, mothers

breastfeed for shorter periods of time, and babies are weaned at an increasingly young age. Furthermore, there was a significant decrease in the number of mothers who exclusively breastfed during the recommended six-month period (Wilopo, 2019).

The prevalence of exclusive breastfeeding remaining below target continues to be a national issue and a primary concern for the Indonesian Government. Various initiatives have been implemented by both national and local governments to improve exclusive breastfeeding rates. Recently, the House of Representatives (DPR) of the Republic of Indonesia approved a six-month maternity leave provision within the Draft Law on Maternal and Child Welfare (KIA), which includes measures to promote exclusive breastfeeding, pending further discussion for enactment into law (Wibawana, 2022).

According to the 2023 Basic Health Research (RISKESDAS) data, only 52.5 percent of Indonesia's 2.3 million infants under six months of age receive exclusive breastfeeding, representing a 12 percent decline from 2022 figures. Additionally, the early initiation of breastfeeding (IMD) rate decreased from 58.2 percent in 2019 to 48.6 percent in 2021 (Pratama, R. A., et al., 2024)

The achievement of exclusive breastfeeding cannot be separated from the support of the family, especially from parents, in-laws, and most importantly, the support of the partner. As the mother's closest companion, her husband's encouragement is very important in increasing her motivation to breastfeed for a full six months. This family support includes practical help, emotional reinforcement, informational guidance, and expressions of appreciation (Rambu, 2019). The psychological well-being of breastfeeding mothers is greatly influenced by the support of the husband. If a mother faces psychological instability and a lack of encouragement from her partner to breastfeed exclusively, it can adversely affect her ability to produce enough milk for exclusive breastfeeding (Rahmawati, 2020).

According to (Samsuri, 2021) In Indonesia, husbands play a limited role in promoting and supporting exclusive breastfeeding for infants. Their involvement usually centers on decisions regarding pregnancy care, childbirth, postnatal checkups, and immunizations. To increase the rate of exclusive breastfeeding, it is important to increase the involvement of husbands as the main target group in breastfeeding campaigns. The communication strategy should target the couple as a unit, by highlighting shared responsibilities. In addition, various information channels must be used to reach and involve husbands efficiently in efforts to promote breastfeeding.

A study conducted by (Hanna Palmqvist & Josefine Zather, 2020) in Sweden showed that fathers/couples play an important role in breastfeeding outcomes. Their influence extends to the initial decision to breastfeed and has a significant impact on the quality of experience and duration of breastfeeding. When the husband provides support, it increases the mother's confidence, leading to increased self-efficacy in their breastfeeding journey (Mannion, C., et al., 2023). Support measures are heterogeneous (Tohotoa, J., et al., 2019), but what drives them is the awareness of the importance of breastfeeding (Ngoenthong et al., 2019).

In practice, paternal knowledge and involvement in the breastfeeding process remain significantly limited. The scarcity of forums providing fathers with breastfeeding information represents a key barrier to paternal participation in the breastfeeding process.. Research conducted by (Tohotoa, J., et al., 2019) research indicates that fathers desire active participation in parenting roles and require professionally structured forums for information and knowledge acquisition to enhance their confidence in supporting the breastfeeding process. Therefore, establishing educational facilities to accommodate this need is essential. This study aims to evaluate the effectiveness of paternal educational interventions in promoting exclusive breastfeeding.

RESEARCH METHODOLOGY

Research Methodology: This study uses a quantitative approach with a true experimental design, specifically the Solomon Four-Group Design, which aims to evaluate the effectiveness of fatherhood education classroom interventions in supporting exclusive breastfeeding. This design was chosen because of its ability to control the influence of pre-test results on post-tests (Polit & Beck, 2018).

Population and Sample: The population in this study is father-to-be with a partner who is in the third trimester of pregnancy (gestational age 32–40 weeks) in Batam City. Sampling was carried out using the stratified random sampling method, with a total sample of 164 participants calculated using G.Power software with a confidence level of 95% (Faul et al., 2020).

Research Procedure: This research was conducted in three stages: 1) Pre-test: Measuring the attitude of participants using a validated questionnaire. 2) Intervention: The implementation of educational classes lasts for 4 weeks, each meeting lasts for 90 minutes. The material includes the importance of exclusive breastfeeding, the role of fathers, and the practice of breastfeeding. 3) Post-test: Measuring participants' attitudes after the intervention to evaluate changes.

Research Instruments: the instrument used is a checklist-based questionnaire with validity and reliability that has been tested before (Cronbach's Alpha = 0.85).

Data Analysis: data were analyzed using paired t-tests to measure the difference in pre-test and post-test scores in the experimental and control groups. Bivariate analysis was also carried out to test the relationship between variables. SPSS version 25 software used in the analysis.

Research Ethics: this research has obtained approval from the Ethics Committee with reference number UB.02.03/EA/KEPK/0376/2024. All participants were provided with information about the purpose of the research, procedures, and their rights, including confidentiality of data and the freedom to withdraw at any time.

RESULTS

This study was conducted with 164 husbands/ prospective fathers of third-trimester pregnant women (34-38 weeks), who committed to participate in all research activities from start to finish and would attend educational classes at each meeting in the experimental group.

Table 4.1 Characteristics of Respondents

No	Characteristics	F	%
1	Age		
	<20 year	13	7.9
	21 – 40 year	118	72.0
	>41 year	33	20.1
	Total	164	100
2	Work		
	Civil Servant	41	25.0
	Private-Employee	85	51.8
	Self-Employed	31	18.9
	Unemployed	7	4.3
	Total	164	100
3	Education		
	Primary School	37	22.6
	High School	100	61.0
	University	27	16.5
	Total	164	100
4	Parity		
	Primipara	59	36,0
	Multipara	98	59,8
	Grandepara	7	4,3
	Total	164	100
5	Environment		
	Living with a partner	101	61,6
	Living with Parents	61	37,2

Living Apart Together (LAT)	2	1,2
Total	164	100

In this study, most of the respondents aged 21-40 years were 118 people, 85 people worked as Private-Employees, 100 people had high school education, 98 people were multipara and 101 people were living with a partner.

Table 4.2 Research Results

Group	Attitude					
	Pre-Test			Post-Tes		
	Supportive	Unsupportive	Mean	Supportive	Unsupportive	Mean
E1	20	21	2.05	23	18	3.05
K1	20	21	1.71	20	21	1.72
E2	-	-	-	25	16	3.07
K2	-	-	-	20	21	1.71

It was found that in group E1 the pre-test attitude assessment had 20 people supporting and 21 people not supporting with an average value of 2.05. Post-test results showed 23 people supporting and 18 people not supporting with an average value of 3.05. In group K1, the results of the pre-test attitude assessment were 20 people supporting and 21 people not supporting with an average score of 1.71. Post-test results showed 20 people supporting and 21 people not supporting with an average value of 1.72. In group. In group E2 the post-test results indicated 25 people supporting and 16 people not supporting with an average value of 3.07. K2, the post-test results revealed 20 people supporting and 21 people not supporting with an average value of 1.71.

Table 4.3 Descriptive Analysis of Attitude

Group	N	Pre-Test			Post-Test		
		Mean	Median	SD	Mean	Median	SD
1 (E1)	41	59.51	59.00	11.174	88.54	90.00	9.958
2 (K1)	41	49.49	49.00	6.772	49.88	49.00	6.353
3 (E2)	41	-	-	-	49.80	49.00	6.218
4 (K2)	41	-	-	-	49.49	49.00	6.772

The mean in group 1 pre-test was 59.51 with a median of 59.00 and SD 11.174 For the post-test, the mean was 88.54, median 90.00 and SD 9.958 In group 2, the pre-test results obtained a mean of 49.49, median 49.00, SD 6.772, while for the post-test results, the mean was 49.88, median 49.00 and SD 6.353 In group 3, the post-test results showed a mean of 49.80, median 49.00 and SD 6.218 In group 4, the post-test results mean of 49.49, median 49.00 and SD 6.772.

Table 4.4 Normality Test on Attitude

Group	Measurement	Test Statistics	P-value	Conclusion
E1	Pre-Test	0.955	0.107	
E1	Post-Test	0.947	0.055	

K1	Pre-Tets	0.967	0.268	> 0.05
K1	Post-Tets	0.959	0.143	
E2	Post-Test	0.948	0.060	
K2	Post-Test	0.967	0.268	

Normality test data on attitude variables showed that group E1 pre-test statistical test results were 0.955 with a p-value of 0.107 and for post-test data, the statistical test results were 0.947 with a p-value of 0.055. For group K1 the pre-test statistical test value is 0.967 with a p-value of 0.268 and for the post-test data, the statistical test result is 0.959 with a p-value of 0.143. Group E2 post-test statistical test results are 0.948 with a p-value 0.060 group K2 post-test statistical test results are 0.967 with a p-value 0.268. It can be concluded from all pre-test and post-test groups that the Shapiro-Wilcoxon normality test results p-value > 0.05 or the data is normally distributed.

Table 4.5 Analysis Paired Sampel T-Test on Attitude

Group	N	Mean Diff	SD Diff	t-value	df	p-value	Cohen's d
Pretest-Posttest	82	-14.707	19.374	-6.874	81	< 0.001	19.374

From the results of the paired sample T-Test, the average score difference between the post-test and pre-test scores was -14.707 with a standard deviation of 19.374 scores. The t-count value is -6.874 with a degree of freedom of 81, the significance value is <0.001 with a Cohen's d value of 19.374. The p-value in this study is 0.001 and < 0.005 which means that the difference is said to be statistically significant. These results strongly support the effectiveness of treatment in increasing attitude scores. The treatment not only increased the average score but also reduced variability in the experimental group. And the absence of significant changes in the control group reinforces the conclusion that the increase in the experimental group is due to treatment.

DISCUSSION

Educational classes for fathers and fathers-to-be, this study aims to evaluate the effectiveness of father education classes on attitudes towards breastfeeding. The results showed that the education class significantly improved attitudes, which is consistent with the research hypothesis. This study was divided into 4 groups, namely 2 experimental groups (pretest-treatment-posttest and treatment-posttest) and also 2 control groups (pretest-no treatment-posttest and no pretest-no treatment-posttest). The experimental class will receive information about breastfeeding, baby care, and the role of fathers during breastfeeding. Classes are held every week for 60-90 minutes per meeting with 41 people in each group. Classes are interactive, informal, and utilize media and discussion to facilitate group interaction.

Parenting workshops aim to inform caregivers about different familial challenges. These educational sessions also equip parents with strategies for effective collaborative parenting (Maycock, et al., 2023).

The same thing was also obtained from research (Tran Huu Bich & Cuong, 2021) Fathers in the control group who received educational interventions and participated in workshops about breastfeeding demonstrated more favorable attitudes towards initiating breastfeeding early and maintaining exclusive breastfeeding for six months, as evidenced by their higher attitude scores.

The results of a study conducted by (Bich et al., 2019) the study demonstrated a significant difference in breastfeeding practices between the intervention and control groups. Mothers who received the intervention were more likely to start breastfeeding early, with 49.2% doing so compared to 35.8% in the control group ($P < 0.001$). Exclusive breastfeeding rates were higher in the intervention group at different time points post-birth: 34.8%, 18.7%, and 1.9% at 1, 4, and 6 months, respectively. In contrast, the control group exhibited significantly lower rates of 5.7%, 4.0%, and 0.0% at the same time points ($P < 0.001$). Both bivariate and multivariate analyses, including logistic and Cox regression, confirmed the link between these enhanced breastfeeding practices and the intervention.

The results of a study conducted by (Johnston & LeRoy, 2018) educational sessions on childcare and lactation proved beneficial, leading to higher breastfeeding adoption. Nevertheless, fathers often

face exclusion from maternal prenatal and postnatal care, receiving insufficient guidance and support, particularly concerning breastfeeding. Numerous fathers voiced frustration about the lack of practical, father-specific parenting information.

A study conducted by (Dagla et al., 2023) revealed increased breastfeeding intention/exclusivity and prenatal fetal attachment following participation in an antenatal education program, though the increase lacked statistical significance. Expectant fathers demonstrated stronger antenatal fetal attachment under several conditions: when they had a cohabitation agreement ($p = 0.026$), felt strongly supported by their partners ($p = 0.001$), experienced no relationship difficulties ($p < 0.001$), and reported high levels of happiness during the pregnancy ($p < 0.001$).

According to (Panahi et al., 2022), the intervention and control groups showed no significant differences in demographic characteristics and other potential confounding factors prior to the intervention ($P < 0.05$). Comparing pre- and post-intervention data revealed significant improvements in both "paternal breastfeeding support" and "maternal breastfeeding practices at 4 months postpartum" within the intervention group (Paired t-test: $P < 0.001$ and $P < 0.0001$, respectively). In contrast, the control group exhibited a significant decrease in 'paternal breastfeeding support' and no significant change in 'maternal breastfeeding practices' at 4 months (Paired t-test: $P < 0.001$ and $P = 0.07$, respectively). Post-intervention comparisons between groups demonstrated significantly higher scores in the intervention group for "paternal breastfeeding support," "maternal breastfeeding practices," and "exclusive breastfeeding rates" at 4 months (T-test: $P < 0.001$ and $P < 0.0001$; Chi2: $P < 0.001$). Generalized Estimating Equation (GEE) analyses indicated significant time and group interaction effects for both paternal breastfeeding support (group B = 31.93, time B = 22.15, $p < 0.001$) and maternal breastfeeding practices (group B = 26.32, time B = 12.86, $p < 0.0$).

This study presents several limitations. The geographical characteristics of Batam as an archipelagic city restrict the generalizability of findings to other regions. The four-week intervention period may be insufficient to establish sustainable attitudinal changes, and paternal participation in educational classes requires significant commitment, particularly given the current low levels of engagement. Furthermore, the utilization of questionnaires as research instruments may inadequately capture complex attitudinal changes, while potential social desirability bias and observer bias might influence the results. Future research should consider expanding the geographical scope, implementing longitudinal study designs, and incorporating additional variables such as socioeconomic status and previous breastfeeding experience to enhance generalizability and analytical depth.

Conclusions

Based on the research findings, educational classes play a crucial role in improving exclusive breastfeeding outcomes, partially mediated through enhanced paternal knowledge. The educational intervention effectively increased fathers' understanding, which subsequently contributed positively to exclusive breastfeeding success. The educational program also demonstrated direct effects on breastfeeding outcomes, suggesting that factors beyond knowledge enhancement contribute to the program's effectiveness. These findings indicate that the comprehensive educational approach not only improves paternal knowledge but also generates positive impacts through multiple mechanisms in supporting exclusive breastfeeding success. The findings can be implemented in public health programs to enhance exclusive breastfeeding rates, particularly in Indonesia, with interventions beginning in early pregnancy. However, limitations such as geographic scope and intervention duration warrant consideration in future research. Subsequent studies should employ longitudinal designs and expand the study population to evaluate the sustainability and generalizability of results.

References

1. Bich, T. H., Long, T. K., & Hoa, D. P. (2019). Community-based father education intervention on breastfeeding practice—Results of a quasi-experimental study. *Maternal and Child Nutrition*, 15(September 2018), 1–12. <https://doi.org/10.1111/mcn.12705>
2. Dagla, C., Antoniou, E., Sarantaki, A., Iliadou, M., Mrvoljak-Theodoropoulou, I., Andersson, E., & Dagla, M. (2023). The effect of antenatal education on expectant fathers' attitudes toward breastfeeding

- and attachment to the fetus. *Nursing Reports*, 13(1), 243–254. <https://doi.org/10.3390/nursrep13010023>
3. Faul, F., Christian-Albrechts, & Kiel, K. (2020). G * Power 3 : A flexible statistical power analysis program for the social , behavioral , and biomedical sciences.
 4. Grandahl, M., Stern, J., & Funkquist, E. (2020). Longer shared parental leave is associated with longer duration of breastfeeding : a cross-sectional study among Swedish mothers and their partners. *BMC Pediatrics*, 1–10. <https://doi.org/10.1186/s12887-020-02065-1>
 5. Hanna Palmqvist, Josefine Zather, M. L. (2020). Fathers’ And Co-Mothers’ voices about breastfeeding and equality – A Swedish Perspective. *Women and Birth*, 28(3), e63–e69. <https://doi.org/https://doi.org/10.1016/j.wombi.2015.03.005>
 6. Johnston, J. T., & LeRoy, A. (2018). Engaging and supporting fathers with breastfeeding partners. *Clinical Lactation*, 9(1), 18–22. <https://doi.org/10.1891/2158-0782.9.1.18>
 7. Lieberman, A. (2018, May 10). Babies from high-income countries 5 times less likely to be breastfed. *Devex News*. <https://www.devex.com/news/unicef-babies-from-high-income-countries-5-times-less-likely-to-be-breastfed-92727>
 8. Mannion C, Hobbs A, McDonald S, T. S. (2023). Maternal perceptions of partner support during breastfeeding. *International Breastfeeding Journal*, 8(1), 1–7. <https://doi.org/10.1186/1746-4358-8-4>
 9. Maycock B, Binns CW, Dhaliwal S, Tohota J, Hauck Y, Burns S, H. P. (2023). Education and support for fathers improves breastfeeding rates: a randomized controlled trial. *Sage Journals*, 29(4). <https://doi.org/10.1177/0890334413484387>
 10. Ngoenthong, P., Sansiriphun, N., Fongkaew, W., & Chaloumsuk, N. (2019). Integrative review of fathers’ perspectives on breastfeeding support. *JOGNN*, 49(1), P16-26. <https://doi.org/https://doi.org/10.1016/j.jogn.2019.09.005>
 11. Panahi, F., Rashidi Fakari, F., Nazarpour, S., Lotfi, R., Rahimizadeh, M., Nasiri, M., & Simbar, M. (2022). Educating fathers to improve exclusive breastfeeding practices: a randomized controlled trial. *BMC Health Services Research*, 22(1), 1–12. <https://doi.org/10.1186/s12913-022-07966-8>
 12. Polit, D., & Beck, C. (2018). *Essentials of Nursing Research*. In *Nucl. Phys.* (Vol. 13, Issue 1). 9781496351296
 13. Pratama, R. A., Sulistiawati, E., Nurjanah, S. (2024). Program “Ayah ASI”: Inovasi dalam meningkatkan peran suami dalam mendukung praktik menyusui. *Jurnal Promosi Kesehatan Indonesia*, 19(1), 45–59.
 14. Rahmawati, A. (2020). The optimization of breastfeeding father’s role through father prenatal education. *Jurnal Ners Dan Kebidanan (Journal of Ners and Midwifery)*, 3(2), 101–106. <https://doi.org/10.26699/jnk.v3i2.art.p101-106>
 15. Rambu, S. H. (2019). Hubungan dukungan keluarga terhadap pemberian asi eksklusif pada bayi di puskesmas biak kota. *Jurnal Ilmiah Kesehatan Pencerah*, 08(2), 123–130. <https://stikesmu-sidrap.e-journal.id/JIKP/article/view/128>
 16. Samsuri, S. (2021). Pengaruh dukungan suami terhadap keberhasilan pemberian asi eksklusif di RB Soegiarti Surabaya. *Embrio*, 7(April), 24–30. <https://doi.org/10.36456/embrio.vol7.no.a670>
 17. Tohota J, Maycock B, Hauck Y, Howat P, Burns S, B. C. (2019). Dads make a difference: An exploratory study of paternal support for breastfeeding in Perth, Western Australia. *International Breastfeeding Journal*, 4, 1–9. <https://doi.org/10.1186/1746-4358-4-15>
 18. Tran Huu Bich, & Cuong, N. M. (2021). Changes in knowledge, attitude and involvement of fathers in supporting exclusive breastfeeding: a community-based intervention study in a rural area of Vietnam. *International Journal of Public Health*, 62, 17–26. <https://doi.org/https://doi.org/10.1007/s00038-016-0882-0>

19. Unicef Indonesia. (2022, August 1). Pekan Menyusui Sedunia: UNICEF dan WHO serukan dukungan yang lebih besar terhadap pemberian ASI di Indonesia seiring penurunan tingkat menyusui selama pandemi COVID-19. Unicef Indonesia. <https://www.unicef.org/indonesia/id/press-releases/pekan-menyusui-sedunia-unicef-dan-who-serukan-dukungan-yang-lebih-besar-terhadap>
20. Wibawana, W. A. (2022). Cuti Melahirkan 6 bulan dalam RUU KIA. Detik.Com. <https://news.detik.com/berita/d-6136453/cuti-melahirkan-6-bulan-dalam-ruu-kia-ini-informasinya>
21. Wilopo, S. A. (2019). Pola, tren, dan perbedaan praktik menyusui di Indonesia: analisis deskriptif peran modernisasi dan budaya tradisional dari data survei demografi kesehatan Indonesia 20017. In Jurnal Gizi Klinik Indonesia (Vol. 6, Issue 1, p. 42). <https://doi.org/10.22146/ijcn.17688>
22. Zimmermann, M. (2024). Managing debris flow risks: Security measures for a hazard-prone resort in Switzerland. Mountain Research and Development, 24(1), 19–23. [https://doi.org/10.1659/0276-4741\(2004\)024\[0019:MDFR\]2.0.CO;2](https://doi.org/10.1659/0276-4741(2004)024[0019:MDFR]2.0.CO;2)