

The Relationship Between Maternal Childbirth Experience and the Success of Early Initiation of Breastfeeding: Biological Perspectives and Implications for Student Learning in Postpartum Mothers

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Abstract: The success of early initiation of breastfeeding (EIBF) is influenced by maternal childbirth experience, which significantly impacts postpartum mothers' ability to implement appropriate breastfeeding practices. Primiparous mothers are often at a greater disadvantage due to their limited prior experience and lack of understanding about the importance of early breastfeeding initiation. This study aims to examine the relationship between maternal childbirth experience and the success of EIBF, with a focus on the physiological aspects of lactation and its implications for health science education. Quantitative design with an analytical cross-sectional approach was employed. Primary data were collected using questionnaires, and statistical analyses were conducted with univariate and bivariate tests using the Chi-Square method in SPSS version 26.0. The results showed that the majority of respondents were multiparous (56.7%, n=17), while 43.3% (n=13) were primiparous. The Chi-Square test yielded a p-value of 0.027 (<0.05), indicating a significant association between maternal childbirth experience and the success of EIBF. These findings suggest that primiparous mothers face more challenges in initiating breastfeeding early due to a lack of prior experience. However, participation in antenatal care (ANC) and pregnancy classes can improve knowledge and skills, thus enhancing the likelihood of successful EIBF implementation. This research contributes to the field of health science education by highlighting the importance of understanding lactation physiology and increasing postpartum mothers' scientific literacy, which can be applied in both health practice and education.

Keywords: Childbirth Experience; Early Initiation of Breastfeeding; Health Science Education; Lactation Physiology; Postpartum Mothers

Introduction

Early Initiation of Breastfeeding (EIBF) is defined as placing the newborn on the mother's chest or abdomen immediately after birth, allowing skin-to-skin contact and enabling the infant to initiate breastfeeding naturally within the first hour of life. This practice provides significant health benefits for both the mother and the child ((WHO) & (UNICEF), 2021). For infants,

EIBF reduces neonatal mortality by up to 22% due to the intake of colostrum, which is rich in antibodies and essential nutrients (World Health Organization, 2020). For mothers, the stimulation of oxytocin release during EIBF accelerates uterine contraction, facilitates placental expulsion, and reduces the risk of postpartum hemorrhage (Mawaddah, 2020).

Despite its well-documented benefits, global coverage of EIBF remains below the World Health

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Organization (WHO) target of 50% by 2025. In Europe, for instance, only about 25% of infants are exclusively breastfed for the first six months, which is substantially lower than the global recommendation (World Health Organization, 2023). In Indonesia, national data show gradual improvements. According to the Ministry of Health, the national coverage of EIBF increased from 47.4% in 2021 to 58.1% in 2022 (Kemenkes RI, 2023). Regional data further highlight disparities, with West Java Province achieving 88.8% in 2022, ranging from 100% in Depok City to 74.4% in Kuningan District (Dinas Kesehatan Provinsi Jawa Barat, 2023).

Maternal childbirth experience, including parity, is recognized as an important determinant of successful EIBF (Hasibuan, 2024). Multiparous mothers generally have greater knowledge and skills in breastfeeding compared to primiparous mothers, whose lack of prior experience often results in lower confidence and higher failure rates in initiating breastfeeding (Khoiriyah & Revita, 2019). Empirical studies also indicate a significant association between parity and the implementation of EIBF, with p-values consistently below 0.05, suggesting childbirth experience as a key influencing factor (Wilda, 2024).

In addition to maternal experience, the physiological mechanisms underlying breastfeeding are central to understanding its success. The release of hormones such as oxytocin and prolactin plays a crucial role in stimulating milk production and facilitating breastfeeding initiation (Kementerian Kesehatan Republik Indonesia, 2023). These biological processes are vital to the EIBF practice, which can be better understood and promoted through health science education. An understanding of these mechanisms enhances not only the practical skills of mothers but also their scientific literacy regarding the importance of breastfeeding, contributing to more informed decision-making during the postpartum period (Kementerian Kesehatan Republik Indonesia, 2019).

A preliminary survey conducted revealed that among ten postpartum mothers interviewed, 60% of those with prior childbirth experience successfully practiced EIBF, while 40% of first-time mothers did not, primarily due to physical exhaustion and limited knowledge (Mastina, 2021). These findings underscore the potential role of maternal childbirth experience in shaping the success of EIBF, as well as the importance of scientific literacy in maternal health practices (Sembiring, 2024).

This study aims to examine the association between maternal childbirth experience and the success of early initiation of breastfeeding among postpartum mothers, emphasizing the role of health science literacy and the biological mechanisms involved in EIBF (Sugiyono, 2021). By integrating physiological knowledge into

maternal education, this research seeks to contribute to the broader field of health science education, with a focus on improving breastfeeding outcomes through a deeper understanding of lactation physiology.

Method

Study Design

This study employed a quantitative analytical design with a cross-sectional approach, aiming to examine the association between maternal childbirth experience and the success of early initiation of breastfeeding (EIBF) among postpartum mothers.

Variables

Independent variable: Maternal childbirth experience (parity). Dependent variable: Success of early initiation of breastfeeding (EIBF).

Population and Sample

The study population comprised all postpartum mothers who delivered at the Community Health Center during the study period ($n = 30$). Given the relatively small population size (<100), a total sampling technique was applied, resulting in a sample size equal to the population ($n = 30$).

Data Collection

Primary data were collected through structured questionnaires distributed to eligible respondents. Prior to data collection, researchers obtained approval from the health center and secured informed consent from all participants. The questionnaire assessed maternal childbirth experience (parity) and the implementation of EIBF.

The indicators of EIBF success were clearly defined in the questionnaire, which included factors such as:

1. Timeliness of breastfeeding initiation (whether breastfeeding was initiated within the first hour of birth).
2. Skin-to-skin contact (whether the baby was placed on the mother's chest immediately after birth).
3. Frequency of breastfeeding during the first 24 hours (whether the infant breastfed within the first 24 hours after birth).

These indicators were used to assess the successful implementation of EIBF.

Instrument Testing

A pilot test was conducted on 10 respondents with similar characteristics to the study sample. Instrument validity was assessed using the Pearson product-moment correlation, with items considered valid when $r_{\text{count}} > r_{\text{table}}$ at a significance level of 0.05.

Reliability testing employed Cronbach’s Alpha, with values ≥ 0.70 indicating acceptable reliability.

Research Ethics

The research procedure followed the ethical standards of the Helsinki Declaration and was accepted by the ethical committee of the affiliated university (III/0123/KEPK/STIKEP/PPNI/JABAR/2025). All patients signed an informed consent form and were informed that they had the right to withdraw from the study at any point and for any reason. All the information was anonymized.

Data Processing and Analysis

Data were analyzed using SPSS version 26. Descriptive statistics, including frequencies and percentages, were used to summarize respondents’ demographic characteristics, childbirth experience, and early initiation of breastfeeding (EIBF) implementation. The association between maternal childbirth experience (independent variable) and EIBF success (dependent variable) was examined using the Chi-Square test. Odds ratios (OR) with 95% confidence intervals (CI) were calculated to estimate the strength of association. A p-value of <0.05 was considered statistically significant.

Result and Discussion

This section presents the findings from the study regarding the association between maternal childbirth experience and the success of Early Initiation of Breastfeeding (EIBF) among postpartum mothers. The results are summarized in two tables.

Table 1 provides a distribution of maternal childbirth experience (primiparous vs. multiparous) and the implementation of EIBF, highlighting the overall success and failure rates of EIBF among the participants.

Table 1. Distribution of Maternal Childbirth Experience and EIBF Implementation among Postpartum Mothers

Variable	n	%
Childbirth Experience		
Primiparous (no prior childbirth)	13	43.3
Multiparous (previous childbirth)	17	56.7
EIBF Implementation		
Unsuccessful	16	53.3
Successful	14	46.7

Table 1 shows that the distribution of maternal childbirth experience and early initiation of breastfeeding (EIBF) implementation among postpartum mothers. In terms of childbirth experience, the majority of respondents were multiparous (56.7%, $n=17$), while 43.3% ($n=13$) were primiparous. Regarding EIBF implementation, 53.3% ($n=16$) of the mothers experienced unsuccessful EIBF, while 46.7% ($n=14$) succeeded in implementing EIBF.

Table 2 further explores the association between maternal childbirth experience and EIBF success using statistical analysis. The Chi-Square test is employed to assess the significance of the relationship, while the Odds Ratio (OR) and 95% confidence intervals (CI) offer insight into the strength of this association. Together, these results illustrate the impact of maternal childbirth experience on the likelihood of successful early initiation of breastfeeding and provide insights into the potential factors that influence this practice.

Table 2. Association between Maternal Childbirth Experience and EIBF Success among Postpartum Mothers

Childbirth Experience	EIBF Unsuccessful n (%)	EIBF Successful n (%)	Total n (%)	OR (95% CI)	p
Primiparous	12 (70.6)	5 (29.4)	17 (100)	8.000 (1.522–42.042)	0.027
Multiparous	3 (23.1)	10 (76.9)	13 (100)	-	-

Table 2 presents the association between maternal childbirth experience (parity) and the success of EIBF implementation among postpartum mothers. The Chi-Square test revealed a significant association between parity and the success of EIBF, with a p-value of 0.027 (<0.05).

This study examined the association between maternal childbirth experience and the success of early initiation of breastfeeding (EIBF) among postpartum mothers. The findings indicated that the majority of respondents were multiparous mothers (56.7%), while primiparous mothers accounted for 43.3%. The Chi-Square test showed a statistically significant association between maternal childbirth experience and the success

of EIBF ($p = 0.027$, $\alpha = 0.05$). These results suggest that childbirth experience plays a crucial role in determining whether mothers are able to successfully implement EIBF.

Parity, defined as the number of live births a woman has experienced, has long been associated with breastfeeding behavior (Prawiroharjo, 2011). Multiparous mothers are generally more confident in initiating breastfeeding because they possess prior knowledge and skills in overcoming common challenges such as delayed milk production or difficulties in infant latching (Polwandari & Wulandari, 2021). Previous lactation experience not only facilitates the technical

aspects of breastfeeding but also reduces maternal anxiety, thereby promoting a smoother EIBF process.

However, maternal age and biological factors also play a role. Multiparous mothers above the age of 35 may experience hormonal changes that delay the onset of lactation, despite having prior breastfeeding experience (Sutama et al., 2020). Conversely, primiparous mothers often face stress due to lack of experience, which may elevate cortisol levels and suppress oxytocin release, thereby delaying milk ejection. This biological mechanism helps explain why primiparous mothers are at greater risk of failing to initiate EIBF.

Several studies have confirmed that parity is a key determinant of EIBF. Utami (2021) reported that multiparous mothers are more likely to initiate breastfeeding within the first hour after birth compared to primiparous mothers, highlighting the role of prior experience in shaping maternal behavior. Nevertheless, other studies present contrasting findings. For instance, Herlinda (2023) found no significant association between parity and EIBF, arguing that both primiparous and multiparous mothers can have equal opportunities for successful initiation if provided with adequate support. This discrepancy may be explained by the role of antenatal care (ANC) and maternal education. Primiparous mothers who regularly attend ANC visits and participate in pregnancy classes may gain sufficient knowledge and confidence to successfully initiate EIBF, despite lacking direct breastfeeding experience.

The present study reinforces the importance of maternal education and support in the postpartum period. While multiparous mothers benefit from their past experience, primiparous mothers require structured guidance, including breastfeeding counseling, antenatal classes, and continuous support from healthcare professionals. Strengthening these interventions may reduce disparities in breastfeeding outcomes between primiparous and multiparous mothers.

Overall, the findings highlight that maternal childbirth experience significantly influences the success of EIBF. However, experience alone does not guarantee success. Comprehensive support systems, particularly for primiparous mothers, are essential to ensure that all mothers – regardless of parity – are able to practice early initiation of breastfeeding effectively.

Conclusion

The study found that maternal childbirth experience, particularly parity, significantly affects the success of Early Initiation of Breastfeeding (EIBF). First-time mothers were more likely to face challenges with

EIBF compared to those who had previous childbirth experience. First-time mothers had a notably higher failure rate in initiating breastfeeding early. These findings emphasize the importance of providing targeted education and support for first-time mothers to improve their breastfeeding success and promote better maternal and infant health outcomes.

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Author Contributions

E.SF., D.OS., K.S., S, M. F, S.,MW contributed to the conceptualization, data collection process, data processing, and article writing

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Conflicts of Interest

The authors declare no conflict of interest.

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