

Breastfeeding Self-efficacy and Factors Associated with Failure in Breastfeeding among Cesarean Mothers: A Case-control Study

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ABSTRACT

Background. Breastfeeding is being advocated by several groups, including the World Health Organization, because of the favorable effects on the mother and her child. The success of breastfeeding has been challenging for post-cesarean mothers due to several factors that contribute to breastfeeding failure and low breastfeeding self-efficacy. Studies revealed several factors associated with breastfeeding, and it indicates that breastfeeding cesarean mothers are connected with various aspects independently. This study will fill the knowledge gap by collecting data to identify which of these factors has the greatest impact on breastfeeding failure and mothers' self-efficacy. Hence, nurses should be equipped with appropriate knowledge and skills to help promote breastfeeding among cesarean mothers.

Objectives. The study aimed to identify the factors associated with breastfeeding failure and measure the breastfeeding self-efficacy of mothers who delivered through cesarean section based on demographic, socioeconomic, healthcare utilization, and child profile. The results were used to develop appropriate instructional materials that will promote breastfeeding among post-cesarean mothers.

Methods. A quantitative-descriptive case-control design was utilized. The study was conducted from October 2023 to January 2024 in two Municipalities of Mountain Province. A systematic random sampling was utilized. The study included 181 post-cesarean mothers who fit the inclusion criteria. Data were collected through a questionnaire and analyzed using frequency, percentage, and logistic regression through odds ratio.

Results. Post Cesarean mothers who are older, multigravida, visits health facilities often, and those who delivered an infant with normal birth weight garnered high breastfeeding self-efficacy while young mothers less than 24 years old, first-time cesarean mothers, working, mothers who attended less than four prenatal check-ups, mothers who delivered an infant less than 2.5 kilograms and more than 3.5 kilograms, and lastly, an infant with four hours and above waking hours at night are associated with low breastfeeding self-efficacy. Cesarean mothers who failed in breastfeeding are young mothers less than 24 years old ($p < 0.046$), working cesarean mothers, and with low breastfeeding self-efficacy ($p < 0.001$). An instructional material was developed as an outcome of the study to help promote breastfeeding among cesarean mothers.

Conclusion. Mothers who are older, more experienced, visit health facilities more often, and whose infant with normal birth weight are more efficacious in providing nutrition to infants until six months, while young, first-time mothers have low breastfeeding self-efficacy and need assistance in making sure that breastfeeding is performed correctly. Significant factors associated with breastfeeding failure that require attention from healthcare professionals include young mothers less than 24 years old, working cesarean mothers, and mothers with low breastfeeding self-efficacy.

Keywords: *breastfeeding success, failure, self-efficacy, cesarean section*



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INTRODUCTION

Breastfeeding is considered the most successful practice to guarantee children's health and survival. Breastfeeding is feeding an infant with breastmilk exclusively for six (6) months and continuing to breastfeed while introducing appropriate solid foods for up to two years old or beyond.¹ However, the study defined breastfeeding operationally as an act or behavior wherein the mother provides nutrients to the baby with breastmilk. Thus, breastfeeding success among mothers who delivered via cesarean section is those who were able to breastfeed exclusively and without cessation from birth to six months. On the contrary, failed breastfeeding cesarean mothers are those who ceased breastfeeding before six months. The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) consider breastmilk as a perfect food as it contains the appropriate amount of energy and nutrients for the baby. However, despite breastfeeding advocacy, literature has pointed out that mothers who give birth by cesarean section have problems breastfeeding, resulting in delayed or non-initiation, discontinuation, higher rates of formula supplementation, and shortened breastfeeding duration, affecting breastfeeding rates and breastfeeding self-efficacy.²⁻⁴ Research also revealed that breastfeeding rates are declining in low- and middle-income and in developing countries, contributing to low levels and poor breastfeeding self-efficacy.^{5,6}

Breastfeeding and self-efficacy are linked together. Self-efficacy is the cesarean mother's belief that they can do the task effectively to attain a goal. Highly efficacious cesarean mothers are those who were able to provide nutrition through exclusive breastfeeding for six months.

Cesarean sections account for more than one-fifth (21%) of all childbirths and are increasing internationally.⁷ Studies found several factors linked with breastfeeding, which include demographic, socio-economic, healthcare utilization factors, child factors, and breastfeeding self-efficacy. Demographic factors include maternal age, parity, and maternal complications, which are factors influencing breastfeeding.^{2,3,8-13} Additionally, socio-economic factors such as working status and educational level have been found to be predictors of delayed breastfeeding.¹⁴⁻¹⁶ Moreover, healthcare utilization factors include the number of antenatal visits, postnatal follow-up, and breastfeeding programs.¹⁷⁻¹⁹ Breastfeeding is also affected by child variables such as birth weight and waking hours at night, which result in delayed initiation and exclusive breastfeeding.^{20,21} Further studies revealed that the level of confidence is associated with breastfeeding practices. A person with low self-efficacy may avoid accomplishing or completing a certain task, while a person is more likely to participate and do the task completely with high self-efficacy.^{22,23} Compared to mothers who delivered spontaneously, a higher breastfeeding self-efficacy mean was noted with spontaneous delivery than with those post-cesarean delivery mothers under spinal and general anesthesia.^{24,25} Hence, the study has

been conducted to measure the breastfeeding self-efficacy of cesarean mothers and to determine which factors are associated with breastfeeding failure. In addition, it will help determine appropriate instructional materials for breastfeeding promotion to improve the rates of early breastfeeding initiation for all mothers.

The study aimed to measure breastfeeding self-efficacy among cesarean mothers based on demographic profile, socio-economic status, healthcare utilization, and child profile. In addition, the goal is to identify the factors associated with breastfeeding failure, which will help in designing appropriate instructional materials for breastfeeding promotion among mothers who delivered through a cesarean section.

MATERIALS AND METHODS

Research Design

A quantitative-descriptive case-control design was utilized in the conduct of the study. It includes successful breastfeeding mothers who were able to breastfeed for six months as controls, whereas cases are cesarean mothers who fail to breastfeed for at least six months.

Locale and Population

The study was conducted from October 2023 to January 2024 in two Municipalities of Mountain Province, specifically the Municipality of Bauko and the Municipality of Bontoc. These two municipalities were selected as they have hospitals for referrals (Figure 1).

Respondents were mothers who underwent cesarean section and attended the well-baby clinic days, Wednesday in Bauko and Saturday in Bontoc. Eligible respondents were (a) mothers who delivered through cesarean sections from January 1, 2023, to December 31, 2023, and (b) cesarean mothers of any age who have a child who is six (6) months to twelve (12) months old. They were selected to be able to

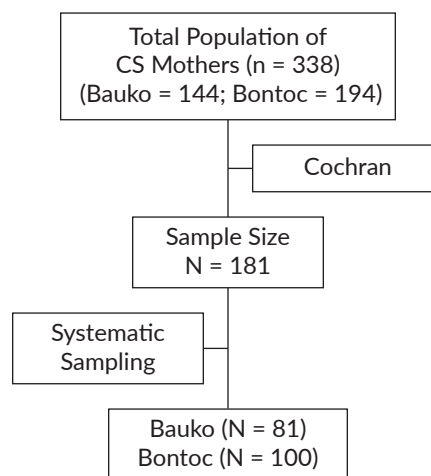


Figure 1. Study flow diagram.

measure breastfeeding self-efficacy as an outcome of the study, and factors associated with breastfeeding failure were the exposure and predictors of the study. Confounding variables were not tested; thus, it is added to the limitations of the study. Excluded are mothers who had multiple births, like twins or triplets.

Sample Size

The natality reports were provided by the Rural Health Units (RHUs). There were 338 mothers who underwent cesarean section who attended well-baby clinic days. Cochran formula with a margin of error of 5% (0.05, confidence level of 95%) and a corresponding Z-score of 1.96 was utilized to determine a sufficient number of respondents for the study. The population size, N, was the number of mothers who delivered via cesarean section, which is 338. Since the value of p cannot be determined, the proportion p value can be assumed to be equal to 0.5, which would also be the value of the proportion q. The margin of error, or level of precision, e, which is often 5% or 0.05, is used to set up the interval or range of values in which the true value of the unknown population parameter is estimated to be. Thus, a sample size of 181 was determined. A total of 100 respondents from Bontoc and 81 from Bauko were able to complete the survey questionnaire.

Systematic random sampling was utilized, where every second respondent was chosen until the sample size of N=181 was satisfied, since the use of this technique was uncomplicated and introduced specific, arbitrary parameters into the data. There were no invalidated responses, and no respondents expressed refusal; hence, the study had a 100% response rate and no missing data.

Data Gathering Tools

The study utilized a survey questionnaire in two parts to gather data. The first part of the research instrument was designed to collect the respondents' demographic profile, socioeconomic profile, and maternal profile. Respondents were asked to place a check mark on the items with options and provide the data on the items without options.

The second part of the questionnaire is a 14-item, 5-point Likert response Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF) standardized questionnaire adopted from Cindy-Lee Dennis.²⁶ Respondents were asked to indicate on a scale from 1 to 5 the degree of confidence they felt: 1 = not at all confident, 2 = slightly confident, 3 = somewhat confident, 4 = fairly confident, and 5 = always confident (Figure 2). The BSES-SF tool has a Cronbach's alpha of 0.94 and an overall content validity index score of 0.86, corresponding to a strong content validity. The scores for all items were summed up, with higher scores indicating higher levels of breastfeeding self-efficacy. The English version of the tool was translated and back-translated from English to Ilocano with permission from the author and after consultation with an English expert.

Data Gathering Procedure

Approval to proceed with the study was sought from Institution's Research Ethics Committee (REC), a courtesy call and a letter of permission to the Bauko Municipal Health Officer and the Bontoc Municipal Health Officer were obtained to conduct the study and collect pertinent information during well-baby clinic days at the Rural Health Unit, and the researcher asked the nurses or midwives to be introduced to the mothers who underwent cesarean delivery before the questionnaire was floated.

Items	1	2	3	4	5
<i>I can always</i>					
1. Determine that my baby is getting enough milk.					
2. Successfully cope with breastfeeding as I have with other challenging tasks.					
3. Breastfeed my baby without using formula as a supplement.					
4. Ensure that my baby is properly latched on for the whole feeding.					
5. Manage the breastfeeding situation to my satisfaction.					
6. Manage to breastfeed even if my baby is crying.					
7. Keep wanting to breastfeed.					
8. Comfortably breastfeed with my family members present.					
9. Be satisfied with my breastfeeding experience.					
10. Deal with the fact that breastfeeding can be time-consuming.					
11. Finish feeding my baby on one breast before switching to the other breast.					
12. Continue to breastfeed my baby for every feeding.					
13. Manage to keep up with my baby's breastfeeding demands.					
14. Tell when my baby is finished breastfeeding.					

Figure 2. Breastfeeding self-efficacy scale-short form.

Before answering the survey questions, the purpose of the study was thoroughly explained to the probable respondents by the researcher. Written informed consent was obtained by the researcher during well-baby clinic days from post-cesarean mothers. Questionnaires were administered to respondents by the researcher, and it was reinforced that the questions must be answered completely, honestly, and spontaneously. The respondents were given 15-20 minutes to answer the questionnaires. A 10-15-minute extension was allotted by the researcher for the respondents to clarify or ask questions and to complete the questionnaire for those who were unable to complete within the given time. Once all necessary data were obtained, these were checked for completeness. The respondents were appreciated for their effort, time, and cooperation.

Statistical Treatment

To address the first objective, frequencies, percentages, and weighted mean were used to determine cesarean mothers' breastfeeding self-efficacy based on their demographic profile, socioeconomic profile, healthcare utilization profile, and child profile. The study did not utilize continuous variables. The weighted mean rating corresponds to the degree or level of confidence in breastfeeding as well as the level of self-efficacy and is interpreted based on the scale interpretation. Logistic regression through odds ratio was used on the factors associated with failure in breastfeeding among cesarean mothers, which compares the percentage of variables when analyzed against each other. The third objective was addressed based on the findings of the study on breastfeeding self-efficacy and factors associated with failure in breastfeeding and through a literature review. The statistical level of significance employed for the analysis was 5% or 0.05. The

collected data were analyzed by a statistician using Jamovi and R software. The data were summarized, and the results were interpreted in the form of text and tables.

Ethical Considerations

Ethical principles based on the Philippine Health Research Ethics Board were applied throughout the research process, including obtaining consent, autonomy and self-determination, confidentiality, anonymity, transparency, beneficence, and non-maleficence for the best interest of the respondents. Data that linked to the respondent's personal information were kept, secured, and only the researcher had access to the files in compliance with the Data Privacy Act of 2012.

RESULTS

Table 1 shows the weighted mean rating and the corresponding degree or level of confidence in breastfeeding, as well as the level of self-efficacy to determine cesarean mothers' breastfeeding self-efficacy based on their demographic profile, socioeconomic profile, healthcare utilization profile, and child profile.

Table 2A shows that age and parity are associated with breastfeeding self-efficacy. There were 31 (17.1%) mothers who were less than 24 years old, and 61 (33.7%) first-time mothers had a weighted mean rating of 3.01 and 2.84, respectively, which suggests their level of confidence as "somewhat confident," indicating a "low" breastfeeding self-efficacy. Factors that could affect mothers' ability to breastfeed may be due to the lack of experience and knowledge on breastfeeding, since they are first-time mothers, and considering also that there are respondents in the study who are young mothers; perhaps they do not have enough information to form realistic expectations towards breastfeeding, making it more challenging. This corroborates with the literature indicating that young mothers who breastfeed is lower and they have limited knowledge and face a variety of barriers when it comes to breastfeeding compared to older mothers.^{27,28} On the other hand, maternal complications and breastfeeding self-efficacy are not associated.

Table 2B reflects that 52 (28.7%) working mothers had a weighted mean rating of 3.33, suggesting that there were

Table 1. Scale of Interpretation for Level of Confidence

Weighted Mean Rating	Degree or Level of Confidence	Level of Self- Efficacy
1.00-1.79	Not Confident	Low
1.80-2.59	Slightly Confident	Low
2.60-3.39	Somewhat Confident	Low
3.40-4.19	Fairly Confident	High
4.20-5.00	Always Confident	High

Table 2A. Breastfeeding Self-efficacy of Mothers who Delivered through Cesarean Section According to Demographic Profile

		f(n)	%	Weighted Mean Rating	Level of Confidence	Breastfeeding Self-efficacy
Age of mother	Less than 24 years old	31	17.1	3.01	Somewhat Confident	Low
	25 Years old or older	150	82.9	4.29	Always Confident	High
Parity	Primigravida	61	33.7	2.84	Somewhat Confident	Low
	Multigravida	120	66.3	4.69	Always Confident	High
Complications	With maternal complications	167	92.3	4.02	Fairly Confident	High
	Without maternal complications	14	7.7	4.57	Always Confident	High

Table 2B. Breastfeeding Self-efficacy of Mothers who Delivered through Cesarean Section According to Socioeconomic Profile

		f(n)	%	Weighted Mean Rating	Level of Confidence	Breastfeeding Self-efficacy
Working status	Working	52	28.7	3.33	Somewhat Confident	Low
	Not working	129	71.3	4.36	Always Confident	High
Level of education	Without college level	109	60.2	4.14	Fairly Confident	High
	With college level	72	39.8	3.95	Fairly Confident	High

Table 2C. Breastfeeding Self-efficacy of Mothers who Delivered through Cesarean Section According to Healthcare Utilization Profile

		f(n)	%	Weighted Mean Rating	Level of Confidence	Breastfeeding Self-efficacy
Number of prenatal check-ups	Less than 4 prenatal check-ups	25	13.8	3.47	Somewhat Confident	Low
	At least 4 prenatal check-ups	156	86.2	4.16	Fairly Confident	High
Number of postnatal check-ups	Less than 3 postnatal check-ups	155	85.6	4.05	Fairly Confident	High
	At least 3 postnatal check-ups	26	14.4	4.17	Fairly Confident	High
Breastfeeding Programs	Enrolled	19	10.5	4.15	Fairly Confident	High
	Not enrolled	162	89.5	4.06	Fairly Confident	High

Table 2D. Breastfeeding Self-efficacy of Mothers Who Delivered through Cesarean Section According to Child Profile

		f(n)	%	Weighted Mean Rating	Level of Confidence	Breastfeeding Self-efficacy
Birth weight	Not normal (<2.5 kgs., >3.5 kgs.)	23	12.7	3.67	Somewhat Confident	Low
	Normal (2.5 kgs. – 3.5 kgs.)	158	87.3	4.12	Fairly Confident	High
Waking hours at night	Less than 4 hours	167	92.3	4.11	Fairly Confident	High
	4 hours and above	14	7.7	3.60	Somewhat Confident	Low

variations in breastfeeding self-efficacy within this group. The weighted mean of 3.33 corresponds to a "somewhat confident" level of confidence in breastfeeding categorized as "low". Working cesarean mothers have more tasks to do to ensure that breastfeeding is continued even when they are not around. These tasks include preparing the breast, expressing the milk, proper milk storage, and warming the milk before offering it to the child. Hence, the self-efficacy of working cesarean mothers may be challenged because there are more tasks to be done, and for mothers who are not able to do these tasks, it results in non-continuation or even discontinuation, affecting the process of breastfeeding and their breastfeeding self-efficacy. This finding is in congruence with the literature, which revealed that mothers working outside the house have lower breastfeeding self-efficacy, particularly with short periods of maternity leave resulting in working mothers' untimely introduction of supplementary feeding or early weaning.^{29,30} Further, level of education shows that it is not associated with breastfeeding self-efficacy.

Gleaned from Table 2C, there were 25 (13.8%) mothers in the sample who had less than four (4) prenatal checkups. The group's weighted mean rating of 3.47 indicates a level of confidence that is classified as "somewhat confident," which suggests a considerable variation in breastfeeding self-efficacy. The level of confidence in breastfeeding indicates a

"low" breastfeeding self-efficacy. Considering socioeconomic factors and the locale of the respondents, the lack of prenatal care among cesarean mothers who live in areas where transportation is not easily accessible affects breastfeeding self-efficacy. This was supported by the literature, which shows that mothers reported that the delay in getting to the hospital for maternal healthcare services was due to limited or a lack of public transport services as well as the timing of the transport and distance to the facility.³¹ Moreover, with the advances in social media and technology in recent years, mothers are turning to social media for health-related information since it is easily accessible and convenient. The use of social media platforms to gain information about pregnancy health-related information was most often weekly among women.³²

Cesarean mothers who garnered high breastfeeding self-efficacy are those who attended at least four (4) prenatal check-ups (156 or 86.2%). Additionally, the findings of the study reveal that post-natal check-ups and breastfeeding programs are not associated with breastfeeding self-efficacy since the level of self-efficacy is "fair," which corresponds to "high" breastfeeding self-efficacy.

Table 2D reveals that the birth weight of the baby and waking hours at night may play a role in breastfeeding self-efficacy. Compared with a normal birth weight of 2.5 kilograms to 3.5 kilograms and with less than four waking

Table 3. Factors Associated with Failure in Breastfeeding among Mothers who Delivered through Cesarean Section (n=181)

		Fail		Success		Odds Ratio	95% CI	p-value
		f(n)	%	f(n)	%			
Demographic Factors								
Age of mother	Less than 24 years old	16	8.8	15	8.3	5.00	1.02 – 24.38	0.046*
	25 years old or older	30	16.6	120	66.3			
Parity	Primigravida	30	16.6	31	17.1	0.46	0.08 – 2.46	0.372
	Multigravida	16	8.8	104	57.5			
Complications	With maternal complications	43	23.8	124	68.5	0.26	0.04 – 1.79	0.175
	Without maternal complications	3	1.7	11	6.1			
Socioeconomic Factors								
Working status	Working	31	17.1	21	11.6	24.71	6.45 – 94.6	<0.001***
	Not working	15	8.3	114	63.0			
Level of education	Without college level	25	13.8	84	46.4	0.89	0.29 – 2.70	0.837
	With college level	21	11.6	51	28.2			
Healthcare Utilization Factors								
Number of prenatal check-ups	Less than 4 prenatal check-ups	11	6.1	14	7.7	1.00	0.18 – 5.42	0.994
	At least 4 prenatal check-ups	35	19.3	121	66.9			
Number of postnatal check-ups	Less than 3 postnatal check-ups	40	22.1	115	63.5	3.19	0.39 – 26.16	0.279
	At least 3 postnatal check-ups	6	3.3	20	11.0			
Breastfeeding programs	Enrolled	3	1.7	16	8.8	0.29	0.05 – 1.76	0.182
	Not enrolled	43	23.8	119	65.7			
Child Factors								
Birth weight	Not normal (<2.5 kgs., >3.5 kgs.)	8	4.4	15	8.3	4.17	0.53 – 32.85	0.174
	Normal (2.5 kgs. – 3.5 kgs.)	38	21.0	120	66.3			
Waking hours at night	Less than 4 hours	40	22.1	127	70.2	2.27	0.18 – 28.29	0.523
	4 Hours and above	6	3.3	8	4.4			
Breastfeeding self-efficacy	High self-efficacy	13	7.2	127	70.2	0.01	0.00 – 0.11	<0.001***
	Low self-efficacy	33	18.2	8	4.4			

*p <0.05; ***p <0.001 significant

hours at night, cesarean mothers who delivered to a not normal weight of less than 2.5 kilograms or more than 3.5 kilograms had a weighted mean rating of 3.67 and 3.60, respectively, which corresponds to a “somewhat confident” rating indicating “low” breastfeeding self-efficacy. Mothers who have a child categorized as not normal have concerns about the well-being of the infant; babies are susceptible to acquiring disease or injury affecting breastfeeding, delayed breastfeeding initiation, and are more likely to have a short breastfeeding duration.^{17,33,34}

For some mothers, babies' sleeping patterns can be a major source of distress to many parents. A baby's temperament, reactivity, and sensitivity are related to the sleeping pattern of a child. A highly sensitive child may react strongly to their environment, like loud noises, bright lights, and even to the slightest stimulus, making them awake for a longer period at night. Additionally, a negative temperament such as fussiness is associated with prolonged duration of breastfeeding, affecting mother's self-efficacy.³⁵

The study further reflects that higher breastfeeding self-efficacy are noted among older cesarean mothers (127 or 70.2%), multigravida (114 or 63.0%), mothers who attended at least 4 prenatal check-ups (127 or 70.2%), mothers with normal baby weight (125 or 69.1%), and mothers with babies who wake up less than four hours at night (133 or 73.5%).

Table 3 presents the characteristics of cesarean mothers who fail to breastfeed. Young cesarean mothers (p = 0.046), working mothers (p = <0.001), and low breastfeeding self-efficacy (p = <0.001) had associated p-values below the 0.05 level of significance, indicating statistical significance. Mothers who are less than 24 years old have about 5 times the odds of failing to breastfeed compared to mothers who are 25 years old or older (odds ratio = 5.00, p = .046). The difficulty of being a young breastfeeding mother may result in more challenges in successful breastfeeding due to a lack of knowledge, parenting skills, and experience in breastfeeding, resulting in low breastfeeding efficacy. They are more likely not to breastfeed their child, which leads to failure in breastfeeding.

Additionally, the results suggested that working cesarean mothers have significantly higher odds of breastfeeding failure compared to non-working mothers (odds ratio = 24.71, $p < 0.001$). Working mothers, as compared to stay-at-home mothers, have more tasks to do to make sure that breastfeeding continues even without their presence. Hence, if these tasks are not performed by working mothers, such as preparing the breast, expressing the milk, and proper milk storage, it affects their breastfeeding self-efficacy, resulting in breastfeeding failure or even discontinuation of breastfeeding or early weaning.

Findings also reveal that there are higher odds of breastfeeding failure among mothers with low breastfeeding self-efficacy, or mothers with high breastfeeding self-efficacy have lower odds of breastfeeding failure (odds ratio = 0.01, $p < 0.001$). A mother's confidence in her ability to breastfeed successfully can significantly influence breastfeeding success. Further, a low breastfeeding self-efficacy score predicts breastfeeding failure, and a high score in breastfeeding self-efficacy predicts success. Previous tables show that cesarean mothers who reported having low breastfeeding self-efficacy are younger and primigravida which could be related to their inadequate parenting skills and knowledge; cesarean mothers who attended less than 4 prenatal check-ups which could be due to the limited or lack of transportation and social media influence; working cesarean mothers because they have more tasks to perform to ensure that breastfeeding is continuous even when they are not around and failure to do these tasks can affect the process of breastfeeding; delivered to a not normal weight and with waking hours at night of more than four hours which could be related to a child negative temperament, sensitivity, and reactivity which also affects breastfeeding process resulting to breastfeeding failure. Similar literature found that self-efficacy is a leading factor that influences mothers' breastfeeding satisfaction, resulting in exclusive breastfeeding and a higher level of breastfeeding success.^{36,37}

Factors that are not associated with failure in breastfeeding are parity ($p = 0.372$), maternal complications ($p = 0.175$), level of education ($p = 0.837$), healthcare utilization factors: number of prenatal check-ups ($p = 0.994$), number of postnatal check-ups ($p = 0.279$), breastfeeding programs ($p = 0.182$), and child factors: birth weight ($p = 0.174$), waking hours at night ($p = 0.523$). The associated p -values for these factors are higher than the 0.05 level of significance, indicating no statistical significance.

DISCUSSION

Breastfeeding has several health advantages for both the mother and the baby. It is a public health strategy for lowering infant, child, and maternal morbidity and mortality rates.¹ However, despite its advantages, the study reveals that young mothers had low breastfeeding self-efficacy, which could be because young mothers can be overwhelmed with a

new set of responsibilities and be emotionally unprepared for parenthood, resulting in having fewer parenting skills and low breastfeeding self-efficacy. This could also be attributed to the Stages of Human Growth and Development, which considers 12 years old to 18 years old as adolescence or teenage years, a hallmark of puberty changes like the establishment of relationships and intimacy, and challenges in accepting changes in their body.³⁸ Having inadequate knowledge and skills on breastfeeding makes it more challenging for first-time mothers. Compared with older and multiparous mothers, how they perceive their body during breastfeeding may not affect their confidence since they have an optimistic view towards breastfeeding, thereby increasing their self-efficacy. Bandura's self-efficacy theory shows that a person who has good experience will have higher expectations.³⁹ Educational interventions, breastfeeding programs, and proper guidance can provide and help young and primigravida mothers gain knowledge on the proper and importance of breastfeeding. Although the study proved that maternal complication is not associated with breastfeeding self-efficacy, it is necessary to educate mothers on the importance of maternal check-ups to prevent such complications.

Another finding shows that working cesarean mothers had low breastfeeding self-efficacy. It emphasizes the importance of working cesarean mothers working harder to ensure that breastfeeding is continued even when they are not around, despite the additional task they have to perform to not affect the process of breastfeeding.

Considering socioeconomic profile and the locale of the respondents, cesarean mothers who live in distant places where there is a lack of readily available transportation can influence the mother's decision to attend a prenatal check-up. The final concept of the Interactive Theory of Nursing, Primo and Brandaõ included support from the family and the organizational system for protection, promotion, and support. Family support plays a crucial role before, during, and after delivery. It also entails the need to maintain the implementation of home visitations to monitor the presence of complications or early detection of health- and pregnancy-related problems. Moreover, mothers are turning to social media for health-related information since it is easily accessible and convenient. However, it is important to emphasize that complying with the actual prenatal and postnatal check-ups, especially for young and primigravida mothers, will ensure the safety of both mother and baby.

Further, mothers with lower breastfeeding confidence and parenting ability are easily affected when their babies are categorized as not normal in weight, and they may see or perceive that a baby who has longer waking hours at night is problematic. A mother may struggle and feel a sense of helplessness affecting her self-efficacy. This necessitates further investigation, as preceding studies related to infants' temperament, sensitivity, reactivity, and breastfeeding self-efficacy.

Thus, considering these findings and a literature review, an instructional material through a brochure or booklet, as shown in Figure 3, was created to help post-cesarean mothers who are young and working to be able to exclusively breastfeed for at least six months to help minimize breastfeeding failure and low breastfeeding self-efficacy.

Mothers have different educational needs. First-time mothers may find the books or written instructional material helpful, while experienced women may rely on their past experiences. Young and working cesarean mothers are associated with low breastfeeding self-efficacy and breastfeeding failure. Figure 3 emphasizes necessary information



Figure 3. Breastfeeding brochure.

that a mother should know about breastfeeding. This includes the benefits of breastfeeding to both mother and baby, common breastfeeding positions for post-cesarean mothers, breastfeeding cues that mothers should be aware of, nutritional needs for mothers to boost breastfeeding, the dos and don'ts of milk storage especially for working mothers who need to store milk, and lastly, tips for first-time mothers to boost their confidence in breastfeeding. However, the instructional material could also be used as a guide during pregnancy since it is the best time to learn about breastfeeding.

Limitations

The current findings of the study considered various limitations. The difficulty in completing the sample size since not all cesarean mothers being able to attend well-baby clinic days during data gathering at the Rural Health Unit. However, this problem was managed by asking permission and coordination from the Municipal Health Officer, the assigned nurses stationed per clinic, and barangay health workers, and approval from the Research Ethics Committee before a survey questionnaire was floated at the respondents' houses. It also failed to randomize the starting point, which could lead to potential imbalance and result bias since the researcher started with every second respondent who attended well-baby clinic days during data gathering. Confounding variables and sensitivity analysis were not conducted and tested; hence, they were limitations of the study.

Recommendations

Based on the results gathered, attention can be directed to young cesarean mothers, working and have low breastfeeding self-efficacy through counseling and breastfeeding education to help promote optimal breastfeeding practices. They need assistance in making sure that infants receive nutrition until six months and breastfeeding is performed correctly. Working cesarean mothers, on the other hand, should anticipate the need to continue breastfeeding post-cesarean delivery; hence, they should be aware of the additional tasks that they should perform to ensure that breastfeeding is continued even if they are not around. Further, to minimize failure in breastfeeding, additional support could be given to cesarean mothers through encouragement in a sensitive, nonjudgmental manner and the use of educational material as an outcome of this study. Further, there is potential to extend this research to a wider audience by extending the demographic and locale of the study to find other factors related to breastfeeding failure and how to minimize the effects of these factors.

CONCLUSION

Breastfeeding self-efficacy is associated with demographic profile, socioeconomic status, healthcare utilization, and child profile. Factors associated with breastfeeding failure that require attention from healthcare professionals include maternal age, working status, and mothers' breastfeeding

self-efficacy. The characteristics of post-cesarean mothers not associated with failure in breastfeeding are parity, maternal complications, level of education, healthcare utilization factors, and child factors.

Statement of Authorship

Both authors certified fulfillment of ICMJE authorship criteria.

Author Disclosure

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