

Prevalence and Associated Factors of Breastfeeding Knowledge among Postpartum Mothers at Tay Nguyen University Hospital, Vietnam

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Abstract: Background: Breastfeeding knowledge among postpartum mothers plays an important role in promoting optimal infant feeding practices. This study aimed to describe the knowledge of breastfeeding among postpartum mothers at Tay Nguyen University Hospital, Vietnam and to identify associated factors of this knowledge. **Method:** A cross-sectional study was conducted among 196 postpartum mothers. Data were collected through face-to-face interviews using a structured questionnaire at Tay Nguyen University Hospital, Vietnam between April 2025 and December 2025. **Results:** The results showed that the proportion of postpartum mothers with correct breastfeeding knowledge was 45.4%. The highest levels of correct knowledge were observed regarding giving colostrum to newborns (85.7%), exclusive breastfeeding without additional fluids (80.1%), and initiating breastfeeding within the first hour after birth (79.6%). Ethnicity, educational level, and receipt of breastfeeding counseling were significantly associated with correct breastfeeding knowledge. **Conclusions:** These findings highlight the need for enhanced health education to improve knowledge of breastfeeding, especially for ethnic minority mothers and those with lower education.

Keywords: Knowledge, Breastfeeding, Postpartum Mothers.

INTRODUCTION

Breastfeeding is widely recognized as the most natural and optimal method of infant feeding, providing substantial nutritional, immunological, and developmental benefits. Breast milk contains essential nutrients that support growth and immune protection during infancy (UNICEF, 2022). The World Health Organization (WHO) recommends initiating breastfeeding within one hour after birth, exclusively breastfeeding during the first six months of life, and continuing breastfeeding up to two years of age or beyond, along with appropriate complementary feeding. Early initiation and exclusive breastfeeding are associated with reduced infant morbidity and mortality, particularly in low- and middle-income countries (WHO, 2023a).

Despite the well-established benefits of breastfeeding, the prevalence of optimal breastfeeding practices remains low in many settings. According to the World Health Organization, approximately 78 million newborns worldwide are not breastfed within the first hour after birth, increasing the risk of infectious diseases, malnutrition, and child mortality (WHO, 2023b). In Vietnam, although breastfeeding promotion programs have been widely implemented, suboptimal breastfeeding practices remain a concern. According to the 2020–2021 Survey Assessment of Vietnamese Children and Women conducted by the General Statistics Office

of Vietnam and UNICEF, the proportion of mothers initiating breastfeeding within the first hour after birth nationwide was 23.5%, while the rate in the Central Highlands was 31.6%. In addition, the prevalence of exclusive breastfeeding during the first six months in the Central Highlands (53.7%) was higher than the national average of 45.5% (General Statistics Office of Vietnam and UNICEF, 2021). Maternal knowledge regarding breastfeeding plays an important role in shaping breastfeeding attitudes and practices. Adequate knowledge enables mothers to initiate breastfeeding early, maintain exclusive breastfeeding, and overcome common breastfeeding difficulties.

Tay Nguyen University Hospital serves a diverse population, including mothers from different ethnic backgrounds and educational levels, which may influence breastfeeding knowledge and behaviors. Therefore, assessing maternal knowledge and identifying associated factors are essential for developing effective educational interventions and improving breastfeeding practices. This study aimed to assess breastfeeding knowledge among postpartum mothers at Tay Nguyen University Hospital and to identify factors associated with such knowledge.

MATERIALS AND METHODS

Study Design: This was a cross-sectional descriptive study. This research was conducted at Tay Nguyen University Hospital, Vietnam between April 2025 and December 2025.

Research subjects: The study population included postpartum mothers admitted to the Department of Obstetrics at Tay Nguyen University Hospital who had no contraindications to breastfeeding.

Inclusion criteria: Postpartum mothers who had no contraindications to breastfeeding and agreed to participate in the study were included.

Exclusion criteria: Postpartum mothers who were unable to breastfeed; who were unable to participate in the interview due to conditions such as deafness, muteness, language barriers,

depression, or mental disorders; or who had delivered a nonviable infant.

Research sample: A total sampling method was applied. All eligible participants during the study period were invited to participate in the study. In total, 196 subjects were enrolled.

Data analysis: data was analyzed through: descriptive statistics and analytical statistics. The Chi-square test was used to assess the association between two categorical variables. A p-value < 0.05 was considered statistically significant.

Ethical Approval: The study was approved by the Scientific Council of Tay Nguyen University. All participants were informed about the objectives and contents of the study, and data collection was conducted only after obtaining informed consent from the participants.

RESULTS

General characteristics of the study participants

Table 1. General characteristics of the study participants (n = 196)

Characteristics	Classification	Frequency (n)	Percentage (%)
Age	18–25 years	64	32.7
	26–35 years	110	56.1
	>35 years	22	11.2
Ethnicity	Kinh	135	68.9
	Êđê	34	17.4
	Others	27	13.7
Residence	Urban	118	60.2
	Rural	78	39.8
Educational level	Illiterate	1	0.5
	Literate (able to read and write)	2	1.0
	Primary school	11	5.6
	secondary school	43	21.9
	high school graduate	78	39.8
	Vocational school/College graduate	28	14.3
Occupation	University/Postgraduate graduate	33	16.9
	Farmer	48	24.5
	Worker	21	10.7
	Small trader	25	12.8
	Office employee	21	10.7
	Housewife	42	21.4
Received breastfeeding information	Others	39	19.9
	Yes	140	71.4
	No	56	28.6

Among the 196 postpartum mothers, those aged 26–35 years accounted for the highest proportion (56.1%), followed by the 18–25-year group (32.7%). Most participants were of Kinh ethnicity (68.9%), resided in urban areas (60.2%), and had

completed upper secondary education (39.8%). Farmers (24.5%) and housewives (21.4%) were the most common occupations. Additionally, 71.4% of mothers reported having received breastfeeding-related information.

Knowledge of breastfeeding among the study participants

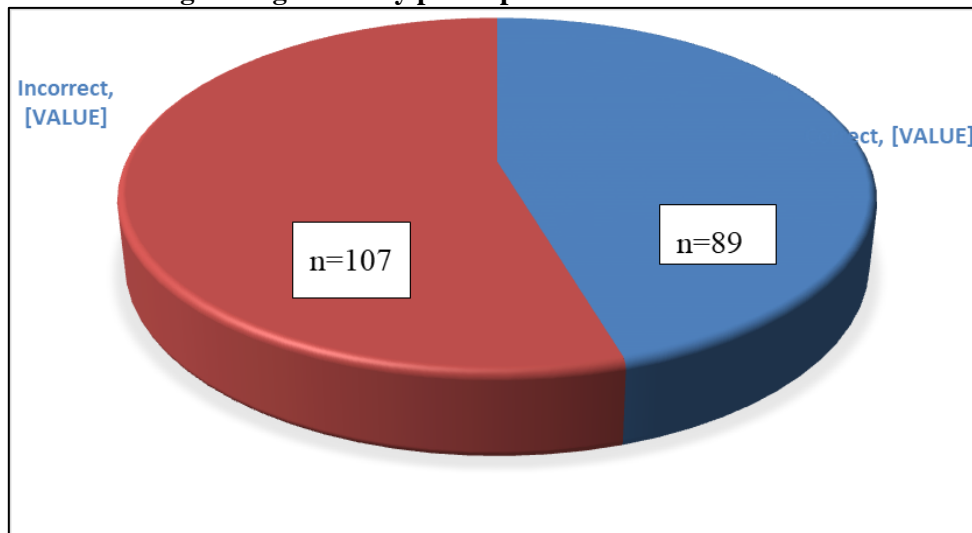


Figure 1. Breastfeeding knowledge among the study participants (n = 196)

The proportion of postpartum mothers with correct breastfeeding knowledge was 45.4%, whereas 54.6% of participants had incorrect breastfeeding knowledge.

Table 2. Proportion of correct responses on breastfeeding knowledge among study participants (n = 196)

Knowledge item	Frequency (n)	Percentage (%)
Breastfeeding should be initiated immediately within the first hour after birth	156	79.6
Infants should be exclusively breastfed without any additional fluids	157	80.1
Exclusive breastfeeding should be maintained for the first 6 months of life	127	64.8
Breastfeeding should be continued until 1–2 years of age	117	59.7
Newborns should be given colostrum	168	85.7
Knowledge of the benefits of colostrum	87	44.4
Knowledge of the benefits of breastfeeding	94	47.9
Knowledge of methods to increase and maintain breast milk production	80	40.8

Overall, the highest level of correct knowledge was observed for giving colostrum to newborns (85.7%), exclusive breastfeeding without additional fluids (80.1%), and initiating breastfeeding within the first hour after birth (79.6%). In contrast, the lowest level of knowledge

was related to methods for increasing and maintaining breast milk production (40.8%), followed by knowledge of the benefits of colostrum (44.4%) and the benefits of breastfeeding (47.9%).

Factors associated with breastfeeding knowledge of study participants

Table 3. Associated factors with breastfeeding knowledge among study participants (n = 196)

Characteristics	Correct knowledge (n)	Incorrect knowledge (n)	p-value	OR (95% CI)
Ethnicity				
Kinh	69	66	0.02	0.40 (0.23–0.92)
Others	20	41		
Educational level				
< High school	15	42	<0.01	3.18 (1.55–6.75)
≥ High school	65	74		
Received breastfeeding information				
Yes	74	66	<0.01	3.06 (1.49–6.50)
No	15	41		

Mothers of Kinh ethnicity were more likely to have correct knowledge than those from other ethnic groups (OR = 0.40; 95% CI: 0.23–0.92; $p = 0.02$). Participants with an educational level of high school or higher had significantly better knowledge compared to those with lower education levels (OR = 3.18; 95% CI: 1.55–6.75; $p < 0.01$). In addition, mothers who had received breastfeeding counseling were more likely to have correct knowledge than those who had not (OR = 3.06; 95% CI: 1.49–6.50; $p < 0.01$).

DISCUSSION

Knowledge of breastfeeding among the study participants

The proportion of mothers with correct overall knowledge of breastfeeding in our study was 45.4%. This rate was higher than that reported by Doan Huynh Tuan Tu *et al.* in 2023 (38.5%) (Doan Huynh Tuan Tu, Lai Van Nong, 2023). However, it remained considerably lower than findings from Malaysia by Jalil *et al.* (2024), where 72.5% of participants had good knowledge of breastfeeding. These differences may be explained by variations in study populations, access to health information, and the effectiveness of maternal and child health education programs across different settings.

Nearly four-fifths of mothers (79.6%) knew that breastfeeding should be initiated within the first hour after birth. This proportion was lower than that reported by Nguyen Thi Thanh Thuy *et al.* (83.2%) (Nguyen Thi Thanh Thuy *et al.*, 2024), but higher than findings from Bala *et al.* (51.6%) (Bala *et al.*, 2020). Meanwhile, a study by Ravichandran *et al.* (2024) in India reported that 75% of mothers were aware of early initiation of breastfeeding. These findings indicate variability in knowledge across different contexts and highlight the need to strengthen health education, particularly in socioeconomically disadvantaged areas such as the Central Highlands.

The proportion of mothers who knew that exclusive breastfeeding should be practiced for the first six months of life was approximately 65%, which was much lower than that reported by Bala *et al.* in India (95.5%). This discrepancy may be related to differences in breastfeeding counseling programs, health education systems, and access to information between study settings.

In our study, 85.7% of mothers knew that colostrum should be given to newborns; however, only about 45% correctly understood its benefits.

In addition, the proportions of mothers with knowledge about the benefits of breastfeeding and practices to increase and maintain milk production were relatively low, at 47.9% and 40.8%, respectively. These findings suggest that although mothers are generally aware of basic breastfeeding practices, their in-depth knowledge remains limited. This may be due to breastfeeding promotion programs focusing mainly on early initiation, while insufficient emphasis is placed on the immunological benefits of colostrum and techniques for maintaining lactation. Therefore, strengthening health education and counseling is necessary to improve mothers' understanding of colostrum benefits, breastfeeding advantages, and lactation support practices, thereby promoting appropriate breastfeeding behaviors.

Factors associated with breastfeeding knowledge of study participants

The proportion of mothers who knew that exclusive breastfeeding should be practiced for the first six months of life was approximately 65%, which was much lower than that reported by Bala *et al.* in India (95.5%). This discrepancy may be related to differences in breastfeeding counseling programs, health education systems, and access to information between study settings.

In our study, 85.7% of mothers knew that colostrum should be given to newborns; however, only about 45% correctly understood its benefits. In addition, the proportions of mothers with knowledge about the benefits of breastfeeding and practices to increase and maintain milk production were relatively low, at 47.9% and 40.8%, respectively. These findings suggest that although mothers are generally aware of basic breastfeeding practices, their in-depth knowledge remains limited. This may be due to breastfeeding promotion programs focusing mainly on early initiation, while insufficient emphasis is placed on the immunological benefits of colostrum and techniques for maintaining lactation. Therefore, strengthening health education and counseling is necessary to improve mothers' understanding of colostrum benefits, breastfeeding advantages, and lactation support practices, thereby promoting appropriate breastfeeding behaviors.

Chi-square analysis at a 95% confidence level showed that ethnicity, educational level, and receipt of breastfeeding counseling were significantly associated with correct knowledge. In particular, Kinh mothers were more likely to have correct knowledge than those from other ethnic

groups (OR = 0.40; 95% CI: 0.23–0.92; $p = 0.02$). This may be explained by the fact that ethnic minority mothers often face greater barriers in accessing maternal healthcare services and health information.

Furthermore, mothers with a high school education or higher had significantly better knowledge compared to those with lower educational levels (OR = 3.18; 95% CI: 1.55–6.75; $p < 0.01$). This finding is consistent with a study by Le Trung Niem *et al.* (2025) in Vietnam ($p = 0.03$; OR = 1.59; 95% CI: 1.04–2.45) and a study by Jalil *et al.* (2024) in Indonesia. Higher education enables women to better access, understand, and interpret health information, thereby improving breastfeeding knowledge and practices.

In addition, receiving breastfeeding counseling had a positive effect on maternal knowledge (OR = 3.06; 95% CI: 1.49–6.50; $p < 0.01$). Mothers who received counseling from healthcare professionals were more likely to have correct knowledge compared to those who did not. This highlights the important role of health education and counseling in improving maternal awareness and knowledge of breastfeeding practices.

CONCLUSION

The proportion of postpartum mothers with correct breastfeeding knowledge was relatively low, with fewer than half of the study participants demonstrating adequate knowledge. Mothers' knowledge was mainly focused on aspects such as feeding colostrum, exclusive breastfeeding, and initiating breastfeeding early after birth, whereas their understanding of the benefits of breastfeeding, the benefits of colostrum, and methods for maintaining breast milk production remained limited. Factors associated with correct knowledge included ethnicity, educational level, and receiving breastfeeding counseling. The study findings suggest the need to strengthen communication, health education, and breastfeeding counseling activities, particularly among ethnic minority mothers and those with lower educational levels, in order to improve

knowledge and promote appropriate breastfeeding practices.

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