

Mothers' Knowledge and Attitudes towards Managing Breastfeeding Problems in a Tertiary Hospital

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ABSTRAK

Masalah penyusuan susu ibu merupakan antara halangan utama dalam mengekalkan penyusuan susu ibu secara eksklusif. Ramai ibu selepas bersalin melaporkan kesukaran dalam mengendalikan cabaran penyusuan susu ibu kerana kekurangan pengalaman, kekurangan pendidikan atau sokongan yang tidak mencukupi. Oleh itu, menangani masalah berkaitan penyusuan susu ibu adalah penting untuk meningkatkan kejayaan penyusuan. Kajian ini bertujuan untuk menilai tahap pengetahuan dan sikap ibu selepas bersalin terhadap pengurusan masalah penyusuan. Satu kajian keratan rentas telah dijalankan melibatkan 258 ibu selepas bersalin yang dipilih melalui persampelan bertujuan di Hospital Canselor Tuanku Muhriz antara Mei hingga Jun 2024. Data dikumpul menggunakan soal selidik Pengetahuan Masalah Penyusuan Susu Ibu (K-BFQ) dan satu soalan terbuka bagi menilai sikap terhadap pengurusan masalah penyusuan susu ibu. Daripada 258 responden, 82.6% telah menerima pendidikan berkaitan penyusuan susu ibu, manakala 17.4% belum pernah menerima sebarang pendidikan. Walaupun kadar pendedahan kepada pendidikan adalah tinggi, hanya 51.2% menunjukkan tahap pengetahuan yang mencukupi. Sebaliknya, 96.9% menunjukkan sikap yang positif, dengan menyatakan hasrat untuk meneruskan penyusuan walaupun menghadapi kesukaran. Walaupun sikap positif ini amat menggalakkan, ia perlu disokong dengan pengetahuan yang mencukupi agar ibu dapat mengendalikan penyusuan dengan berkesan dan selesa. Penemuan ini menekankan keperluan untuk memperkukuh pendidikan antenatal, khususnya dalam aspek pengurusan masalah penyusuan susu ibu. Pengintegrasian kandungan yang lebih khusus ke dalam kelas antenatal boleh membantu untuk meningkatkan keyakinan, pengetahuan dan hasil penyusuan susu ibu secara keseluruhan.

Kata kunci: Masalah penyusuan; pengetahuan ibu; pengurusan penyusuan; sikap ibu

ABSTRACT

Breastfeeding problems are among the most significant barriers to sustaining exclusive breastfeeding. Many postpartum mothers report difficulties in managing breastfeeding challenges due to inexperience, lack of education, or inadequate support. Therefore, addressing breastfeeding-related problems is critical to improving breastfeeding success. This study aimed to assess the level of knowledge and attitudes toward managing breastfeeding problems among postnatal mothers. A cross-sectional study was conducted with

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258 postnatal mothers using purposive sampling at Hospital Canselor Tuanku Muhriz between May and June 2024. Data were collected using the Knowledge of Breastfeeding Problems Questionnaire (K-BFQ) and an open-ended question to assess attitudes toward managing breastfeeding problems. Among the 258 respondents, 82.6% had received breastfeeding education, while 17.4% had not. Despite the high rate of education exposure, only 51.2% demonstrated an adequate level of knowledge. In contrast, 96.9% expressed a positive attitude, indicating a willingness to continue breastfeeding even when facing challenges. While this positive attitude is encouraging, it must be supported by sufficient knowledge to ensure mothers can manage breastfeeding effectively and comfortably. These findings highlight the need to strengthen antenatal education, particularly on managing breastfeeding difficulties. Integrating targeted content into antenatal classes may help to improve maternal confidence, knowledge and overall breastfeeding outcomes.

Keywords: Breastfeeding management; breastfeeding problems; maternal attitudes; maternal knowledge

INTRODUCTION

Breastfeeding plays a critical role in promoting the health and well-being of both mothers and infants. Breast milk provides optimal nutrition essential for an infant's growth and development. According to the World Health Organisation (WHO), exclusive breastfeeding (EBF) is recommended for the first six months of life, followed by continued breastfeeding alongside appropriate complementary foods up to two years of age or beyond (WHO 2023). Breastfeeding also fosters maternal-infant bonding, particularly through early skin-to-skin contact (Kebede et al. 2020).

The WHO (2023) and United Nations Children's Fund (UNICEF 2023) advocate initiating breastfeeding within the first hour after birth. In line with these global recommendations, the Ministry of Health Malaysia's National Plan of Action for Nutrition of Malaysia (NPANM) 2016–2025 targets achieving more than 70% EBF rates among infants under six months by 2025 (National Coordinating Committee on Food and Nutrition 2016).

Numerous benefits of breastfeeding have been identified for both the infant and mother. Evidence suggests that breastfeeding contributes to higher cognitive development, healthier growth patterns, optimal cholesterol levels and a reduced risk of cardiovascular diseases compared to formula-fed infants (Chade et al. 2024). It also promotes healthier dietary habits, including

higher nutrient intake and reduced consumption of sugar-sweetened beverages, potentially decreasing the risk of obesity in later life (Yi et al. 2021). Additionally, insufficient breastfeeding has been linked to neonatal hyperbilirubinemia due to delayed meconium passage and increased enterohepatic circulation (Lin et al. 2022). From a psychological perspective, breastfeeding supports emotional bonding and maternal mental health, with studies showing reduced levels of cortisol, adrenocorticotrophic hormone and norepinephrine among breastfeeding mothers, thereby decreasing stress, anxiety and depression (Tucker et al. 2022).

Despite its benefits, many mothers report challenges that hinder successful breastfeeding. Common issues include breast engorgement, insufficient milk supply, latching difficulties, inverted or cracked nipples, mastitis and breast abscesses (Aldalili et al. 2021; Lakunina & Barthelmes 2021; Pileri et al. 2022). Breast engorgement, in particular, is frequently cited and is often attributed to increased milk production and constricted blood vessels, making it difficult for infants to latch (Huda et al. 2022). Insufficient milk supply, often due to incorrect positioning or poor breastfeeding technique, is another significant factor associated with early breastfeeding cessation (Olalere & Harley 2024).

Effective management of breastfeeding problems is crucial for improving breastfeeding outcomes. However, studies indicate that

postpartum mothers generally have moderate to poor knowledge regarding breastfeeding. Lack of adequate information, experience and support are commonly reported barriers (Minarini et al. 2025). Knowledge levels significantly influence maternal feeding intentions and practices, making education a key component in improving breastfeeding rates (Ayers et al. 2024). Several maternal factors including knowledge, age, health status and attitude have been found to correlate with early breastfeeding cessation (Al Shahrani et al. 2021).

In Malaysia, the Institute for Public Health (2016) reported that only 47.1% of infants under six months were exclusively breastfed. The primary reasons for early cessation included perceived insufficient milk (59.0%), maternal fatigue due to work (16.4%) and infant latching difficulties (8.6%). These findings highlight the urgent need for effective strategies to promote and sustain EBF. Addressing breastfeeding difficulties and enhancing support systems and educational interventions are essential (Sandhi et al. 2020; Wen et al. 2021).

Despite the significance of these issues, there remains a paucity of research on the management of breastfeeding challenges in Malaysia and Southeast Asia. Understanding maternal knowledge and attitudes toward breastfeeding problems is essential for the development of targeted interventions. This study aimed to assess the level of knowledge and the attitudes of mothers at Hospital Canselor Tuanku Muhriz (HCTM) regarding breastfeeding difficulties. Additionally, it explored the relationship between knowledge and attitudes toward managing breastfeeding problems. The findings are expected to inform healthcare professionals and researchers in designing evidence-based interventions and support systems to improve breastfeeding outcomes, thereby enhancing maternal and child health.

MATERIALS AND METHODS

This study employed descriptive cross-sectional design conducted at HCTM. The study aimed to

investigate the relationship between independent and dependent variables specifically, the level of knowledge and the attitudes of mothers in managing breastfeeding problems. Participants in this study were mothers who had the ability to understand either Malay or English language, and individuals holding Malaysian citizenship. Mothers diagnosed with medical conditions that could impede breastfeeding, such as breast cancer or human immunodeficiency virus (HIV), were excluded from the study.

The sample size for this study was determined using Cochran's formula (Cochran 1977), which was appropriate when the population size and proportion were unknown (Chanuan et al. 2021). A confidence level of 95% was selected, with a corresponding Z-value of 1.96. The estimated population proportion (p) was set at 0.5 to account for maximum variability, and the acceptable margin of error (e) was 0.05. Based on these parameters, the initial calculated sample size was 384 respondents. However, as not all women admitted to the obstetrics ward were postpartum mothers, the sample size was adjusted to account for the actual study population. After applying the correction for the smaller population, the final required sample size was 258 postpartum mothers. This figure represented the minimum number of participants needed to maintain the desired confidence level and precision.

Data Collection Instrument

Data for this study were collected using a self-administered questionnaire. The questionnaire was divided into three main sections. The first section gathered sociodemographic information, such as the participants' age, level of education, occupation, number of children and previous breastfeeding experience. The second section focused on knowledge related to breastfeeding problems. It consisted of structured questions adapted from a validated English version of the breastfeeding knowledge questionnaire (K-BFQ) developed by Ali Kareem et al. (2018). The K-BFQ consisted of a total of 86 items, covering five key areas: 16 questions on breast engorgement,

19 on cracked nipples, 18 on breast mastitis, 20 on breast abscess and 13 on inverted or flat nipples. The K-BFQ demonstrated strong internal consistency, with a Cronbach's alpha coefficient of 0.977 (Ali Kareem et al. 2018).

The final section explored the participants' attitudes toward managing breastfeeding problems through open-ended questions. Mothers were encouraged to respond in their own words, offering deeper insight into their thoughts, experiences and approaches to overcoming breastfeeding challenges. This comprehensive approach allowed the study to capture both the factual knowledge and the personal perceptions of mothers, providing a well-rounded understanding of how breastfeeding issues were managed in the Malaysian context. The questionnaire was provided to mothers in a bilingual format. A back-to-back translation process was carried out, where the original English version was translated into Malay and then back into English by a person with a qualification in Teaching English as a Second Language (TESL). The translated version was subsequently validated by two nursing lecturers.

Statistical Analysis

Data for research objectives one and two were analysed using descriptive statistics, including means, standard deviations, frequencies and percentages. To determine the relationship between knowledge and attitudes toward managing breastfeeding problems, the Chi-square test was employed. For objective four, which examined the relationship between knowledge of breastfeeding management and sociodemographic characteristics among mothers at HCTM, Spearman's correlation, Kruskal-Wallis, and Mann-Whitney U tests were utilised. Finally, for objective five, the relationship between attitudes toward managing breastfeeding problems and sociodemographic characteristics was assessed using Chi-square and Mann-Whitney U tests.

RESULTS

A total of 258 postnatal mothers participated in this study (Table 1). The mean age of respondents was 31.95 years (SD = 4.67), with the majority falling within the 30–39 age group (n = 146, 56.6%). The smallest age group represented was 40–49 years (n = 16, 6.2%). In terms of ethnicity, most participants were Malay (n = 222, 86.0%), followed by Chinese (n = 20, 7.8%), Indian (n = 9, 3.5%), and others, including Sarawakian and Sabahan (n = 7, 2.7%). Most participants identified as Muslim (n = 224, 86.8%), followed by Buddhists (n = 15, 5.8%), Christians (n = 13, 5.1%), Hindus (n = 5, 1.9%) and one participant reported having no religion (0.4%). Regarding education level, most participants held a diploma (n = 107, 41.5%), followed by a bachelor's degree (n = 99, 38.4%), secondary school (n = 47, 18.1%), and postgraduate qualifications such as a master's degree or higher (n = 5, 1.9%). Nearly all participants were married (n = 257, 99.6%), with only one unmarried respondent (0.4%). The majority were employed (n = 199, 77.1%), while the remaining participants were not working (n = 59, 22.9%). Based on the Department of Statistics Malaysia (DOSM) classification, the majority of participants belonged to the M40 income group (RM 4,850–10,959), comprising 48.8% (n = 125). This was followed closely by the B40 group, earning less than RM 4,849 (n = 123, 47.7%), while a smaller proportion fell into the T20 group, earning more than RM 10,960 (n = 9, 3.5%). Participants reported two main modes of delivery: vaginal delivery (n = 162, 62.8%) and cesarean section (n = 96, 37.2%). Finally, most participants received breastfeeding education (n = 213, 82.6%), while a smaller proportion did not (n = 45, 17.4%).

Knowledge of Breastfeeding Problems

The total knowledge score was calculated for each participant, and the mean score was then used to determine the overall level of knowledge among respondents. The mean total knowledge score among respondents was 64.15 (SD = 14.54), representing 74.59% of the maximum possible

TABLE 1: Demographic characteristics of respondents (n = 258)

Variables	Mean	SD	n (%)
Age	31.95	4.68	
20-29			96 (37.2)
30-39			146 (56.6)
40-49			16 (6.2)
Ethnicity			
Malay			222 (86.0)
Chinese			20 (7.8)
Indian			9 (3.5)
Others			7 (2.7)
Religion			
Islam			224 (86.8)
Buddhist			15 (5.8)
Hindu			5 (1.9)
Christian			13 (5.05)
Others			1 (0.4)
Educational Status			
Secondary School			47 (18.1)
Diploma			107 (41.5)
Bachelor's Degree			99 (38.4)
Master and above			5 (1.9)
Marital Status			
Married			257 (99.6)
Unmarried			17 (0.4)
Occupational status			
Working			199 (77.1)
Not working			59 (22.9)
Family Income			
Less than RM 4849			123 (47.7)
RM4850-RM10959			126 (48.8)
More than RM10960			9 (3.5)
Mode of delivery			
Cesarean section delivery			96 (37.2)
Vaginal delivery			162 (62.8)
Breastfeeding education			
Yes			213 (82.6)
No			45 (17.4)

SD: Standard deviation; %: Percentage; n: Number of participants

score. Based on this assessment, the majority of respondents demonstrated a 'Good' level of knowledge (n = 132, 51.2%). Further details of these findings were presented in Table 2.

Attitudes Toward Managing Breastfeeding Problems

Table 3 summarised the findings on mothers'

attitudes toward managing breastfeeding problems at HCTM. The mothers' open-ended responses were analysed using thematic content analysis. This analysis was independently reviewed and validated by two nursing professionals, each with over five years of clinical experience, to ensure reliability. Mothers' statements were categorised by identifying key behaviours and intentions expressed in their

TABLE 2: Level of knowledge toward managing breastfeeding problems

Variables	Mean (SD)	n (%)
Total score of knowledge	64.15 (14.54)	
Level of knowledge		
Poor knowledge		22 (8.5)
Moderate knowledge		104 (40.3)
Good knowledge		132 (51.2)

SD: standard deviation; %: percentage; n: number of participants

TABLE 3: Thematic content analysis of attitudes regarding breastfeeding problem management

Variables	n (%)
Thematic content analysis	
Cessation of breastfeeding	8 (3.1)
Seeking help from a lactation specialist	155 (60.1)
Adoption of a healthy lifestyle	27 (10.5)
Continuation of breastfeeding	68 (26.4)
Attitude categories	
Negative	8 (3.1)
Positive	250 (96.9)

n: number of participants; %: percentage

responses, which were then grouped according to whether they demonstrated proactive support-seeking or breastfeeding continuation (positive attitudes) versus cessation or unsupported feeding changes (negative attitudes). The responses were grouped into four main themes: cessation of breastfeeding, seeking help from a lactation specialist, adoption of a healthy lifestyle and continuation of breastfeeding. Based on these themes, the attitudes were categorised into two groups: positive attitudes, which included proactive behaviours such as seeking help from a lactation specialist or continuation of breastfeeding, and negative attitudes, characterised by cessation of breastfeeding or

switching to bottle feeding without seeking support. These categories reflected the nature of the mothers’ expressed responses rather than a graded scale or “levels” of attitude. The analysis revealed that the vast majority of respondents (n = 250, 96.9%) expressed positive attitudes toward managing breastfeeding challenges.

Relationship between Knowledge and Attitude toward Managing Breastfeeding Problems

This section examined the relationship between mothers’ knowledge regarding breastfeeding problems and their attitudes toward managing these issues. As shown in Table 4, a Chi-Square

TABLE 4: The relationship between the level of knowledge and attitudes toward managing breastfeeding problems

Variables	Level of Attitudes		
	χ^2	p-value	Cramer’s value
Level of knowledge	32.445	< 0.001	0.355

Chi-square test was used for categorical data comparison. A p-value < 0.05 was considered statistically significant.

test was conducted to assess the association between the two variables. The results revealed a statistically significant relationship ($\chi^2 = 32.445, p < 0.001$), leading to the rejection of the null hypothesis. The effect size, measured using Cramér’s Value, was 0.355, indicating a moderate association between knowledge and attitude. These findings suggested that higher levels of knowledge about breastfeeding problems were significantly associated with more positive attitudes toward their management.

Relationship between Sociodemographic Characteristics and Knowledge of Managing Breastfeeding Problems

This section explored the relationship between selected sociodemographic characteristics, namely age, educational status, family income, occupational status, mode of delivery and mothers’ knowledge of breastfeeding problems at HCTM. Spearman’s rank-order correlation was used to assess the association between age and total knowledge score, and the result indicated no statistically significant relationship ($p = 0.826$) between those two variables.

Table 5 presented the relationship between educational status and knowledge level. The Kruskal-Wallis test revealed a statistically significant difference in knowledge scores among the four educational groups ($H = 22.402, p < 0.001$), leading to the rejection of the null

hypothesis. The effect size, calculated using eta squared ($\eta^2 = 1.3$), indicated a strong effect according to Cohen’s (1998) guidelines. Post hoc analysis, as shown in Table 5, revealed significant differences between the following educational groups: Secondary School versus Diploma ($p = < 0.001$) and Secondary School versus bachelor’s degree ($p = < 0.001$).

No statistically significant association was found between knowledge score and family income ($p = 0.287$), occupational status (Mann–Whitney $U = 556.00, p = 0.469$, two-tailed) or mode of delivery (Mann–Whitney $U = 7076.00, p = 0.227$). These results indicated that these sociodemographic variables were not significantly related to mothers’ knowledge of breastfeeding problems.

Relationship between Sociodemographic Characteristics and Attitudes Toward Managing Breastfeeding Problems

This section examined the association between selected sociodemographic variables such as age, educational status, family income, occupational status and mode of delivery with mothers’ attitudes towards managing breastfeeding problems at HCTM.

The Chi-Square test was employed to determine the relationship between age and attitude levels. The results showed no statistically significant association ($p = 0.196$). This finding

TABLE 5: Relationship between educational status and knowledge toward managing breastfeeding problems

Variables	Total score of knowledge			
	n	H statistic (df)	p-value	Post-hoc Results (Pairwise)
Educational status				
Secondary school	47	22.402	< 0.001	Secondary vs. Diploma ($p < 0.001$)
Diploma	107			
Bachelor's Degree	99			Secondary vs. bachelor's degree ($p < 0.001$)
Master and above	5			

The Kruskal-Wallis H test was used for group comparisons, followed by post hoc pairwise comparisons for significant results. Statistical significance was set at $p < 0.05$

indicated that age did not influence mothers' attitudes toward managing breastfeeding problems.

Table 6 illustrated the relationship between educational status and attitude levels. The Chi-Square test revealed a statistically significant difference among the four educational groups ($\chi^2 = 11.028$, $p = 0.012$), with diploma holders exhibiting the highest proportion of positive attitudes. The effect size, measured using Cramér's V, was 0.207, indicating a small effect size. These results suggested that educational status was significantly associated with attitudes toward breastfeeding problem management.

In contrast, no statistically significant associations were found between attitude levels and the remaining sociodemographic variables. Family income was not significantly related to attitudes ($p = 0.861$). Similarly, occupational status showed no association ($\chi^2 = 0.000$, $p = 1.000$), and mode of delivery also revealed no statistically significant difference in attitude levels ($\chi^2 = 0.151$, $p = 0.697$).

Overall, these findings suggested that among the sociodemographic variables assessed, only educational status was significantly associated with mothers' attitudes toward managing breastfeeding problems.

DISCUSSION

The findings of this study reveal that a majority of participating mothers demonstrated a good level

of knowledge (51.2%) regarding the management of breastfeeding problems. Additionally, 40.3% of respondents exhibited moderate knowledge, while 8.5% reported poor knowledge. These results are consistent with previous studies, which also indicated that mothers generally possess a satisfactory level of knowledge in managing breastfeeding-related challenges (Jalil et al. 2024; Marzo et al. 2019; Ali Kareem et al. 2018). One possible explanation for this encouraging level of knowledge may be attributed to the breastfeeding education offered during both the antenatal and postnatal periods, which included classes, informative pamphlets and hands-on demonstrations by lactation consultants during the mothers' hospital stay (Beyene et al. 2025). However, the presence of moderate to poor knowledge among a portion of postnatal mothers may be attributed to physical discomfort and pain experienced during the postpartum period, which could impair their ability to concentrate and respond accurately to the questionnaire items (Makeen 2022; Qiu et al. 2021).

Postpartum mothers often experience significant functional limitations, particularly in mobility-related activities such as sitting, standing, walking and lying down (Bulguroglu et al. 2023). These activities place increased muscular demands on the body during the recovery period. Similarly, Jafarian et al. (2025) noted that persistent pain can act as an ongoing disruptor, with its effects potentially amplified by internal factors such as fatigue and external

TABLE 6: The relationship between educational status and attitudes toward managing breastfeeding problems

Variables		Level of attitudes					
		Frequency			χ^2	p value	Cramer's value
		Negative	Positive	Total			
Educational status	Secondary school	5	42	27	11.028	0.012	0.207
	Diploma	2	105	107			
	Bachelor's Degree	1	98	99			
	Master and above	0	5	5			

Chi-square test was used for categorical data comparison. A p-value < 0.05 is considered statistically significant

influences that interfere with daily functioning. These physical challenges may also impact on a mother's ability to engage effectively with health education and self-care practices during the postpartum period.

Despite these challenges, the present study found that 96.9% of mothers at HCTM exhibited a positive attitude toward managing breastfeeding problems, while only 3.1% demonstrated a negative attitude. This finding aligns with previous research by Jalil et al. (2024) and Yahya et al. (2021), which reported that 71% of mothers had a positive attitude and 21% exhibited a negative attitude towards breastfeeding management. The high prevalence of positive attitudes in the current study may reflect the effectiveness of hospital-based breastfeeding education and support, particularly during the critical postpartum period.

Among mothers who demonstrated a positive attitude toward managing breastfeeding problems in this study, the majority (60.1%) reported that they would seek support from a lactation specialist, while others indicated their intention to continue breastfeeding (20.4%) or to adopt a healthier lifestyle (10.5%). These findings are supported by the study of Astuti et al. (2021), which highlighted that mothers who successfully maintained breastfeeding often employed effective coping strategies and demonstrated personal resilience. Such mothers were also more likely to rely on trusted healthcare providers, including lactation consultants to navigate breastfeeding challenges.

In contrast, responses associated with a negative attitude included intentions to discontinue breastfeeding or to switch to bottle feeding. This aligns with the findings of Jalil et al. (2024) and Hunde et al. (2023), who reported that many mothers were not adequately prepared for the potential difficulties associated with breastfeeding, which often led to early cessation. Additionally, Evcli and Kaya (2019) found that negative attitudes among postpartum women, particularly those experiencing pain, were closely linked to low breastfeeding self-efficacy, further contributing to reduced breastfeeding persistence.

The findings of this study indicate that mothers with higher levels of knowledge regarding the management of breastfeeding problems also demonstrated more positive attitudes, while those with lower knowledge levels were more likely to exhibit negative attitudes. This positive correlation between knowledge and attitude is consistent with previous studies, which similarly reported that increased breastfeeding knowledge was associated with more favourable attitudes (Shankar et al. 2022; Sultana et al. 2022; Zhang et al. 2021). One possible explanation is that breastfeeding education, guidance and support can enhance a mother's self-confidence, thereby improving her willingness and ability to continue breastfeeding, as observed by Zhang et al. (2021).

However, it is important to note that knowledge alone may not always guarantee the success of EBF. Some studies have reported discrepancies between knowledge and actual breastfeeding practices. For instance, research conducted in Nigeria found that although mothers were knowledgeable about breastfeeding, this did not always translate into positive attitudes or successful breastfeeding practices (Marzo et al. 2019; Onah et al. 2014; Uchendu et al. 2009). Similarly, a study in Malaysia reported that maternal knowledge was not sufficient in isolation; the support of immediate family members, such as husbands, grandparents and siblings, played a crucial role in sustaining breastfeeding (Bachtiar et al. 2011; Marzo et al. 2019). These findings underscore the importance of a comprehensive support system combining maternal knowledge with emotional, practical and social support to enhance both attitudes toward breastfeeding and the likelihood of its successful continuation.

Age in this study did not show a statistically significant relationship with either knowledge or attitude towards managing breastfeeding problems. These results align with some previous studies, while others have reported inconsistent findings regarding the impact of age. For example, Abdulahi et al. (2021) found that younger women tended to have higher attitude scores, while other studies found that older women exhibited more positive attitudes toward breastfeeding (Abdulahi

et al. 2021; Alkhalidi et al. 2023; Gizaw et al. 2022). The positive relationship between age and attitude may be attributed to prior breastfeeding experience, as breastfeeding is often considered a learned behaviour (Abdulahi et al. 2021).

Additionally, studies supporting our findings also showed no statistically significant relationship between maternal age and total knowledge scores regarding breastfeeding problems, with p-values exceeding 0.05 (Ali Kareem et al. 2018; Hamze et al. 2019). This lack of a significant relationship suggests that all mothers, regardless of age, have equitable access to the educational resources and specialised support provided by HCTM, such as prenatal classes and breastfeeding education pamphlets. These resources ensure that knowledge and support for breastfeeding management are available to all mothers, regardless of their age or previous experience.

Family income is also found to have no significant relationship with knowledge or attitude towards managing breastfeeding problems. This contrasts with previous research, such as the study by Ali Kareem et al. (2018), which found that family income was a significant predictor of a mother's knowledge and attitude. However, other studies align with our findings, indicating no statistical significance between family income and breastfeeding attitudes, with p-values exceeding 0.05 (Awaliyah et al. 2019; Yasser Abulreesh et al. 2021). Similarly, studies examining the relationship between monthly income and knowledge scores among postnatal mothers also reported no significant correlation, with p-values greater than 0.05 (Hamze et al. 2019; Rana et al. 2020). One possible explanation for these findings is the healthcare system at HCTM, which provides lactation consulting and breastfeeding support as part of standard prenatal and postnatal care. These services are available to all mothers, regardless of their family income, which ensures that the support and education necessary for managing breastfeeding challenges are accessible across families with diverse financial backgrounds.

The findings of this study indicate that a higher level of educational status is associated with

greater knowledge and a more positive attitude toward managing breastfeeding problems. This is consistent with existing literature, which demonstrates a significant relationship between education level and both knowledge and attitude toward breastfeeding (Aldalili et al. 2021; Ali Kareem et al. 2018; Feenstra et al. 2018; Laksono et al. 2021). One explanation for this relationship is that educated mothers are more likely to understand and follow breastfeeding instructions, thereby performing the correct breastfeeding techniques. Research has shown that a mother's educational background significantly influences her intention to practice EBF. Educated mothers are more likely to adhere to proper breastfeeding techniques, which not only improve their knowledge but also positively shape their attitudes toward EBF, ultimately contributing to better breastfeeding outcomes.

Knowledge and attitude were found to have no statistically significant difference toward managing breastfeeding problems across different modes of delivery. Among the respondents, eight mothers reported negative attitudes, with four from the vaginal delivery group and four from the cesarean section (C-section) group. However, the vaginal delivery group showed a higher number of positive attitudes (158) compared to the C-section group (92). This difference may be influenced by operative care practices following a C-section, which could hinder early mother-infant bonding. Such practices, which may delay or prevent immediate skin-to-skin contact, can negatively impact the initiation of breastfeeding. Previous research has indicated that mothers who delivered via C-section were approximately half as likely to initiate EBF compared to those who had vaginal deliveries (Tracz et al. 2021).

Several studies have reported a significant association between mode of delivery and early cessation of breastfeeding, with p-values less than 0.05 (Ayuby et al. 2024; Hasan et al. 2021; Karthigesu et al. 2023). However, in contrast to these findings, our study concurs with previous research by Hamze et al. (2019), which found no significant relationship between mode of delivery and breastfeeding knowledge, demonstrated by a

p-value of 0.26.

The implications of our study suggest that employment status does not significantly influence mothers' knowledge or attitude toward managing breastfeeding problems, which contrasts with findings from some previous research. For instance, studies by Abdulahi et al. (2021) and Hasan et al. (2021) reported a significant relationship between occupation and breastfeeding attitude. However, other research has found no significant differences in infant feeding attitudes based on employment status (Abdulahi et al. 2021; Hamze et al. 2019), reflecting inconsistency in the literature. One possible explanation for these mixed results is the growing support from modern workplaces, which increasingly implement breastfeeding-friendly policies such as lactation rooms and extended maternity leave (Tsai 2022). These measures enable mothers across various occupational backgrounds to manage breastfeeding more effectively, regardless of their employment status.

In contrast to our findings regarding the relationship between occupational status and knowledge, previous studies by Ali Kareem et al. (2018) found statistically significant differences between mothers' knowledge and occupational status ($p < 0.005$). Specifically, unemployed mothers demonstrated a higher percentage of good knowledge (60%) compared to working mothers (40%). However, our study found no statistically significant relationship, which may be attributed to the abundance of accessible information regarding breastfeeding management. With the widespread availability of resources online, as well as guidance from medical professionals and community services, mothers from various occupational backgrounds can access similar information and educational materials. Equal access to knowledge may mitigate the influence of occupational status on their level of breastfeeding knowledge.

CONCLUSION

This study highlights that mothers with higher levels of knowledge and more positive attitudes

are better prepared to manage breastfeeding problems effectively. A strong association was found between knowledge and attitudes, with higher educational status also linked to more favourable outcomes. These findings emphasise the importance of structured breastfeeding education and support during the antenatal and postnatal periods. Healthcare providers, particularly nurses and lactation consultants, play a vital role in equipping mothers with the necessary information and confidence to overcome breastfeeding challenges.

However, the study's findings should be interpreted in light of several limitations. The single-site design may limit generalisability, and the omission of parity restricts a more comprehensive understanding of influencing factors. Additionally, the self-reported nature of the data and the subjectivity inherent in qualitative analysis should be acknowledged. Future research should aim to include more diverse populations, incorporate key maternal variables such as parity and breastfeeding experience, and explore longitudinal outcomes to better understand the evolving nature of maternal knowledge and attitudes. By addressing these gaps, future studies can contribute to more effective strategies for promoting successful breastfeeding practices.

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