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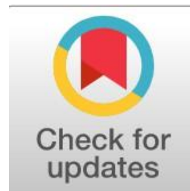

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Assessment of Mothers' Knowledge about Breastfeeding in Basra City

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Abstract

General Background Breastfeeding is essential for child development and protects against infant mortality. **Specific Background** Human milk is the recommended exclusive nutrient source during the first six months of life, making maternal understanding of proper lactation techniques crucial for successful child health outcomes. **Knowledge Gap** Although formal education generally correlates with better health literacy, it remains unclear why mothers with high educational attainment still display significant awareness gaps regarding optimal breastfeeding practices. **Aims** This study assessed mothers' knowledge about breastfeeding and evaluated their primary information sources within primary healthcare settings in Basra City. **Results** Out of 158 participants, 76.6 percent resided in urban areas and 46.2 percent completed college. Crucially, 79.7 percent of mothers exhibited poor breastfeeding knowledge, and 62 percent received only simple reassurance from health centers. Medical facilities were the most frequent knowledge source for 28 percent of respondents, followed closely by the internet at 27 percent, while family and friends accounted for 11 percent. **Novelty** This study reveals a critical paradox where high formal college education fails to translate into adequate breastfeeding literacy among urban housewives in Basra. **Implications** Primary healthcare centers must shift from basic reassurance to well-designed, structured prenatal and postnatal lactation counseling programs to rectify widespread institutional knowledge gaps.

Keywords: Breastfeeding, Maternal Knowledge, Lactation Counseling, Public Health, Primary Healthcare

Key Findings Highlights

Widespread knowledge deficiencies exist among mothers, with 79.7 percent demonstrating poor breastfeeding literacy.

High formal college education does not guarantee adequate awareness regarding optimal infant feeding practices.

Primary healthcare centers provide minimal counseling support, leaving the internet as a nearly equal source of maternal information.

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Introduction

Breastfeeding is a global issue, especially in underdeveloped nations, and is essential for the health and well-being of both mother and child. When feeding term infants, human milk is the only recommended source of nutrients for the first six months of life. After that, solid foods should be introduced. Because breastfeeding has been shown to benefit nutrition, gastrointestinal function, host defense, and psychological well-being, both government and medical professional organizations strongly recommend it for all infants. (1-5) Numerous studies and organizations have shown the advantages of EBF. (2) Breast milk is considered the best diet for a human baby. Besides its nutritional benefits, breastfeeding also helps protect against infections, lowering the risk of illness and infant mortality. Studies have shown that breastfeeding reduces the likelihood of illnesses in infants. It positively affects newborns' health and helps prevent negative health outcomes later in life. Additionally, nursing enhances the bond between mother and baby and reinforces the mother's role. (6) Also, it encourages the development of brain health and is linked to better IQ scores in kids and teens. Additionally, it has been demonstrated that nursing reduces the risk of breast cancer, endometrial cancer, postpartum depression, ovarian cancer, and hemorrhages in mothers. Additionally, it facilitates moms' weight loss. (2) Mothers' views and behaviors toward this crucial health behavior are greatly influenced by their understanding of breastfeeding. Research has demonstrated how important maternal education is in determining the initiation, exclusivity, and duration of breastfeeding. (7) According to research by Smith et al., moms may be discouraged from starting or continuing breastfeeding if they are not given correct information about the advantages of nursing and the right procedures. (8)

The benefits of nursing vary depending on when it begins, how long it lasts, and when the child who is breastfed begins receiving complementary foods. (9) and social and cultural legacies are somewhat responsible for the success of BF. (4)

In addition to its impact on the economy and environment, breastfeeding has numerous health benefits for both parents and children, making it a public health issue as well as a lifestyle choice; Maternal attitudes and nursing knowledge are associated with longer breastfeeding duration. (10) Additionally, there is an association between prenatal breastfeeding intentions and knowledge of the advantages of breastfeeding as concluded by Iwuagwu et al., by studying awareness of the maternal health benefits of lactation among US pregnant individuals. (11)

Planning for the feeding of newborns and young children should include breastfeeding counseling. (8) A two-way conversation between a counselor and a mother to promote nursing behaviors and resolve obstacles is known as breastfeeding counseling. Counseling employs methods such as problem-solving, education, and assistance with practical skills. In order to handle different levels of knowledge, attitude, and practice, mothers require counseling. (10)

One well-established public health intervention is breastfeeding counseling. In 2018, the WHO released the first global recommendations for advising women to enhance their nursing habits. From pregnancy until 24 months (about two years) after giving birth, it describes the kinds and frequency of breastfeeding coaching that are advised. However, the fact that these suggestions are based on poor-quality data emphasizes how important this work is to advance knowledge and put it into practice. (10)

Mothers' knowledge regarding breastfeeding was crucial in affecting the well-being of the children. A study at Al-Hussein Hospital in Nasiriyah city, a sample of mothers was drawn from the outpatient clinic. (13); Another study in Kurdistan /Iraq, evaluating mothers' or girls' understanding and interest in nursing, will help to define their requirements as well as those of the health planning process in our community. In addition to evaluating the association between sociodemographic traits and breastfeeding knowledge, the study included women who are patients at the Maternal and Pediatric Hospital in Soran city, Erbil, in the Kurdistan region (14). In Saudi Arabia, 60% of women receive post-delivery breastfeeding counseling on positioning and latching, while 39% are taught how to express milk. (15). Another Egyptian study, with a sample of 100 mothers, comprised 76 nursing mothers and 24 primigravida women in the third trimester of pregnancy who came to the stated location for follow-up. (16)

- **Breastfeeding Counselling**

The design and implementation of public health preventative initiatives aimed at breastfeeding indicators are highly variable and frequently multifaceted, complicating the evaluation of which specific components are most beneficial. For example, there are many different types of preventative interventions, including counseling, education, the Baby-Friendly Hospital Initiative (BFHI), support, media, and mass marketing; setting, like a hospital, medical facility, community, or home; mode, like group, individual, phone, or in-person; provider, like a medical professional or layperson/peer; stage of delivery, like prenatal or postpartum; and frequency. It can be challenging to distinguish between counseling and other preventative measures, such as education, because the terms are frequently used interchangeably (17).

Breastfeeding counseling is defined by the World Health Organization (WHO) as the assistance that healthcare professionals give to women and infants in making decisions, resolving challenges, and putting best feeding practices into practice (17).

Compared to other forms of counseling, breastfeeding counseling is the best way to increase a mother's understanding of nursing. This is due to the more intimate nature of counseling. Every mother has varied information needs, after all. To understand the mother's needs and worries, a competent counselor should be able to obtain as much information as possible; According to earlier studies by Liliana et al., the effectiveness of counseling in improving a mother's understanding of exclusive breastfeeding, proper position, and bonding is also indicated by the severity of counseling, This is due to the fact that more information about exclusive breastfeeding and breastfeeding can indirectly boost a mother's knowledge, which will influence her attitude and desire to breastfeed (16).

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It will be possible to explore information about the mother's level of knowledge and improve it with good cooperation and communication between the mother and the counselor, as well as the counselor's open attitude, willingness to listen well, and ability to create a comfortable environment. Furthermore, the counselor's job is to build the mother's confidence and drive so that she views the counselor as a source of knowledge that influences her bravery in disclosing the ignorance she has encountered thus far (18).

- **Factors affecting mothers' knowledge about BF.**

Research on mothers' breastfeeding knowledge, attitudes, and behaviors in Saudi Arabia is a complicated area that illuminates the challenges associated with promoting and sustaining this vital health practice. Fostering a supportive environment that promotes optimal nursing behaviors requires an understanding of the interaction between mothers' knowledge about breastfeeding, their attitudes toward it, and the actual actions they engage in (7). Research has demonstrated how important maternal education is in determining the initiation, exclusivity, and duration of breastfeeding. (8) Mothers who don't know enough about breastfeeding risk trauma, breast soreness, exhaustion, cracked nipples, and lactation failure. Knowledge level, biophysical, social, cultural, psychological, and demographic factors all affect breastfeeding behaviors and attitudes. (19) These are some of the factors that affect the degree of awareness that women have about the advantages of breastfeeding, appropriate nursing methods, and the ideal amount of time for breastfeeding. (7)

1. **Age of mother**. Numerous studies have shown that the demographics of mothers, including their age, can influence their knowledge and practice of exclusive breastfeeding during the first six months of a child's life. Adeola et al. discovered that the respondents' ages ranged from 28 to 37 years old (M = 92.3, SD = 8.7), which significantly impacted the knowledge of exclusive breastfeeding among nursing mothers in Ifelodun, Nigeria. (20)

A random sample survey of 1742 women with children under one year old was carried out in another study. According to the study, women between the ages of 18 and 35 continued to breastfeed for the longest period, while moms between the ages of 20 and 24 and 40 and older intended to do so for the longest. Lack of milk and the necessity to work or study cause more breastfeeding refusals as mothers get older, while refusals because the mother doesn't want to continue breastfeeding become less common. (21)

2. **Academic contribution and education level of mother:** A Nigerian study showed that most of the respondents in this study had good knowledge about BF, and they had at least a secondary education (58.2%). The hypothesis is rejected because this result shows that respondents' awareness about exclusive breastfeeding is significantly impacted by the educational position of the mother. The knowledge of exclusive breastfeeding among nursing mothers in Ifelodun, Nigeria, was significantly impacted by maternal educational status, according to the literate respondents (M = 98.7, SD = 7.3). (22)

According to a study by Farooq et al., it also serves as a protective factor, supporting the idea that children of more educated moms are more likely to receive a healthy diet. (23) Highly educated mothers tend to have better access to information and a better grasp of the significance of exclusive breastfeeding. (24)

3. **Socio-economic contribution:** Breastfeeding may be impacted by socioeconomic characteristics like occupation, income, and education that affect healthcare, educational resource use, and resource access. Strong and consistent data suggest that women in high-income nations are more likely than those in low-income countries to breastfeed, and to do so for longer periods of time. The socioeconomic patterns of breastfeeding in Sub-Saharan Africa were examined using data from six prospective longitudinal birth cohorts, but it is still unclear whether socioeconomic status and breastfeeding are related in low- and middle-income countries (LMIC) settings. (25)

Foster et al. examined the relationship between BF and its long-term postpartum weight retention using a composite socioeconomic status derived from self-reported education and family income. (26)

Moms with high and/or secondary education had a much greater percentage of women having information on the benefits of the BF, according to an analysis by socioeconomic status and educational attainment. Habibi et al. also identified moms with middle socioeconomic position. (27) Additionally, moms' knowledge and experience with nursing had a significant impact on their opinions toward it. According to earlier research, for the first six months of life, infants of working moms who were well-versed in exclusive breastfeeding were given only breast milk and no supplements. (28)

According to UNICEF research, one in five babies in high-income nations are never breastfed, whereas nearly all newborns in low-income countries are. It's interesting to note that moms from lower-income households are less likely than those from wealthier households to breastfeed in high-income nations. (29)

4. **Parity:** has been thoroughly researched as one of the variables affecting breastfeeding. According to certain research, multiparas are more likely to start nursing and continue to do so for longer periods of time. However, if they had previously experienced a negative breastfeeding experience, this isn't always the case. Thus, it is necessary to carefully consider how past breastfeeding experiences affect the results of subsequent breastfeeding. (30) A Nigerian study in which nursing moms' knowledge of exclusive breastfeeding in Ifelodun Local Government Area was significantly impacted by the respondents' number of parities (M = 100.3, SD = 7.7), who have one to three children (20).

5. **Educational Program:** Developing public health initiatives to encourage breastfeeding and increase women's knowledge of exclusive breastfeeding guidelines and time is still important. However, it is important to know what maternal traits might be linked to following current

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recommendations to identify moms who could benefit from such public health interventions. Indeed, a variety of environmental, social, and cultural factors may have an impact on breastfeeding, including psychological and physiological issues. (31)

A study in Yemen's findings highlighted the effect of education programs on mothers' knowledge of breastfeeding, which implemented a three-stage assessment of mothers' knowledge, and the study revealed an improvement in mothers' knowledge of breastfeeding after implementing the education program. (31)

6. **Support:** Breastfeeding is a learned practice that works best in a supportive setting, even if lactation is an automatic physiological function. The impact of culture, social support, and mother self-esteem on the decision to formula feed is also examined in a certain study. (11)

Furthermore, helpful government policies and social support from friends, family, and the community are also very important. Workplace breastfeeding facilities and sufficient maternity leave are two policies that can greatly increase exclusive breastfeeding. Breastfeeding practices can also be improved by community-based programs that empower moms and promote social support. (32)

Many women stated that breastfeeding for the prescribed amount of time was associated with their perception of indifferent conduct from family members and medical personnel; grandmothers also assisted by providing babysitting to support mothers who returned to work outside the home. However, men's work obligations restrict fathers' capacity to support their wives. (25), While time constraints and a lack of breastfeeding facilities at work are common issues for working mothers. (27)

- **Sources of Mothers' knowledge about breastfeeding.**

The significance of getting knowledgeable advice on breastfeeding from medical professionals has been underlined by mothers. 56.6% learned about nursing from their immediate relatives. Furthermore, health experts provided information on exclusive breastfeeding and practical management strategies to 41.1% of the participants. By contrast, 22.2% of mothers said they got their knowledge from social media, radio, and television shows. (33)

Simple random sampling was used to pick 487 mothers of infants ages 1 to 24 months, who were then interviewed in person. In order to find out where they got their information about exclusive breastfeeding (EBF), these mothers visited six primary health care (PHC) centers in Karbala City. They found that family and friends accounted for the majority of their information (84.4%), followed by health institutions (79.1%), while the internet, posters and booklets, workshops, local satellite channels, and the curriculum at school were less than 50%. (34)

Methodology

This is a cross-sectional descriptive study conducted at the Primary Health Center in Basra governorate. Data were collected through face-to-face interviews using a standardized questionnaire according to the standards of the Iraqi Ministry of Health. All mothers who visited to vaccinate their babies were included in the study. This knowledge grade was a scale of performance based on standards previously used in another research.

Research Tools:

- Structured Questionnaire: Researchers developed the interview questionnaire sheet by reviewing pertinent literature; the study objectives served as the basis for the questionnaire form's design. It included three parts: -

Part (1): Socio-demographic characteristics include mothers' age, address, education level, occupation, and financial status.

Part (2): This section is designed to assess mothers' parity and feeding history.

Part (3): This section evaluates mothers' knowledge about breastfeeding. It contains twelve questions about basic breastfeeding information and asks about their information sources in an open-ended format.

The Scoring system was developed for the level of knowledge as follows:

The total knowledge score was determined by taking a point for each correct piece of information about the benefits of breastfeeding, and the score was divided into:

- I don't know – zero point
- Poor knowledge <=4 points
- Accepted knowledge 5-8 points
- Good knowledge >9 points

- The statistical analysis was done by using SPSS version 30.

Results

Table 1: Demographic data of the mothers:

This study comprised 158 women in total. The age group of 26–35 was the most prevalent, accounting for over half of the participants (56.4%), followed by the age group of 15–25 (around 29.7%). The majority of study participants (76.6%) came from metropolitan areas. In terms of educational attainment, 29.1% have only completed basic school and 46.2% have completed college. However, the bulk of participants—roughly 69%—were housewives, and only 25.3% worked for the government. According to the table, 75.5% of the participants had moderate financial status, while 15.2% had low economic status. With the exception of address, which had a statistically significant correlation with mothers' level of

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breastfeeding knowledge (p<0.05), statistical analysis showed no significant relationship between demographic factors and mothers' breastfeeding knowledge (P>0.05).

Age (years)	Frequency	Percent	p- value
15-25	47	29.7	
26-35	89	56.4	0.542
36-45	21	13.3	NS
>45	1	0.6	
Address			
Urban	121	76.6	0.004
Rural	37	23.4	SA
Level of education			
Illiterate	5	3.2	
Primary	46	29.1	0.151
Secondary	28	17.7	NS
College	73	46.2	
Higher Education	6	3.8	
Occupation			
Housewife	109	69.0	
Government employee	40	25.3	0.756
Self-employee	2	1.3	NS
Other	7	4.4	
Financial Level			
low	24	15.2	0.192
medium	119	75.3	NS
high	15	9.5	
Total	158	100.0	

Table 2: Distribution of mothers by their parity.

According to Table 2, 78.5% of participants were moms of one to three children, whereas just 1.9% were grand multiparas with more than seven offspring. This difference was statistically significant (p<0.05).

Parity (No. of children)	Frequency	Percent	P -value
1-3	124	78.5	0.009
4-7	31	19.6	SA
>7	3	1.9	
Total	158	100.0	

Table 3: Distribution of mothers by their babies' feeding history.

The feeding history of the infants reported by the participants is displayed in this table. Of the infants, only 31% were breastfed, 48.1% were bottle-fed, and 20.9% were mixed-fed.

In terms of feeding duration, the majority of newborns (68.45%) eat for one to six months, and only 16.5% do so for longer than a year. Almost a quarter (24.5%) of those who finish a year of nursing are exclusively breastfeeding.

The mothers' nursing knowledge and infant feeding history did not statistically significantly correlate (P>0.05). On other hand mothers with exclusive breastfeeding showed a statistically significant association (p<0.05).

Type of feeding	Frequency	Percent	P -value
breast feeding	49	31.0	
bottle feeding	76	48.1	0.192
mix	33	20.9	NS
Period of feeding			
continuous	26	16.5	0.847
1-6 months	108	68.4	NS
7-12 months	19	12.0	
No feeding	5	3.1	
Total	**158**	**100.0**	
Breast Feeding			
40 days	13	26.5	
1-6 months	24	49.0	0.001SA
7-12 months	12	24.5	
Total	**49**	**100**	

Table 4: Distribution of mothers based on their breastfeeding knowledge score.

This table shows that the majority of mothers (79.7%) had poor knowledge regarding breastfeeding, followed by 10.8% had accepted knowledge, and only 5.7% said “I don’t know “as shown in Figure 1; And this was statistically significant (p<0.05).

Level of Knowledge	Frequency	Percent	P-value
I don’t know	9	5.7	0.027 (SA)
Poor	126	79.7	
Accepted	17	10.8	
Good	6	3.8	
Total	158	100.0	

Figure 1: Distribution of mothers by their knowledge score about breastfeeding

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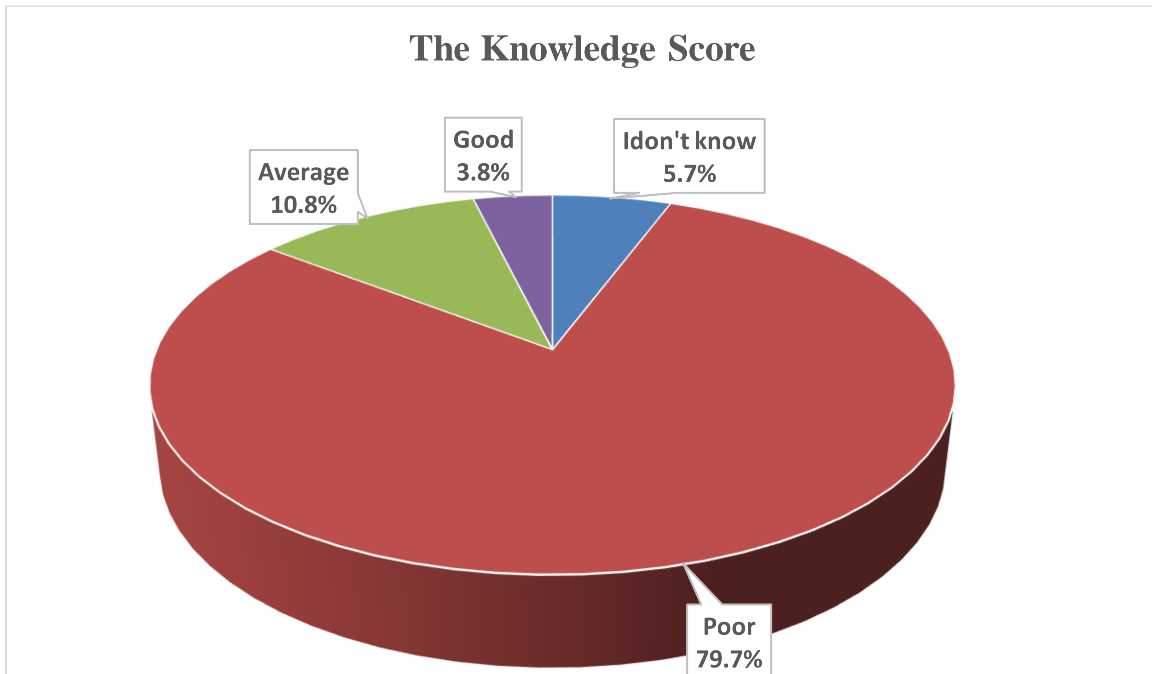
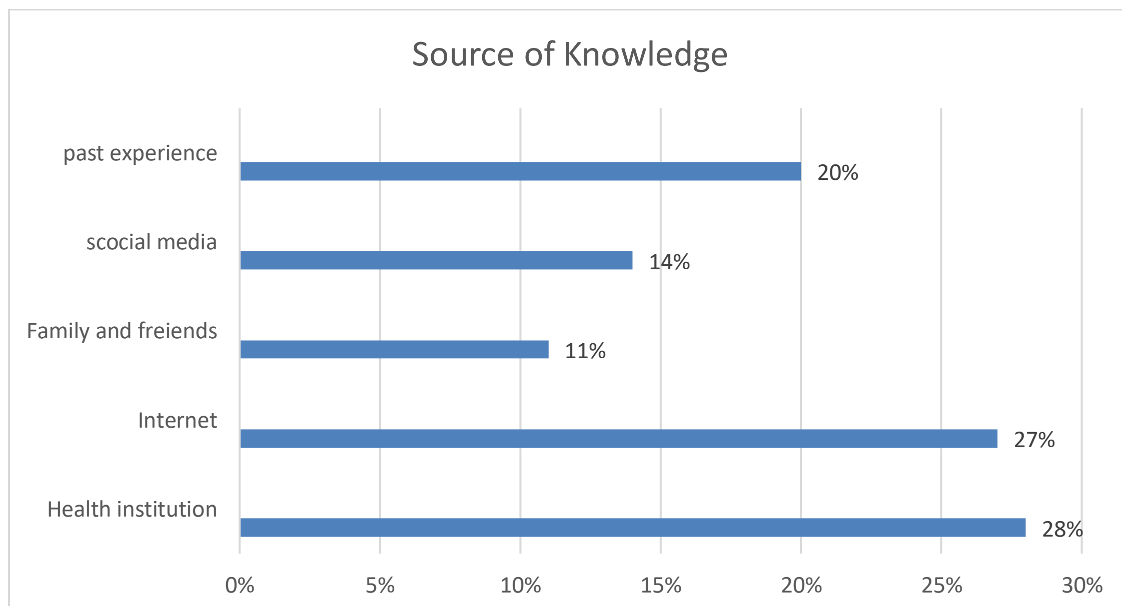


Table (5): Evaluation of Breastfeeding counselling service from PHC.
According to this table, the majority of women (62%) got basic reassurance and assistance on breastfeeding practices from PHC; just 5.1% did not receive any assistance, which was not statistically significant ($p<0.05$).

Level of assurance	Frequency	Percent	P- value
Good	52	32.9	0.152 NS
Simple	98	62.0	
No assurance	8	5.1	
Total	158	100.0	

Figure 2: Source of knowledge of Mothers about breastfeeding.
This figure shows that 28% of their knowledge came from health institutions, followed by the internet in 27%, and the least common source was family and friends in 11%.



Discussion

Breastfeeding is a natural process that requires continuous, effective support to ensure success. This study was conducted to analyze mothers' knowledge about breastfeeding. According to the demographics of the sample under research, the majority of mothers were between the ages of 26 and 35, which is to be expected given the usual reproductive age. This finding is consistent with the analysis conducted by Awoke et al. (35). According to the researcher, the ideal age range for birth and breastfeeding is between 25 and 35.

Studying the relationship between the place of residence revealed a significant association with the level of knowledge of mothers about

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breastfeeding, as seen in an Indian study, where 69.4% lived in urban areas. (9)

Given the educational background of the mothers under study, the current study found that the majority had a college degree, whereas the findings of a study conducted in Italy by Cascone et al., titled Evaluation of Knowledge, Mothers' Practices Regarding Exclusive Breastfeeding Among Women in Italy, indicated that nearly half of the mothers under study had only a secondary education. Keeping in mind that as the level of education increases, the level of knowledge will increase, the study's findings indicate that mothers with formal education possess greater breastfeeding knowledge, highlighting the significance of formal education. (36) and this was similar to an Indian study in which nearly half of the mothers were post-graduated (9), and also a Nepalian study showed that the associations of knowledge levels against the education status of mothers were statistically significant. (37)

According to the occupation status of the studied mothers, the current study revealed that the majority of mothers were housewives, like Indian mothers in a study by Kumar B et al., but it was statistically significant, while in our study, it was not significant (9), and a similar result was found in a study in Abu Dhabi, UAE. In which 69.3% were housewives (38), work-related problems were a common reason, despite good knowledge about breastfeeding.

Regarding the financial level, a positive association was found between the percentage of knowledge on breastfeeding and family income in a Brazilian study. (39), but in this study, there was no significant association.

Our study found a highly significant correlation between breastfeeding knowledge and the mothers' parity. This is agreed to a study by Hackman et al. (40) that found that mothers get more knowledgeable about nursing as their parity increases.

In this study, neither type of feeding nor the duration of breastfeeding was statistically significantly affected by the mothers' knowledge about it, while those with exclusive breastfeeding were significantly associated with their level of knowledge about it, and this is consistent with a Ghanian study, which concluded that mothers who practiced Exclusive BF were more likely to have high knowledge in EBF and positive attitudes towards it. (41)

This study participant showed poor knowledge about breastfeeding, 79.7% and only 10.8% had acceptable knowledge and 3.8% had good knowledge but on the other hand, another study in Abu Dhabi showed that only 19 (5.5%) mothers had poor knowledge of breastfeeding, compared to 176 (51.2%) mothers who had good knowledge, 149 (43.3%) mothers who had fair knowledge, and this may be because of sociocultural misconceptions and knowledge gaps in the health care system. The most common sources of information regarding breastfeeding for participants in this study were health institutions, 28% followed by the Internet 27% while family and friends 11% while the other study showed that the most common sources of information regarding breastfeeding for participants were family (66.5%), doctors (58.5%), nurses/midwives (50.1%), and the Internet (40.7%). (38) This could be explained by the mothers in this study had limited exposure to antenatal care and postnatal care regarding breastfeeding promotion campaigns that 60% of the mothers in this study had simple assurance about Breastfeeding counselling service from PHC and this is similar to an Egyptian study in which just 27% of the rural women in the study received breastfeeding advice from a medical professional. (42)

Conclusions:

The study found that the participating mothers had a college degree and were between the ages of childbearing and nursing. Most of them were primarily housewives residing in the cities. Despite their relatively high educational level, their breastfeeding knowledge was found to be insufficient; this indicates that formal education alone does not guarantee adequate awareness of optimal breastfeeding practice.

The Primary Health Care (PHC) centers were reported to provide only a minimal degree of assurance, but their knowledge of breastfeeding was insufficient, and medical institutions were the most common source of information, yet the support provided was often fragmented and limited.

Recommendation:

1. 1. Well-designed health education programs that promote breastfeeding should focus on the elements that support and facilitate breastfeeding during prenatal and postnatal care.
2. Breastfeeding support by the media and the community should be used with an awareness campaign.
3. Health team members should receive adequate training in communication techniques and the fundamentals of breastfeeding. They ought to be highly motivated to fulfill their duties in the promotion, defense, and assistance of breastfeeding.

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