Knowledge of Mothers Toward Exclusive Breastfeeding and Its Associated Factors in Bardarash District

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Abstract
Background and objective: Breastfeeding is the ideal, unique, and natural method for nourishing the developing infant. Inadequate knowledge about breastfeeding may lead to undesirable consequences. This study aimed to assess the breastfeeding knowledge of pregnant women about breastfeeding. Methods: A Cross-sectional study was conducted on 400 women with babies 0-6 months from twenty clusters in Bardarash district, Duhok governorate, Kurdistan Region-Iraq, from November 1, 2021–to January- 15th, 2022. A structured questionnaire was developed based on the evidence in the literature. A face-to-face interview technique was used for data collection. Results: Overall, only (27.3%) of participants were Exclusive Breastfeeding, (56%) of mothers had a poor level of knowledge of breastfeeding. There was a significant association between mothers' knowledge and mothers' education level, occupation, exclusive breastfeeding status, source of information, and advice receiving during anti-natal care. However, no significant association was found between mothers' knowledge and their age, gravidity, parity, and anti-natal care visits. In general, the highest correct responses were regarding the knowledge about frequent sucking, which is helpful for milk production (95.5%), knowing the colostrum benefit (87.0%), and knowing about exclusive breastfeeding (85.0%). While the lowest percentage of correct responses was about breastfeeding benefits for infants and mothers; Conclusion: Most of the participants were not exclusively breast feed, also a significant number of pregnant mothers had not sufficient knowledge that is indicating the necessity of interventional programs by the health system.
Keywords: Bardarash district; Exclusive Breastfeeding; Knowledge; Mother.

1. Introduction

Breastfeeding (BF) is the ideal, unique, and natural method for nourishing the developing infant (WHO, 2019). Exclusive breastfeeding (EBF) is defined as feeding infants only breast milk, either directly from the breast or expressed, with no addition of any liquid or solids apart from drops or syrups consisting of vitamins, mineral supplements, or medicine, and nothing else (Nabunya *et al.*, 2020). The World Health Organization (WHO) and the American Academy of Pediatrics recommend EBF for up to six months. They should be followed by continued BF as complementary foods are introduced. A continuation of BF until the child reaches two years of age or beyond, as mutually desired by the mother and the infant (Cascone *et al.*, 2019).

The WHO recommended that BF should be initiated within the first hour of birth in case there are no medical problems that prevent it because colostrum contains high protein, fat-soluble vitamins, and antibodies that protect the infant from bacterial and viral illnesses (Hoseini *et al.*, 2014). Furthermore, it is well known that starting BF as early as possible increases the chances of a successful continuation of BF. Breast milk (BM) is an essential source of energy and nutrients in children aged 6–23 months (WHO a, 2018). it provides all the first months' energy and nutrient requirements, more than half of such requirements during the following six months, and up to one-third during the second year of life (WHO, 2019).

The prevalence of BF varies substantially across the globe, with the highest rates reported in low-income and middle-income countries (WHO, 2019). Globally, on average, only around 35% of infants under six months are EBF (WHO, 2010). While WHO reported that this range increased to only 40% in 2018 (WHOb, 2018).

Only 39% of children < 6 months of age in the developing world are EBF (UNICEF, 2015). Although according to the Multiple Indicator Cluster Survey round six (MICS6) results of 2018, the prevalence of EBF in Iraq was 43.02%, and in the south/central Iraq and Kurdistan were 25.5 and 27.9 respectively, there were wide variations between governorates, percentages of children who are exclusively breastfed. For example, the percentage of adequately breastfed infants differed between Duhok, Erbil, and Sulaimanya (18.1%, 8.7, and 48.9 %) respectively. (UNICEF, 2019).

BF initiation rate in Iraq, distributed in 2006, from 25.1% to 43% in 2011. However, representing significantly increased but remains insufficient to ensure a good life for all Iraqi children. (Shaker et al., 2014). This study

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aimed to assess knowledge about EBF among mothers in the Bardarash district and to assess the association between mothers' knowledge grading with demographic characteristics and obstetric factors. In addition, to the best of our knowledge, this is the first study to be done regarding mothers' knowledge of EBF in Bardarash district.

2. Methods

Study design and setting

A Cross-sectional study designed to study mothers' knowledge about EBF in Bardarash district from November 1, 2021–to January- 15th, 2022. Bardarash is a district located in Iraqi Kurdistan, Dohuk Governorate, 70 km north of Erbil city (the capital of Iraqi Kurdistan) and 32 km northeast of Mosul, Bardarash district consists of three sub districts, which are (Rovya, Darato and Kalak). With a population of approximately 138664) (City population, 2023).

The population in this study were BF mothers with babies 0-6 months (180 days) in Bardarash district during data collection.

Sample size and sampling procedure

For calculation of the sample size, the Cochran formula was used (Cochran, 2007). The sample size was based on an EBF prevalence according to a database of MICS6 in Kurdistan, EBF prevalence in 27.9% (MICS6, 2018), so the sample size was equal to 302, to allow for non-response, the sample was increased by 25% to 400 mothers.

$$\text{Sample size} = \frac{Z^2 * (p) (q)}{d^2}$$

Where:

e: desired level of precision (i.e., the margin of error). e= 0.5

p: (estimated) proportion of the population with the attribute in question. P= 0.27

q: 1 – p

Z-value from Z table. Z= 1.96.

The sampling procedure was through multistage random sampling. In the first sampling stage, all the villages and quarters in Bardarash district were included, and twenty clusters were randomly selected using a simple random sampling technique.

In the second stage, from each cluster, 20 houses with participants who fulfilled the inclusion criteria were included, and a systematic random sampling approach was used in the selection of houses. The procedure started by selecting a well-known place inside the cluster, like a mosque, school, or market. Then we chose the direction of working randomly from the centre by throwing a pen on the ground, and the direction of the head of the pen indicates the direction of the work. The first visited house was determined randomly from the first number of one of the currencies in the researcher's pocket. It was selected randomly. We started with the house number, and if the first number, for example, five, the researcher visited house number five, and for the subsequent houses, we selected every alternative house; if the number of the selected mothers in a certain cluster did not reach 20 mothers, the researcher visited the nearest village/ quarter to completed the number of the targeted mothers. Therefore, the total number of villages/ quarters that the researcher visited was 28 villages/ quarters). In the third stage, only one subject from each house was recruited for the study.

Response rate

The response rate was 96.8%, as about 13 mothers refused to participate in the study. The good response rate for survey studies is 80-85% (Saldivar, 2012).

Pilot study

A pilot study was run to test the preliminary prepared questionnaire. It was conducted at the beginning of October 2021 in one of the clusters inside Bardarash district centre. The researcher selected a sample of 20 mothers. After performing the pilot study, the questionnaire was modified. The enrolled sample was excluded from the subsequent study stages.

Data collection

After the sampling procedure and selection clusters were completed. Data were collected door to door by the researcher by interviewing the involved mothers face-to-face (direct interview). Before establishing each interview, the researcher gives a brief description of the study with the main aim and objectives given to the mothers and obtained prior verbal consent from each mother, the researcher explained each question in Kurdish languages (as the questionnaire was written in English). The mother was questioned about her youngest child. Finally, the researcher assessed mothers' knowledge, after obtaining all information according to the structured questionnaire.

Instrument of data collection

Data collection was done through a structured questionnaire The questionnaire consisted of sections.

Section I: A list of (13) items consists of Socio-demographic characteristics (five items), obstetrical history (five items), BF status, decisions regarding infant feeding, and source of information.

Section II: A list of (15) items testing a mother's knowledge within three domains: first domain (five items): Benefits of breastfeeding for the infant, second domain (four items): Benefits of breastfeeding for mothers, third domain (six items): Information about the recommendations of WHO and UNICEF were included in the study.

Based on Ahmed and Piro's study (Ahmed and Piro, 2019), responses to the knowledge questions were categorized as correct or incorrect. A score of 1 point was given for each correct response and zero for any incorrect or "do not know" replies for each question. The total score was calculated by summing the individual score of 15 knowledge questions ranged 1–15. Therefore, the level of the knowledge scores regarding breastfeeding was categorized into three levels as follows: (1) Poor level of knowledge included score 0–6 points; (2) fair level of knowledge included score 7–12 points; and (3) a good level of knowledge included score

13–15 points.

Data analysis

Descriptive and inferential statistics were used through the Microsoft Excel database alongside the Statistical Package for Social Sciences (SPSS version 26). The Chi-square test was used to determine the significant relationships between the variables. If ≤ 20% of expected cell counts are less than 5, then use the chi-square test; if > 20% of expected cell counts are less than 5, then use Fisher's exact test. The P-value ≤ 0.05 is considered statistically significant.

3. Results

Maternal Demographic Characteristics

A total of 400 mothers were included in this study. Up to 135 (34%) of the participants were in the age group 21-25 years old. Sixty-five percent (260) of the mothers were from rural areas. The majority of the mothers were housewives (92%). More than half of the participants (56.7%) had sufficient economic status. Also the majority of the study samples' education levels were illiterate (36.5%), as shown in Table 1.

Table 1: Distribution of demographic characteristics of mothers (N=400)

Variables	No	%
Age (years)		
16-20	37	9.3
21-25	135	33.8
26-30	121	30.3
31-35	62	15.5
36-40	34	8.5
41-45	11	2.8
Residency		
Urban	140	35.0
Rural	260	65.0
Occupation of mothers		
Housewife	368	92.0
Wage employment	18	4.5
Government employment	8	0.2
Private employment	5	1.3
Vocational skills	1	0.3
Economic status		
Sufficient	250	62.5
Insufficient	93	23.3
Sufficient With exceeds	57	14.3
Education level		
Illiterate	146	36.5
Read and write	83	20.8
Primary graduate	96	24
Intermediate school graduate	36	9
High school graduate	17	4.3
Institute graduate	14	3.5
Collage graduate and higher	8	2

Infant's feeding status and sources of information

Table 2 shows that only 109 (27.3%) of participants were EBF, the main important source of their last infant's feeding decisions, and the main source of information about BF was their family, which were about 352 (88%), and 296 (67.3%), respectively.

Table 2: Distribution of study sample according to infant's feeding status, decisions regarding infant feeding, and source of information (N=400)

Variables	NO.	%
Infant's feeding status		
EBF	109	27.3
Not- EBF	291	72.3
Who decide baby feeding with you		
Family	352	88.0
HCW	48	12.0
Source of information		
Family	269	67.3
Social media	32	8.0
Radio/TV.	31	7.8
Religious man	14	3.5

Mothers' knowledge regarding BF

The highest number of correct responses were regarding the knowledge about frequent sucking, which is helpful for milk production (95.5%). However, regarding BF benefits for the mother, about (37.5%) of mothers didn't have any information about BF's benefits for the infant, and the lowest correct responses were about protecting the mother from pregnancy (8.5%). Also, regarding BE benefits for the infant, about (9%) of mothers did not have any information about BF benefits for the infant and the highest (70.3%) correct responses were about of that BF was healthy nutrition for infants to protect them against infections and illnesses, shown in Table 3.

Table 3: Mothers' knowledge regarding BF. (N=400).			
Domains	Items	Correct answers	
		No	%
Benefits of BE for the infant	Healthy nutrition that protects the child from infection and illnesses	281	70.3
	Optimal brain development	109	27.3
	It is easier to digest than formula milk	67	16.8
	Promotes bonding between mother and child	51	12.8
	Enhance baby to gain weight at a healthy pace	42	10.5
Benefits of BE for the mother	Decrease the risk of incidence of breast cancer	105	26.3
	Decrease the risk of incidence of ovarian cancer	94	23.5
	Protect mother from obesity	65	16.3
	Protect mother from pregnancy (child spacing)	34	8.5
Some WHO and UNICEF recommendations	knowing about exclusive BE	340	85.0
	Duration for exclusive BE	190	47.5
	Knowing about the amount of breast milk alone which is sufficient for an infant during the first 6 months of life	209	52.3
	The idea about bottle milk is harmful to the baby	192	48.0
	Knowing about frequent sucking which helpful for milk production	381	95.5
	Knowing the colostrum benefit	348	87.0

Grading for mother's knowledge

The study found that more than half (56%) of the study participants had poor knowledge, and only (2%) had good knowledge, as shown in figure 1.

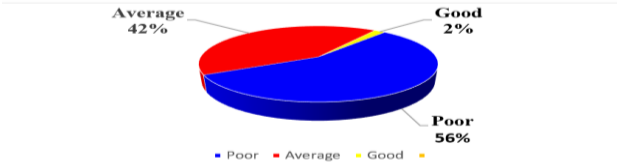

Figure 1: Level of mother's knowledge (N=400)

Association between mother's knowledge grading and demographic characteristics

There was a highly significant association between mothers' knowledge and education level, mothers' occupation, source of information about BF, and Infant's feeding status. However, no significant association was found between mothers' knowledge and mothers' age, economic status, and residency, as shown in Table 4.

Table 4: The association between mothers' knowledge regarding BF and demographic characteristics of the mothers and BF status (N=400)				
Variables	Knowledge grade			P-value
	Good	Average	Poor	
	No. (%)	No. (%)	No. (%)	
Age (years)				
16-20	0 (0.0)	14 (3.5)	23 (5.8)	0.747**
21-25	1 (0.3)	55 (13.8)	79 (19.8)	
26-30	5 (1.3)	51 (12.8)	65 (16.3)	
31-35	1 (0.3)	29 (7.3)	32 (8.0)	
36-40	0 (0.0)	15 (3.8)	19 (4.8)	
41-45	0 (0.0)	3 (0.8)	8 (2.0)	
Residency				
Rural	6 (1.5)	104 (26.0)	150 (37.5)	0.358*
Urban	1 (0.3)	63 (15.8)	76 (19.0)	
Educational level of mothers				
Illiterate	3 (0.8)	51 (12.8)	92 (23.0)	0.000**
Read and Write	0 (0.0)	31 (7.8)	52 (13.0)	
Primary graduate	0 (0.0)	45 (11.3)	51 (12.8)	
Intermediate school graduate	0 (0.0)	21 (5.3)	15 (3.8)	
High school graduate	1 (0.3)	7 (1.8)	9 (2.3)	
Institute graduate	2 (0.5)	6 (1.5)	6 (1.5)	
College graduates and higher	1 (0.3)	6 (1.5)	1 (0.3)	
Occupation of mothers				
Housewife	4 (1.0)	152 (38.0)	212 (53.0)	0.001**
Wage employment	0 (0.0)	1 (0.3)	0 (0.0)	
Government employment	0 (0.0)	7 (1.8)	11 (2.8)	
Private employment	1 (0.3)	6 (1.5)	1 (0.3)	
Vocational skills	2 (0.5)	1 (0.3)	2 (0.5)	
Economic status				
Sufficient	1 (0.3)	36 (9.00	56 (14.0)	0.920*
Insufficient	5 (1.3)	106 (26.5)	139 (34.8)	
Sufficient with exceeds	1 (0.3)	25 (6.3)	31 (7.8)	
Source of information				
Family	1 (0.3)	103 (25.8)	165 (41.3)	0.001**
Health professionals	1 (0.3)	12 (3.0)	18 (4.5)	
Radio/TV.	0 (0.0)	21 (5.3)	11 (2.8)	
Social media	5 (1.3)	24 (6.0)	25 (6.3)	
Religious man	0 (0.0)	7 (1.8)	7 (1.8)	
Infant's feeding status				
EBF	2 (0.5)	63 (15.8)	44 (11.0)	0.000*
Not- EBF.	5 (1.3)	104 (26.0)	182 (45.5)	
*chi-square test **Fisher exact test				

Association between mother's knowledge grading and obstetric characteristics of the study sample

There was a highly significant association between mothers' knowledge and advice received during ANC, while there was no significant association between mothers' knowledge and mothers' ANC visits, parity, and gravidity, as shown in Table 5.

Table 5: The association between mothers' knowledge regarding BE and obstetric characteristics of the mother (N=400)

Variables	Knowledge grading			P-value
	Good	Average	Poor	
	No.(%)	No.(%)	No.(%)	
ANC. visits				
No visits	0 (0.0)	6 (1.5)	11 (2.8)	0.812**
One visit	0 (0.0)	8 (2.0)	19 (4.8)	
Two visits	0 (0.0)	24 (6.0)	35 (8.8)	
Three visits	3 (0.8)	51 (12.8)	61 (15.3)	
Four or more visits	4 (1.0)	78 (19.5)	100 (25.0)	
Do you receive advice regarding BF during ANC visit?				
Yes	6 (1.5)	102 (25.5)	97 (24.3)	0.000*
No	1 (0.3)	65 (16.3)	129 (32.3)	
Parity				
Primiparous	1 (0.3)	32 (8.0)	49 (12.3)	0.762*
Multiparous	6 (1.5)	135 (33.8)	177 (44.3)	
Gravidity				
Primigravida	3 (0.8)	26 (6.5)	41 (10.3)	0.164*
Multigravida	4 (1.0)	141 (35.3)	185 (46.3)	

*chi-square test **Fisher exact test.

4. Discussion

Exclusive breastfeeding is an effective public health strategy for improving children's and mothers' health by reducing child morbidity and mortality and helping to control healthcare costs in society. Additionally, EBF is one of the effective strategies which help the most widely known and effective intervention for preventing early childhood deaths. Every year, optimal breastfeeding practices can prevent about 1.4 million deaths worldwide among children under five (Dukuzumuremyi et al., 2020). About two-thirds of the studied mothers in this study belong to the third decade. This result was similar to a study by Ahmed and Piro (2019) in Erbil city among pregnant women.

Concerning residency, most of the studied mothers were residents in rural areas, meaning that more than two-thirds of the studied clusters were in rural areas. This result was similar to Erbil city's study in which about (72.1%) of the studied mothers were from a rural area (Abdulrahman and Saleh, 2020). Also, a study conducted in Ethiopia showed that about 66.9% of the studied samples lived in the rural area. (Abebe et al., 2017).

Regarding the mother's occupation, the vast majority 92% were housewives. This result was consistent with two studies done in Erbil city (Shaker et al., 2015; Sdeeq and Saleh, 2021), which found that (76.5% and 84.3%) of mothers were not working housewives, respectively. However, in contrast, studies in Taif City, Saudi Arabia and Ghana showed that the majority of studied mothers were workers (78.7% and 52%), respectively. (Alsulaimani, 2019 ; Abekah-Nkrumah et al. 2020). Finally, regarding socioeconomic status, most study samples had sufficient economic status. This result was supported by (Shommo and Al-Shubrumi 2014; Al-Abedi and Al-Asadi, 2016; Abdulrahman and Saleh, 2020) stated that most of the study sample was with moderate socioeconomic status.

Education is a critical resource that enables and empowers women to provide appropriate care for their infants (Paudel and Giri, 2014). However, this study found that most mothers had low education levels (about one-third were illiterate, and a quarter of mothers were primary graduates). These findings conform to a study done in Erbil city which found that (28%) were illiterate and (24%) were primary graduates Al-Azzawi et al. (2010) and (Abdulrahman and Saleh, 2020) respectively. However, Altamimi et al. (2016) conducted in the south of Jordan showed that 73.5% of mothers were bachelor graduates. From the researcher's point of view, this could be because most mothers were from rural areas.

As far as the EBF status, up to a quarter of the study sample were EBF. This finding conforms to a study done in Erbil with (29.4%) (Sdeeq and Saleh, 2021).

Family and relatives were the most frequently mentioned factor in the breastfeeding decision. In the current finding, most mothers (88%) relied on the family about infant feeding decisions. This result was similar to a study by (Street and Lewallen, 2013) with (54.7%). However, from the researcher's point of view, most of the current study's samples were with low educational levels, and as Street. Moreover, Lewallen (2013) observed that education influences one's decision to breastfeed. Therefore, most of the

participants did not rely on their self-decision.

The material provided through EBF information sources can significantly impact the mother's knowledge level. Scientific evidence has demonstrated that health facilities serve as some mothers' primary sources of EBF information (Subhaprada, 2015). In the present study majority of the mothers (67.3%) received their information from family regardless of whether the information was correct or wrong and only (13.5%) from health facilities. Correspondingly to studies conducted in Mosul, and Abu Dhabi, most mothers received information from their family and relatives (Al-Sammak et al. (2020); Al Ketbi et al., 2018). However, this result was in contrast with a study that observed that the majority (95.8%) of the mothers received information from health facilities (Adrawa et al., 2016).

Maternal knowledge of exclusive breastfeeding is vital in ensuring that mothers take optimal care of their infants. Maternal knowledge may be based on experiences, learnt from various avenues, or both (Kamau, 2016).

Regarding mothers' knowledge about breastfeeding, the present study showed that most studied mothers had insufficient knowledge regarding breastfeeding benefits for the infant and mother. Therefore, from the researcher's point of view, the result might be as a result of most mothers inherit breastfeeding as nutritious for the infant only, without delving into other benefits.

The current research revealed that (37.5%) of mothers were unaware of the benefits of BF for mothers. However, a higher result was shown by a study conducted in Egypt, which reported that about (53.3%) of studied mothers had incomplete correct answers regarding BF benefits for the mother (Abd Alfataha et al., 2022).

The lowest level of knowledge was observed in maternal BF benefits for mothers. Only 8.5% of the participants were aware that the BF can be a natural birth control method. This result was similar to a study conducted in India (Sultania et al, 2019), which showed that only (14%) of mothers knew about it is functioning in contraception. However, higher knowledge scores were documented by (Al-Aaragi, and Mohammed, 2019; Tadele et al., 2016), with about (78.9% and 32%) of study samples being aware of this point, respectively.

The current study observed that about (26.3% and 23.5%) of study participants have information that BF help mothers to reduce the incidence of breast and ovarian cancer, respectively. In the same line study by (Ahmed and Piro, 2019) in Erbil city reported that about (33.3%) of studied mothers were aware that BF decreased the incidence of breast cancer, as well as a study in Karbala showed that about 41.7% of mothers had information that BF decreases the incidence of ovarian cancer. (Al-Aaragi and Mohammed, 2019).

Studies data demonstrated that a small amount (16.3%) of the study participants were aware that BF protects the mother from obesity. This result was similar (11.7%) to a study by (Abdulrahman and Saleh, 2020). However, in contrast with (Al-Aaragi, and Mohammed, 2019), about 83% of them were aware of this point.

Concerning the benefits of BF for infants, about (9%) of them did not know. The higher result was conducted in Egypt, which observed that about (33.3%) of studied mothers had fair knowledge regarding breastfeeding benefits for the infant (Abd Alfataha et al. 2022). On the same line with study by Sultania et al., (2019) in India reported that about half of the studied mothers had incomplete correct answers regarding breastfeeding benefits for the infant.

The highest knowledge of BF benefits for an infant was observed regarding BM being a healthy nutrition that protects a child from illnesses. More than (70%) of participants correctly answered this question. The present result was similar to (Rivera (Alvarado, 2006) with (71.6%). However, this result was in contrast with a study conducted in Southwestern Ethiopia which showed that about (27.3%) of participants were aware of it (Tadele, et al 2016).

The current research revealed that more than one-fourth of mothers knew that BM helps enhance infant intelligence. This result was similar to a study conducted in Erbil by (Ahmed and Piro, 2019) with (24%). However, a higher result was observed by Aziz et al. (2018), with (45.5%) of them knowing that BF enhances intelligence.

Regarding healthy weight gain of infant, only (10.5%) of mothers were knowledgeable that BM help enhances healthy weight gain of the infant. This result was in contrast with a study conducted in Mosul city by Al-Sammak et al. (2020), with (91%) of them knowing this benefit. In this study, about (13%) of the studied mothers were aware that BM promotes bonding between mother and infant. This result was in line with a study by (Abdulrahman and Saleh, 2020) with (12.8%). However, in contrast to (Sultania, 2019) with (71%), as well as, in contrast with Aziz et al. (2019) with (97.2%).

The present study showed that the majority of mothers were familiar with and knowledgeable about the recommendations of WHO and UNICEF about breastfeeding. This result is supported by a study done in Erbil. (Ahmed and Piro, 2019). Interestingly, most mothers (85%) correctly defined exclusive breastfeeding. This result was in line with a study by Kalu and Ibe (2021), with (89.2%) of mothers knowing the meaning of EBF. Moreover, this finding was higher than the result of a study which found that 67% of mothers knew the meaning of EBF (Chikaodli et al., 2019).

In this study, about (47.5%) of the studied mothers knew that the expected duration of EBF was for the first six months of life. This result was similar to a study by (Abdulrahman and Saleh, 2020) with (50.5%). Also, across different countries in East Africa, a systematic review revealed that only 49.2% of the mothers knew that the expected duration of EBF was for the first six months of life (Dukuzumuremyi et al., 2020). However, this finding was in contrast with (Al-Aaragi and Mohammed, 2019), who showed that about (94%) of mothers were aware of this point.

In this study majority of the mothers (87%) were aware of the colostrum definition. This was similar to a study conducted in Najaf by Al-Abedi and Al-Asadi

(2016), which found that (85%) of mothers know this point. According to this study result, more than half of mothers were aware of the sufficiency of the BM amount for the first six months. Another study in Kenya found that about (60.5%) of mothers knew this point (Dukuzumuremyi et al., 2020). In this study, about half of the mothers were aware of artificial milk's adverse effects. The higher result (62.7%) was observed by a study in which conducted in Nigeria. (Macphilip-Chikwendu et al, 2021).

The highest level of knowledge was observed in the area of frequent sucking being helpful for milk production. More than 95% of the participants were aware that frequent sucking positively affects milk production. A smaller percentage was observed in Najaf city; about 75% of the study samples were aware of this point (Al-Abedi, and Al-Asadi, 2016).

The study found that (56%) of the study participants had poor knowledge regarding EBF. The current findings were similar to (Ahmed and Piro, 2019), with (61.7%). Conversely, in a study in Jeddah, Saudi Arabia that (74%) of the participants had good BF knowledge (Shalaby et al., 2019). From researcher point of view, this might be attributed to the low awareness program on EBF by the government for women, only a small portion of them received breastfeeding instructions from healthcare providers during prenatal and postnatal visits. Also, it could be that women do not have access to formal and standard breastfeeding education and counseling in the PHCCs in this region, or a very small proportion of them were educated.

In regard to the mother's education level and occupation, this result matches the result of the study done by (Al-Aaragi, and Mohammed, 2019). who reported a highly significant relationship between a mother's education and occupation with knowledge grading. However, it was in contrast with (Maryam et al. (2014); Macphilip-Chikwendu et al. 2021). From the researcher's point of view, this might be because the educated mother has better knowledge about breastfeeding than the uneducated mother. Also, significant relationship was found between knowledge grading and source of information (Kamau, 2016).

The current study found no significant relationship between the mother's knowledge about breastfeeding and the mother's age, similar to a study done by (Al-Aaragi, and Mohammed 2019; Macphilip-Chikwendu et al., 2021), however in contrast with (Al-Abedi and Al-Asadi, 2016). Furthermore, similar to the current study (Ghaffari et al., 2007; Al-Abedi and Al-Asadi, 2016) revealed a non-significant relationship between socioeconomic status and mother's knowledge about BF. Also, (Aziz et al. (2018) revealed no association between good knowledge and gravidity.

5. Conclusions

The present study suggests that EBF still needs to be higher compared to the current WHO recommendations; the knowledge regarding breastfeeding was insufficient in Bardarash district; A significant association was found between the level of knowledge and some sociodemographic aspects. Therefore, healthcare providers should provide breastfeeding education to all women during their antenatal follow-up visits, especially women with low educational qualifications and no past breastfeeding experience.

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