

FACTORS AFFECTING KNOWLEDGE AND PRACTICE TOWARDS BREASTFEEDING IN WOMEN WHO HAVE RECENTLY DELIVERED IN DUHOK CITY

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(Received: June 21, 2022; Accepted for Publication: September 26, 2022)

ABSTRACT

Background: Breastfeeding has been found to have a positive influence on a child's health even after 12 months of postpartum. The World Health Organization and United Nation Children Fund recommend a continued breastfeeding for up 2 years or beyond. Breastfeeding is widely known for its benefits to both mother and infant. The aim of this study was to evaluate the factors that affect breastfeeding knowledge and practice of women who recently delivered in Duhok city.

Method: A cross-sectional study, using a self-administered questionnaire among women who attended Duhok Hospital of Obstetrics and Gynecology between 14 November 2021 and 14 February 2022. All the participants were women aged 18-40 years.

Result: All the participants were married women and multiparas ≥ 2 babies, aged 18-40 years with mean age of 29.22 ± 5.6 , more than one third (38.5%) was below 30 years old, and (33.5%) were having primary school educational levels. The women knowledge about breastfeeding in all of 400 recruited women were good in (91%) of them with a positive practice in (58.8%). The most common factors for discontinuing breastfeeding completely before 2 years in the previous deliveries were "insufficient breast milk production" in (36%), "felt it was the time to stop" in (34.3%), and "became pregnant or wanted to become pregnant again" was in (24.8%) of the study sample. The relation between the mode of delivery and women's practices toward breastfeeding was a highly significance ($P= 0.001$).

Conclusion: The most common barriers or factors responsible for stopping breastfeeding were the "felt it was time to stop" as lactating factors and "insufficient breast milk production" as psychological factor. Breastfeeding knowledge and practice were found to be modifiable factors that affect breastfeeding. The vast majority of the study sample had good knowledge about breastfeeding, with positive practices toward breastfeeding in half of the study sample.

KEYWORDS: Breastfeeding, Knowledge, Practice, Factors affected breastfeeding.

INTRODUCTION

The recommendation of World Health Organization and United Nations Children's Fund (2003) is based on the evidence confirming that breast-milk brings incomparable benefits to health and socio-economic outcomes for both mothers and children. They considered the initiation of breastfeeding within the first hour after delivery and totally breastfeed an infant for the first 6 months of life, with supplemental breastfeeding continuing for 2 years and beyond.

Only 41% of infants under six months are exclusively breastfed globally. Three out of five babies are not breastfed in the first hour of life (Haddad et al., 2015). In addition, the percentage of children still breastfed at one year of age stood at 71%, while the percentage of children breastfed till 2 years of age reduced to 45%

globally (Global Breastfeeding Scorecard, 2018).

An exhaustive study estimates that optimal universal breastfeeding can help prevent the deaths of 823,000 children under five years (87% of whom are under 6 months) annually (Victora et al., 2016). Undernutrition is responsible for about half of all deaths in children under the age of five (Europe, 2021).

Human milk contains antibodies, enzymes, proteins, vitamins, minerals, and hormones, making it the best source of nutrition for an infant (Andreas, Kampmann, & Le-Doare, 2015). Breastfeeding has been found to have a positive influence on a child's health even after 12 months of postpartum (Pattison et al., 2019).

Breastfeeding is a complex behavior that is influenced by maternal traits and behaviors, as well as infant characteristics, as well as health systems and services, family and community support, workplace policies, and broader cultural

norms (Rollins et al., 2016). Traditional feeding practices, the accessibility and availability of breastfeeding information, inadequate breast milk, and insufficient health services were identified as common barriers to exclusive breastfeeding in a systematic review in South Asia (Takahashi et al., 2017).

The percentages of children that are exclusively breastfed varied widely between governorates (World Health Organization, 2017). In Iraq, the breastfeeding initiation rate distributed from 25.1% in 2006 to 43% in 2011. The Ministry of Health reported that the prevalence of breastfeeding for infants within the age of 6 months was 41% in 2014, whereas in 2013 was 44%. Abdulrahman and Saleh (2020), in a study in Erbil revealed according to the general characteristics of early breastfeeding, it is exposed to be higher in central and southern Iraq, with the highest percentage than in the Kurdistan Region, and is higher in rural compared to urban areas, in addition it is higher when natural childbirth compared to caesarean births and is reduced when all mothers have a high level of education.

Additionally, the mother's good knowledge plays a key role in the process of breast feeding practices. The optimal breastfeed practices can prevent about 1.4 million deaths worldwide among under five children every year (Sinshaw, 2015).

Therefore, the aim of this study is to evaluate the factors affecting knowledge and practice towards breastfeeding in women who have recently delivered at a maternity hospital in Duhok city.

METHOD

This cross-sectional study was carried out during the period from the 14th of November 2021 to the 14th of February 2022, at Duhok hospital for Obstetrics and Gynecology. The study included 400 women who were allocated randomly as systematic random sampling based on the eligibility criteria, the recruited women selected as odd number 1,3,5,7....., aged between 18-40 years, multiparous (had ≥ 2 babies), and accepted to participate in the study who delivered recently in this hospital either vaginally or by cesarean section. The researcher attends the hospital 4 days/week as 2 days for the women who delivered vaginally and 2 days for women delivered by CS (elective or emergency). The days were selected by lottery

method as Saturday & Sunday for VD and Thursday & Wednesday for CS. The exclusion criteria included the women who refused to participate in the study and the women who had pre or post-delivery complications.

All women were directly interviewed by the investigator in accordance with the study questionnaire using the participant's language. The study questionnaire included demographics, obstetrical and medical history in addition to the knowledge and practice toward breast feeding and the related factors that affected it. The Approval of this study has been formally committed by the Scientific Committee of the Duhok College of Nursing and Duhok Directorate of Health.

The researcher collected the data through direct conversations with women by using a structured validated questionnaire regarding factors that stop breastfeeding. The questionnaire includes two parts: the first part of the questionnaire was sociodemographic include (age, educational level, marital status, occupation, residency, religion, family type, family size, and economic level which designed according to a socioeconomic index for health research in Iraq by Omer and Al-Hadithi (2017), as low, moderate and good level. The second part was Obstetrics includes (abortion, stillbirth, history of any surgery, parity, number of newborns, gender of newborn, viability of newborn, gestational age, and mode of delivery).

Data analysis the data of the current study were calculated by using the main statistical method as follows: 1. descriptive statistical method as (frequency, percent, and mean \pm SD) in addition to the above the mean of the score were calculated to find out the factors indicated by mothers who stopped breastfeeding as ($1 < 1.67$) for non-significant, ($1.67 < 2.33$) for significant, and ($2.33 < 3$) for high significance. The level of women's knowledge and practice were calculated by using the cut-off point as below: A. Level of knowledge scores toward breastfeeding: 15 questions were based on Modified Blooms cut-off. The questions had a value of 3, 2, or 1 (yes response had a value of '3', no '1', and I do not know response had a value of '2'). Therefore, the scores corresponded to the women's different level of knowledge: (15-24) poor knowledge, (25-34) average knowledge, and Good knowledge (35-45). B. Levels of practice scores toward breastfeeding: 12 questions were based on Modified Blooms

cut-off, which was adopted from Nahida's KAP study in (Nahida, 2007). The questions had a value of 3, 2, or 1 (correct response had a value of '3', wrong '1', and I do not know response had a value of '2'). Therefore, the scores of women's practice were leveled as negative practice (25-41), neutral practice (42-58), and positive practice (59-75). 2. The second method that was used for the current study data was the analytic statistical method as (Chi-square and Fisher exact test). The statistics were done by SPSS version 25 to analyze the study variable.

RESULTS

Table(1):- Socio-demographic Characteristics of the Study Sample (n=400)

Socio-demographic characteristics		Frequency	Percent
Age	18-23 years	64	16
	24-29 years	154	38.5
	30-35 years	129	32.3
	36-40 years	53	13.3
	Mean± SD	29.22±5.6	
Education	Illiterate and Read/Write	89	22.3
	Primary School	134	33.5
	Intermediate + Secondary schools	99	24.8
	Institute+ college graduate	78	19.5
Occupation	Housewife	362	90.5
	Employed	38	9.5
Residency	Urban	147	36.8
	Rural	95	23.8
	Sub-urban	101	25.3
	Camp	57	14.2
Religion	Muslim	317	79.3
	Cristian	3	0.8
	Yezidi	80	20.0
Type of family	Nuclear	252	63.0
	Extended	148	37.0
Family Size	<5	64	16.0
	≥5	336	84.0
Economic Status		Frequency	Percent
Low (12-24)		73	18.3
Moderate (25-37)		212	53
Good (38-50)		115	28.7

4.2. Obstetrics Characteristics of the Study Sample (n=400)

All of the women (100%) had ≥Two children, most of the newborns (99.3%) were single baby, more than half of them are male, the vast majority (92.5%) of the study sample their gestational age at delivery was ≥ 37 weeks, and around half of the women (50.3%) were delivered vaginally.

4.1. Sociodemographic characteristics of the study sample (n=400)

The mean age of the study sample was 29.22±5.6 with the range of 18-40. The majority of women (38.5%) were 24-29 years old, around one-third of the women (33.5%) had primary school level, all of the women were married. The vast majority of participants (90.5%) were housewife, (36.8%) were living in the urban area, (79.3%) were Muslim, most of the women's family types (63.0%) were nuclear, the women's family sizes (84.0%) were ≥ 5 members, and (53.0%) of the family were at moderate economic status. (Table 1).

The vast majority of the women (99.8%) received antenatal care, (73.8%) of them received antenatal care in a private clinic, and (45%) of the women had a good ANC (≥ 7 visits). A very low level of the women (6.5%) had a history of using medicine for chronic diseases "Table 2".

Table(2):-Distribution of the Study Sample According to the Obstetrics Characteristics (n=400)

Past obstetrical and surgical history		Frequency	Percent
Parity	≥Two	400	100
Number of newborns	Single	397	99.3
	Twin	3	0.8
Gender of newborn	Male	204	50.5
	Female	198	49.5
Gestational age at delivery	<37 weeks	30	7.5
	≥ 37 weeks	370	92.5
Mode of delivery	V.D	197	49.3
	V.D with episiotomy	4	1
	C/S	199	49.8
Receiving antenatal care	Yes	399	99.8
Place of receiving antenatal care	PCHC	27	6.8
	Private clinic	295	73.8
	Hospital ANC	15	3.8
	Combined	63	15.8
Number of ANC visits	Poor ANC (1-2 visits)	56	14
	Acceptable ANC (4 - 6 visits)	164	41
	Good ANC (≥ 7 visits)	180	45

4.3. Barriers responsible for Stopping or Preventing Breastfeeding

Based on the results that show in Table 3, the main factors that contributed to stop breastfeeding were “decrease milk production” in (36%) of the study sample which is one of the lactation factors, and “felt it was time to stop” in (34.3%) which is a part of the psychological

factors, both of them were significance. Whereas the other points which were included (lactation factors, psychosocial factors, nutritional factors, mothers’ body image, medical factors, milk-pumping factors, Infant self-weaning factors, and work-related factors) were of no significance.

Table (3):- Factors Related to Breastfeeding Discontinuation by Study Sample

Lactation factors		Frequency (%)	Mean of score	Sig.
Breast problem (pain, cracked nipple, etc.)	No	374 (93.5)	1.13	N.S
	Yes	26 (6.5)		
Decreased milk production	No	256 (64)	1.72	S
	Yes	144 (36)		
Psychosocial factors				
Breastfeeding was tiring	No	388 (97)	1.06	N.S
	Yes	12 (3)		
Felt it was time to stop	No	263 (65.8)	1.69	S
	Yes	137 (34.3)		
Had too many household duties or other commitments	No	398 (99.5)	1.01	N.S
	Yes	2 (0.5)		
Breastfeeding was too inconvenient	No	398 (99.5)	1.01	N.S
	Yes	2 (0.5)		
Lack of husband's support	No	399 (99.8)	1.01	N.S
	Yes	1 (0.3)		
Family recommendation	No	400 (100)	1	N.S
Wanted or needed someone else to feed my baby	No	400 (100)	1	N.S
Nutritional factors				
Decreased food intake by mother	No	400 (100)	1	N.S
Baby hungry/unsatisfied after feeding	No	390 (97.5)	1.05	N.S
	Yes	10 (2.5)		
Baby not gaining sufficient weight	No	399 (99.8)	1.01	N.S
	Yes	1 (0.3)		
Physician's recommendation	No	397 (99.3)	1.02	N.S
	Yes	3 (0.8)		
Mothers' body image				
The mother's hair started falling out	No	400 (100)	1	N.S
Breastfeeding was affecting the breast shape	No	399 (99.8)	1.01	N.S

	Yes	1 (0.3)		
Medical factors				
Health problems related to the mother (maternal illness/medication use, etc.)	No	393 (98.3)	1.04	N.S
	Yes	7 (1.8)		
Child health problem	No	387 (96.8)	1.07	N.S
	Yes	13 (3.3)		
Became pregnant or wanted to become pregnant again	No	301 (75.3)	1.5	S
	Yes	99 (24.8)		
Milk-pumping factors				
Pumping milk difficult/time-consuming.	No	400 (100)	1	N.S
Infant's self-weaning factors				
Refused to feed	No	400 (100)	1	N.S
Began to bite	No	398 (99.5)	1.01	N.S
	Yes	2 (0.5)		
Work-related factors				
Had to return to work	No	387 (96.8)	1.07	N.S
	Yes	13 (3.3)		

Note: Mean of score (1-<1.7) Non significant, (1.7-<2.4) Significant, and (2.4-3) Highly Significant.

4.4. Women's Knowledge Regarding Breastfeeding

A greater number of women (91%) had good knowledge and a low level of the women (9%)

had average knowledge, and no one of the women had poor knowledge.

Table(4):-Distribution of the Women Knowledge Regarding Breastfeeding

Level of Knowledge	Frequency	Percent
Poor	0	0
Average	36	9
Good	364	91

4.5. Women's Practice towards Breastfeeding

According to Table 5, no one of women had a negative practice toward breastfeeding, (41.3%)

had a neutral practice, and most of the women (58%) had a positive practice toward breastfeeding.

Table(5):- Women's Practice towards Breastfeeding

Women's practice towards breastfeeding	Frequency	Percent
Negative	0	0
Neutral	165	41.3
Positive	235	58.8

4.6. The Relation between Breastfeeding Practice and its Barriers among study sample

Based on the results shown in Table 6, the main factors that influence the breastfeeding practice in the study sample and were of significance are "Decreased milk production" (*P*-value of 0.001) which is one of the lactation

factors, "Felt it was time to stop" (*P*-value was less than 0.001) which is one of the psychosocial factors, and "Became pregnant or wanted to become pregnant again" a part of medical causes (*P*-value of 0.005). Whereas all the other factors were of no significance.

Table (6):-The Relation between Breastfeeding Practice and its Barriers among sample

Barrier's Factors		Women's practice towards breastfeeding		P. Value
		Neutral	Positive	
Lactation factors				
Breast problem (pain, cracked nipple, etc.)	No	154	220	0.91*
	Yes	11	15	
Decreased milk production	No	86	170	< 0.001*
	Yes	79	65	
Psychosocial factors				
Breastfeeding was tiring	No	156	232	0.032**
	Yes	9	3	
Felt it was time to stop	No	126	137	< 0.001*
	Yes	39	98	
Had too many household duties or other commitments	No	165	233	0.514**
	Yes	0	2	
Breastfeeding was too inconvenient	No	163	235	0.170**
	Yes	2	0	
Lack of husband's support	No	165	234	1**
	Yes	0	1	
Family recommendation	No	165	235	N.A
Wanted or needed someone else to feed my baby	No	165	235	N.A
Nutritional factors				
Decreased food intake by mother	No	165	235	N.A
Baby hungry/unsatisfied after feeding	No	159	231	0.33**
	Yes	6	4	
Baby not gaining sufficient weight	No	164	235	0.412**
	Yes	1	0	
Physician's recommendation	No	164	233	1**
	Yes	1	2	
Mothers' body image				
The mother's hair started falling out	No	165	235	N.A
Breastfeeding was affecting the breast shape	No	164	235	0.412**
	Yes	1	0	
Medical factors				
Health problems related to the mother (maternal illness/medication use, etc.)	No	161	232	0.454**
	Yes	4	3	
Child health problem	No	161	226	0.571*
	Yes	4	9	
Became pregnant or wanted to become pregnant again	No	136	165	0.005*
	Yes	29	70	
Milk-pumping factors				
Pumping milk difficult/time-consuming, etc.	No	165	235	N.A
Infant's self-weaning factors				
Refused to feed	No	165	235	N.A
Began to bite	No	164	234	1**
	Yes	1	1	
Work-related factors				
Had to return to work	No	161	226	0.435**
	Yes	4	9	

* Chi square, ** Fisher exact test, N.A (not applicable)

4.7. The relation between the Mode of Delivery and Practice toward Breastfeeding.

Regarding the women's practice towards breastfeeding, Table 7 shows that the women with vaginal delivery had a positive practice than

those who delivered by cesarean section. Regarding those with neutral practice were in the CS group than those delivered vaginally. And the *P*-value was < 0.001 .

Table (7):-The relation between the Mode of Delivery and Women's practice toward Breastfeeding.

Mode of Delivery		Women's practice towards breastfeeding		P. Value
		Neutral	Positive	
Mode of delivery	V.D	63	134	$< 0.001^{**}$
	V.D with Episiotomy	2	2	
	C/S	100	99	

DISCUSSIONS

Regarding to the age of the study sample, about one third of women were aged between 24-29 years, These results were similar to a study conducted in Iran (Hoseini *et al.*, 2014), but were not going with the results of a study in Karbala city by (Al-Nasrawii & Mohammed, 2019), which founded that two third of the sample 66% were aged between 21-30 years.

As far as the educational level of women in this study, one third of the women 33.5% had primary school graduation. This result was higher than the results of a study reported by (Abdulrahman & Saleh, 2020) in Erbil, which is findings were 22.9%. Regarding women's occupation, the vast majority of women (90.5%) were housewives, which was similar to the results that 91.5% of women in a study conducted by (Maryam, Moniralsadat, Zohreh, Banafsheh, & Amir, 2014) in Iran. More than one-third of the women were living in the urban areas. This percentage was less than 61.1% which was found in a study reported in Kirkuk city (Mahmud, 2011).

In the present study, around two third most of the women were nuclear families. This percentage was less than 76.3% of women in a study conducted by Yalçin, Nergiz, Yalçin, and Keklik (2021) in Turkey. The family size of more than 5 members was found in 84% of the woman in the current study which was higher than the result 36.9% in a study conducted in Erbil (Sdeeq & Saleh, 2021). The disagreement in these results could be due to the differences in the social culture and early marriage.

The moderate-income was in half of this study sample which was the same 53.1% as in a study in Ghana (Nukpezah, Nuvor, & Ninnoni,

2018), and was more than 31.8%, in another research in Central India (Junaid & Patil, 2018). The disagreement in these results could be due to the differences in their socioeconomic status scores.

The vast majority of the study sample their gestational age at delivery 92.5% were ≥ 37 weeks; such a finding disagree with those revealed by a study in UAE which mentioned the GA at delivery was $\geq 79.5\%$ (Al Ketbi *et al.*, 2018).

According to the results of this study, the mode of delivery was around half of the women 50.3% were delivered vaginally, this result was higher than the study was done in India, its results revealed the vaginal deliveries were in 47.8% (Venugopal & Arulparithi, 2018).

According to this study, the vast majority of women 99.8% are receiving antenatal care. It is not similar to the results of studies that were conducted among women in Somali 72.2% (Jama *et al.*, 2020), and in Iran (Zarei, Mohammad-Alizadeh-Charandabi, Mohammadi, Effati-Daryani, & Mirghafourvand, 2022) where the majority of women 89.1% received antenatal care.

Regarding to the antenatal care visits, in the present study, 45% of the women had a good ANC (≥ 7 visits). However, it is the lowest percentage when compared with a study conducted in Somali, which mentioned 77% had good ANC visits (Jama *et al.*, 2020).

In the current study, the main common factor that contributed to stop breastfeeding was "decreased milk production" 36%, and 34.3% reported "Felt it was time to stop", both of them were statically significance. While these results were not going with the study results performed in the Abu-Dhabi, who found the most prevalent

complaints from women were “decreased milk production” in 76.4%, “the infant being hungry or unsatisfied after feeding” in 33.3%, and 15.7% of women said they had to stop breastfeeding because they needed to go back to work (Al Ketbi *et al.*, 2018).

Regarding to the women's knowledge about breastfeeding, this study showed the majority of the study sample had a good knowledge regarding breastfeeding. These results were not agree with the results of two studies reported by (Hasan, Hassan, Khan, Tareq, & Afroj, 2021) in Bangladesh, and (Al Ketbi *et al.*, 2018) in Abu-Dhabi the findings were 58.6% and 51.2% respectively.

According to the women's practice, 41.3% had neutral practice, and most of the women 58.8% had positive practice toward breastfeeding. This finding was not similar to the comparable findings of one study in Abu-Dhabi, which found the positive breastfeeding practices were only in 27.8% of mothers, and 38.2% had neutral practice, and 34% had negative practice (Al Ketbi *et al.*, 2018). These differences may be due to the sociodemographic characteristics of the studies sample.

In the present study, the comparison between modes of delivery shows that the women with vaginal delivery had a positive practice more than those who delivered by cesarean section. Those with the neutral practice were in the CS group than those delivered vaginally, and the *P*-value was < 0.001. These results were different from the study in Abu-Dhabi (Al Ketbi *et al.*, 2018), which reported the association between women's mode of delivery and practice was of no significance, *P*-value was 0.550.

CONCLUSION

The most common factors responsible for stopping breastfeeding were the “felt it was time to stop” as lactating factors and “insufficient breast milk production” as psychological factor. Health care providers should give regular breastfeeding awareness courses and seminars for all women through the ANC visits to increase the experience towards breastfeeding. The vast majority of the study sample had good knowledge about breastfeeding, with positive practices toward breastfeeding in half of the study sample.

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