

## Factors influence on Primigravida's knowledge regarding exclusive breastfeeding benefits in Maternity Teaching Hospital: Erbil city - Kurdistan region – Iraq

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Shukir Saleem Hasan \*

### Abstract

**Background and objective:** A wealth of evidence demonstrates that exclusive breastfeeding provides numerous short-and long-term benefits for both mother and child. This study aimed to find out the association between socio-demographic characteristics and to predict the associated factors which influence on the knowledge of primigravidas.

**Methods:** A Hospital-based cross-sectional study was conducted at Maternity Teaching Hospital in Erbil city, Iraq, during the period from March 23<sup>rd</sup>, to July 1<sup>st</sup>, 2015. A convenience sample of 180 primigravidas was included in the study. Data were collected by using a questionnaire. Chi-square test and linear regression were used to investigate the significance association and predict the factors associated with knowledge.

**Results:** The study found that most of the primigravidas were between 17 and 23 years old, housewives, primary school graduates, and living in low socio-economic status. The statistically significant association existed between age, education, socio-economic status and occupation of respondents with their knowledge. Linear regression predicted that the age and occupation were two factors associated with primigravida's knowledge.

**Conclusion:** Primigravida pregnant in Erbil city demonstrated poor knowledge concerning breastfeeding benefits, the study found a significant association between some of the variables with primigravidas knowledge and age and occupation were two factors which influenced primigravidas knowledge.

**Keywords:** Factors; Primigravida; Knowledge; Exclusive Breastfeeding Benefits; Maternity Teaching Hospital.

### Introduction

In the experts' consensus of Geneva, on March 2001, the World Health Organization (WHO) recommended that exclusive breastfeeding (EBF) should be given to babies for the first six months. The United Nations Children's Fund (UNICEF) encouraged, promoted, and supported EBF as the model for optimal infant nutrition.<sup>1-3</sup> Human milk is a primary nutrient source, and it is superior to infants feeding.<sup>1,4</sup> It is estimated that 1.3 million deaths but others estimated to over three million babies die within the first four weeks of life each year, 99% were die in undeveloped countries, and this can be prevented if babies were exclusively breastfed from birth.<sup>5-7</sup> EBF has reduced infant's illness and effects on the mother's physiology, psychology and

economically.<sup>8</sup> The Ethiopian infants receive another liquid instead of breast milk in first 24 hours and had optimal breastfeeding practice.<sup>9</sup> EBF saves costs and prevent infections, atopic dermatitis, obesity, childhood leukemia, type I and type II diabetes and sudden infant death syndrome. It also enhances easy digestion, improves cognitive functions, prevents ovarian and uterine cancer, and decreases the risk of acquiring diarrhea, neonatal jaundice, and its role in contraception.<sup>3,9-12</sup> Increasing uterine blood flow, relieving pressure on the cervix, and it is the usual way of providing infants with the nutrients needed for rapid brain growth and development.<sup>1,4,13</sup> The strong evidence that human milk feeding decreasing the incidence and severity of a wide range of

\* Department of Nursing, College of Nursing, Hawler Medical University, Erbil, Iraq.

infectious diseases, including diarrhea.<sup>1</sup> In a literature review was conducted in Finland emphasized that primigravidas acquire the perception of formula feeds despite the attained knowledge on the value of breast milk.<sup>14</sup> Another study indicated that only 30% of mothers were aware of benefits, and emphasized that lack of knowledge was significantly found among primigravida mothers.<sup>15,16</sup> According to Iranian study, only 38.8% of the primigravida mothers had good or very good knowledge about breastfeeding.<sup>17</sup> In a study was done by Thamizhvanan et al. in 2015 emphasized that Indian primigravida mothers had poor knowledge regarding breastfeeding.<sup>18</sup> The greatest risk of not EBF occurs to infants of primigravida who delivered their first child, because of lack of information.<sup>3</sup> Poor knowledge of primigravida including the duration of EBF and protects babies from many diseases.<sup>19</sup> Only 17% of Pakistani mothers were practiced EBF for the first six months.<sup>1</sup> The study stated that 54.8% of Indian primigravida pregnant were not aware of correct position of the baby during feeding.<sup>20</sup> Studies from Iraq in 2011, Bangladesh in 2015, Egypt in 2013, Pakistan in 2010, and in India in 2009 show that primigravida had inadequate knowledge toward EBF benefits.<sup>19-24</sup> Age, urban residence, education, and income of mothers' are factors contribute to poor knowledge regarding benefits EBF.<sup>10</sup> A Strong statistical association existed between age, education, religion, SES and occupation of respondents with their knowledge about EBF.<sup>22</sup> This study aimed to find out the association between primigravida's socio-demographic characteristics and to predict the factors associated with primigravidas regarding EBF benefits in Erbil city- Iraq.

## Methods

A hospital-based cross-sectional study was conducted, at Maternal Teaching Hospital (MTH) in Erbil city- Kurdistan region- Iraq. Data collection was started

during the period between March 23<sup>rd</sup>, and July 1<sup>st</sup>, 2015. This hospital is regarded as a tertiary center; most of the attendances were referred to this hospital for the emergency condition or labor by the Maternal Child Health Centers (MCHC) or referred by the obstetrician. It is the only main public maternal hospital in Erbil city which provides care and cure for maternal, obstetric, and gynecology. Non-probability (purposive) sampled of 180 primigravidas at the third trimester of pregnancy, attended the outpatient unit for screening, preparing for delivery and further examination were selected consecutively until the desired sample size was attained. According to an official data in Directorate of General Health in Erbil, 1337 primigravida clients (around 45/day) were managed by this hospital during May 2015.<sup>25</sup> These high numbers of clients make this hospital overcrowded, large numbers of refugees were clearly observed in Erbil city. UNICEF confirmed that over one million refugees from Syria and Iraq had fled into Kurdistan – Iraq, seeking haven, because of Islamic State in Iraq and Syria known ISIS. Thousands of families are in need of immediate help, and health care especially pregnant women.<sup>26</sup> Only primigravida mother, who aged less than or equal 30 years, 3<sup>rd</sup> trimester, accepted to participate in the study, and free from any medical disorders were included, multipara pregnant, 1<sup>st</sup> and 2<sup>nd</sup> trimester, and who refused to take part in the study were excluded in this study. In order to explore the primigravida's knowledge regarding benefits of EBF, a questionnaire was developed based on a review of related literature. The questionnaire consisted of two parts. The first part assessed the socio-demographic characteristics. The second part assessed the knowledge regarding benefits of EBF, which consisted of 10 related questions. The items were rated on three Likert scales 1 for low, 2 for moderate and 3 for high knowledge. The total scores were classified into three groups. Scores 1- 10

moderate knowledge, and 21-30 high knowledge. The questionnaire was translated into the Kurdish language by a translation office, the Kurdish version was reviewed by Kurdish language experts, and experts in maternal child health field validated the questionnaire. A special socioeconomic status (SES) scale was used by the investigator, as follow; the woman with scored less than 89 were considered of low; 90 - 120 scores were considered as a medium; and those who scored above 120 were considered as high SES.<sup>27</sup> The study was approved by the ethical committee in the College of Nursing at Hawler Medical University, and then formal consent was obtained from Directorate of General Health in Erbil and the Directorate of MTH for data collection. Data were collected through direct interview with participants; each interview was scheduled for approximately 45-60 minutes. The form of data collection was applied without mentioning the name of clients, their address, or any other information. The researcher kept the

confidentiality and anonymity of the data. A verbal agreement was obtained, and the purpose of the study was explained to all the participants; explaining ethical aspects of the study. The researcher did data collection. The analysis was done by using the statistical package for the social science (version 19), by running frequencies and cross tabulation. Chi-square test was used to check for the strength of association between variables. Linear regression used to detect the factors associated primigravidas knowledge. A *P* value of  $\leq 0.05$  was considered as statistically significant.

### Results

The present results found that around two-third (71.1%) of the participants were aged between 17-23 years, 41.1% were primary school graduates, 85.6% were housewife, nearby two-quarter (66.7% and 67.1%) of participants depended on their relatives as a source of information and belonged low SES class, respectively (Table. 1).

**Table 1:** Frequency distribution of socio-demographic variables of primigravidas pregnant.

Socio-demographic characteristics	*n. = 180 (100%)
<b>Age</b>	
Less than 17	8 (4.4)
17-23	128 (71.1)
24-30	44 (24.5)
<b>Level of education</b>	
Illiterate	10 (5.6)
Can read and write	53 (29.4)
Primary school Graduate	74 (41.1)
Secondary school graduate	23 (12.8)
High school graduate (college and institute)	20 (11.1)
<b>Occupation</b>	
Housewife	154 (85.6)
Employee	18 (10)
Student	8 (4.4)
<b>Source of information</b>	
Relatives	120 (66.7)
Medical staffs (Physician and Nurse)	50 (27.8)
Mass Media	10 (5.6)
<b>Socio-economic status (SES)</b>	
Low SES	122 (67.8)
Middle SES	44 (24.4)
High SES	14 (7.8)

The study found that more than half (51.1%) of primigravida in Erbil city didn't know that EBF affects on uterine, while only 48.3% and 46.7% had moderate knowledge that EBF is easily digested, and it is economically saved, respectively. 55.6% of primigravidas didn't know that EBF provides immunity. Most participants (60.6%) were not aware that EBF prevent neonatal jaundice, and less than half (46.7%) of primigravidas didn't know the

correct position during breastfeeding. Most participants (61.7%) didn't know the duration of EBF, half (51.7%) of samples were not aware that EBF prevents diarrhea, 61.7% of participants didn't know that EBF prevents diarrhea, only 7.8% of mothers knew that EBF contain colostrum and it provides immunity. More than half of the participants (52.8%) were not aware that EBF prevents chronic diseases for both mother and her baby (Table 2).

**Table 2:** Frequency of primigravidas knowledge regarding benefits of exclusive breastfeeding.

ID.	Items Exclusive Breastfeeding is:	Low	Moderate	High	Mean	* SD
1	Helps mother's uterine to return to normal.	92 (51.1)	63 (35)	25 (13.9)	1.63	.717
2	Easily digested.	72 (40)	87 (48.3)	21 (11.7)	1.72	.662
3	Economically beneficial for families.	67 (37.2)	84 (46.7)	29 (16.1)	1.79	.701
4	Provides immunity against infection.	100 (55.6)	57 (31.7)	23 (12.8)	1.57	.709
5	Decrease risk of neonatal jaundice.	109 (60.6)	60 (33.3)	11 (6.1)	1.46	.610
6	The correct position of the baby during feeding.	84 (46.7)	75 (41.7)	21 (11.7)	1.65	.681
7	Duration is 6 months.	111(61.7)	55 (30.6)	14 (7.8)	1.46	.637
8	Decreases the risk of diarrhea in the baby	93 (51.7)	74 (41.1)	13 (7.2)	1.56	.627
9	Contain colostrum.	87 (48.3)	79 (43.9)	14 (7.8)	1.59	.632
10	Help mothers and her baby to reduce their risk of chronic disease, and cancers	95 (52.8)	66 (36.7)	19 (10.6)	1.58	.676

\*SD= standard deviation

Chi-square test was used to check the strength of association between socio- demographic characteristics and primigravida's knowledge and found that age ( $P < 0.001$ ), occupation, ( $P = 0.001$ ), level of education ( $P = 0.0.02$ ), and SES ( $P = 0.04$ ), were closely associated

with knowledge of EBF benefits, respectively (Table 3). The age and occupation were a strong predictor factors associated with knowledge which showed statistical significance of  $P = 0.026$   $\beta = .896$  and  $P = 0.043$   $\beta = 1.041$  respectively (Table 4).

**Table 3:** Association between socio-demographic variables of primigravida and knowledge regarding EBF benefits.

Variables		Level of knowledge				P value
		Low n.(%)	Moderate n.(%)	High n.(%)	Total n.(%)	
Age / years	Less than 17	8 (7.3)	0 (.0)	0(.0)	8 (4.4)	0.001
	17-23	69 (63.3)	51 (85)	8 (72.7)	128 (71.1)	
	24-30	32 (29.4)	9 (15)	2 (18.2)	44 (24.5)	
Occupation	Housewife	96 (86.5)	49 (89.1)	9 (64.3)	154 (85.6)	0.001
	Employee	11 (9.9)	6 (10.9)	1 (7.1)	18 (10)	
	Student	4 (3.6)	0 (.0)	4 (28.6)	8 4.4)	
Level of education	Illiterate	1 (10)	9 (90)	0 (.0)	10 (5.5)	0.02
	Can read and write	27 (50.9)	19 (35.8)	7 (13.2)	53 (29.4)	
	Primary school graduate	33 (44.6)	34 (45.9)	7 (9.5)	74 (41.1)	
	Secondary school graduate	7 (30.4)	13 (56.5)	3 (13)	23 (12.8)	
Socio-economic status	High school graduate	9 (45)	11 (55)	0 (.0)	20 (11.2)	0.04
	Low	47 (38.5)	19 (43.2)	3 (21.4)	69 (38.3)	
	Moderate	68 (55.7)	18 (40.9)	11(78.6)	97 53.9)	
	High	7 (5.7)	7 (15.9)	0 (.0)	14 (7.8%)	

**Table 4:** liner regression analysis to predict the factors associated with primigravida's knowledge regarding benefits of EBF.

	Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for $\beta$	
	$\beta$	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	14.869	.866		17.169	.000	13.160	16.579
age / year	.896	.399	.167	2.243	.026	.108	1.684
Level of education	-.198	.242	-.075	-.819	.414	-.675	.279
Occupation	1.041	.509	.186	2.043	.043	.036	2.046
Source of information	.070	.331	.016	.211	.833	-.584	.724
Socio-economic status	-.644	.338	-.147	-1.904	.059	-1.312	.024

## Discussion

Fortunately, today lesser seen early marriage among Kurdish little girls; compared with same decades ago. The result of the current study shows that the most of the respondents were aged between 17-23 years; most of the participants were primary school graduates, housewives, received information from their relatives and belonged low SES class. Similar studies were done in Iraq, India and Pakistan found that half of the primigravidas were in the age group of 20-25, and 75% were of the low SES.<sup>19,21,24</sup> The majority of primigravidas in Baghdad –Iraq were housewives; primary school graduated, and depended on their friends or family members as a source of information.<sup>19</sup> Another study was conducted in India and found that most of the participants were aged between 21-25 years.<sup>20</sup> Bangladeshi primigravida's aged lesser than our result by two years.<sup>7</sup> Current result agreed by a study which found that majority of Indian primigravida's ages ranged from 19 to 23 years, housewives, and they had received 4 to 10 years of formal school education.<sup>28</sup> Studies confirmed that family members play a role in encouraging EBF, and still Middle East mothers depend on their relative as a source of information.<sup>15,19</sup> In contrast, to our result, 34.3% of Iranian mothers have obtained information about EBF from health center personnel, and only 32.5% of them acquired the information from family members and friends.<sup>17</sup> Shortage in antenatal care unit and providing continuing health education is behind poor knowledge among primigravida mother's knowledge regarding EBF benefits in Erbil city. The current study found that more than half of primigravidas didn't know that EBF effects on uterine after birth. Literature emphasized that breastfeeding helps uterine to return to its normal position, by increasing uterine blood flow, and relieving pressure on the cervix.<sup>1,3</sup> But our result demonstrated that primigravidas had poor knowledge

regarding the duration of EBF, it reduces the incidence of diarrhea, neonatal jaundice, provides colostrums. In a study of Indian primigravidas confirmed that most (78%) of participants did not know that EBF should be continued for six months.<sup>28</sup> Our result agreed with a study was done in Saudi Arabia and emphasized that only 9.82% of mothers feed their babies for <6 months.<sup>24</sup> Another study found that most of the primigravidas were not aware of the fact that EBF decreases the risk of neonatal jaundice.<sup>20</sup> Prevent non-communicable diseases such as diarrhea and neonatal jaundice.<sup>19</sup> Breastfeeding prevents the main causes of infection and non-communicable diseases.<sup>24</sup> Frequent EBF can reduce neonatal jaundice.<sup>29</sup> Current study variables were not aware that EBF reduces the incidence of chronic diseases and cancers for both mother and her baby. Literature confirmed that EBF prevents type 1 and type 2 diabetes mellitus, lymphoma, leukemia, and Hodgkin disease, overweight and obesity, hypercholesterolemia, and asthma.<sup>1</sup> Others confirmed that EBF could help mothers reduce their risk of chronic diseases, breast, and ovarian cancer, and postpartum depression.<sup>10</sup> Current result shows that there was a highly significant association between age of primigravida's and knowledge regarding benefits of EBF, and shows that most of the primigravidas were between 17-23 years of age. The result of our study was in contrast to a study which was done in Iran and found that there was no significant association between mothers' age and their knowledge.<sup>11</sup> But another study which found a significant association between age and Bangladeshi primigravida's knowledge concerning EBF benefits.<sup>22</sup> The results also show that there were the significant associations between the occupation and knowledge regarding EBF, majority of participants in our study was housewives. This result was in agreement with a study was conducted in Ismailia –

Egypt and found a strong association between age of participant's knowledge regarding EBF and their age.<sup>22</sup> The level of knowledge was significantly associated with primigravida's knowledge concerning EBF benefits. Others found a significant association between the knowledge scores and their level of education ( $P < 0.05$ ).<sup>20, 29</sup> A study was done by Mohite and others, in 2012 among Bangladeshi mother confirmed that primigravidas who had a low level of education had low scores regarding benefits of EBF; ( $P < 0.0001$ ).<sup>22</sup> The present study reveals to a significant association between SES and knowledge regarding EBF benefits. Economic is one of the very essential needs for every person to protect, promote adequate diet, and daily living. Is a natural and economical choice that EBF protect babies from many of infectious diseases such as diarrhea.<sup>15,22,24</sup> Initiation, duration, and supplementation of EBF was more likely to be affected by their SES is contributed to increased morbidity in lower SES groups.<sup>22</sup> Linear regression confirmed that the age and occupation were two factors associated with primigravidas knowledge. This result agreed by other researchers who confirmed that primigravida's age of fewer than 26 years of age at  $P < 0.04$  had low knowledge when compared with multigravida mothers at  $P < 0.03$ .<sup>16,8</sup> Parity is a factor affecting breastfeeding<sup>16</sup>. Another study indicated to several factors contributes to poor knowledge, such as lower maternal education, age and SES<sup>3</sup>. A similar study found a significant association between age of participants and knowledge about benefits of EBF ( $P < 0.0001$ ).<sup>7,22</sup> Primigravidas status of the mother led to significantly lower scores ( $P < 0.04$ ) as maternal age  $< 26$  years ( $p < 0.04$ ; 95% CI 0.2. to 3.46) on univariate analysis<sup>16</sup>. There was strong statistical association was existed between occupation of respondents with their knowledge about EBF.<sup>22</sup> The sample size was the main limitation of the study; the researcher couldn't include a larger sample

because of cultural issues, fund, limitation in studies on primigravid in Erbil city, and support such as special room for the interview.

### Conclusion

Most of the participants were housewives, in the childbearing age, the primary school graduated, living in low SES. Unfortunately, most had low knowledge regarding overall EBF benefits items and found that the age and occupation due to low knowledge. The study recommended a special educational program for primigravida's after the wedding. Further study is essential to detect the problems.

### Conflicts of interest

The authors report no conflicts of interest.

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