

Pregnant & Lactating Mothers' Attitudes and Practice of the Ten Steps to Successful Breastfeeding at King Fahd Hospital of University (KFHU) – Khobar, Saudi Arabia: Appraisal of Baby Friendly Hospital Initiatives

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Abstract

Background: World Health organization (WHO) and the United Nations Children's Fund (UNICEF) have been recommended the application of the Ten Steps to Successful Breastfeeding of the Baby-Friendly Hospital Initiative (BFHI) in order to promote & support breastfeeding. **The aim** of this study was to assess pregnant and lactating mothers' attitudes and practice of ten steps to successful breastfeeding at KFHU. **Methods:** Data was collected using interview questionnaire sheet from pregnant ladies in the third trimester (N=73) and lactating mothers (N=84) who are delivered and have infants from 6 hours up to 6 months of life at KFHU. **Results:** more than two thirds of the sample has secondary or university education. Majority of mothers breastfed their previous children but 36.9% of them discontinued breastfeeding before 6 months. Health education addressing breastfeeding was given only for 16.6% of the total sample. Mothers agree to feed their babies on demand (74.5%), day and night (82.8%), to continue breastfeeding up to 2 years (75.8%), while 47.8% were agree to exclusive breastfeeding up to 6 months. **Conclusion:** Although there was a clear agreement about the steps to successful breastfeeding among pregnant & lactating mothers, the actual practice of these steps are obviously incongruent with BFHI criteria for accreditation. **Recommendation:** health education, training and support for all pregnant and lactating mothers are crucial elements to promote breastfeeding, as well as the hospital policy taking into consideration to turn the BFHI into practice for the purpose of accreditation.

Keywords: Breastfeeding, attitudes, practice, Baby Friendly Hospital Initiatives

Introduction

Breastfeeding is known as the optimal and unique method of infant feeding that result in short and long-term benefits for infants, mothers, families, economy and the entire society⁽¹⁻³⁾ Infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and overall health. Thereafter, to meet their evolving nutritional requirements, infants should receive nutritionally adequate and safe complementary feeding while breast feeding continues for up to two years of age.⁽⁴⁾ Breastfeeding is recommended by the Holy Quran 1436 years ago "the mothers shall give suck to their offspring for 2 whole years". (Surah Al-Baqarah:233) This practice also is recommended later by international organizations such as World Health Organization (WHO), United Nation Children's Funds (UNICEF), and American Academy of Pediatrics (AAP) and supported by recent researches.⁽⁴⁻⁸⁾

The Baby Friendly Hospital Initiative (BFHI) has been launched by WHO and UNICEF to promote optimal infant feeding practices in hospitals throughout the world by providing comprehensive guidelines to make hospitals centres of support for breastfeeding based on the Ten Steps to Successful Breastfeeding. It also establishes the necessary political and technical support for breastfeeding promotion activities, and the skills of health professionals and research.⁽⁹⁾

Over the past two decades evidence-based medical research has shown the effectiveness of the Ten Steps to successful breastfeeding in reversal of neonatal morbidity and mortality rates from common infectious diseases and disabilities that were closely linked to practices that disrupt breastfeeding.^(10,11) Social and economic benefits have also been shown by implementation of the BFHI in both developed and developing countries. The widespread success of the BFHI, with its proven efficacy as one of the most effective and least costly interventions, has driven the UNICEF and WHO to call for its revival through a 2006 update for expansion and a recommendation that it become integrated into the WHO Global Strategy for Infant and Young Child Feeding.^(12,13)

Despite the recommendation of WHO and the marvelous benefits which breast feeding can impart to the baby and mother its status remains poor in KSA and the duration of breastfeeding showed a decline over

time.⁽¹⁴⁾ Many mothers start breastfeeding their infants, which is favorable and then they turn to formula feeding as they assume that breastfeeding is not sufficient and therefore, they tend to practice mixed feeding. This was also the most common reason for discontinuation of breastfeeding in the western countries.⁽¹⁵⁾ One of the most recent national study (2014)⁽¹⁴⁾ reported that, there is no sufficient data available on breastfeeding in Saudi Arabia to monitor progress and develop promotion programs. The World Health Organization does not report any breastfeeding data in the country profile because there are no national data on breastfeeding.⁽¹⁶⁻¹⁸⁾

In order to promote breastfeeding, hospitals must meet the BFHI Global Criteria for each of the Ten Steps to Successful Breastfeeding to award accreditation as a Baby-Friendly Hospital. The appraisal is a rigorous process carried out by a team of trained assessors, who report the results of the assessment to a national authority that decides the issue of designation and certification.⁽¹⁹⁾

Becoming a Baby Friendly Hospital is a process that starts with a self-appraisal. Exploring maternal attitudes and practice of ten steps to successful breastfeeding is one of the most important areas of appraisal. It serves as an approximate indicator of whether protection, promotion, and support for breastfeeding are adequate in the hospital. This initial self-appraisal will lead to analysis of the factors that encourage or hinder breastfeeding; and determine the necessary actions needed to make the changes required. Thus, it follows the triple-A sequence (Assessment, Analysis, and Action) which characterises other UNICEF Programme Developments.⁽¹⁶⁾

The aim of the current study was; to assess pregnant & lactating mothers' attitudes and practice of the ten steps to successful breast feeding at King Fahd Hospital of University (KFHU) of Dammam.

Research question: are the attitude and practice of pregnant and lactating mothers of ten steps to successful breastfeeding at (KFHU) congruent with BFHI criteria for accreditation? Through this greater understanding a proposal of how to promote, increase, and support breastfeeding in the KFHU will be formulated and implemented in order to achieve BFHI award.

Material and Methods

A descriptive research design was utilized in this study.

Setting: The study was conducted in the Pediatric and Maternity Units (inpatient & outpatient) at KFHU of Dammam.

Subjects: A convenient sample of 73 pregnant and 84 lactating mothers who were attended the previously mentioned setting for follow up, delivery or child care were included in this study.

Inclusion criteria: pregnant mothers in the third trimester and lactating mothers who have children up to six months of age and they were followed up during pregnancy, delivery and child care in KFHU of Dammam.

Two Interview questionnaire sheets were the tools for data collection (one for pregnant & one for lactating). Each tool contains demographic data of the participants (as age, educational level, occupation, and the number of children they have, previous breastfeeding experience, if they have received any instruction or training from the hospital regarding breast feeding, their breastfeeding plan and their knowledge about the benefits of breastfeeding). The last part of questionnaire was designed in the form Likert scale of mother's agreement about steps to successful breast feeding. The scale is composed of 5 items ranging from strongly agree to strongly disagree. For the purpose of clarity and simplicity the data presented in three categories (agree, neutral & disagree).

Ethical Considerations;

Prior to start the study, the research proposal and the tools for data collection were reviewed and approved by the Institutional Review Board (IRB) in University of Dammam. Permission for conducting this study was obtained from the responsible authorities at KFHU, of Dammam. Approval and consents from the participants were obtained after full explanation of the research objectives. Respondents were instructed not to put their names on the demographic form.

The data entry and analysis was carried out with great confidentiality. Information was only known to the researchers. There were no even minimal risks to the participation in this study.

Data collection procedure

- (a) Tools for data collection were developed and tested for its content validity by experts in maternity and pediatric nursing.
- (b) Pilot study was carried out on ten participants who were attended the hospital either for follow-up, post-partum or child care to test feasibility and applicability of the tools. Participants in the pilot study were not involved in the study subjects.
- (c) Participants' written consent was obtained after explanation of the study aim.
- (d) Every participant was interviewed individually while waiting for follow-up (for pregnant) or in the maternity and pediatric wards (for lactating). Each interview sheet lasts from 10-12 minutes to be filled.

Data analysis

After data collection, it is coded and entered to the computer. SPSS program version 17 was used for data presentation (tables, and mathematical presentations), statistical analysis and finally decision taking according to the significance depending on the P values. The 5% level of significance was used. Number and percent were used for presenting qualitative variable.

Results

The total studied sample was 157 (73 pregnant & 84 lactating) from KFHU of Dammam were interviewed for their experience and attitudes about ten steps to successful breast feeding. The age of pregnant mothers ranged from 16 to 44 years with mean and SD of 28.5 ± 6.29 years, while in lactating mothers ranged from 17 to 40 years with mean and SD of 29 ± 5.3 years.

Table (1) shows that; nearly half (49.3%) of pregnant ladies and 36.9% of lactating have university levels of education. The highest percentage of pregnant (74%) and lactating (81%) were housewives. Nearly one third (32.9%) of pregnant and two thirds (66.7%) of lactating have one or two children. Multi-gravida and multi para taking the higher percentage among pregnant and lactating mothers (60.3% & 70.2% respectively).

Table (1): Biosocial Characteristics of The Interviewed Mothers

Variable	Pregnant		Lactating		P. value
	Number (73)	Per cent (%)	Number (84)	Per cent (%)	
Educational level:					0.0947
• Read & write	3	4.1	9	10.7	
• Basic level of education	4	5.5	12	14.3	
• Secondary level	27	37.0	31	36.9	
• University	36	49.3	31	36.9	
• Others	3	4.1	1	1.2	
Occupation:					0.3450
• Housewife	54	74	68	81.0	
• Worker	4	5.5	2	2.4	
• Professional	12	16.4	8	9.5	
• Other	3	4.1	6	7.1	
Number of children:					0.0000*
• No children	29	39.7	0	0	
• 1-2	24	32.9	56	66.7	
• 3-4	12	16.4	14	16.7	
• 5-6	7	9.6	12	14.3	
• 7 & more	1	1	2	2.4	
Gravida & para					0.1899
• Primi-gravida/para	29	39.7	25	29.8	
• Multi-gravida/para	44	60.3	59	70.2	

*Statistical significant difference

As showed in table (2) only 16.6% of the sample has received health education related to breast feeding. It was mainly provided by nurse. They covered mainly importance and techniques of breast feeding. Two thirds of the sample (65.6%) considered their mothers or sisters are the reference for consultation regarding breastfeeding.

Table (2): Health Education Related to Breast Feeding that Received by Interviewed Pregnant and Lactating Mothers at KFHU of Dammam

Variable	Pregnant		Lactating		Total	
	N=73	(%)	N=84	(%)	N=157	%
Mothers who received health education	17	23.3	9	10.7	26	16.6
Breast feeding information providers:						
• Not provided	56	76.7	75	89.3	131	83.4
• Doctor	0	0	3	3.6	3	1.9
• Nurse	14	19.2	2	2.4	16	10.2
• Others (TV, School)	3	4.1	4	4.8	7	4.5
Type of health education related to breastfeeding has been provided: (more than one answer)						
• Importance of breastfeeding	6	8.2	7	8.3	13	8.3
• How long breastfeeding should continue	3	4.1	4	4.8	7	4.5
• Breastfeeding techniques	6	8.2	2	2.4	8	5.1
• Breast milk expression and storage	5	6.8	3	3.6	8	5.1
• Breast feeding problems	3	4.1	1	1.2	4	2.5
• Methods used to sustain breastfeeding when back at work	2	2.7	1	1.2	3	1.9
• Feeding alternatives to breastfeeding	5	6.8	2	2.4	7	4.5
Mothers' breast feeding consultant:						
4. None	0	0	21	25	21	13.4
1. Nurse	3	4.1	2	2.4	5	3.2
• Doctor	12	16.4	16	19	28	17.8
• Mother/ sister	58	79.5	45	53.6	103	65.6

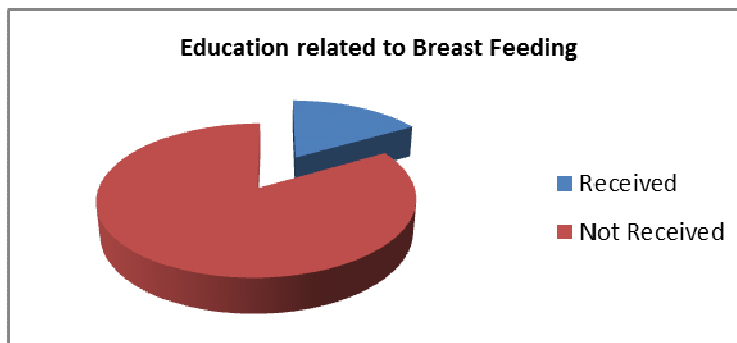


Figure (1)

Table (3) describes breastfeeding practice for previous children by pregnant & lactating mothers. The average duration of breastfeeding was less than 6 months in 36.9% of the sample. No reason for discontinuation of breast feeding as mentioned by 18.4% of them, while the identified reasons were; pregnancy or using contraceptive pills (30.1%) , the child no longer wants breast milk (20.4%), decreased milk supply (16.5%), maternal work (9.7%), mother was not offered adequate breastfeeding education (8.7%) and maternal illness (6.8%).

Table (3): Self-Reported Breastfeeding Practice for Previous Children by Multi-Gravida & Multi-Para Mothers at KFHU of Dammam

Variable	Pregnant		Lactating		Total	
	N=44	%	N=59	%	N=103	%
Average duration of breast feeding:						
• Less than 6 months	14	31.8	24	40.7	38	36.9
• 6-	9	20.5	10	16.9	19	18.4
• 12-	9	20.5	16	27.1	25	24.3
• 18-24 months	12	27.3	9	15.3	21	16.5
The reasons for incompleteness of breast feeding (before 2 years): (more than one answer)						
• No reason	10	22.7	9	15.3	19	18.4
Maternal causes:						
• Breast problems (Inverted nipple – Abscess – Mastitis – Sore nipple)	3	6.8	1	1.7	4	3.8
• Maternal work / study	6	13.6	5	8.4	10	9.7
• Decreased milk supply	11	25	6	10.2	17	16.5
• The mother was not offered adequate breastfeeding education	4	9.1	5	8.4	9	8.7
• Pregnancy / contraceptive pills	6	13.6	25	42.4	31	30.1
• Maternal illness	0	0	7	11.9	7	6.8
Infant causes:						
• Infant's problems (preterm- heart problems – cleft lip or palate)	4	9.1	5	8.4	9	8.7
• The child no longer wants breastfeeding	11	25	10	16.9	21	20.4

In table (4) 45.2% of lactating mothers planned to discontinue breastfeeding before 6 months of their children's life. On the other hand, 63% of pregnant planned to continue breastfeeding up to 18- 24 months, and 13.7% planned not to breastfeed their babies.

Table (4) Breastfeeding Plan for Pregnant and Lactating Mothers at KFHU

Variable	Pregnant		Lactating		Total	
	N=(73)	(%)	N=(84)	(%)	N=157	%
Planned duration of breast feeding						
• Less than 6 months.	13	17.8	38	45.2	51	32.4
• 6-	4	5.5	6	7.1	10	6.4
• 12-	10	13.7	10	11.9	20	12.8
• 18-24	46	63	30	35.7	76	48.4
Planned not to breast feed their babies	10	13.7	0	0	0	0*

*Mothers already lactating

Table (5) describes the mothers' knowledge about the advantages of breastfeeding. More than two thirds of the sample (68.8%) has recognized the immunologic function of breast milk for the baby. Reduction of breast cancer as an advantage of breast milk for the mother has been mentioned by 31.2% of the sample.

Table (5): Mothers' Knowledge about Advantages of Breast Feeding

Advantages*	N=157	%
Advantages of breast feeding for the baby:		
• It has immunologic function	108	68.8
• It is a complete food for baby	64	40.8
• It enhances the mother-child attachment	34	21.7
• It has anti allergic properties	19	12.1
• Always warm at baby temperature	17	10.8
• I don't know	12	7.6
Advantages of breast feeding for the mother:		
• Reduce breast cancer	49	31.2
• Help in uterine involution after birth	48	30.6
• Reduce your weight	33	21.1
• Ready at any time	17	10.8
• Prevent postpartum haemorrhage	10	6.4
• Economic	4	2.5
• I don't know	31	19.7

*There is more than one answer

Table (6) describes maternal practices of steps to successful breastfeeding within KFGU of Dammam.

None of mothers initiated breastfeeding during the first 6 hours after delivery and 63.1% started to breastfeed their babies one day post-partum. Only one mother exclusively breastfeed her baby up to six months of life. Practice of rooming in and breastfeeding on demand was carried out only by 29.8% of mothers (the sample selected from pediatric ward). All children born in KFHU have been received artificial milk with artificial teat and 47% of them were using pacifiers.

Table (6) Actual Practices of Steps to Successful Breastfeeding within KFHU of Dammam as Reported by Lactating Mothers

Practice	Lactating	
	N=84	(%)
Initiation of breastfeeding		
• Within 6 hours after delivery	0	00
• 6 hours-	9	10.7
• 12 hours-	14	16.7
• 24 hours-	53	63.1
• 2 days and more	8	9.5
Giving exclusive breastfeeding up to 6 months		
• Yes	1-	1.2%
• No	83	98.8
Practice of rooming-in within the hospital*		
1- Yes (24 hours)	25	29.8
2- Periods of times (partial)	59	70.2
Giving breastfeeding on demands*		
• Yes	25	29.8
• No	59	70.2
Giving prelacteal (Artificial milk)	84	100
Using artificial teat or/and a pacifier:		
• Using artificial teat	84	100
• Using a pacifier	40	47.6

*The practice of rooming in and breastfeeding on demands was only in the pediatric ward

It is clear from table (7) that 57.5% of pregnant and 39.3% of lactating mothers agree to give their children exclusive breast feeding up to six months of life. Majority of pregnant (82.2%) and 2 thirds of lactating mothers prefer to give their children breast feeding on demands. More than half of lactating mothers (52.4%) and 41.1% of pregnant disagree to give their children pacifiers. More than three quarters of the sample would like to breastfeed their children for complete two years. Majority of them (82.2% of pregnant & 83.3% of lactating) like to breastfeed their children day and night. Only statistical significant difference was found between pregnant and lactating mothers regarding feeding baby on schedule (more pregnant mothers were willing to feed on schedule).

Table (7) Pregnant and lactating mothers' attitudes regarding steps to successful breast feeding at KFHU of Dammam

Steps	Agree		Neutral		Disagree		P value
	Pregnant N=73 %	Lactating N=84 %	Pregnant N=73 %	Lactating N=84 %	Pregnant N=73 %	Lactating N=84 %	
To give exclusive breast feeding up to 6 months	42 57.5	33 39.3	8 11	11 13.1	23 31.5	40 47.6	0.0673
To feed the baby on demand	60 82.2	57 67.9	4 5.5	12 14.3	9 12.3	15 17.9	0.0894
To feed the baby on schedule	25 34.2	16 19	16 21.9	11 13.1	32 43.8	57 67.9	0.0101*
To use a pacifier	26 35.6	25 29.8	17 23.3	15 17.9	30 41.1	44 52.4	0.3619
To practice rooming-in	54 74	70 83.3	11 15.1	5 6	8 11	9 10.7	0.1636
To breast feed the baby for complete 2 years	55 75.3	64 76.2	9 12.3	9 10.7	9 12.3	11 13.1	0.9462
To feed the baby day and night	60 82.2	70 83.3	8 11	7 8.3	5 6.8	7 8.3	0.8185

*** Statistical significant**
Mothers' attitudes regarding steps to successful breast feeding at KFHU of Dammam

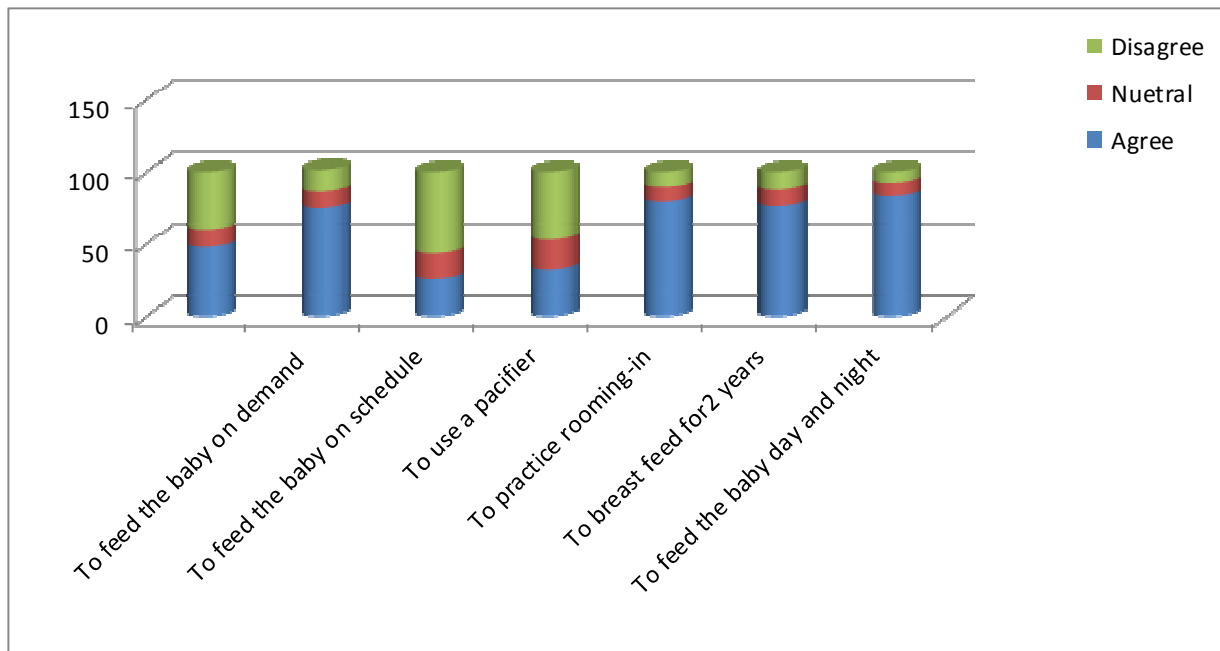
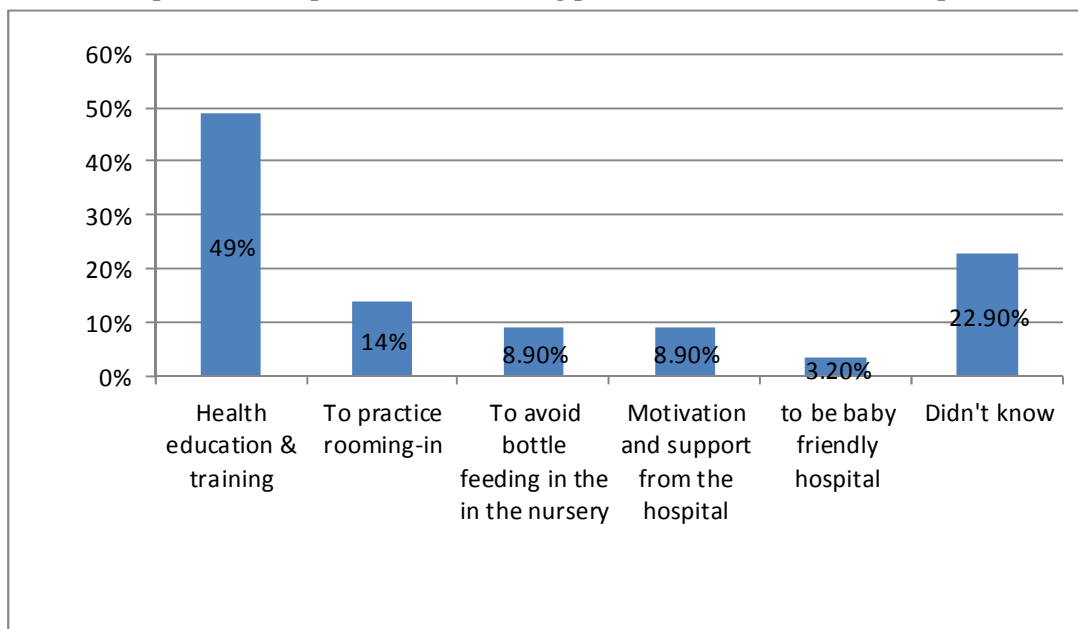


Figure 2

Figure (3) reflects that 49% of mothers considered health education and training will promote breastfeeding practice at KFHU. Also 14% of them required to practice rooming-in in the hospital, while 8.9% requested to avoid giving the baby bottle feeding in newborn nursery and to be motivated and supported by the hospital staff for the same purpose.

Requirements to promote breastfeeding practice in KFH from mothers' point of view.



Some mothers have mentioned more than one answers

Figure 3

Discussion

Human breast milk is recognized worldwide as the ideal nutrient for the human newborn child.⁽²¹⁾ BFHI promotes optimal infant feeding practices in hospitals throughout the world by providing comprehensive guidelines to make hospitals centers of support for breastfeeding.

WHO suggests that it must be important to teach all pregnant and lactating mothers about the importance of exclusive breastfeeding up to 6 months, the benefits, importance of rooming- in, feeding on

demands and basic breastfeeding management. Antenatal education for mothers can increase breastfeeding and builds their confidence and skills.⁽²²⁾ However, the present study revealed discrepancies in this area of hospital care which evidenced by the low percentage(16.6%) of mothers who received education related to breastfeeding at KFHU compared with 55.8% in a study carried out in central Saudi Arabia by Alwelaie et al 2010, while other study reported 41.3%.^(8,23) Furthermore, mothers' education is needed in order to take appropriate decision when they plan to breastfeed their children. Unfortunately 45.2% of lactating mothers in the present study planned to discontinue breastfeeding before six months of their children's life and 13.7% of pregnant ladies planned not to breastfeed. It was stated by Alfaleh K.⁽⁸⁾ that only 9% of working mothers who intended to exclusively breastfeed during the third trimester they did so at 4 months postpartum in Riyadh city.

The average duration of breastfeeding for previous children of the study sample was less than 6 months as mentioned by 40.7% lactating mothers and 31.8% of pregnant ones. The reasons for discontinuation of breast feeding were; pregnancy or using contraceptive pills (30.1%) , the child no longer wants breast milk (20.4%), decreased milk supply (16.5%), maternal work (9.7%), mother was not offered adequate breastfeeding education (8.7%) and maternal illness. However in other study the reasons were: baby was ill (38.2%) , a health professional asked mother not to breastfeed for medical reasons (61.1%), mother was sick or needed to take medicine (71.8%), and finally the use of contraception that interferes with milk supply (32.8%).^(23.)

Early skin to skin contact and opportunity to suckle within first hour after birth is important for both infant and mother. This study showed that healthy newborn infants are often separated from their mothers and may not be put to the breast for hours, or days depending on the artificial milk that they received in nursery. Our data revealed that 63.1% of lactating mothers initiated breastfeeding in the second day after birth. This practice is potentially harmful for breastfeeding and for the development of mother-infant bonding. El-Gilany et al. reported that only 11.4% of mothers started breastfeeding within the first hour after delivery and 10% initiated breastfeeding after 72 hours or more.⁽²⁴⁾ Study carried out by Amin et al in Al Hassa found that 77.8% of studied mothers had initiated breastfeeding within 24 hours postpartum.^(25.) Moreover, other study in Saudi reported that, Initiation of breastfeeding was delayed beyond 6 hours after birth in 28.1% of the infants.⁽²⁶⁾

Rooming-in practice allow mothers and infants to remain together 24 hours/day enables mothers to respond whenever their infants shows signs of readiness to feed, and this help to establish a good milk flow and to feed on demands. In contrast, nursery care interferes with demand feeding and increase the likelihood of breastfeeding difficulties.⁽²²⁾ However, the mothers in pediatric ward In KFHU can do so, while in the maternity ward they practice short periods of rooming-in and the infants resume nursery care based on the mothers 'request their babies to be taken to the nursery so they can rest. In addition, they consider the nursery care allows better supervision of the baby, and the layout of the ward makes rooming-in difficult.

To start feeding the newborn baby with artificial milk in the hospital might give false impression for the mothers that formula feeding is an acceptable alternative to breast feeding. It is a usual practice in KFHU to give the newborn baby a formula either before breastfeeding (prelacteal) or in addition to breast milk (supplement). This practice is always associated with early termination of breastfeeding as well as increase the risk of infections.^(22.) The study that carried out by El-Gilany et al reported that 24.4% of mothers were exclusively breastfeed their children up to six months of life.⁽²⁴⁾ Al-Jassir et al in a nationwide cross-sectional survey in Saudi Arabia found that 76.1% of infant introduced bottle-feeding by 3 months of age.⁽²⁷⁾

The alternative method for feeding the infants who cannot breastfed is by cup rather than to use artificial teat or pacifier. However both artificial teat and pacifier can be harmful, by carrying infection, by reducing the time spent for breast sucking which result in decreased milk production, interfering with demand feeding, alternating oral dynamics and produce nipple confusion.⁽²²⁾ In the current study all infants have given artificial teat and 47.6% used a pacifier. This is congruent with a study carried out by Abul-Fadl et al who found that 43.2% of women from lower Egypt and 39.4% from upper Egypt have given their children pacifiers.⁽²⁸⁾ Other study also reported that hospital practices that conflicted with the Baby-Friendly Ten Steps, including supplementation (49%) and pacifier use (45%).⁽²⁹⁾

The present study reflects high percentage of mothers' agreement about steps to successful breastfeeding as majority of pregnant (82.2%) and 2 thirds of lactating mothers prefer to give their children breast feeding on demands and more than three quarters would like to breastfeed their children for complete two years. The rate of mothers' agreement for exclusive breast feeding up to six months of life was that 57.5% of pregnant and 39.3% of lactating compared to 36.8% in other study.^(23.)

Conclusion and recommendation

Study findings suggest that serious practical steps have to be taken in order to rectify breastfeeding practice in KFHU. Intensive education about breast feeding, during antenatal visits and, postnatal period and for the mothers of young infants about the importance of breastfeeding and basic breastfeeding management is a crucial part of hospital care. Furthermore; the hospital policy should taking into consideration to turn the BFHI into practice for the purpose of promotion of breastfeeding practice that reflects positively on child health and for the

purpose of accreditation.

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