

Knowledge, Attitudes and Practice of mothers toward Breast Feeding at Well Baby Clinic, King Abdulaziz University Hospital

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Abstract: Background and Objective: Breastfeeding has innumerable benefits on infants, mothers and societies as a whole. The prevalence of breastfeeding in developed countries is increasing. In spite of great advances in health services in Kingdom of Saudi Arabia, recent studies have reported a downward trend in breastfeeding practice. The purpose of this study is to assess knowledge, attitudes, and practice of mothers attending the well baby clinic at King Abdul-Aziz University Hospital, Jeddah (KAUH) about breastfeeding and to explore the factors that prevent mothers from breastfeeding and to suggest measures to enhance their practice. **Method:** The design of the study was mixed research design in form of three focus groups discussion followed by a cross-sectional study was conducted at KAUH well baby clinic in 2010-2011. In each focus group discussion (qualitative study), about ten mothers were included, and in the quantitative study, Six hundred Mothers (2 to 3 each day) having infants aged 6 months and below were interviewed to collect information about their breastfeeding practice. World Health Organization (WHO) definitions were used for classification of infants' nutrition patterns. Data includes assessment of mother's social status. **Results:** The exclusive breastfeeding rate was 25% among the study sample. The correct time for giving complementary feeding rate was only 10%. All the values were far behind those recommended by WHO .The most common reasons for failure of breastfeeding were: insufficient breast milk (32%), working away from home (29%), giving birth by cesarean section (19%) and formula milk advertisement (16 %). **Conclusions:** This study showed that we have low level of breastfeeding practice in Saudi Arabia. Managing the reasons of breast milk insufficiency, promoting the benefits of breastfeeding, and organizing special community based programs for potential stockholders to provide measures of facilitating breastfeeding for working mothers can enhance this practice.

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1. Introduction

Breastfeeding (BF) has innumerable benefits that not only reflect on infants and mothers but on society as a whole (1). International health agencies such as American Academy of Pediatrics, United Nation Children's Fund (UNICEF), American Diabetic Association and World Health Organization (WHO) recommend exclusive breastfeeding during the first 6 months of infant life and introduction of complementary food at approximately 6 months (5). Exclusive breastfeeding, which is giving breast milk only and no other liquids, except drops or syrups with vitamins, mineral supplements or medicines (10), is superior to non-exclusive breastfeeding with a protective effects against morbidity and mortality (5,6).

The prevalence of breastfeeding in developed countries such as the United States of America and the United Kingdom is increasing (6). In spite of great advance in health services in the Kingdom of Saudi

Arabia (KSA), recent studies have reported a downward trend in breastfeeding practice (7, 8). Breastfeeding is associated with reduction in the risk of infections, type 1 and 2 diabetes, infant diarrhea, childhood leukemia, sudden infant death syndrome and Necrotizing enterocolitis (11, 12). Lactation has also favorable maternal outcomes such as reduction of type 2 diabetes, breast and ovarian cancer. Moreover, Lactation prolongs the period of amenorrhea postpartum, thereby increasing pregnancy spacing (13, 14). Early cessation of breastfeeding was associated with increase risk of maternal postpartum depression (9).

This study was conducted to assess and explore the knowledge of mothers about breast feeding as well as their attitudes and practices.

Objectives of Study

This study was carried out to estimate the prevalence of Breast feeding among mothers attending Well baby clinic at King Abdul-Aziz University

Hospital, Jeddah (KAUH), to assess knowledge, attitudes, and practice of mothers attending that clinic about breastfeeding, to explore the factors that prevent mothers from practicing breastfeeding and to suggest measures to enhance this.

2. Subjects and Methods

Type of the study

The design of this study is mixed research methods both qualitative (focus group discussion) followed by quantitative (cross sectional descriptive study). The aims of mixed design are to triangulate and complement the evidence from both qualitative and quantitative. The focus groups discussions were conducted at the outpatient clinic. Each focus group continued for about thirty minutes. The research team met about ten mothers at each focus group discussion.

Site of the clinic: Well Baby Clinic at King Abdul-Aziz University Hospital, Jeddah, KSA (KAUH).

Target group:

Mothers who have attended the well baby clinic with their infants of age 6 months and below.

Time of the study :

From January 2009 to April 2011 during the working days of well baby clinic. The sampling units were the days of well baby clinic. The analytic units were mothers attending well baby clinic with infants of age 6 months and below.

Study tool:

An open end questions were used in the focus groups discussion to help the group to express their knowledge, attitudes and practice toward breast feeding. In the quantitative study the tool was English and Arabic questionnaire was developed for the purpose of data collection. A pilot study was done for 30 mothers attended well baby clinic to enhance face validity of the questionnaire. Modification of the questionnaire was done to avoid pitfalls in the pilot study. Pediatrician and specialist in nutrition revise the questionnaire to ensure content and to discriminate validity of the questionnaire. Cronbach alpha of the questionnaire was 0.75. Information related to personal of mother, knowledge, attitude and practice of breastfeeding were included in the questionnaire.

Statistical analysis

Statistical analysis was done by using statistical package of social science (SPSS) program version 16, 2005. The qualitative data were presented in the form of number and percentage. Chi-square used as a test of significance for qualitative data. Chi-square with Yates correction used when the expected cell less than 5. The quantitative data were presented in the form of mean, standard deviation and range. One way ANOVA and student t test used to compare quantitative data. Significance was considered when P value less than 0.05. .

3. Results

The focus groups discussion with about thirty mother revealed that relatively positive attitudes of mother toward the breast feeding. In spite that they had good knowledge about the benefit of breast feeding only less than half of them did practice breast feeding. Their knowledge about, diet that enhance or decrease breast feeding were unclear. Availability and advertisement about artificial formula was encouraging factor for them not to practice breast feeding.

Six hundred mothers who had attended well baby clinic were included in the study. The mothers' characteristics are presented in Table (1). The mean age of the mothers was found to be 27.45 years. The majority of studied samples were working mothers (67%). Approximately half of them were University graduates and above (51%). Most of the population was residents of West Jeddah, and the mean orders of the studied infants were the second one in the family.

The majority of mothers (82%) mentioned that breastfeeding should start immediately after delivery. Seventy three percent of all mothers in this study reported that full breast feeding after delivery is better for the baby's health, while 15% of all women gave glucose and only 5% gave infant artificial formula. About 50% of the women mentioned that exclusive breast milk should be given from 4 to 6 months of infant life. Eighty percent thought that the amount and 66.7% thought that the duration of breastfeeding was regulated by infant's desire. The majority of full breast feeding mothers did so for the first 4- 6 months (95%) of the infant's life.

The majority of mothers know that breast milk contains calcium and iron, (85% and 65% respectively). Forty percent know that milk contained galactose, 41.7% know of essential fatty acids and only a small number know about the presence of vitamin C and Phosphate (35% and 26%, respectively). Eighty five percent know that breast milk protected the baby from under nutrition, 70% know the protective effect against diarrhea and acute respiratory infections while 66.7% know that breast milk improved infant intelligence. Half the mothers know that breast milk protected the baby from obesity and only 26% know that milk is giving protection against diabetes.

There was relatively less knowledge about the protective benefits of breast milk to the mother. Of the six hundred women answering the questionnaire, 65% know that breast milk protects against hypertension and half of the women had knowledge of its protection against heart disease. Only 48.3% know of the contraception benefits of breast milk. Forty percent and 38.3% know about protection against

postpartum hemorrhage and psychological disease respectively.

Correct knowledge of mothers about indication and contraindication of breastfeeding included revealed that about 93.3 % know that they can breast feed during a common cold, 60% during diabetes, and 78% in hypertension. Only 41.7% know that they can breast feed during breast disease and 16.7% had knowledge of breast feeding TB. About half of them had correct knowledge about the contraindication to breast feeding.

Most of the mothers had a good positive attitude to breast feeding; 90% of mothers like to breast feed their infants, 61.7% like to continue exclusive breastfeeding during the first 4 month of infant life and 50% like to continue to 2 years of infant life .Seventy percent like to add formula to his or her infant's feeds & 70% of lactating women knew that breastfeeding affects the shape of the breast. Ninety percent would advise other mothers to breastfeed and a larger percent (95%) agreed that breastfeeding protects against disease.

The prevalence of full breastfeeding was reported by 25% of the study sample, mixed feeding was reported by 15% and infant formula was reported by 16.7%. Mother were asked an open- end question on their own reasons for giving artificial milk and the answers were grouped in the form of "baby is not satisfied by my milk" as the most common maternal reason for adding artificial milk (35%). The duration of breast feeding ranged from 2 to 24 months. Forty five percent practiced breast feeding to other babies before, 35% emptied their breasts every 3 hours. Ten percent of the women started an oral diet at six months after delivery.

The knowledge of the mother about the diet that increases breast milk was; Helba 80% is the commonest answer and the least was parsley. The most common answer about diet that decrease breast milk was carbonated drinks (75%). Followed by coffee (45%), Nescafe (35%) and tea (25%).

The prevalence of exclusive breastfeeding is 37.5 % among working mothers and zero % among nonworking mothers. Artificial feeding is common among nonworking mothers. This comparison was significant by chi- square. The prevalence of absolute breast feeding is 6 (13%) among Saudi but 9 (60%) among non Saudi. The prevalence of artificial feeding is 29 (64.4%) among Saudi but 6(40 %) among non Saudi; this comparison is statistically significant by using Chi- square.

The mean age of mothers who practice absolute breast feeding is 23.4 years younger than those who practice artificial (29.71) and mixed feeding (25.6) and this comparison is significant by using one way ANOVA and least significant

difference test.

4. Discussions

Six hundred mothers attending the well baby clinic were included in the study. The mother's characteristics were presented earlier. The mean age of the mothers was found to be 27.45 years.

while assessing mothers general knowledge about breastfeeding, about 81.7% knew that breastfeeding should start immediately after delivery and about half of them agreed that breast milk should be given exclusively during the first 6 months of infant life as shown in table(4). **Al-Hreashy et al. (2008)** stated that 80% say the amount of breastfeeding should be regulated by desire of the infant and 66.7% thought that the duration of breastfeeding should be regulated by desire of infant. Most of the mothers know that breastfeeding is ideal for the first 6 months 95%.

Regarding the knowledge about the nutritional benefits of breastfeeding, when we asked mothers about the content of breast milk there answers were as follows : Calcium 85%, Iron 65% ,Phosphate 26.7%, vitamin C 35% ,Galactose 40% and 41.7% as shown in table (5) and fig(2) . Moreover , 70% of the study's mothers know that breastfeeding protect the infant from acute respiratory infection and diarrhea ,50% from obesity , 26.7% from diabetic ,85% from under nutrition and it was the highest percentage , 66.7% say it protects the infant from low intelligence ,and 65% say that breastfeeding protected also the mother from hypertension as shown in table(5).

This study showed that the prevalence of full breastfeeding was reported by 25%, mixed feeding was reported by 15% and infant formula was reported by 16.7% as shown in table(7) , However , **Al-Hreashy et.,(2008)** stated that the prevalence of exclusive breastfeeding was extremely low in our population. Partial breastfeeding was the trend for feeding in the first 6 months of infant life, which was accompanied with rapid decline in lactation duration. Also **Mohamed ET. al(2006)** stated that full breastfeeding was reported 58.3% of Jordanian mothers ,mixed feeding 30.3% and infant formula feeding 11.4%.Almost 1/3 of the exclusive breastfeeding group continued for more than one year.

Scott et al., showed by using a reliable and valid measurement scale for evaluating breastfeeding attitudes, knowledge and management practices of health professionals, that there is a positive correlation between attitude and knowledge scores, and that midwives with personal breastfeeding experience had higher attitude scores than those without. These findings were confirmed by the current study with GPs, health visitors and community midwives, using a

shorter form of the validated tool.

This research showed a low level of knowledge of the mothers about the diet that increase milk secretion, Helba 80% was the commonest answers, other answers are shown in table (9). Regarding diet that decrease breast milk, the most common answer was carbonated drinks (75%) followed by coffee (45%), Nescafe (35%) and tea (25%).

Mohamed et al. (2006) stated that using an electronic teaching resource is feasible for updating the knowledge of the primary care team. It can help to improve breastfeeding expertise and advice about breastfeeding problem management.

Mohammed et., al (2006) did a cross-sectional study about Knowledge, attitude and practice of breastfeeding in the north of Jordan. They stated that full BF was reported 58.3%, mixed feeding 30.3% and infant formula feeding 11.4%. almost 1/3 of the full BF group did so for 6-12 months and almost 2/3 did continue BF for more than 1 year. Employed women were more likely not to practice full BF compared to unemployed women and women who had caesarian delivery were more likely not to practice full breastfeeding compared to those who had vaginal delivery. Jordanian women had a positive attitude but work place and short maternity leaves had a negative impact on breastfeeding. It is speculated that adopting facilitator measures at hospitals and work place could increase the rate of full breastfeeding.

Centre for Child & Adolescent Health, Department of Community-based Medicine, University of Bristol did research in Multi-professional training for breastfeeding management in primary care in the UK. Fifty primary care health professionals (29 GPs, 18 health visitors, 3 midwives) attended the sessions. There was an increase in scores relating to knowledge about breastfeeding after training, especially for the GPs and for those who did not have their own children. Health visitors improved their scores on recognition of the symptoms of poor attachment at the breast, and GPs showed greatest improvement in resolving sore nipples and recognizing nipple thrush. Changes in practice were reported and positive comments made about involving GPs and health visitors together in practice-based education.

5. Conclusion and recommendation

The results of both qualitative and quantitative study were triangulated and complementary to each other. Low level of exclusive breastfeeding in Saudi Arabia was detected. Breast milk insufficiency was the main cause of low level of breast feeding as well as lack of sound knowledge about the benefit of breast feeding.

Table (1): Epidemiological feature of studied mothers at Well Baby clinic

	Range	Mean ± SD
Age:	(18-46)	27.45± .09
	N	(%)
Occupation:		
Working	400	67
Not working	200	33
Education:		
illiterate	20	3
Just read and write	30	5
Secondary & intermediate	240	40
University and above	310	51
Residence:		
West	270	45
Center	120	20
East	30	5
North	150	25
South	30	5
	Range	Median
Parity	(1-7)	2
Order of infant	(1-6)	2

Table (2): Knowledge of mothers about the appropriate time of starting breastfeeding.

	N	(%)
When BF should start :		
Immediately after delivery	490	82
Not immediate	110	18
The diet that should given to baby after delivery :		
Glucose	90	15
Breast milk	440	73.3
Artificial milk	30	5
All	40	6.7
Exclusive BF for first 4 or 6 month of life :	300	50
The amount BF regulated by desire of baby :	480	80
The duration of BF regulated by desire of baby :	400	66.7
BF is ideal for 4-6 month of life :	570	95

Table (3): Knowledge about the nutritional benefits of breastfeeding

	N	(%)
The breast milk contain the following nutritional substance :		
Iron	390	65
Calcium	510	85
Phosphate	160	26.7
Vitamin C	210	35
Galactose	240	40
Essential Fatty Acid	250	41.7
Breastfeeding protect the baby from:		
Acute respiratory infection	420	70
Diarrhea	420	70
Obesity	300	50
Diabetic	160	26.7
Under nutrition	510	85
Decrease IQ	400	66.7
Breastfeeding protect the mother from:		
Diabetes	140	23.3
Hypertension	390	65
Cardiac disease	300	50
Psychological disease	230	38.3
Prevent post partum hemorrhage	240	40
Contraceptive	290	48.3

Table (4): knowledge of mothers about false and true contraindications of breastfeeding;

	N	(%)
Is breastfeeding indicated in following conditions?		
Influenza, common cold	560	93.3
Diabetes	360	60
Hypertension, cardiovascular disease	470	78.3
Breast disease	250	41.7
Hepatitis	0	0
Tuberculosis	100	16.7
Is breastfeeding is contraindicated in following conditions?		
Acute severely ill mother	80	13.3
Psychological disturbance	240	40
Mother with thyroid disease	200	33.3
Baby with metabolic disorder	320	53.3

Table (5): Mother's attitude toward breastfeeding;

	N	(%)
Do you like BF your baby	540	90
Do you like to continue BF for 4month exclusive	370	61.7
Do you like to continue BF for 2 years	300	50
Do you like to add artificial milk to your baby	420	70
Do you like advice other mother with Bf	570	95
Do you believe that BF affect shape of breast	420	70
Do you agree that BF protect you from disease	570	95

Table (6): Practice of mother toward Breastfeeding regarding her baby

	N	(%)
Do you breast feed your baby in the first six mothers.		
1)Absolute	150	25
2)mixed	350	58
3)Artificial milk	100	17
Why mothers don't breastfeed;		
1) formula milk advertisements	100	16,7
2) Working away from home	174	29
3) Delivery by cesarean section	114	19
4) Insufficient milk	192	32
5)Other(mother in law, habits, do not know)	20	3,3
Correct time for give complementary diet	60	10
Do you empty your Breast every 3 hour?	210	35
Do you practice BF to another baby before?	270	45
How long do you continue Breastfeeding for other baby	Range (2-24)	Mean± SD 11.1±6.64

Table (7): Knowledge about food that increase and decrease milk secretion**7a) Diet increase milk secretion:**

(%)	N	Food
80	480	Helba
60	360	Honey
1.7	310	Animal milk
60	360	Anise
15	90	Parsley
53.3	320	Celery
60	360	Carcadeh

7b): Diet decrease milk secretion

(%)	N	
25	150	Tea
45	270	Coffee
35	210	Nescafe
75	450	Carbonated water

Table (8): Prevalence of Breast feeding according to mothers working status

Working		Not working		Breast feeding
%	N	%	N	
37.5	150**	-	-	Absolute
45	180	85	170	Artificial
17.5	70	15	30	Mixed
	400		200	Total

Table (9): Patterns of breastfeeding according to nationality.

Non Saudi N=150		Saudi N=450		Breast feeding
%	N	%	N	
60	90	13.3	60	Absolute
40	60	64.5	290	Artificial
-	-	22.2	100	Mixed

Table (10): Mean age of the studied groups according to pattern of breastfeeding

Range	SD	Mean	Feeding
18-29	4.46	23.40**	Absolute
21-46	7.89	29.71**	Artificial
22-30	3.5	25.6	Mixed

One way ANOVA test $F=5.22$

$P=.005$ **

Then using least significant difference to compare between each two

Artificial versus Absolute $P=.003$ **

Absolute versus mixed $P=.42$

Artificial versus mixed $P=.003$ **

Using an electronic teaching resource is feasible for updating the knowledge of the mother attending well baby clinic. It can help to improve breastfeeding expertise and advice about breastfeeding problem management. Organizing special community based programs for potential stockholders to provide measures to facilitate breastfeeding for working mothers.

Conflict of interest.

The authors have no conflict of interest.

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