



EFFECTED OF KNOWLEDGE AND ATTITUDE OF BREAST-FEEDING AMONG MOTHERS ATTENDING PRIMARY HEALTH CARE CENTERS AT SAUDI ARABIA 2022

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Abstract

Background:

Breastfeeding offers a lot of benefits to both the mother and infant. The World Health Organization (WHO) even recommended breastfeeding as an effective way in promoting infant nutrition. However, despite of advancing medical technology, breastfeeding practice is continually declining in Saudi Arabia as caused by a variety of factors, breastfeeding (BF) describes infants who were only breastfed for 6 months. Many Saudi mothers have suboptimal breastfeeding practices. Therefore Information about maternal knowledge and attitude toward exclusive breastfeeding (EBF) attitude is consequential to the actualization of the goals of the baby-friendly initiative and Millennium Development Goals (MDGs) 4 and 5.

Aim of the study: To assess the effect of Knowledge and Attitude of Breast-feeding among Mothers Attending Primary Health Care Centers at Saudi Arabia 2022.

Methods: cross-sectional study was conducted in Saudi Arabia among a sample of mothers, of any nationality who have a child aged between 2 and 24 months, attending the primary health care centers for well-baby services throughout the study period (October-September, 2022). An Arabic questionnaire was utilized for collecting data. It included four main sections: demographic characteristics and determinants, knowledge about breast feeding, attitude toward breastfeeding our sample 400 participant.

Results: show the remaining socio-demographic characteristics of the patients. Their age ranged between <29 and >35 years, majority of participants <29 years were (37.0%), education most of participant intermediate school were (37.0%), regarding the child order in the family most of participant first l were (35.0%), regarding the number of children most of participant more than 4 children were (74.0%), regarding the nature/Type of Delivery most of participant Surgical operation were (75.0%) while normal delivery were (25.0%)

Conclusion: This study was conducted to determine the knowledge on breastfeeding among mothers who attended a well-baby clinic in primary health care centers in Saudi Arabia. Most participants have average knowledge concerning breastfeeding benefits for both mother and infant and disagreed on the mentioned barriers for EBF that include lack of breast milk, deficiency of information, and working conditions.

Keywords: Knowledge, Attitude, Breastfeeding, Mothers, Primary Health Care.

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Introduction

Background

The World Health Assembly (WHA) has set a global objective to increase exclusive breastfeeding (EBF) for infants 0 to 6 months of age to at least 50% between the years of 2012 and 2025 [1]. Only 38% of newborns are exclusively breastfed for the first six months of their lives globally, with variations by nations [2]. Compared to poorer economies, breastfeeding is often stopped earlier in high-income countries like the Saudi Arabia (19%), the United Kingdom (1%), and Australia (15%) [3]. Nevertheless, only 37% of infants younger than six months are exclusively breastfed, even in low- and middle-income countries [4]. Recent papers in the sub-Saharan Africa region [5] stated that only 53.5% of newborns in East African nations had EBF for six months, which is much less than the WHO aim of 90% [6]. Breast milk is a natural and renewable source of essential fats, carbohydrates, protein, vitamins and minerals, enzymes, hormones, growth factors, anti-inflammatory agents and immunological factors that fulfills all the nutritional requirement of an infant during the first 6 months of life,[7] and is therefore ideal for the proper development of an infant. [8] Due to the rich constitution of the breast milk, the WHO and UNICEF have recommended the following on breastfeeding: commencement of breastfeeding within the first hour of life, EBF for the first six months of life and continued breastfeeding for two years or more together with suitable complementary feeding starting from the sixth month of life² -this is the stage in which breast milk alone is not sufficient to give the required energy and nutrients to sustain normal growth and optimal health and development. Raising breastfeeding practice to a near-universal level could reduce 823,000 annual deaths in children younger than 5 years and 20,000 yearly deaths from breast cancer.[9] Despite various global initiatives on breastfeeding, data showed that EBF rate has declined over the last decade and has become a concern worldwide due to the valuable benefit of breastfeeding.[10] Mothers need to be supported for their children to be optimally breastfed through the adoption of many policies that were stated by WHO to protect, promote, and support breastfeeding, such as the International Labour Organization's provision of supportive health services with infant and young children, adoption of the International Code of Marketing of Breast-milk Substitutes, feeding counseling during all contacts with caregivers and young children, such as well-child and sick child visits, and

immunization and during antenatal and postnatal care. Implementation of community support, including community-based health promotion, mother support groups, and education activities, is also a valuable strategy that helps and supports mothers for EBF.[11]

In the United Arab Emirates (UAE), majority of the mothers had initiated breastfeeding (98%) and only 25% of the infants had been exclusively breastfed up to 6 months of age.[12] Practice of EBF among mothers is closely related to having adequate knowledge regarding breast feeding and EBF. [13] However, Odu S et al (2016) documented that although majority of mothers expressed knowledge about EBF (97.6%), only two-thirds (64.6%) had sufficient knowledge and also they indicated that the duration of BF practice was positively correlated with mothers' knowledge regarding breastfeeding.[14] In KSA, 26.6% of mothers had good level of knowledge regarding breastfeeding; among them 71.6% practiced breastfeeding up to 6 months of infant's age.[15] Healthcare professionals should have a more active educational role in the area of breastfeeding encouragement. The American Academy of Pediatrics calls for involvement of pediatricians in the promotion of the practice of breastfeeding. [16]

Literature Review

Searching online was carried out to identify and collate evidence from studies to explore the knowledge, attitude and practice of exclusive breastfeeding among mothers. The following databases were searched: PubMed, Embase/Medline and Google Scholar. The key words used for searching were, breast feeding, exclusive breast feeding, knowledge, attitude and practice, barriers, and Saudi Arabia/others. The search was limited to studies carried out between 2011 till 2019 locally and 2016 to 2019 internationally and abstracts or full articles should be in English. The following is summary of the most relevant cited studies arranged according to location (local and international).

In Rabigh; Saudi Arabia (2019), a cross-sectional survey was conducted to assess knowledge, attitude and practice of Breastfeeding among mothers. Prevalence of EBF for six months was 27.6%. Correct knowledge about benefits of colostrum and the importance of continuation of breastfeeding for 24 months was given by 86.2% and 36.7% of the participants, respectively. Perception of sufficient breast milk (adjusted odds ratio (AOR) 2.89), absence of nipple pain (AOR =2.77) and mothers below university education

(AOR 1.86 were the most significant factors associated with EBF. [17]

In Taif (2019), Alsulaimani carried out a cross-sectional study to estimate the prevalence of, and assess knowledge about, exclusive breastfeeding. Initiation of breast feeding in the first hour after birth was reported by only 13.9% of mothers. The prevalence rate of EBF was 16.3%. Almost two-thirds of mothers (65.3%) scored over 75% of the overall Knowledge score and majority of them (95%) answered correctly more than half of the knowledge questions. [18] Also in Taif (2019), Alharthi et al implemented a cross-sectional study to evaluate the knowledge, attitude and practices of breastfeeding and identify its determinants among mothers. Almost one-quarter (26%) of the mothers had a very good level of knowledge regarding breast feeding whereas 15.6% had a poor level. Most of the participants (77.1%) had health education about breast feeding. Positive attitude towards breastfeeding was observed among 52.3% of the mothers. Almost two-thirds (64.1%) had breast fed their infants up to 6 months of and 76% of the participants started breastfeeding in the first day after birth. [19]

Ayed (2014), carried out a cross-sectional survey to estimate the prevalence rate of exclusive breastfeeding at 6 months and its determinants in among mothers of healthy infants aged 6-24 months. The rate of EBF was 31.4% of mothers for the first 6 months of their infant's life. Multivariate analysis revealed that working mothers, Saudi nationals and those delivered by cesarean section were less likely to exclusively breastfeed their newborn at 6 months Also, low birth weight babies were less likely to have EBF. [20] Al-Binali et al carried out a cross-sectional study to evaluate the knowledge and practice of BF with their determinants among mothers. Most of them (75%) had education regarding BF. The most preferred method of feeding was the mixed feeding (51.6%), followed by formula (29.4%). Breast milk insufficiency was the most reported reason for discontinuing BF (37.3%) while the perceived benefit of the mothers regarding the breast milk was the commonest reason for continuation (36.6%). Good level of knowledge was observed among more than half of the participants (57.1%) whereas excellent level was reported among 12.7% of them. Also women with higher parity (>5) had better knowledge than their counterparts.[21]

Cascone et al 2019 evaluated through face to face interview the knowledge, attitudes and behaviors levels of mothers about breastfeeding. Awareness of exclusive breast feeding was observed among 64.6% of mothers and its duration

f practice (at least 6 months) was known by (71%) of them. Majority of mothers (93.2%) had breastfed their infants but exclusive breast feeding was practiced by 33.3% of them. [22]

In China (2019), Hamze et al carried out a cross-sectional survey to assess the mothers' knowledge and attitudes toward breastfeeding and define barriers to exclusive breastfeeding among postnatal mothers. Results showed that most mothers had neutral both knowledge and attitude levels on breastfeeding. [23] In Ghana (2018), Nukpezah et al carried out a descriptive cross-sectional study to estimate the prevalence of EBF for the first six months of life as well as to assess knowledge about breastfeeding among mothers. The prevalence rate of EBF for the first 6 months of life was 27.7% More than one third of them (39.4%) initiated breastfeeding within one hour after birth. Most of them (70.5%) had heard of EBF and 87.5% of mothers believed that EBF should be practiced for 5 months in their locality. There was a statistically significant association between EBF and the baby's sex. [24]

Rationale:

Breastfeeding is essential for newborn and infant's health, with potentially long term health benefits for them and their mothers. The importance of breastfeeding as a determinant of infant nutrition, child mortality and morbidity has long been recognized and documented in the public health literature. The World Health Organization (WHO) recommends that all mothers should breastfeed their babies exclusively for 6 months. Nevertheless, some mothers do not know that and some mothers may find it difficult to follow this recommendation. Hence, it is important to explore the proportion of those mothers who did not let their babies benefit from the enormous advantages of exclusive breastfeeding and the reasons behind that, and also there is a gap in knowledge, attitude and practice of exclusive breastfeeding among the mothers living in Saudi Arabia particularly as this subject nor recently and extensively investigated.

Aim of the study:

To assess the effect of Knowledge and Attitude of Breast-feeding among Mothers Attending Primary Health Care Centers at Saudi Arabia 2022.

Specific objectives:

- To assess the effect of Knowledge and Attitude of Breast-feeding among Mothers Attending Primary Health Care Centers at Saudi Arabia 2022.

- To identify determinants of exclusive breast feeding among mothers attending primary care facilities in Saudi Arabia.

Subjects and methods.

Study design: Analytical cross-sectional design was adopted in the present study.

Study area and settings:

This study was conducted in Saudi Arabia and considered the most holy city on earth for Muslims.

Study population and inclusion criteria

The target population of the present study were all mothers, of any nationality who have a child aged between 2 and 24 months, attending the selected primary health care centers for well-baby services throughout the study period (October-September, 2022).

Exclusion criteria

- Who have a child aged between 2 and 24 months
- There is no specific exclusion criteria, except unwilling to participate.

Sample size

Accordingly, the estimated sample size was 400 mothers. The non-responses or incomplete response rate was considered 10%, so the total sample size was increased to 422 mothers.

Sampling technique:

Three training primary healthcare centers were randomly selected out of the nine by simple random technique. The, a consecutive sampling of all women attending these three centers and fulfilling the inclusion criteria were recruited till the required sample was obtained from each center.

Data collection tool and technique

A self-administered Arabic questionnaire was utilized for collecting data. It has been validated and previously

Face to face interview by the researcher or trained nurse was done for those who cannot read and write. The questionnaire included four main sections:

- Demographic characteristics and determinants: Age of mother and child, number of children, including the index one, nationality, job status, husband's job, education of mother and her husband, mode of delivery of the index child, receiving health education about breastfeeding.

- Knowledge about breast feeding: covering general knowledge about breastfeeding, colostrum, advantages of breastfeeding to mothers and infants, effective feeding method, duration of feeding, complementary feeding, problems with breastfeeding. Each item have three possible responses (yes, no, or do not know).
- Attitude toward breastfeeding: It includes statements with five-Likert scale responses ranged from "strongly agree" to "strongly disagree" to assess mothers' attitude towards breastfeeding.

Pilot study: A pilot study was done on 40 mothers to test the wording and clarity of the questions. The results of this pilot study helped in re-phrasing, adding or omitting some questions. The collected data within the pilot study were included into the main study, as no significant changes were done on the original questionnaire.

Ethical considerations

- Approval to conduct the study in the training PHC centers was taken first from the director of health (MOH).
- Approval from the joint program of family medicine in joint was obtained.
- Permission from the Directorate of Health Affairs of the Holy Capital (IRB Committee) was obtained before conducting the study.
- All information were kept confidential and not be utilized except for the purpose of scientific research.
- Results of the study and recommendations will be submitted to the higher authorities.

Data entry and statistical analysis .

The Statistical Package for Social Sciences (SPSS) software program version 24.0 will be used for data analysis. Descriptive statistics was computed to explore the data. Differences in proportions were compared for significance using Chi Square (χ^2). Comparing of means of a continuous variable between two different groups was done using Student's t-test and $p < 0.05$ was considered statistically significant.

Budget/Funding: This study was totally self-funded.

RESULTS

Table 1: Socio-demographic characteristics of the respondents (n=400)

	N	%
Age		
<29	148	37
30-34	128	32
>35	124	31
Mother nationality		
Saudi	340	85
Non-Saudi	60	15
Mother education		
Illiterate	76	19
Primary school	88	22
Intermediate school	148	37
Secondary school	88	22
Baby gender		
Male	256	64
Female	144	36
Baby age		
<6 months	136	34
6-12 months	84	21
13-18 months	128	32
19-24 months	52	13
Child order in the family		
First	140	35
Second	84	21
Third	128	32
Other	48	12
Family standard of living		
Below the level	76	19
Acceptable 1	84	21
Above the level	240	60
Mother work		
Housewife	100	25
Working mother	140	35
Student	160	40
Number of children		
1 Child	44	11
2-3 children	60	15
More than 4 children	296	74
Having housemaid		
Yes	260	65
No	140	35
Nature/Type of Delivery		
Normal delivery	100	25
Surgical operation	300	75

The study included 400 patients, table 1 show the remaining socio-demographic characteristics of the patients. Their age ranged between <29 and >35 years, majority of participants <29 years were(37.0%) followed by 30-34 years were (32.%) while >35 years were (31.0%) regarding the mother nationality were Saudi were (85.0%) while

Non Saudi were (15.0%) , regarding the mother education most of participant intermediate school were (37.0%) while Primary school and Secondary school were (22.0%) followed by Illiterate were (19.0%) , regarding the baby gender most of participant male were (64.0%) while female were (36.0%), regarding the baby age most of

participant <6 months were (34.0%) while 13-18 were (32.0%) while 6-12 months were (21.0%) followed by 19-24months were (13.0%), regarding the child order in the family most of participant first 1 were (35.0%) while third were (32.0%) followed by second were (21.0%) while other (12.0%), regarding Family standard of living the most of participant above the level were (60.0%) while acceptable 1 were (21.0%) while below the level were (19.0%) , regarding the mother work most of participant Student were

(40.0%) while Working mother were (35.0%) followed by housewife were (25.0%) , regarding the number of children most of participant more than 4 children were (74.0%) while 2-3 children were (15.0%) while 1 child were (11.0%), regarding having housemaid most of participant Yes were (65.0%) while No were (35.0%), regarding the nature/Type of Delivery most of participant Surgical operation were (75.0%) while normal delivery were (25.0%) .

Table 2: Distribution of Mother’s knowledge about breastfeeding

	Factors						% of Agreement	Chi-Square	
		Strongly agree	Agree	Don't-sure	Dis agree	Strongly Disagree		X ²	P-value
Breast milk is the optimum food for the infant	N	224	92	40	8	36	83.00	370.000	0.000
	%	56	23	10	2	9			
BM is better than synthesis milk for the infant	N	148	48	92	60	52	69.00	87.200	0.000
	%	37	12	23	15	13			
No benefits of breastfeeding for the infant after 6 months	N	76	40	80	148	56	56.60	85.200	0.000
	%	19	10	20	37	14			
Breastfeeding strengthens the emotional relationship between the child and the mother	N	128	88	72	48	64	68.40	46.400	0.000
	%	32	22	18	12	16			
BM is easier to digest than the synthesis milk	N	148	76	68	88	20	72.20	105.600	0.000
	%	37	19	17	22	5			
BM is cheaper compared to synthesis milk	N	168	68	88	44	32	74.80	144.400	0.000
	%	42	17	22	11	8			
BF protects from diseases	N	228	80	44	24	24	83.20	368.400	0.000
	%	57	20	11	6	6			
BF protects the mother from B cancer	N	108	52	148	44	48	66.40	106.400	0.000
	%	27	13	37	11	12			
BF protects the child from obesity	N	120	84	76	44	76	66.40	36.800	0.000
	%	30	21	19	11	19			
BF protects the mother of osteoporosis	N	84	108	76	80	52	64.60	20.000	0.000
	%	21	27	19	20	13			
The mother should keep exclusive BF up to 6 months	N	124	132	60	40	44	72.60	99.200	0.000
	%	31	33	15	10	11			
BF helps uterus contractions and protect from postpartum hemorrhage	N	148	124	80	44	4	78.40	170.400	0.000
	%	37	31	20	11	1			
Children who depend on breast milk have less constipation	N	100	64	88	92	56	63.00	18.000	0.001
	%	25	16	22	23	14			
BM has a lack of iron	N	172	124	32	68	4	79.60	232.800	0.000
	%	43	31	8	17	1			
Children who feed with BM acquire movement skills quicker	N	100	76	92	44	88	62.80	24.000	0.000
	%	25	19	23	11	22			
SM best alternative for working mothers’ baby	N	116	156	80	40	8	76.60	173.200	0.000
	%	29	39	20	10	2			
The mother who uses SM lose a lot of mother’s pleasure	N	212	76	36	64	12	80.60	303.200	0.000
	%	53	19	9	16	3			
SM is a healthy food as the BM	N	148	116	72	24	40	75.40	134.000	0.000
	%	37	29	18	6	10			
SM children are cleverer than those of the BM	N	76	48	148	44	84	59.40	87.200	0.000
	%	19	12	37	11	21			

The results shown in table (2) represent the distribution of mother's knowledge about breastfeeding showed regarding the Breast milk is the optimum food for the infant there was a significant relation were P-value=0.000 were X² 370.000 % of agreement 83.00 increase in Strongly agree were (75.0%) followed by agree (23.0%) while Don't-sure were (2.0%), regarding BM is better than synthesis milk for the infant was a significant relation were P-value=0.000 were X² 87.200 % of agreement 69.00 increase in Strongly agree were (37.0%) followed by Don't-sure (23.0%) while disagree were (15.0%), regarding the No benefits of breastfeeding for the infant after 6 months was a significant relation were P-value=0.000 were X² 85.200 % of agreement 56.60 increase in disagree were (37.0%) followed

by agree (19.0%) while Don't-sure were (20.0%), regarding the Breastfeeding strengthens the emotional relationship between the child and the mother was a significant relation were P-value=0.000 were X² 46.400 % of agreement 68.40 increase in Strongly agree were (32.0%) followed by agree (22.0%) while Don't-sure were (18.0%), regarding the BM is easier to digest than the synthesis milk was a significant relation were P-value=0.000 were X² 105.600 % of agreement 72.20 increase in Strongly agree were (37.0%) followed by disagree (22.0%) while Don't-sure were (19.0%), regarding all the item was a significant relation were P-value=0.000 most of participant increase in Strongly agree followed by disagree .

Table 3 . Distribution of the attitude of respondents towards exclusive breastfeeding practice

	Factors						% Of Agreement	Chi-Square	
		Strongly agree	Agree	Don't-sure	Disagree	Strongly Disagree		X ²	P-value
Do you agree that EBF is only adequate in the first six months for a child?	N	156	108	44	64	28	75.00	135.200	0.000
	%	39	27	11	16	7			
Do you believe EBF serves as immunity to the child for the first six months of life?	N	104	72	136	36	52	67.00	81.200	0.000
	%	26	18	34	9	13			
Do you think EBF babies grow healthier than formula-fed babies?	N	108	72	28	76	116	59.00	60.800	0.000
	%	27	18	7	19	29			
Do you think EBF is time-consuming and more demanding?	N	92	80	64	108	56	62.20	22.000	0.000
	%	23	20	16	27	14			
Do you think EBF babies grow healthier than formula-fed babies?	N	228	68	40	60	4	82.80	372.800	0.000
	%	57	17	10	15	1			
Do you believe that the first milk (colostrum) should be given to infants?	N	264	40	8	48	40	82.00	540.800	0.000
	%	66	10	2	12	10			
Do you think babies should be given other fluids, e.g., water, glucose, etc., other than breast?	N	216	88	40	28	28	81.80	319.600	0.000
	%	54	22	10	7	7			
Do you believe that EBF can help a mother maintain a good body and breast shape?	N	164	88	50	68	30	74.40	133.300	0.000
	%	41	22	12.5	17	7.5			
Does EBF increase mother-infant bonding?	N	276	80	12	28	4	89.80	644.000	0.000
	%	69	20	3	7	1			
Do you think EBF can be done without any financial cost BF up to 6 months	N	104	128	48	44	76	67.00	65.200	0.000
	%	26	32	12	11	19			

The results shown in table (3) represent the distribution of the attitude of respondents towards exclusive breastfeeding practice showed regarding you agree that EBF is only adequate in the first six months for a child was a significant relation were P-value=0.000 were X² 135.200 % of agreement

75.00 increase in Strongly agree were (39.0%) followed by agree (27.0%) while disagree were (16.0%), regarding you believe EBF serves as immunity to the child for the first six months of life was a significant relation were P-value=0.000 were X² 81.200 % of agreement 67.00 increase in

Strongly agree were (26.0%) followed by Don't-sure (34.0%) while agree were (18.0%), regarding you think EBF babies grow healthier than formula-fed babies was a significant relation were P-value=0.000 were χ^2 60.800 % of agreement 59.00 increase in disagree were (27.0%) followed by strongly disagree (29.0%) while Don't-sure were (7.0%), regarding the you think EBF is time-

consuming and more demanding was a significant relation were P-value=0.000 were χ^2 22.000 % of agreement 62.20 increase in Strongly agree were (23.0%) followed by disagree (27.0%) while Don't-sure were (16.0%), regarding all the item was a significant relation were P-value=0.000 most of participant increase in Strongly agree followed by disagree

Table 4: Distribution of Mother’s knowledge about breastfeeding

knowledge		
	N	%
Weak	112	28
Average	220	55
High	68	17
Total	400	100
Range	24-86	
Mean±SD	65.22±12.5	
X²	91.76	
P-value	<0.001	

This table 4 shows distribution of Mother’s knowledge about breastfeeding the significant relation were P=0.001 and χ^2 91.76 majority of participant (55.0%) have average of the knowledge

followed by (28.0%) of participant weak while high were (17.0%) while Range (24-86) but the Mean± SD (65.22±12.5).

Figure (1): Distribution of Mother’s knowledge about breastfeeding

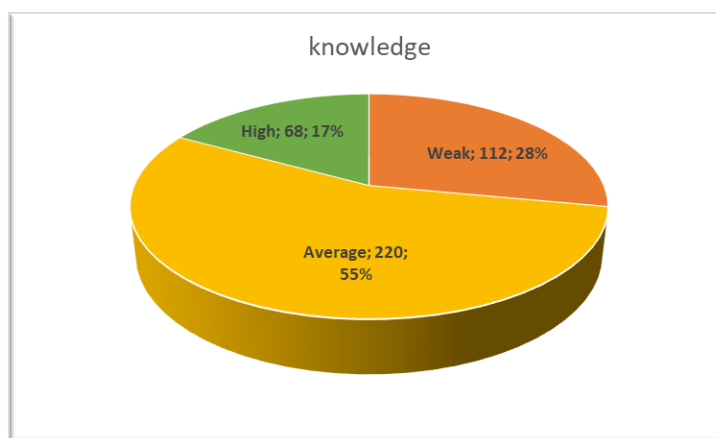


Table 5 . Distribution of the attitude of respondents towards exclusive breastfeeding practice

Attitude		
	N	%
Negative	232	58
Positive	168	42
Total	400	100
Range	19-39	
Mean±SD	29.54±8.215	
X²	9.923	
P-value	0.0016	

This table 4 shows distribution of the attitude of respondents towards exclusive breastfeeding practice significant relation were $P=0.0016$ and X^2 9.923 majority of participant (58.0%) have

negative of the attitude followed by (42.0%) of participant positive while Range (19-39) but the Mean \pm SD (29.54 \pm 8.215)

Figure (2): Distribution of the attitude of respondents towards exclusive breastfeeding practice .

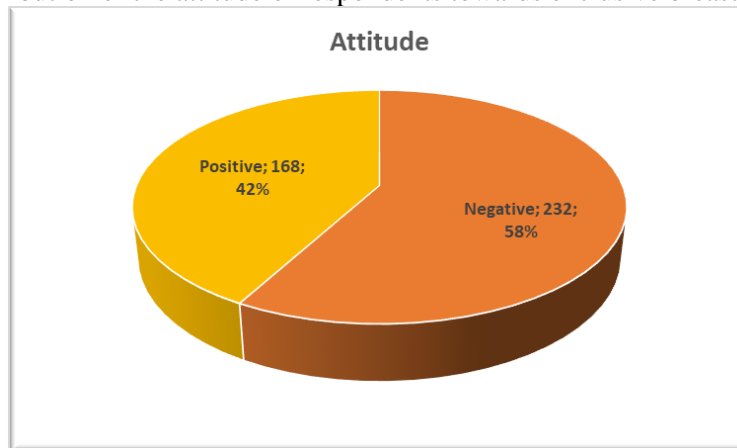


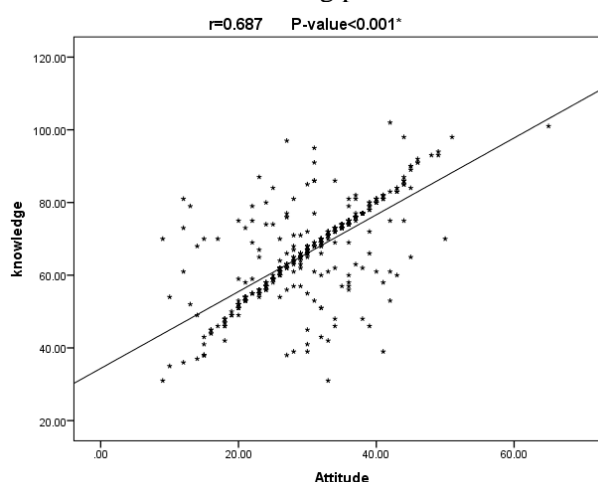
Table 6: Distribution of the correlation between knowledge and attitude of respondents towards breastfeeding practice

Correlations			
	knowledge		
	r	P-value	N
Attitude	0.687	<0.001*	400

This table 6 shows distribution of the correlation between knowledge and attitude of respondents towards breastfeeding practice a significant

relation were $P=0.0016$ between knowledge and attitude r were 0.687 and N 400

Figure (3): Distribution of the correlation between knowledge and attitude of respondents towards breastfeeding practice



Discussion

In the present study, most of the mothers were aware of the benefits of breastfeeding to both babies and mothers, with the exception that only of them could recognize that breastfeeding may protect against osteoporosis. Regarding

colostrum's, the knowledge was insufficient in some aspects such as the fact that colostrum is able to protect babies from jaundice while it was sufficient regarding facts that colostrum is easily to digest and should not be discarded and it doesn't causes constipation among babies. Knowledge

regarding effective breastfeeding and complementary feeding were overall adequate while their knowledge regarding breastfeeding duration was moderate. Overall, knowledge regarding breastfeeding was good or excellent among majority of the participants. Different results were observed in various other Saudi studies due to using different tools to assess knowledge as well as conduction of studies among populations with different characteristics. In Rabigh (2019), [17] correct knowledge about benefits of colostrum and the importance of continuation of breastfeeding for continuous 2 years was given by 86.2% and 36.7% of the participants, respectively. 65.3% of mothers scored over 75% of the overall Knowledge score and 95% answered correctly more than half of the knowledge questions.[25] 15.6% had a poor level of knowledge regarding breastfeeding. In Riyadh ,[26] good level of knowledge was observed among more than half of the participants (57.1%) whereas excellent level was reported among 12.7% of them. [27] good and excellent breastfeeding knowledge levels, respectively. Also comparable results have been reported outside Saudi Arabia. In Italy [22] awareness of exclusive breast feeding was observed among 64.6% of mothers and its giving for at least 6 months was known by 71% of them. In China [25] most mothers had neutral knowledge level on breastfeeding. Furthermore, those with poor knowledge were less likely to initiate breastfeeding. In Poland [19] the average mean breastfeeding knowledge test score was 11.9 ± 3.4 , out of a maximum of 15. In Nigeria [22] awareness of EBF was observed among majority of mothers (97.6%), however only 64.6% expressed adequate knowledge.

Quite similar results have been reported in another two Saudi studies carried out recently in Taif and Riyadh Also, in Nigeria[24] majority of mothers (92.7%) learnt about EBF from healthcare professionals. In this study, women whose husbands were not working or retired, with more children, received health education about breastfeeding and those took their education from nurses were more knowledgeable compared to their counterparts.

predictors of having better knowledge about breastfeeding were baby's age, birth in a private facility, and university education. In Riyadh mothers with high school or university education and those with higher parity (>5) were more likely to have better knowledge compared to others.

Conclusion

Most of the mothers attending primary healthcare centers in Saudi Arabia were aware of the benefits of breastfeeding to both babies and mothers. Their overall level of knowledge about breastfeeding ranged between good and excellent in majority of cases. However, the knowledge was insufficient in some aspects while the knowledge regarding breastfeeding duration was moderate. Women whose husbands were not working or retired, with more children, received health education about breastfeeding and those took their education from nurses were more knowledgeable compared to their counterparts.

The commonest reported barriers of giving breast milk among the participants were insufficient breast milk, baby's refusal, work/study and maternal diseases/pregnancy.

Recommendations .

Based on the present study's findings, we recommended the followings:

- 1- Carrying out an evidence-based health promotion and education programs relating to breastfeeding for the future parents as well as for adolescent school students for the enhancement of positive breastfeeding attitudes earlier.
- 2- It is of extreme importance to correct the misperceptions that mothers hold towards breastfeeding.
- 3- Public health education campaigns at social gathering places aimed at modifying community perceptions of what is considered normal infant feeding practice is an important strategy to increase breastfeeding rates.
- 4- Providing public and work places with clean and private facilities for breastfeeding women and new mothers.
- 5- A nationwide survey is required to provide a full picture about exclusive breastfeeding.

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