

Barriers of Exclusive Breastfeeding Among Mothers Attending Primary Health Care Centers in Jazan, Saudi Arabia. Descriptive Cross-sectional Study

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Barriers of Exclusive Breastfeeding among mothers attending Primary Health Care Centers in Jazan, Saudi Arabia.

Descriptive Cross-Sectional Study

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Abstract :

Background: Breastfeeding is considered the optimal infant feeding method with numerous benefits for both mother and infant. This study aims to assess breastfeeding Knowledge and determine barriers to exclusive breastfeeding among mothers attending the Primary Health Care Centers in Jazan City. The scope of this research is to suggest a strategy for encouraging mothers in Jazan for the crucial needs for exclusive breastfeeding and overcoming the barriers of breastfeeding.

Methods: This is a descriptive cross-sectional study that included all mothers attending the PHC center. Data was collected through a self-administered questionnaire. SPSS was used for data analysis using the student T-test and ANOVA Test.

Results: Most study participants understand breastfeeding's health benefits for babies and mothers, but most believe that synthetic milk is the best alternative for working mothers' to feed their babies. 66.7% of mothers practiced exclusive breastfeeding during the first six months of the child's life, and only 28.9% continued exclusive breastfeeding for six months. During the first six months of the child's life, exclusive breastfeeding shows a significant relationship with breastfeeding knowledge and barriers. Sixty percent of mothers have ever had any information about breastfeeding; those who knew the primary source were from their mothers and only 31.4% from hospital staff. Most of the respondents did not agree with the statements given to them as exclusive breastfeeding barriers, which grabs attention to an unexpected response.

Conclusions: Most participants have good knowledge concerning breastfeeding benefits for both the mother and infants and disagreed on the mentioned barriers for exclusive breastfeeding that include lack of breastmilk, feel of Fatigue and tiredness, High household burdens, Father does not encourage breastfeeding, use of birth contraception, embarrassment of breastfeeding in public and in front of family members, lack of information and sufficient support and guidance on the importance of B.F., working conditions, bad smell of the nursing mother, transmission of diseases from mother to the child. Health care professionals should actively work hard to encourage mothers, raise their awareness and find the root cause for low exclusive breastfeeding practice rates.

Keywords: Exclusive Breastfeeding, Obstacles, barriers, Breastfeeding Knowledge.

Background:

Exclusive breastfeeding is defined as "infants who were only breastfed since birth; no formula, no water, or liquid supplement.", it is recommended until six months of age, with continued breastfeeding by the side of proper complementary foods up to two years of age, (1)

Breastfeeding should be initiated during the first hour after birth, as Colostrum is immediately formed after delivery. WHO highly recommends it as the most excellent milk for the newborn. (1). Breastfeeding is the natural process of providing infants with the essential nutrients needed for average growth and development. The Expert Consultation recommends that exclusive breastfeeding for six months confers numerous benefits to the infant and the mother. (2) .

Raising breastfeeding practice to a near-universal level could protect 823 000 annual deaths in children younger than five years and 20000 yearly deaths from breast cancer. (3). Many advantages of breastfeeding to the infant and mother have long been identified, including nutritional, developmental, emotional, immunological, social, economic, and environmental benefits. Several barriers affect breastfeeding; these barriers are linked with single mothers, young mothers, lower-income, smoking, full-time employment, and cesarean section. Negative attitudes of mothers, their partners, and family members, plus the healthcare professionals, could be a limitation of breastfeeding. Also, the persistently sore and red nipples led to its early termination. (4). The low rate of exclusive breastfeeding becomes a concern worldwide. This concern is related to the valuable benefit of breastfeeding. Many works have been performed to increase breastfeeding mothers' number through mother and infant social movement, rooming-in program, and government regulation on exclusive breastfeeding. (5).

This study aims to determine barriers to exclusive breastfeeding and assess breastfeeding knowledge among mothers attending the Primary Health Care Centers in Jazan City.

Despite various global initiatives on breastfeeding, trend data show the exclusive breastfeeding rate has declined over the last decade. (6)

The majority of Saudi mothers have suboptimal breastfeeding practices., there is an urgent need to develop interventions that improve the rates of exclusive breastfeeding to narrow the gap between current breastfeeding practices and the World Health Organization recommendations.

The bulk of Saudi mothers have suboptimal breastfeeding practices, as shown in a study conducted by King Saud University Medical City, Riyadh, which concluded that only 13.7% of the mothers successfully breastfeeding their infants. (7)

Breastfeeding remains the most cost-effective way to reduce the risk of mortality, obesity, hypertension, eczema, obesity, type diabetes in later life, and the gold standard of infant feeding up to 6 months. Due to unavoidable circumstances, mothers can express their milk because it is the only opportunity to have human milk. Expressing is a way of taking milk from the breasts either by hand or manual pump, or electric pump without the baby suckling. (8). Exclusively breastfed infants for six months have less morbidity from gastrointestinal infection than those

partially breastfed as of three or four months. (9), also, the promotion of EBF could reduce the prevalence of chronic child undernutrition. (10).

The prevalence of exclusive breastfeeding of infants at six months of age was low in Tabuk's (11). Exclusive breastfeeding was positively associated with the mother's awareness of the recommended duration of exclusive breastfeeding and negatively associated with babies born with low birth weights, babies born via cesarean deliveries, working mothers, mothers with Saudi nationality. (11).

Early cessation of Breastfeeding among Saudi mothers is mainly due to insufficient breast milk and work-related obstacles, such as busy working hours, absence of privacy at the workplace, and work regulations that do not allow attending children with their mothers. (12)

Prevalence of Breastfeeding among mothers in the Jazan region was high, but exclusive breastfeeding was still below WHO feeding recommendations. Reduced amount of milk was the main reason leading mothers to shift to other alternatives feeding their babies. Another cause that hinders mothers from breastfeeding was being out of work. (13). The most commonly mentioned barriers to breastfeeding in Jeddah in nearly one-third of women included were false ideas about small amounts of breast milk produced by lactating women, lack of knowledge about breastfeeding and easiness of usage, and liberal availability of formula within the community after birth. Surprisingly, more educated women and those with higher income show less knowledge about breastfeeding. Women who had two or more previous pregnancies were less confident about their capability to produce sufficient milk for their babies.. (14)

The only factor that resulted in a longer duration of EBF was high maternal breastfeeding knowledge. Barriers to EBF were a grandmother's lack of support for EBF, breast engorgement, receiving formula samples at discharge from hospitals after delivery. (15)

Technical support and workplace environment were significantly associated with the duration of exclusive breastfeeding. Employers can strengthen technical support and workplace environment to encourage breastfeeding continuation in working mothers. (16)

Participatory women's groups, community mobilization can be successfully adapted to address health knowledge and practice concerning child health, leading to improvements in several indicators and behaviors, including exclusive breastfeeding duration. (17)

Counseling regarding breastfeeding during antenatal care and hospitalization for delivery was also associated with acceptable breastfeeding practices. About 2/3 rd of the women had not received such counseling regarding breastfeeding despite regular antenatal care and institutional delivery both in government and private settings. (18)

Baby-friendly support, counseling, education, and special training of health staff provided through health facility services significantly impacted improved EBF. (6)

Around 75% of mothers breastfeed exclusively in the first three months of baby birth. There is a significant relationship found between partner support and the level of mother's knowledge about breastfeeding toward the practice of exclusive breastfeeding. (19)

The overall average satisfactory knowledge about breastfeeding was 59.6%. (20)

Grandmothers can influence exclusive breastfeeding (21) as they play a dominant role in infant feeding practices, so programs that seek to affect exclusive breastfeeding should include grandmothers in their interventions to achieve maximum impact. Most women described the grandmother (i.e., mother of study participant or mother-in-law) as a critical influencer of feeding practices, either providing advice on the early introduction of foods or actively feeding the infant during the first six months, with or without the mother's consent (6),

Global sales of breastmilk substitutes reached US\$40 billion in 2013. Growth in sales exceeds 10% annually in many low- and middle-income countries, while it is close to stagnant in high-income countries. Breastmilk substitutes are displayed directly to consumers via print advertisements and mass media and indirectly via free supplies, incentives, and promotions to and through health workers, facilities, and policymakers. (22)

Many factors were associated with a high prevalence of breastfeeding, and longer duration includes avoiding contraceptives, low educational levels, low income, multiparity, rural residence. The most common cause of breastfeeding cessation was insufficient breast milk, increased maternal age, sickness, a new pregnancy, and breastfeeding problems. (5)

Methods:

Study design: - Study area:

This study is a quantitative descriptive cross-sectional study conducted at Primary Health Care Centers in Jazan City, South-Western Saudi Arabia. From February 2018 G to April 2018G to answer the following research questions (1) To what extent do mothers know the benefits of breastfeeding, (2) What are the mothers' perceived breastfeeding barriers? (3) Do mothers' knowledge, and perceived barriers differ by their sociodemographic factors? (4) Is there any correlation between mothers' knowledge and perceived barriers?.

There are nine Primary Health Care Centers in Jazan city, with average daily mothers' attendance of about 180 mother-infant pairs. Four centers from the nine centers were selected for the study, representing different geographic areas and social background. (Costal area, mountain area, plane, and high social). The study was conducted in Eljabal primary health care, Mukhatat Khamsa, Hay Elsafa, and Elmaabooj Health Centers.

Study population:

All the mothers attending with their babies to the selected PHC were enrolled in the study (Total Coverage)

Sample size: the sample size was calculated according to the formula:

$$n = \frac{z_{1-\alpha}^2 P(1-P)}{d^2}$$

Based on the values $n = 0.5$

desired marginal error = 0.05 and z or (confidence level 95%) = 1.96, expected nonresponsive rate 10% and design effects 1.5.

The study sample size was estimated at 400 women

Inclusion criteria: -

Mothers with healthy infants aged from zero to 2 years, only the current child was included in this study.

Exclusion criteria:

Babies who were ill or had a congenital malformation were excluded from participation in the study.

Data collection: -

Data was collected using a self-administered questionnaire to collect data on participants' sociodemographic characteristics, breastfeeding knowledge, and exclusive breastfeeding barriers for all mothers who attended their babies to the Centers for vaccination during the study period.

The survey asked about Exclusive Breastfeeding (EBF), Breastfeeding only, with no other food or liquid, including water, except for drops or syrups of vitamins, mineral supplements, or medicine. This definition meant that the infant did not receive any food or supplementary food.

Mothers were asked about their intention to breastfeed their infants (pre-planned) and previous successful experience with exclusive breastfeeding. The survey also explored the sources of mothers' information and motivation for breastfeeding as a possible factor that could influence their plans and practice and were also asked for barriers that could hinder exclusive breastfeeding.

Instruments: Three parts questionnaires consisting of:

1) The Socio-demographic Data, 2) The Breastfeeding Knowledge, and 3) The Perceived Breastfeeding Barriers.

The Socio-demographic Data covers the following: **a.** mother information: age, education, income, employment status, profession, and housekeeper availability **b.** Maternal history: number of children, previous breastfeeding experience and duration, previous breastfeeding education, time of taking breastfeeding decision, and breastfeeding information source.

Breast Feeding Knowledge Questions were developed by the researchers based on the WHO and UNICEF breastfeeding recommendations for optimal infant feeding and previous research with similar objectives. The questionnaire consists of many items regarding the benefits of breastfeeding to both infants and mothers. Likert's scale categorized responses to the knowledge questions.

The Perceived Breastfeeding Barriers questions were chosen based on the most identified breastfeeding barriers mentioned in the literature and categorized by the mothers as agree or not.

The total score was calculated by summing the individual scores and high scores indicating more mothers' barriers. Three experts validated the content validity of the questionnaire: two expert pediatricians and one talented community physician. A pilot study was conducted. The questionnaire was tested on 30 Saudi mothers from the target population to assess the readability, reliability, and cultural unity of all the study questionnaires; after their review, a series of modifications were performed to the questionnaire in the form of re-wording only. The result of the pilot study helped in refining the questionnaire.

Data Management and Analysis Plan

Data were coded, entered, and analyzed using the Statistical Package for Social Sciences (SPSS) version 16 for Windows. The data were presented using descriptive statistics that include frequencies, percentages, means, and standard deviations. Inferential statistics were also used to examine the significance of comparison and correlation between the study variables using student T-test and ANOVA Test. A $p < 0.05$ is used as a significance level (23)

Results:

Response Rate:

The overall response rate was 94%; this high rate is because the questionnaires were given to respondents one by one; the useable response rate was 72%.

Respondent's Demographic Information:

Mothers' age group 26-30 years represents the sample's highest rate (30.6%). 66.9% of the study sample were Saudi mothers, 73.0% of them have secondary and University education, 75.8% of the mothers have 1-3 children, 54.7% of babies were male babies, and 45.3% were female, 61.4% were less than 12 months, and all had a nearly similar order distribution. 76.4% have an acceptable standard of living, as shown in Table -1 below:

Table (1) shows the demographic data of the respondents

Variable	Frequency n=360	Percent
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Mother age	less than 20 years	21	5.8
	20-25 years	94	26.1
	26-30 years	110	30.6
	31-35 years	81	22.5
	36-40 years	40	11.1
	More than 40	14	3.9
Mother nationality	Saudi	241	66.9
	Non-Saudi	119	33.1
Mother education	Illiterate	23	6.4
	Primary school	28	7.8
	Intermediate school	46	12.8
	Secondary school	106	29.4
	Graduate/ postgraduate	157	43.6
Baby gender	Male	197	54.7
	Female	163	45.3
Baby age	Less than six months	109	30.3
	6-12 months	112	31.1
	13-18 months	62	17.2
	19-24 months	67	18.6
Child order in the family	First	88	24.4
	Second	94	26.1
	Third	76	21.1
	Other	96	26.7
Family standard of living	Below the level	28	7.8
	Acceptable l	275	76.4
	Above the level	36	10.0
Mother work	Housewife	237	65.8
	Working mother	91	25.3

	Student	24	6.7
Number of children	1 Child	93	25.8
	2-3 children	180	50.0
	4-6 children	64	17.8
	More than six children	17	4.7
Having housemaid	Yes	39	10.8
	No	314	87.2

Mother's information and practice about exclusive B.F.:

92.8% of the respondents breastfeed their babies, 7.2% didn't practice breastfeeding at all. 60.3% decided to practice breastfeeding during pregnancy, while 34.2% agreed after birth. 66.7% practiced exclusive breastfeeding during the first six months of the child's life without using any other food, and 27.2% did not do that. The majority of mothers(59.7%) had no information about breastfeeding; those who knew the primary source were from their mothers. Only 28.9% of the mothers have to continue exclusive breastfeeding for six months, 6.7% for five months, 11.7% for 2-4 months, and 19.4% less than two months, as shown in table (2) below.

Table (2) shows the mother's source of information and practice about B.F.

Variable		Frequency n=360	Percent
Information about B.F.	Yes	140	38.9
	No	215	59.7
Source of Information about B.F.	Mother	132	94.3
	Relatives	64	45.7
	Internet	52	37.1
	The hospital staff	44	31.4
	Training course	15	10.7
The decision of B.F. vs. synthesis milk	During pregnancy	217	60.3
	After birth	123	34.2
Practicing B.F.	Yes	334	92.8

	No breastfeeding at all	26	7.2
Practice exclusive B.F. during the first six months	Yes	240	66.7
	No	117	27.2
How long they continue exclusive BF	Less than two months	70	19.4
	2-4 months	42	11.7
	Five months	24	6.7
	Six months	104	28.9

Descriptive statistics of mother's knowledge:

Research Question 1: To what extent do mothers know the benefits of breastfeeding?

Most participants agree with 14 from 21 statements measuring mothers' knowledge about breastfeeding and breast milk; and disagreed with five false information, which indicates that most study participants understand breastfeeding's health benefits for babies and mothers with good awareness and a high breastfeeding knowledge level.

They agree that breast milk is the optimum food and mothers should keep exclusive breastfeeding for up to 6 months; it is better than synthetic milk for the infant, more comfortable to digest, cheaper than artificial milk, and protects children from constipation, diseases, and obesity. They also agreed on that child who feeds with breast milk acquire movement skills earlier. For breastfeeding, they agree that it strengthens the emotional relationship between child and mother, protects mothers from breast cancer, helps uterine contractions, and protects them from postpartum hemorrhage. But they also agree that synthetic milk is the best alternative for working mothers' to feed their babies, reflecting a gap of knowledge about the best choice of infant feeding, which is the expressed breast milk as shown in table (3) below.

Table (3) shows Mother's Knowledge about B.F.

Variable	Agree		Strongly agree		Not sure		Disagree		Strongly disagree	
	N	%	N	%	N	%	N	%	N	%
Breast milk is the optimum food for the infant	299	83.1	31	8.6	6	1.7	7	1.9		
BM is better than synthesis milk for the infant	266	73.9	41	11.4	11	3.1	22	6.1	4	1.1
No benefits of breastfeeding for the infant after six months	93	25.8	38	10.6	47	13.1	109	30.3	59	16.4
Breastfeeding strengthens the emotional relationship between the child and the mother	291	80.8	46	12.8	4	1.1	5	1.4	3	0.8
BM is easier to digest than the synthesis milk	273	75.8	58	16.1	14	3.9	3	0.8	1	0.3
BM is cheaper compared to synthesis milk	296	82.2	43	11.9	8	2.2	1	0.3	1	0.3
BF protects from diseases	245	68.1	66	18.3	36	10.0	1	0.3		
BF protects the mother from B cancer	227	63.1	61	16.9	61	16.9	1	0.3		
BF protects the child from obesity	179	54.7	80	22.2	66	18.3	7	1.9	1	0.3
BF protects the mother of osteoporosis	121	33.6	68	18.9	127	35.3	15	4.2	14	3.9
The mother should keep exclusive BF up to 6 months	134	37.2	87	24.2	53	14.7	48	13.3	22	6.1
BF helps uterus contractions and protect from postpartum hemorrhage	233	64.7	66	18.3	40	11.1	3	0.8	7	1.9
Children who depend on breast milk have less constipation	205	56.9	89	24.7	46	12.8	6	1.7	2	0.6
Children who feed with BM acquire movement skills quicker	179	49.7	84	23.3	68	18.9	15	4.2	4	1.1
SM best alternative for working mothers' baby	104	28.9	130	36.1	41	11.4	55	15.3	21	5.8
BM has a lack of iron	15	4.2	33	9.2	97	26.9	123	34.2	81	22.5

Children who feed on B.M. are more exposed to obesity than those feed with S.M.	79	21.9	33	9.2	59	16.4	117	32.5	62	17.2
The mother who uses SM lose a lot of mother's pleasure	143	39.7	63	17.5	42	11.7	65	18.1	29	8.1
SM is a healthy food as the BM as	19	4.4	53	14.7	39	10.8	143	39.7	94	26.1
Children who feed with SM healthier than those on BM	18	5.0	25	6.9	44	12.2	148	41.1	113	31.4
SM children are cleverer than those of the BM	10	2.8	17	4.7	67	18.6	127	35.3	120	33.3

Descriptive statistics of breastfeeding barriers:

Research Question 2: What are the mothers' perceived breastfeeding barriers?

Most of the respondents are not agree with the statements given to them as barriers, which are 16 items, as shown in table (4) below. This result grabs attention to this unexpected response.

Table (4) shows Mother's Knowledge about B.F.

Variable	Agree		Disagree	
	N	Percent	N	Percent
Lack of breast milk	100	27.8	69	19.2
Feel of Fatigue and tiredness	72	20	79	21.9
High household burdens	64	17.8	81	22.5
Father does not help and not encourage Breastfeeding	27	7.5	111	30.8
Use of birth contraception	60	16.7	93	25.8
The embarrassment of breastfeeding in public	39	10.8	67	18.6
Lack of sufficient support and guidance on the importance of B.F.	33	9.2	91	25.3
Working conditions	71	19.7	73	20.3
The smell of a nursing mother is bad	25	6.9	108	30.0
BF can cause transmission of diseases from mother to the child	18	5.0	85	23.6

The embarrassment of breastfeeding in front of family members	36	10.0	72	20.0
No enough information about breastfeeding and its significance	36	10.0	101	28.1
Health conditions of the mother after birth	74	20.6	74	20.6
Birth of twins	29	8.1	105	29.2
Premature birth and the inability of the baby to breastfeed	43	11.9	95	26.4
Health conditions of the newborn	57	15.8	88	24.4

Analysis of Variance:

Research question 3: Do mothers' knowledge, and perceived barriers differ by their sociodemographic factors?

Research question 4: Is there any correlation between mothers' knowledge and perceived barriers?.

The study found that the relation of nationality factor to the knowledge is statistically significant 0.007 while it is not significant compared to the obstacles of breastfeeding baby gender has nothing to do with the knowledge of the mother or the obstacles of breastfeeding. When compared the housemaid factor to the knowledge and barriers, analysis shows that this relation is very weak and not significant, as shown in Table-5 below:

Table (5) shows the T-test analysis for mother's nationality, baby gender, and having housemaid with knowledge and barriers

Dependent variables	Demographic variable	N	Mean	Sig. (2-tailed)
Mother's nationality				
Knowledge	Saudi	229	8.2192	.007
	Non-Saudi	118	7.6458	.007
Barriers	Saudi	167	17.0659	.095
	Non-Saudi	84	14.5357	.085
Baby gender				
Knowledge	Male	188	7.9521	.777
	Female	158	8.0089	.776

Barriers	Male	140	15.7714	.479
	Female	109	16.7982	.477
Housemaid				
Knowledge	Yes	39	7.8103	.508
	No	312	8.0199	.477
Barriers	Yes	27	18.5926	.284
	No	224	16.1205	.249

The study showed that maternal age has a significant relation with knowledge, but not significant toward barriers, while mother education has no significant association between both knowledge and barriers. Baby order shows a considerable relation toward both knowledge and barriers. The standard of living shows no considerable relation toward knowledge but highly influential with barriers, while Baby age is not significant with both knowledge and barriers. The results of the mother's work show a significant association toward knowledge but not significant with barriers. The number of children factor reveals significant relation with knowledge but not significant with barriers as shown in table (6) below:

Table (6) shows the One-Way ANOVA test for some demographic factors with knowledge and barriers variables

Dependent variables		Sum of Squares	Df	Mean Square	F	Sig.
Mother age						
Knowledge	Between Groups	44.369	5	8.874	2.612	.025
	Within Groups	1185.600	349	3.397		
	Total	1229.970	354			
Barriers	Between Groups	256.786	5	51.357	.399	.850
	Within Groups	32339.759	251	128.844		
	Total	32596.545	256			

Mother education						
Knowledge	Between Groups	12.570	4	3.143	.903	.462
	Within Groups	1217.399	350	3.478		
	Total	1229.970	354			
Barriers	Between Groups	510.195	4	127.549	1.002	.407
	Within Groups	32086.349	252	127.327		
	Total	32596.545	256			
Baby age						
Knowledge	Between Groups	6.001	3	2.000	.567	.637
	Within Groups	1209.202	343	3.525		
	Total	1215.203	346			
Barriers	Between Groups	45.756	3	15.252	.119	.949
	Within Groups	31586.648	246	128.401		
	Total	31632.404	249			
Baby order						
Knowledge	Between Groups	30.512	3	10.171	3.091	.027
	Within Groups	1145.227	348	3.291		
	Total	1175.740	351			
Barriers	Between Groups	1183.423	3	394.474	3.188	.024
	Within Groups	30685.256	248	123.731		
	Total	31868.679	251			

Standard of living						
Knowledge	Between Groups	3.494	2	1.747	.514	.598
	Within Groups	1134.518	334	3.397		
	Total	1138.012	336			
Barriers	Between Groups	1682.701	2	841.351	6.997	.001
	Within Groups	28737.799	239	120.242		
	Total	30420.500	241			
Mother's work						
Knowledge	Between Groups	36.820	2	18.410	5.430	.005
	Within Groups	1176.459	347	3.390		
	Total	1213.278	349			
Barriers	Between Groups	694.214	2	347.107	2.721	.068
	Within Groups	31508.186	247	127.564		
	Total	32202.400	249			
Number of children						
Knowledge	Between Groups	46.363	3	15.454	4.551	.004
	Within Groups	1181.680	348	3.396		
	Total	1228.043	351			
Barriers	Between Groups	866.136	3	288.712	2.285	.079
	Within Groups	31464.940	249	126.365		
	Total	32331.075	252			

The study revealed that attending a training course about breastfeeding's importance has no effects on breastfeeding knowledge and barriers. Time of decision for practicing breastfeeding has significant results for both breastfeeding knowledge and barriers,

Also, mothers who practiced exclusive breastfeeding during the first six months of the child's life without using any other food show a significant relationship with breastfeeding knowledge and barriers, as shown in Table -7 below.

Table (7) shows a T-test analysis of information and practices with the knowledge and barriers variables

Dependent variables	Demographic variable	N	Mean	Sig. (2-tailed)
Information about B.F.				
Knowledge	Yes	140	7.8257	.100
	No	213	8.1587	.099
Barriers	Yes	94	17.3723	.341
	No	159	15.9686	.331
The decision to take breast milk or synthetic milk				
Knowledge	During pregnancy	217	7.7982	.000
	After birth	123	8.4943	.001
Barriers	During pregnancy	140	14.9786	.013
	After birth	99	18.6364	.013
An experience of exclusive B.F. during the last 6 months				
Knowledge	Yes	208	7.8212	.002
	No	134	8.4448	.002
Barriers	Yes	135	15.0222	.015
	No	107	18.5701	.015

The study revealed that breastfeeding information source has no significant relation with both knowledge and barriers. The period that mothers practiced exclusive breastfeeding during the first

six months of the child's life without using any other food shows a very significant relationship with knowledge but not significant with barriers as shown in Table 8 below:

Table (8) shows the One-Way ANOVA test for the source of info and practice with knowledge and barriers

Dependent variables		Sum of Squares	df	Mean Square	F	Sig.
Source of Information						
Knowledge	Between Groups	6.923	4	1.731	.530	.714
	Within Groups	1103.318	338	3.264		
	Total	1110.241	342			
Barriers	Between Groups	357.688	4	89.422	.703	.590
	Within Groups	30511.112	240	127.130		
	Total	30868.800	244			
Duration of exclusive Breastfeeding						
Knowledge	Between Groups	82.379	3	27.460	10.032	.000
	Within Groups	703.434	257	2.737		
	Total	785.812	260			
Barriers	Between Groups	664.141	3	221.380	1.840	.142
	Within Groups	20696.808	172	120.330		
	Total	21360.949	175			

Discussion:

The majority of the study participants know breastfeeding's health benefits for babies and mothers, Table 3 comparable to similar studies showing that two-thirds of the participants (62%) had good knowledge regarding breastfeeding's health benefits for mother and baby. (24).

The study showed that Maternal age was positively correlated with mothers' knowledge, indicating that older mothers have more understanding about breastfeeding; previous studies in Saudi Arabia support this result. (11). Baby order shows a considerable relation toward both knowledge and barriers, while the standard of living shows no significant association toward breastfeeding knowledge but highly influential with barriers. The study showed that most participants practiced breastfeeding (92.8%) and 7.2% do not. 66.7% practiced exclusive breastfeeding during the first six months of the child's life without using any other food, and 27.2% did not do that. 60.3% of the participants decided to practice breastfeeding during pregnancy, 34.2% agreed after birth. Only 28.9% of the mothers continued exclusive breastfeeding for six months, 6.7% for five months, 11.7% for 2-4 months, and 19.4% less than two months, as shown in table (2), and this is comparable to previous studies that reported prevalence of exclusive Breastfeeding at Jazan was 26.9%. (13). In another study in Saudi Arabia, only 28.9% of the mothers continue exclusive breastfeeding for six months, 6.7% for five months, 11.7% for 2-4 months, and 19.4% less than two months; other study reported that only 13.7% of all infants were exclusively breastfed at the age of 6 months.. (7)

A review of the exclusive breastfeeding rate in Saudi Arabia reported that rates range from 0.8% to 43.9% (5). Prior research studies in Tabuk, Saudi Arabia, have presented that exclusive breastfeeding was practiced by 31.4% of mothers for the first six months of their infant's life. (11). Approximately 59.7% of mothers reported that they did not receive information about breastfeeding. The grandmother was the most common source of breastfeeding information reported by participants (93.3%), comparable to similar studies. (21).

In contrast, only 31.1% received information from hospital staff and 10.7% from a training course. Prior studies in Saudi Arabia showed that approximately 45% of mothers reported that they did not receive breastfeeding information. Education in the postpartum ward was the most common location reported by participants (44.6%), whereas only 29.9% received information during antenatal care and 16.9% at well-baby clinics. (7) Regarding the Breastfeeding duration, it was found that there is a positive correlation to the mothers' knowledge; this is also supported by previous studies in Saudi Arabia, which stated that there is a reasonably good relationship between knowledge related to breastfeeding and actual practice. There is no significant relation between attending a training course about the importance of breastfeeding and its relationship with participant knowledge and breastfeeding barriers. There is a meaningful relationship between the time of the decision to practice Breastfeeding and knowledge of Breastfeeding. It was found that the most common defect of knowledge cited by the studied group was that they believe that synthetic dairy is the best choice for working mothers for their infant feeding. Most of the respondents do not agree with the statements given to them as barriers, which were 16 items, as shown in table (4). This result grabs attention to this unexpected response. Prior studies in Saudi Arabia reported that employment was negatively associated with breastfeeding. (11). Other Saudi Arabia studies said Saudi mothers' commonly perceived barriers were embarrassment from

lactation in public places (83.2%). (4)while lack of knowledge, returning to work or school, using contraception, and insufficient milk supply was the most commonly identified among study participant(24)

Limitations of the study

This is a cross-sectional design with minimal sample size. There is a need for another cohort study to find the root causes for breastfeeding barriers to increase the prevalence and awareness of mothers and the whole community about the value and benefits of breastfeeding.

Conclusion

The study concluded that Saudi mothers have good knowledge of exclusive breastfeeding comparable to many previous Saudi Arabia studies. Besides that, the study grabs attention to unexpected responses to breastfeeding barriers. Most of the respondents do not agree with the well-studied items given to them as barriers. The only defect in understanding is that synthetic milk is the best choice for working mothers for their infant feeding, reflecting the knowledge gap concerning the other best option: the expressed breast milk.

It is recommended that breastfeeding practices in the KSA be more studied using a more appropriate research design like cohort studies that can present more accurate and valid results. Breastfeeding promotion programs should work hard to raise maternal awareness about the importance of exclusive breastfeeding. Grandmothers can influence exclusive breastfeeding. Programs that seek to affect exclusive breastfeeding should include grandmothers in their interventions to achieve maximum impact.

Abbreviations:

B.F. : Breastfeeding

B.M : Breastmilk

S.M.: Synthetic milk

EBF: Exclusive Breastfeeding

Ethical Considerations: Ethics approval and consent to participate

The study was conducted after being reviewed and approved by the College of Medicine Research Committee, Jazan, KSA. Then the researchers explained the study's aim and nature for each woman that met the criteria for inclusion to gain her informed consent to participate in the study. Also, the researchers explain clearly that participation in the survey is voluntary and confidential.

Consent for publication Not applicable

Availability of data and materials

The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors contribution

Gassim Gohal conceived the idea, interpreted the results, drafted and revised the manuscript. Mai Mohamed searched the literature, interpreted the results, wrote and revised the manuscript. Sara Mohamed and Mohamed Waheed critically reviewed the manuscript. Amani Abdelaziz, Ali Makramani collected the data and assisted in result interpretation. Amani Osman performed the statistical analysis.

All authors read and approved the final manuscript

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