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**Research Article** 

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### BREASTFEEDING PRACTICE AND MOTHERS AWARENESS AND PRACTICE OF ABSOLUTE BREASTFEEDING IN ARAR, SAUDI ARABIA

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#### Abstract:

**Background:** Human milk meets all the nutritional requirements of infants for the first 6 months of life, and it is associated with a lower incidence of diarrhea than partial or artificial feeding. The infant should be exclusively breastfed for at least 4 months of life and if possible for 6 months, as recommended by WHO and UNICEF.

*Objectives:* The main objective of this study was to determine the breastfeeding status for children under 24 months in Arar city, and to determine breastfeeding practice in relation to some socidemographic and nutrition related variables.

**Participants and methods:** A cross-sectional study was carried out in Arar city, mothers were selected from the attendees of the female side of 6 randomly selected primary health care centers in the city. They interviewed and filled a questionnaire which included the needed questions.

**Results:** Among the 400 studied children, 17.2% got breastfeeding, 41.0% had both breast and artificial feeding while 41.8% depended on artificial feeding only. Absolute breastfeeding in the first 6 months of life was found in 34.7% of infants and in the first 4 months of life was found in 13.8%. Sources of health education of the mothers about absolute breastfeeding period were doctors in 12.1%, health education team of the hospitals in 24.1%, relatives and friends in 11.8%, the media in 3.8% while no health education about absolute breastfeeding period was reported by 48.2% of the studied mothers. The reported causes of artificial feeding was difficulty of breastfeeding during working hours in 41.8%, missing of support in 25.7%, preference of formula milk in 11%, thinking that breastfeeding leads to breast enlargement and redundancy in 8.6% and thinking that breastfeeding leads to obesity of the mothers in 4.5%. No significant relationship between type of child feeding and child age, sex, mother education, mother's working status, father's work or mother age group [P >0.05].

Conclusion: 17.2% got breastfeeding, 41.0% had both breast and artificial feeding while 41.8% depended on artificial feeding only. Absolute breastfeeding in the first 6 months of life was found in 34.7% of infants and in the first 4 months of life was found in 13.8%. With deficiency of exclusive breastfeeding among infants of Arar, Saudi Arabia. Programs promoting exclusive breastfeeding in the first 6 months of age must be conducted to increase mothers' awareness of the exclusive breastfeeding duration is recommended.

Keywords: Breastfeeding; Exclusive breastfeeding; Breastfeeding Practice; Arar, Saudi Arabia.

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#### **INTRODUCTION:**

Breast milk is the feeding of babies and young children with milk from a woman's breast [1] and it is the main nutrition for healthy infants, as it contain all required nutrient which had short and long term benefit for infant and mother [1,2]. Breastfeeding also causes no constipation, diarrhea or stomach upset in infants [3]; it decreases postnatal mortality rates [4]. It can help to improve cognitive and motor development [5] and decreases the rates of sudden infant death syndrome [6]. Health professionals recommend that breastfeeding begin within the first hour of a baby's life and the World Health Organization [WHO] recommended that mother should feed infant only breast milk for the first 6 month of their life [7].

Women's pre-birth breastfeeding intention is a good predictor of the actual duration of breastfeeding [8,9]. It also possesses remarkable immunological and antiinflammatory properties that protect both mothers and children against various infections and diseases [7]. Hence, breastfeeding is considered as one of the most important factors for growth and development of infants.

Breastfeeding decisions and practices are influenced by multiple factors, including knowledge, attitudes, and beliefs, as well as sociocultural and physiological factors [10,11]. For example, older maternal age and higher educational level are associated with breastfeeding at 6 months [10,12] whereas mothers in full-time employment are less likely to be breastfeeding at 6 months [13]. Longer breastfeeding duration is also associated with better maternal infant feeding knowledge, attitudes, and confidence [14,15]. In addition, mothers who smoke or are overweight or obese are less likely to breastfeed their child [16,17]. Mothers may pump milk so that it can be used later when breastfeeding is not possible.[18] Breastfeeding has a number of benefits to both mother and baby, which infant formula lacks.[19] The Holy Quran says that the mothers shall give suck to their offspring for two complete years. Breastfeeding offers tremendous health benefits to both child and mother. Breastfeeding protects the infants against allergies, sickness and obesity [20]; at the same time it reduces the risk of having childhood infections e.g. ear infections and diseases e.g. diabetes and cancer [3, 4]. The majority of mothers start breastfeeding their infants but soon introduce bottles.

There is insufficient 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 [15,16]. Awareness of mothers about importance and practice of breastfeeding is necessary to be applied in Arar city, KSA to improve mother and infant health.

This study was carried out to estimate the prevalence of breastfeeding practice in mothers in Arar city, northern Saudi Arabia and to estimate the awareness of mothers and practice of absolute breastfeeding in the first 6 months or at least the first 4 months of infant life in Arar, city, Saudi Arabia.

#### **SUBJECTS AND METHODS:**

**Study design and setting:** a cross-sectional study which carried out in a random sample of mothers in Arar city. The survey conducted over a period from 1 January to the end of March 2019.

**Sampling:** The sample size was calculated using the sample size equation:  $n=z^2p[1-p]/e^2$ . Provided that [P=50%, e =0.05% and the total studied population >100000. The minimum sample size is 384 mothers. Our study included 400 mothers.

**Sampling technique:** systematic simple random technique was followed as we choose the mothers randomly.

The data was collected using a predesigned questionnaire. The questionnaire was covering all the needed items.

#### **Ethical consecrations:**

Data collector gave a brief introduction to the mothers by explaining the aims and significance of the study to them. Written consent was obtained from all children's mothers. Confidentiality of data was maintained throughout the study.

#### Statistical analysis:

We utilized the statistical package for social sciences, version 16 [SPSS Inc., Chicago, Illinois, USA] to analyze the study data. The results displayed as counts and percentages. The  $X^2$  test was used as a test of significance, and differences considered significant at P value less than 0.05.

#### **RESULTS:**

In Table [1] illustrates the socio-demographic characteristics of studied children. More than 50% of our participant were males. In studied children, 37.5% were the 1st child, 46.2% of the mothers were 25-34 years old, 65% of them finished university stage of education, about 70% of mother were not working while 52% of fathers finished university education, 39% of them work at governmental sector.

Sources of health education of the mothers about absolute breastfeeding period were doctors in 12.1%, health education team of the hospitals in 24.1%, relatives and friends in 11.8%, the media in 3.8% while no health education about absolute breastfeeding period was reported by 48.2% of the studied mothers. Table 2 shows the child feeding characteristics in the studied children. Among the 400 studied children, 17.2% got breastfeeding, 41.0% had both breast and artificial feeding while 41.8% depended on artificial feeding only. Absolute breastfeeding in the first 6 months of life was found in 34.7% of infants and in the first 4 months of life was found in 13.8%. The reported causes of artificial feeding was difficulty of breastfeeding during working hours in 41.8%, missing of support in 25.7%, preference of formula milk in 11%, thinking that breastfeeding leads to breast enlargement and redundancy in 8.6% and thinking that breastfeeding leads to obesity of the mothers in 4.5%.

Table [3] shows the relationship between type of child feeding and child's socio-demographic characteristics. 44.2% of male children get mixed breastfeeding and artificial feeding while 44.4% of females get only artificial feeding. Just 11.8% had breast feeding in the 1st 6 months of age, while 48.5% in the same age group had only artificial feeding. Also 19.5% only of the children more than 18 months had a natural breast feeding. 89 mothers [41.4%] give artificial feeding at age 12-18 months. No significant relationship between type of child feeding and child age group, mother education, mother's working status, father's work or mother age group [P >0.05].

Gender	No.	%			
• Male	231	57.8			
• Female	169	42.2			
Child age group at the time of the study [in months]					
• <6	68	17.0			
• 6-12	101	25.2			
• 12-18	144	36.0			
• >18	87	21.8			
Arrangement of the child among siblings					
• 1 <sup>st</sup>	150	37.5			
• 2 <sup>nd</sup>	81	20.2			
• 3ed	48	12.0			
• 4 <sup>th</sup>	40	10.0			
• 5 <sup>th</sup>	25	6.2			
• 6 <sup>th</sup>	31	7.8			
Others	25	6.2			
Mother age group					
• <25	87	21.8			
• 25-34	185	46.2			
• 35-45	110	27.5			
• 45+	18	4.5			
Mother education					
• Illiterate	12	3.0			
Primary	12	3.0			
Preparatory	25	6.2			
Secondary	84	21.0			
• University	260	65.0			
More than university	7	1.8			
Father education					
• Illiterate	8	2.0			
Primary	16	4.0			

Preparatory	21	5.2			
• Secondary	131	32.8			
• University	208	52.0			
• More than university	16	4.0			
Mother work					
Working	118	29.5			
Not working	282	70.5			
Father work					
Private sector	68	17.0			
Governmental sector	156	39.0			
Army forces	127	31.8			
• Businessman	18	4.5			
Retired	31	7.8			
Sources of health education of the mothers about absolute breastfeeding period					
• From the doctors	48	12.1			
• From health education team of the hospitals	96	24.1			
Relatives and friends	47	11.8			
• From the media	15	3.8			
No health education	192	48.2			

Table [2]; child feeding in the studied children [N=400]					
Variables	Frequency	Percent			
Type of child feeding					
Breastfeeding	69	17.2			
Artificial feeding	167	41.8			
• Mixed	164	41.0			
Practice of absolute breastfeeding in the first 6 months					
• Yes	138	34.7			
• No	262	65.3			
Practice of absolute breastfeeding in the first 4 months only					
• Yes	55	13.8			
• No	345	86.2			
Causes of artificial feeding [N=292]					
Missing of support	75	25.7			
Preference of formula milk	32	11.0			
Difficulty of breastfeeding during working hours	122	41.8			
• Thinking that breastfeeding leads to breast enlargement and redundancy	25	8.6			
Thinking that breastfeeding leads to obesity of the mothers	13	4.5			
More than one cause	25	8.6			

Table [2]: child feeding in the studied children [N=400]

Variables		Child feeding	D.		
Child age group [ir	Natural	Natural Artificial Both		— Total	Р
month	[n=69]	[n=167]	[n=164]	[n=400]	value
month	8	33	27	68	
Less than 6	11.8%	48.5%	39.7%	100.0%	
	20	40.570	37	101	
6-12	19.8%	13.6%	36.6%	100.0%	0.681
	24	43.070	63	100.070	
12-18	16 7%	30.6%	43.8%	144	
More than 18	10.770	39.070	43.870	97	
	10 50/	27.0%	42.5%	100.0%	
Sex	19.3%	37.9%	42.3%	100.0%	
Dex	37	92	102	231	
Male	16.0%	39.8%	44.2%	100.0%	
	32	75	62	169	0.318
Female	18.9%	44.4%	36.7%	100.0%	
Arrangement	10.770	11.170	20.770	100.070	
4 st	28	57	65	150	
1 <sup>st</sup>	18.7%	38.0%	43.3%	100.0%	
and	14	42	25	81	
2 <sup>nd</sup>	17.3%	51.9%	30.9%	100.0%	
and	9	24	15	48	0.02
3 <sup>ed</sup>	18.8%	50.0%	31.2%	100.0%	
- 4	9	17	14	40	
4 <sup>th</sup>	22.5%	42.5%	35.0%	100.0%	
	3	13	9	25	
5 <sup>th</sup>	12.0%	52.0%	36.0%	100.0%	
-1	3	10	18	31	
6 <sup>th</sup>	9.7%	32.3%	58.1%	100.0%	
	3	4	18	25	
Others	12.0%	16.0%	72.0%	100.0%	
Mother education	12:070	101070	/210/0	1001070	
	4	2	6	12	
Primary	33.3%	16.7%	50.0%	100.0%	0.321
Preparatory	4	11	10	25	
	16.0%	44.0%	40.0%	100.0%	
	15	39	30	84	
Secondary	17.9%	46.4%	35.7%	100.0%	
	40	110	110	260	
University	15.4%	42.3%	42.3%	100.0%	
	1	2	4	7	
More than university	14.3%	28.6%	.57.1%	100.0%	
Illiterate	5	3	4	12	
	41.7%	25.0%	33.3%	100.0%	
Mother's working status		2010/0	00.070	1.000070	
Working	20	46	52	118	0.705
	16.9%	39.0%	44.1%	100.0%	
	49	121	112	282	
Not working	17.4%	42.9%	39.7%	100.0%	

## Table [3]: the relationship between type of child feeding and child's socidemographic characteristics, Arar

Father's work					
Private sector	16	28	24	68	
	23.5%	41.2%	35.3%	100.0%	
Governmental sector	26	63	67	156	
	16.7%	40.4%	42.9%	100.0%	
Army forces	17	56	54	127	0.460
	13.4%	44.1%	42.5%	100.0%	0.469
Businessman	3	5	10	18	
	16.7%	27.8%	55.6%	100.0%	
Retired	7	15	9	31	
	22.6%	48.4%	29.0%	100.0%	
Mother age group					
<25	16	36	35	87	
	18.4%	41.4%	40.2%	100.0%	
25-34	28	89	68	185	
	15.1%	48.1%	36.8%	100.0%	0.112
35-44	19	38	53	110	0.112
	17.3%	34.5%	48.2%	100.0%	
45+	6	4	8	18	
	33.3%	22.2%	44.4%	100.0%	

#### **DISCUSSION:**

The infant should be exclusively breastfed for at least 4 months of life and if possible for 6 months, as recommended by WHO and UNICEF. Human milk meets all the nutritional requirements of infants for the first 6 months of life, and is associated with a lower incidence of diarrhea than total or partial or artificial feeding. <sup>[18,19]</sup>.

This study was carried out to estimate the prevalence of breastfeeding practice in mothers in Arar city, northern Saudi Arabia and to estimate the awareness of mothers and practice of absolute breastfeeding in the first 6 months or at least the first 4 months of infant life in Arar, city, Northern Saudi Arabia.

A cross-sectional study was carried out in Arar city, a town in Arar City, Saudi Arabia, close to the border with Jordan, during the period from 1 January to 31 March 2019.

In our study unfortunate we found that, Among the 400 studied children, absolute breastfeeding in the first 6 months of life was found in 34.7% of infants and in the first 4 months of life was found in 13.8%. This percentage is far below the recommended levels, and not comparable to the results from other countries as reported by WHO <sup>[20]</sup> like Egypt, [63] respectively. Another study conducted in Dammam area of Saudi Arabia by Qadri, *et al.* <sup>[21]</sup> found that particularly exclusive breastfeeding under 4 months of age was 33% which is a higher than ours <sup>[21]</sup>. The declining trend of exclusive breastfeeding from 90%

to 50% at the age of 3 months has also been reported in Saudi Arabia <sup>[19]</sup>. The low level of exclusive breastfeeding is a matter of concern, because this indicates that these infants are being exposed to increased nutritional and other risks with the introduction of complementary foods. Even in societies where breastfeeding is the norm, mothers often introduce complementary feeding or drink at an early age.

All infants of less than 4-6 months should be fed exclusively on breast milk, however many mothers introduced complementary feeding at this age, which affect the normal healthy growth of the infant and cause many health problems like Rickets, repeated GIT, delayed teething or delayed walking as shown in table [2]. Solids and semi-solid foods should not be introduced to infants before the age of 4 months <sup>[22]</sup>.

In the current study, mixed [partial] feeding [breastfeeding combined with bottle feeding] was found in 41.0% of the studied children and 41.8% depended on the artificial feeding only.

Mixed has been very common among the Saudi mothers compared to other feeding methods as reported in many studies <sup>[26,27]</sup>. For instance, Al-Othaimeen et al. <sup>[28]</sup> documented that 57.9% of infants and children under 18 months had received breastfeeding along with artificial infant formula by bottle and glass while only 21.5% and 20.6% of these subjects were exclusively breastfed or bottle-fed, respectively.

The mixed breastfeeding rates reported by other studies in Saudi Arabia, were 88.6% at birth [28], 49.8% at six months after birth <sup>[14]</sup> and 56% of all infants and children less than two years old <sup>[29]</sup>, while in our study was 36.6% at age of 6-12 months, 43.8% at age of 12-18 and 42.5 in children more than 18 months. The insufficient quantity of breast milk is one of the commonest reasons that leads mothers to start using complimentary food in early age and this problem has been reported by WHO and many independent studies <sup>[23-24]</sup> However, it is well-known that almost all mothers can produce enough milk for one or even two babies, provided the baby suckles effectively and breastfeeds as often as he or she wants, even if the mother thinks her milk is insufficient, the baby gets all the milk needed.

In the current study, no significant relationship between type of child feeding and mother education, mother's working status, father's work or mother age group [P >0.05]. There are many factors associated with breastfeeding practices like Maternal age, Mother's education and employment, Family income and many other factors. Moreover, with the influence of aggressive marketing of infant formulas directly to parents via television and the media, breastfeeding is no longer fashionable <sup>[25]</sup> In a national survey, Al-Jassir et al <sup>[27]</sup> it was concluded that younger mothers tended to introduce solid foods within the first two months, earlier than older mothers.

Our study found that, only 18.4% of the mothers less than 25 years of age exclusively breast milk fed their infants, while 33.3% of the mothers above 45 years old did. In accordance, many studies found that the effects of maternal age on breastfeeding were not statistically significant <sup>[30,31,32,33]</sup>. Also we considered the mother's employment as a factor affecting breastfeeding practices but we found that 44.1% of the working mothers introduced complementary food in an early stages, while only 39.7% of non-workers mothers did. In comparative with a recent study [2012], it was found that 67% of studied mothers were working and about 91% have introduced complementary food in an early stages <sup>[34]</sup>. Another four studies concluded that working mothers breastfed less frequently and had shorter duration than non-workers, and that these differences were statistically significant <sup>[14,30,31,35]</sup> which are against our findings.

#### **CONCLUSION AND RECOMMENDATIONS:**

The prevalence of breastfeeding and exclusive breastfeeding of infants at 6 months of age was found to be low among the study sample in Arar, Northern Saudi Arabia. We believe that the practice of exclusive breastfeeding can be improved by applying programs promoting 6 months of exclusive breastfeeding, and increasing the awareness of the importance of continuity of breastfeeding till 2 years of age.

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