

Original Article

Breast-Feeding among Children less than Two Years Old in Ahmadi Region, Kuwait

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ABSTRACT

Objective: To explore the prevalence of different patterns of feeding among children less than two years old in Ahmadi region in the year 2001, as well as their relationship to different background characteristics.

Method: A descriptive study was carried in Ahmadi governorate. The target population was a sample of 1200 mothers whose babies were less than two years old. The interviewed mothers were selected from labor rooms and post-natal ward in Adan hospital, and from preventive health centers in Ahmadi governorate.

Results: The rate of breast-feeding in Ahmadi was 83.4%, either exclusive (60.8%) or mixed (22.6%) among babies 4 months of age or less. The rate decreased among other age groups, reaching 52.2% among children between one to two years. There were no associations found between breast-feeding rates and the socio-demographic

characteristics, such as mother's age, mother's education, family income, child's sex and birth order. However, the mother's nationality was found to be statistically significant amongst infant's age 7 days to 4 months old. The results showed that non-Kuwaiti mothers had higher rates of breast-feeding (80.7%) than Kuwaiti mothers (68%). Early initiation (i.e. within one hour of birth) of breast-feeding is the common practice among the women who breast-fed their children (66%). The duration of each feeding was between 10 to 20 minutes among half (51.4%) of the mothers and breast-feeding on demand was found to be a common practice among almost three fourth (69.5%) .

Conclusion: Breast-feeding is a common practice in Ahmadi. A rapid reduction in the rate of breast-feeding is associated with increase in the child age.

KEYWORDS: breast-feeding pattern, infant-feeding, prevalence

INTRODUCTION

The promotion and support of breast-feeding is a global priority^[1-3]. A vast scientific literature demonstrates substantial health, social, and economic benefits associated with appropriate breast-feeding, including lower infant morbidity and mortality from diarrhea and other infectious diseases^[3-11]. In the longer term, insulin dependent diabetes mellitus, inflammatory bowel diseases and childhood lymphomas are less common in children who were breast-fed^[12]. Breast-feeding promotes maternal-infant bonding and attachment and provides the child with a sense of security^[13].

Breast milk provides perfect nutrition because it optimizes growth, development and health in general. It provides all nutrients required for infants in the first six months of life^[13-16]. Studies in the Gulf area showed various breast-feeding rates ranging from high rates (99%) in Oman and (96.5%) in Bahrain to a lower one (77.5%) in Kuwait^[17]. There are few studies conducted to identify feeding

practices in Kuwait^[18-21]. Therefore, the purpose of this study was to find the prevalence of different patterns of infant feeding in Ahmadi region, in Kuwait, as well as to show the differences between breast-fed and bottle-fed babies in relation to their background characteristics.

METHODS

The Study Sample:

The study was carried out between September 2000 and February 2001 in Ahmadi health region (governorate). Ahmadi health region was chosen randomly from all governorates. The target population was a sample of 1200 mothers (kuwaiti and arabs) whose infants were less than two years old. This sample is about 8% of the estimated under 2 year population in Ahmadi region. It was divided in nearly four equal strata according to child age at the interview. The first stratum included 300 mothers whose babies were less than seven days old. The second stratum included 302 mothers whose

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babies were between seven days and four months of age. The third stratum included 299 mothers whose babies were more than four months and less than one year of age, and the last one included mothers whose children were between one and two years of age. The interviewed mothers of the first stratum were selected from labor rooms and post-natal ward in Adan hospital. The other three strata included those mothers attending the preventive health centers for vaccinating their children. Every third mother in each stratum was selected for interview. The interviews were carried out by a well-trained group of nurses. About 1% mothers refused to take part in the study.

The Study Tools

The World Health Organization (WHO) indicators for assessing breast-feeding practice were used^[22]. An exclusively breast-fed infant is one who receives only breast milk and no other fluids or solids except for vitamins, mineral supplements or medicines. A bottle-fed child is one who receives fluids or semi-solid food from a bottle with a teat. A mix-fed child is one who received both breast milk and other fluids or semi-solid food including non-human milk formula.

The questionnaire included questions on socio-economic characteristics of infants (age, sex, mother's age, education and family income), the method of feeding practiced (breast, mixed, or artificial feeding) and the characteristics of breast-feeding practiced, such as the time of breast milk initiation, the duration and frequency of feedings. A one-month pilot study on 50 subjects was done and the questionnaire was modified to make it simple for the mothers and the interviewing teams. Data were gathered during personal interviews with the mothers.

Analysis

Statistical analysis of results was done using SPSS version 7.5. Descriptive analyses included frequencies and percentages. Associations between categorical variables were tested with Chi square test. All tests were done at 5% level of significance.

RESULTS

Sample Characteristics:

Table 1 shows the characteristics of the study population. The results showed that more than half (52.2%) of the mothers in the sample are in the age group of 20 to 29 years old. More than two thirds (70.7%) of the mothers were Kuwaiti and a little more than a third (37%) of the sample reported to have a family income ranged from 400 to 600 Kuwaiti Dinars (KD). A similar proportion (32%) reported higher family income more than 600 KD (1

KD = US\$ 3.00). In addition, less than half the mothers in the study (41.4%) reported to have reached secondary level of education.

Feeding Pattern Distribution:

The results showed that breast-feeding is common among women in Ahmadi governorate. 83.4% of women with infants age 7 days to 4 months had breast-fed their infants and two thirds (60.8%) of them did it exclusively. The results showed that the breast-feeding rate decreases with increase in child age: the breast-feeding rate reduced to 52.2% amongst children age 1 – 2 years. The association was found to be statistically significant ($p < 0.05$), Table 2.

The Relationship between Breast-feeding and Socio-demographic Factors:

The results showed that only the mother's nationality was significantly related to the breast-feeding practice rate. It was found that non-Kuwaiti mothers are more likely, than Kuwaiti mothers, to breast-feed their children aged 7 days –

Table 1
Sample Characteristics

Background characteristics		
	No.	%
Mother's age		
15 – 19	90	7.5
20 – 29	626	52.2
30 – 39	443	36.9
40 +	41	3.4
	1200	100.0
Birth Order		
1	241	20.1
2 – 3	476	39.7
4 – 5	315	26.3
6 +	168	14.0
	1200	100.0
Child Sex		
Male	640	53.3
Female	560	46.7
	1200	100.0
Mother's Nationality		
K	848	70.7
NK	352	29.3
	1200	100.0
Monthly Family Income (K.D.)		
< 200	105	8.8
200 to 400	256	21.3
> 400 to 600	444	37.0
> 600	384	32.0
Do not know	11	0.9
	1200	100.0
Mother's Education		
Not educated	57	4.8
Primary school	72	6.0
Intermediate	315	26.3
Secondary	497	41.4
University	259	21.6
	1200	100.0

Table 2

Distribution of children in the survey by pattern of feeding in Ahmadi, Kuwait

Age Groups	Breast Feeding						Artificial Feeding	Total Sample		
	Exclusive		Mixed		Total					
	No.	%	No.	%	No.	%				
<= 4 months	366	60.8	136	22.6	502	83.4	100	16.4	602	100.0
<= 4 month - <= 1 year	75	25.1	106	35.5	181	60.5	118	39.5	299	100.0
1 - 2 year	88	29.4	68	22.7	156	52.2	143	47.8	299	100.0
Total	529	44.1	310	25.8	839	69.9	361	30.1	1200	100.0

$\chi^2 = 109.8$ $P < 0.05$

4 months (80.7%, 68% respectively, P value < 0.05). Non-Kuwaiti mothers were more likely to continue breast-feeding till the infant is 1 or 2 years old than Kuwaiti women (65.6%, 46.1% respectively P value < 0.05), Table 3.

The results also showed that breast-feeding was highest among infants born to mothers with no education and those with family income less than 200 K.D. (1 K.D. = US \$3). These relationships were not significant. There wasn't any other relationship detected between breast-feeding practice and the other socio-demographic factors, Table 3.

The Relationship Between the Type of Breast-feeding and the Pattern of Feeding (Initiation, Duration, Frequency):

The results showed that in 79% of those infants who were breast-fed exclusively, breast-feeding was initiated within the first hour of birth, compared to 43.9% who were mixed-fed. This result was statistically significant ($P < 0.05$). In 57.1% of those infants who were breast-fed the duration of their feeding was 10-20 minutes, whereas in those who were mixed fed the percentage was 41.6. Three fourth (74.5%) of those infants who were breast-fed, were fed on demand, compared to two thirds (61%) of those mixed-fed. This was statistically significant ($P < 0.05$), Table 4.

DISCUSSION

The present study showed that breast-feeding, partial or complete, is the most frequently practiced method of feeding infants in Ahmadi governorate. The results showed an apparent higher rate of breast-feeding compared with situation in 1995. Al-Mousa, (1995) reported that 19% of infants age 1.6 - 12 months, in Ahmadi governorate were breast-fed and 21% of them had mixed feeding^[22]. In the present study the rate among infants 4 months or less of age was 83.4%. The lower rate reported by Al-Mousa could be due to the small study sample (210), the wide range of infants' age (1.6 - 12 months) and selecting women who visited the preventive clinics only. However,

Table 3

Percentages of breast-feeding in different study groups according to background characteristics, in Ahmadi, Kuwait

Background Characteristics	< 7 days	7days - 4 months	>4 month < 1 year	1 - 2 year	Total Sample
	n = 286	n = 216	n = 181	n = 156	n = 839
Mother's age					
15 - 19	86.7	72.2	62.5	69.6	72.2
20 - 29	95.6	65.6	55.7	55.5	68.4
30 - 39	96.4	79.8	68.3	44.3	71.6
40 +	93.3	88.9	36.4	50.0	70.7
Total	95.3	71.5	60.5	52.2	69.9
Birth order					
1	92.5	71.0	68.5	64.7	75.1
2 - 3	96.6	70.4	60.9	51.7	69.7
4 - 5	95.9	72.4	58.2	48.8	67.9
6 +	95.3	75.0	54.9	42.2	66.7
Total	95.3	71.5	60.5	52.2	69.9
Child sex					
Male	96.2	70.8	60.7	47.5	68.9
Female	94.3	72.5	60.4	57.6	71.1
Total	95.3	71.5	60.5	52.2	69.9
Mother's nationality					
K	96.1	68.0	59.5	46.1	66.3
NK	94.1	80.7	64.9	65.6	78.7
Total	95.3	71.5	60.5	52.2	69.9
Income					
<200 KD	98.8	50.0	77.8	50.0	91.4
200 to 400	97.9	80.3	66.2	59.1	74.2
>400 to 600 KD	93.6	70.8	65.4	55.6	70.0
>600 KD	92.8	67.6	50.9	43.7	60.9
Do not know	80.0	100.0	60.0	0.0	72.7
Total	95.3	71.5	60.5	52.2	69.9
Mother's education					
Not educated	91.3	81.9	66.7	72.7	88.7
Primary school	90.0	72.2	78.6	50.0	72.2
Intermediate	93.4	73.1	63.4	45.8	67.0
Secondary	96.0	70.1	57.8	55.0	70.0
University	98.6	70.7	56.3	52.3	70.3
Total	95.3	71.5	60.5	52.2	69.9

P value < 0.05

Table 4

Distribution of breast-fed children in the survey by the pattern of feeding according to initiation, duration and number of breast feeds, in Ahmadi, Kuwait

	Exclusive	Mixed	Total	Significance			
	No.	No.	No.	%			
Start breast feeding							
Within one hour	418	79.0	136	43.9	554	66.0	$\chi^2 = 108.4$
Within one day	80	15.1	122	39.4	202	24.1	
Within two days	22	4.2	41	13.2	63	7.5	$P < 0.05$
other times	9	1.7	11	3.5	20	2.4	
Duration of each breast feed							$\chi^2 = 26.7$
<10 min	153	28.9	144	46.5	297	35.4	
10 to 20 min	302	57.1	129	41.6	431	51.4	$P < 0.05$
>20 min	74	14.0	37	11.9	111	13.2	
No. of breast feed							$\chi^2 = 20.5$
5 to 7	75	14.2	80	25.8	155	18.5	
8 to 10	39	7.4	24	7.7	63	7.5	
When the baby need	394	74.5	189	61.0	583	69.5	$P < 0.05$
According to schedule	21	4.0	17	5.5	38	4.5	
Total	529	100.0	310	100.0	839	100.0	

an improvement in breast-feeding could be due to many factors. Many activities directed towards supporting breast-feeding have taken place in Kuwait. Ethical marketing of breast milk substitutes to parents and staff in health care facilities was started by the nutrition unit, thereby implementing the WHO's International Code for Marketing of Breast Milk Substitutes^[23]. Al-Adan hospital (in Ahmadi area) adopted the baby friendly hospital initiative in 1992, and infant feeding formula's advertisements were banned from the mass media. As a result, infant feeding patterns were improved and more mothers returned to breast-feeding. Mothers who never breast-fed their children or do so for very short periods constituted about 30% of the study population. This finding may help planners to focus more in the promotion of breast-feeding^[24].

Previous researches reported that first-time mothers tended to breast-feed for a shorter period^[25,26]. On the other hand, the prevalence of breast-feeding decreased with the increase in child age. The reason is that almost all mothers began solid foods before the infant was four months old and discontinued breast-feeding. It was reported that early introduction of other foods shortened the duration of breast-feeding^[26]. Thus mothers need additional support from health workers to continue breast-feeding beyond the fourth month.

Studies reported that mothers with more children, higher income and more education were more likely to breast-feed their children^[27-28]. Although social class and cultural factors can be a major determinant in the choice of infant feeding, social variation in breast-feeding has been recognized to be an important source of health inequalities in childhood^[29]. Breast-feeding practices were significantly associated negatively with the mother's education and family income^[30]. The results of this study showed similar findings that support previous researches, which relate this mainly to socioeconomic factors, rather than lack of awareness^[29,31,32]. The mothers' nationality significantly influences their decision to breast-feed their infant. Kuwaiti mothers breast-fed their babies less than non-Kuwaitis. Such results could be explained by the high income of the Kuwaiti family. Breast-feeding started from a few minutes to a few days after delivery, in contradiction to the reports of previous studies^[17, 31]. Our findings indicated that early initiation of breast-feeding is common among women in Ahmadi. These results indicate that breast-feeding promotion programs have succeeded in encouraging mothers in Ahmadi to initiate breast-feeding within the first hour following birth. This was part of the friendly baby

hospital policy started in Ahmadi area in 1992. However, initiation of breast-feeding was delayed by more than 24 hours among one third of mothers who breast-fed their children. These observations highlight ignorance about basic infant practices and the negative attitudes toward breast-feeding among health workers. Health education programs should therefore focus on changing such negative attitudes. It was found that breast-feeding on demand is a common practice among mothers in Ahmadi. The replies to the questions on the number of feeds may not be reliable as most mothers fed their infants on demand. It may have been difficult for them to have a precise idea of the number of night feeds given.

Limitation of the Study

Recall bias could affect the accuracy of the results as women may not remember the exact events that happened some time ago. Samples from women in the hospital or, ante-natal care or vaccination center will limit the generalization of the results to the whole population. The study design (cross sectional) will not explain any causal relationship between any of the factors involved in the study.

Practical Implications

The results of the study showed that there is a need for breast-feeding promotion among the more educated, and women in the high income group. The focus on such programs should encourage longer period, and exclusive breast-feeding. Educational program to encourage breast-feeding should be designed for health care workers, in order to provide support and encouragement to mothers so that they may continue breast-feeding beyond 4 months old.

CONCLUSION

The results of the study showed that breast-feeding is a common practice in Ahmadi area, especially among non-Kuwaiti women. However the rate of breast-feeding after the infant is 4 months is decreasing with age of infant because of early weaning. Therefore, health education interventions should focus on encouraging Kuwaiti women to practice breast-feeding and should encourage those who are breast-feeding to continue at least through the first year of the child age. Strategies promoting and supporting breast-feeding should address further studies to identify barriers to breast-feeding and should be directed at the community in general. A follow up studies to be conducted after 5 years to assess the change of the breast-feeding rates and patterns in the same area (Ahmadi) is necessary.

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