

Maternal Factors Hindering Successful Breastfeeding in Al Ain City, United Arab Emirates

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Abstract

We aimed to study the maternal factors that may hinder successful breastfeeding in a prospective cohort study of a cohort of 269 mother-child pairs (under two years of age) who presented over a 3-month period to a primary healthcare facility in Al Ain city, United Arab Emirates. Explanatory data was collected from the mothers by a face-to-face questionnaire survey. The mean age of the children at enrolment was 7 months (median 6, range 1 to 24). Ninety-six infants (36%) had been exclusively breastfed, 31 (11.5%) exclusively formula fed while 142 (52.8%) had received mixed feeding. Exclusive breastfeeding was significantly less common (n=29, 30.2%) among employed women (p=0.008) compared to those exclusively formula fed (n=17, 54.8%) or mixed fed (n=68, 47.9%). There was a significant (p<0.05) downward trend in the proportion of exclusively breastfed and of mixed fed infants between firstborn infants (n=44, 45.8%) and their subsequent siblings (n=81, 57%). In the city of Al Ain, the main factors impeding breastfeeding were mothers' employment and their lack of awareness of the benefits of breastfeeding. Enhancing the health education of the mothers is urgently needed.

Keywords: Breast feeding; Maternal work; Bottle feeding; Breast feeding; Employment; Health knowledge; Attitudes; Practice; Infant, Newborn; United Arab Emirates

Introduction

Breastfeeding confers many advantages to the child, mother, and the community. These include enhancement of the child's behavioral and psychological development, better immune status and health, in addition to the social, economic, and environmental benefits [1]. Exclusive breastfeeding is defined as the consumption of only human milk by an infant up to the age of six months, with no supplementation of any type (such as water, juice, and non-human milk or food), except for vitamins, minerals, and medication [2-4]. Breastfeeding should be promoted, encouraged, and supported by all health care professionals [5]. Several policies and recommendations have been established to help in the initiation and maintenance of breastfeeding for infants [6]. In 2005, the American Academy of Pediatrics established a policy on breastfeeding and on the consumption of human milk by infants, and recommended exclusive breastfeeding during the first six months of an infant's life [1,7]. There are however obstacles for the initiation and continuation of breastfeeding, which include insufficient awareness on breastfeeding advantages to the mother and the child [8,9], disruptive hospital policies and practices [10], inappropriate interruption of breastfeeding [11], early hospital discharge [12], lack of the timely routine follow-up care and postpartum home health visits [13] and also maternal employment, particularly in the absence of workplace facilities and support for breastfeeding [14-16]. Other factors includes the lack of family and broad societal support, commercial promotion of infant formula through distribution of hospital discharge packs, including coupons for free or discounted formula [10,17] and lack of the guidance and encouragement from health care professionals [11,18,19].

These obstacles may differ amongst societies and cultures. There have been a few studies on the prevalence, duration and barriers to breastfeeding in the Middle East in general [20,21] and in the United Arab Emirates (UAE) in particular [22-25], but they were either limited to the role of maternal age and education, or did not analyze the effect of employment, maternal knowledge of the benefits of breastfeeding or the role of the infant birth order. In addition, some focused on lactational amenorrhea, or infants under the age of six months. Furthermore, with employment of Emirati women having significantly increased now to 66% [26], its effect on breastfeeding needs to be re-evaluated.

To explore the role of all these potential obstacles to breastfeeding, this study was designed to determine the factors that impede successful breastfeeding in the Emirati population attending a large primary healthcare facility in the city of Al Ain in the UAE. The results would help develop appropriate strategies to tackle the relevant barriers to breastfeeding in our community.

Methods

Design

This was a prospective cohort study.

Material and methods

All Emirati national infants and children under 2 years of age who presented for routine checkup visits between 1st September and 31st December 2012 to the pediatric outpatient clinic of Neima Healthcare Center (NHC) were offered enrolment into the study. The NHC is a large primary healthcare facility in Al Ain city that provides outpatient healthcare to the multinational population living in the city. It is affiliated to the Ambulatory Healthcare Services of the Health Authority of Abu Dhabi, UAE.

Exclusion criteria

These included children with chronic illnesses, prematurity, neuromuscular impairment, feeding problems, congenital heart disease, born to mothers with contraindications to breastfeeding or not of Emirati nationality.

Data collection instrument

Information was obtained by a face-to-face semi-structured

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questionnaire interview of parents and caregivers by a pediatric nurse trained for that purpose. Such data collection instrument has already been shown to have good validity and reliability [21,23,27].

Data collection procedure

The information collected during the interview included:

- Type of feeding: (1) Exclusive breastfeeding, defined when the infant was only offered mother's milk either directly or expressed until at least the age of six months. (2) exclusive formula feeding was defined as the use of non human milk (formula) and (3) mixed feeding when both breast and formula milk were offered to the child
- Maternal working status (employed or unemployed).
- Infant birth order in the family.
- (1) Awareness of breastfeeding advantages and (2) of disadvantages of artificial feeding was assessed by asking the mother if she was (a) aware of breastfeeding benefits, (b) if she understood the benefits of breastfeeding to both herself and her infant, (c) its religious importance in this culture and (d) if she was aware of health problems that might be associated to artificial feeding. If she was exclusively breastfeeding, she was

	n	%
Maternal employment		
Employed	114	42
Housewife	155	58
Child's age at enrolment (months)		
0 to 6 months	162	60
6 to 12 months	74	27
12 to 18 months	26	10
18 to 24 months	7	3
Child birth order		
First	126	47
Second	78	29
Third	65	24
Feeding		
Exclusively BF	96	36
Exclusively formula feeding	31	11
Mixed feeding	142	53
Mothers aware of the advantages of breastfeeding	246	91
BF	96	36
No BF because working	63	23
No BF because of personal or social reasons	87	32
Mothers unaware of the advantages of breastfeeding	23	9
BF= breastfeeding		

Table 1: Demographic characteristics of participants (n=269 mother-infant pairs)

	Exclusive breast feeding (n=96, 36%)	Mixed feeding (n=142, 52.8%)	Exclusive formula (n=31, 11.5%)	Total (n=269)	P value
Mean infant age in months (standard error)	6.04 (0.4)	7.4 (0.3)	8.2 (1.04)	7.0 (0.3)	0.02 *
Working mother	29 (30.2)	68 (47.9)	17 (54.8)	114 (42.4)	0.008 ‡
Child sequence					
First	44 (45.8)	81 (57)	1 (3.2)	126 (46.8)	0.05 **
Second	30 (31.2)	35 (24.6)	13 (41.9)	78 (29)	
Third	22 (22)	26 (18.3)	17 (54.8)	65 (24)	
Awareness of advantages of breastfeeding	96 (100)	126 (88.4)	24 (77)	246 (91.5)	<0.001 **

Results expressed in number (percentage) unless stated otherwise

* Analysis of variance, ‡ chi squared test for trend, ** chi squared test.

Table 2. Descriptive analysis of 269 mother-infant pairs in relation to the feeding pattern.

asked (a) if it was because she was aware of its benefits or (e) to cite other possible causes.

- Awareness of the factors that may hinder breastfeeding was assessed by asking the mother who could not commit to breastfeeding, if that was because (f) she was employed or (g) because of other issues (personal, social or other causes that had to be defined by the mother).

Data analysis

Data was entered on Microsoft Excel software. Statistical analysis was performed with the Stata package version 13 (Stata Corp., Texas). Analysis of variance (ANOVA) was used to compare continuous variables between more than two independent groups, proportions were compared with the Chi squared test and their trend with the chi squared trend test. Significant difference was defined by a 2-sided p value>0.05.

Ethics

Ethical approval and requirements for informed consent were waived by the institution ethics committee as the study was considered to be a retrospective audit of current breastfeeding practice and the personal identifying data was anonymised throughout all phases of the study. The mothers were interviewed only after they have agreed to participate in the study.

Results

Descriptive study

A total of 298 paired mothers and infants were enrolled of whom 29 pairs were excluded because they did not fulfill the criteria. The study therefore focused on the remaining 269 pairs

The demographic data and characteristics of the 269 participating pairs are displayed in Table 1. The mean age of the children at enrolment was 7 months (median 6, range 1 to 24 months). Ninety-six infants (36%) were exclusively breastfed, 31 (11.5%) were exclusively formula fed while 142 (52.8%) were receiving mixed feeding.

The majority of mothers (n=246, 91%) were aware of the advantages of breastfeeding: 96 of them (36%) successfully breastfed, 63 (23%) did not breastfeed their infant because they were working and 87 (32%) because of social or personal issues. Awareness of breastfeeding benefits was lacking in 23 mothers (9%) (n= 16, 11.2%).

Analytical study

Exclusive breastfeeding was significantly less common (n=29, 30.2%) among employed women (p=0.008) compared to those exclusively formula feeding (n=17, 54.8%) or those mixed feeding (n=68, 47.9%) (Table 2). There was a significant downward trend

($p < 0.05$) in the proportion of exclusively breastfed or mixed fed infants between firstborn infants in a family ($n=44$, 45.8%) and their subsequent siblings ($n=81$, 57%). There was no statistically significant association between breastfeeding and the other explanatory variables (Table 2).

Discussion

We found that one of the main maternal factors that may affect a successful breastfeeding was maternal work, which is not unexpected as employment of Emirati women has increased from 11.6% in 1995 to 66% in 2007 [26]. The reason is that working mothers have to be away from their babies when working and because of the lack of opportunity to breastfeed or use a breast pump at work. This confirms the findings of a study from Taiwan that concluded that an unfavorable working environment can make it difficult to implement breastfeeding measures [28] but contradicts another study from Kenya has shown that mothers were still able to successfully continue breastfeeding after returning to work [27]. Suggested strategies to tackle this problem included ensuring flexible work schedules to provide time for milk expression, access to a private location for milk expression, availability of a clean and safe water source and sink for washing hands and rinsing breast pump equipment, as well as the availability of hygienic storage options for the mother to store her milk [29,30].

Another factor that affected breastfeeding in our study was the child's birth order with successful breastfeeding rate decreasing with subsequent offspring's, confirming other reports [23,26]. A possible explanation is the mother's increased responsibilities with the older children and less time available for breastfeeding.

Although we have not assessed maternal education level, the higher breastfeeding rate in mothers who were aware of the advantages of breastfeeding confirms the results of other studies [23].

The prevalence of and the barriers to breastfeeding in the UAE and the Middle East have been previously reported. The lack of maternal awareness of the benefits of breastfeeding in our study mirrors the results of another study in the UAE where maternal lack of awareness of the benefits of colostrum was a barrier to successful breastfeeding [22]. Nonetheless, some of our other findings contradict other studies. We found that the prevalence of exclusive breastfeeding (36%) was closer to the 47% prevalence in a previous report from the UAE [25] but much higher than in a study from Jordan [21]. While we found that the child's birth order had no association with breastfeeding, other reports found an association with parity [23]. Possible reasons for such contradictions include differences in the studies design, including differences in the risk factors and in the outcomes selected for the analysis. Some reports only included infants below six months of age [21,25]. Others focused only on the first month of life [22]. Others looked at the role of maternal age, education level and parity and focused on the prevalence of initiation of breastfeeding at birth and its progressive decline thereafter [21]. Some reports focused instead on lactational amenorrhea as primary outcome [24]. The older age group of children in our study and the study of maternal awareness of its benefits or their employment status constitute original information that adds new knowledge to this topic in this region.

The strengths of the study include that it was a face-to-face interview with the mothers instead of a written questionnaire. We feel that this allowed the interviewer to answer participants questions directly to which helped ensure the most accurate answer. The prospective study design also ensured that all the variables were collected and completion of the survey was very high.

Our study has, however, some limitations. Other important variables were not studied, such as ethnicity and age of the mothers, their educational level and socioeconomic status, if they had already breastfed prior children and the duration of breastfeeding of any previous children. We also recognize that, as the study was performed in a particular city, the obtained results may not necessarily be generalized to the rest of the UAE nor to other countries. However, as all the participants were Emirati nationals, it is unlikely that the results would be very different in the Emirati population living in the rest of the country.

Further prospective research, addressing the limitations of our study, is needed to enable the development of appropriate strategies to tackle the issues affecting successful breastfeeding.

Conclusion

In the city of Al Ain, the main factors impeding breastfeeding were mothers' employment and their lack of awareness of the benefits of breastfeeding. Enhancing the health education efforts to enhance mothers' awareness are urgently needed.

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