

Practices of Breastfeeding among Arab Mothers Living in the United States

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Abstract: Arab women's breastfeeding practices, including exclusive breastfeeding, are shaped by cultural and religious values and beliefs. Many studies have investigated breastfeeding practices among Arab mothers in their home countries, but little is known about breastfeeding knowledge, attitude and practices among Arab women in western countries. The purpose of this study was to assess breastfeeding practices, including exclusive breastfeeding, among Arab women living in the United States (U.S.). A cross-sectional design was used with a convenience sample of 90 Arab mothers recruited from Muslim community centers in southeastern Michigan. Arab mothers who were born out of the U.S., but gave birth in the U.S. and have at least one child aged 5 years and younger were eligible to participate in the study. The majority of mothers (87%) reported that they had breastfed their infants. However, only 15.6 % of infants were exclusively breastfed for six months. The early introduction of liquid supplementations by the majority of mothers in the study was also observed. About 41% of infants were given fluids other than breast milk before age of 3 months. The most common fluids given were water (59.7%), infant formula (58.3%), herbal drinks, such as Anise or Chamomile (38.9%) and juice (16.7%). The most frequent reasons for discontinuation of breastfeeding included perceived breast milk insufficiency (36.8%), breastfeeding was too tiring (22.1%) and baby continued to be hungry after feeding (19.1%). Findings from this study have the potential to help better understand Arab women's breastfeeding perceptions and practices to recognize cultural differences that would assist in promoting exclusive breastfeeding and develop effective communications strategies targeting Arab mothers.

Key words: Arab mothers • Supplementations • Exclusive breastfeeding • Infants

INTRODUCTION

Breastfeeding is a natural way of providing the foundation of a lifetime of optimal health for the breastfed individuals [1]. The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months of an infant's life, followed by continued breastfeeding with gradual introduction of solid foods for up to two years [2]. Exclusive breastfeeding is defined as the practice of feeding only breast milk (including expressed breast milk) and excluding other liquids and solid foods with the exception of drops/syrups of medicine, vitamin, or mineral supplements [3]. Several review studies showed that breastfeeding is associated with long-term positive health impact for both mothers and infants [4, 5]. Yet, lack of exclusive breastfeeding has been found worldwide. According to WHO, no more than 35% of infants worldwide are breastfed exclusively during the first four months of infant's life [6]. Breastfeeding is

widespread in Arabic and Islamic culture. Islam encourages women to breastfeed their babies for a full two years [7]. This injunction contributes to breastfeeding's impact on the health of humanity. However, early introduction of fluids other than breast milk, such as water, juice and herbal drinks early in an infant's life, is a common practice in Middle Eastern culture. A study of Jordanian mothers showed that 59% of mothers gave supplements, such as sweetened water, to their infants during the first six months of life [8]. A study of 221 mothers in the United Arab Emirates (UAE) showed that, at a one-month follow-up, only 43% of mothers practiced exclusive breastfeeding; the remaining fed their infants large amounts of fluids, including water, tea and herbal mixtures. At the six-month follow-up, only 13.3% of the sample exclusively breastfed their babies [9]. In a study of 593 Emirati mothers about 30% of the infants were given fluids, such as Anise seed drink (Yansun), gripe water and tea before three months of age [10].

The early use of fluids has been associated with a reduction in the frequency of breastfeeding [11] and may result in the discontinuation of breastfeeding [12]. This cultural practice may also be present among Arab mothers living in western countries.

The context of mother's beliefs may or may not be influenced by living in another country where the culture and practices might be different. In a study conducted in Australia of Chinese mothers, who have at least one child born in China, no significant differences between breastfeeding prevalence of Chinese mothers in China and Australia were reported by Li *et al.* [13]. However, research has shown that cultural differences related to initiating breastfeeding after immigration to a new country exist between immigrant mothers [14]. A study conducted to describe initial breastfeeding attitudes and practices of women born in Vietnam, Turkey and Australia who gave birth in Australia, showed that immigrant Vietnamese women were less likely to initiate breastfeeding after immigration to a new country [15]. In the same study, breastfeeding rate among Turkish women who migrated to Australia (98%) was consistent with breastfeeding rates in Turkey. Most of Turkish mothers in the study were Muslims. Previous studies have investigated Arab women's breastfeeding practices in their home countries, but less is known about infant feeding practices among Arab women living in western countries. According to the Arab American Institute [16], there are an estimated 3.5 million Arab Americans living in the United States (U.S.). Without clear understanding of the cultural factors that influence Arab women's breastfeeding attitudes and practices in western countries, health care professionals' ability to develop and implement programs to promote exclusive breastfeeding in this group are likely to be limited. Therefore, the purpose of this study was to investigate breastfeeding practices, including exclusive breastfeeding and influencing factors of the early introduction of fluids other than breast milk among Arab mothers living in the U.S.

MATERIALS AND METHODS

Participants: A convenience sample of 90 Arab mothers was recruited from three major Muslim community centers in southeastern Michigan. These are significant places for Muslim and Arab community, where they can perform their religious practices, community gatherings and educational activities. The inclusion criteria included being an Arab mother who was born out of the U.S., but

gave birth in the U.S. and has at least one child aged 5 years and younger. If the woman had more than one child, she was asked to give information on her last-born child.

Data Collection/Measures: A 23-item self-report survey was developed for the purpose of the study to assess breastfeeding practices, attitudes and knowledge, including the practice and types of liquid supplementations. Three faculty experts in Health Education and Statistics reviewed survey items. Also, four graduate students were selected to pilot test the online survey in order to assess word and item understanding, identify ambiguities in questions and measure time required to complete the whole survey. Based on their comments, the survey was revised. Prior to the data collection, the study was approved by the University's Human Subjects Review Committee. Permissions to conduct the study were obtained from chosen sites and mothers who accepted the invitation were asked to sign a written informed consent form.

Statistical Analysis: The data obtained were analyzed using the Statistical Package for Social Sciences (SPSS) version 16 (SPSS Corporation, Chicago, IL). Statistics, including frequencies, cross tabs, chi-squares were used to describe the characteristics of participants and to examine their breastfeeding practices.

RESULTS

A total of 90 Arab mothers (28 participants were collected using online survey and 62 participants were collected using hard copy surveys) aged 18 and above completed a 23-item survey. In general, the majority of the participants (92.0%) were married and more than half of the mothers (55.1%) were between the ages of 26-35 years of age. It was shown that most Arab women were educated at the college level of four years or more (43.7%). The majority of the respondents (67.8%) identified themselves as housewives. Most mothers (76.8%) perceived their income to be adequate and Palestinians mothers represented most of the sample (27.9 %). The largest group (32.6%) has lived in the U.S. for 11 years and more. Findings also showed that 41.2% of Arab mothers were between 16-20 years-old when they first came to live in the U.S. Also, 78.8% of the mothers had more than one child and 51.7% of the babies were male (Table 1).

Table 1: Demographic characteristics of participants (n = 90)

Variable	No	Percent (%)*
Age (years)		
≤ 25	22	25.2
26-35	48	55.1
≥ 36	17	19.5
Marital status		
Married	80	92.0
Divorced	4	4.6
Widowed	1	1.1
Other	2	2.3
Education level		
High school or less	22	24.4
College 1-3 years	27	30.0
College 4 year or more	38	42.2
Employment		
Full time worker	16	17.8
Part time worker	13	14.4
Student	28	31.1
House wife	61	67.8
Perceived income		
Highly adequate	12	14.6
Adequate to some extent	63	76.8
Not adequate at all	7	8.5
Nationality		
Palestinian	24	27.9
Syrian	13	15.1
Saudi	11	12.8
Egyptian	7	8.1
Others	31	36.1
Participant's age when first came to live in US		
≤ 25	65	76.5
26-35	18	21.2
36-40	2	2.4
Length of living in the US		
≤ 3 years	21	24.5
4-10 years	37	43
11 years and more	28	32.6
Gender of baby		
Male	45	51.7

* Some percentages add up to over 100% due to participants being able to select more than one response

The majority of mothers (86.7%) reported that, they had breastfed their infants. The primary reasons cited for breastfeeding included that it has health benefits for the baby (86.1%), Islam encourages breastfeeding (74.7%) and (39.2%) of mothers reported that their family support (mother, sister and/or husband) had influenced their decision to breastfeed, followed by advice from a health care professional (35.4%). About 41% of infants were given fluids other than breast milk before age of 3 months. The most common fluids given were water (59.7%), infant formula (58.3%), herbal drinks, such as Anise or Chamomile (38.9%) and juice (16.7%). The three highest

Table 2: Breastfeeding practices of participants

Variable	No	Percent (%)*
Duration of breastfeeding (n=75)		
≤ 6 months	30	40
7-12 months	15	20
1-24 months	23	30.7
Still breastfeeding	7	9.3
Factors that influenced mothers' decision to breastfeed (n=79)		
Islamic religion encourages breastfeeding	59	74.7
Breastfeeding has health benefits for the baby	68	86.1
My family support (i.e., mother, sister, husband)	31	39.2
My friend encouraged me	14	17.7
Advice from a health care professional or nurse	28	35.4
My past experience	19	24.1
How old was your baby when you first fed him/her fluids other than breast milk? (n=64)		
≤ 3 months	40	62.5
4 -5 months	14	21.9
6 months	10	15.6
Types of supplementations given to the babies (n=72)		
Water	43	59.7
Infant formula	42	58.3
Herbal drinks (i.e. Anise/Chamomile)	28	38.9
Sweetened water	5	6.9
Tea	3	4.2
Juice	12	16.7
Why have you given your baby fluids besides breast milk? (n=71)		
I don't have enough breast milk	26	37.1
To comfort the baby	27	38.0
Advice from a family member (i.e. mother, sister)	13	18.3
Advice from a friend	4	5.6
Baby needs such drinks besides the breast milk	16	22.9
It is good for the baby's health	15	21.4
What is exclusive of breastfeeding? (n=72)		
The baby is only fed breast milk	48	66.7
The baby is fed breast milk with water, juice, or herbal drinks	13	18.1
I don't know	11	15.3
Mothers' attitudes regarding supplementations		
I think giving the baby other fluids in addition to breast milk does not negatively impact the breastfeeding process	53	72.6

*Some percentages add up to over 100% due to participants being able to select more than one response

ranked factors for giving fluids were to comfort the baby (38.0%), perceived lack of breast milk (37.1%) and a belief that the baby needs such fluids in addition to breast milk (22.9%). The majority of mothers perceived that giving the baby other fluids in addition to breast milk did not negatively impact the breastfeeding process (72.6%). Although most mothers (66.7%) knew what exclusive breastfeeding was meant, only 22% knew that 6 months was the recommend length of time for exclusive breastfeeding (Table 2).

Table 3: Reasons for discontinuation of breastfeeding (n=75).

Variable	No	Percent (%)*
Breastfeeding was too tiring	12	22.1
I didn't have enough breast milk	25	36.8
Baby continued to be hungry after feeding	13	19.1
For medical reasons	2	2.9
Because of becoming pregnant	2	2.9
Breastfeeding was inconvenient for me	7	10.3
Planning to go back to work or school	6	8.8
Lack of encouragement	2	2.9

*Percentages add up to over 100% due to participants being able to select more than one response

Table 4: Cross tabulations of the length of living in the US and introduction of supplementation

Variable	Less than seven years		Seven years and more	
	No	%*	No	%*
Prior to 6 months	24	17.8	29	19.5
At the 6 months	1	32.1	8	15.2

*Percentages based on completed questions

The most frequent reasons for discontinuing breastfeeding before two years included that they did not have enough breast milk (36.8%), followed by breastfeeding was too tiring for them (22.1%) and baby continued to be hungry after feeding (19.1%) (Table 3). Moreover, findings also showed that there was a significant association between the introduction of fluids other than breastmilk and mothers' level of education. Most mothers, who were at the college level of four years and more, gave fluids other than breastmilk as early as the first month of their infant's age (data not shown). No significant interactions were identified between the length of time the mother had lived in the U.S. and the duration of time she breastfed her child ($\chi^2(1)=32.410$, $p = 0.11$), her practice of exclusive breastfeeding ($\chi^2(1) = 4.0$, $p = 0.40$), or her attitudes toward supplementation (whether supplementation has a negative impact on breastfeeding) ($\chi^2(1) = 5.6$, $p = 0.22$) (Table 4).

DISCUSSION

To our knowledge, this is the first study that looked at breastfeeding practices among Arab mothers living in the U.S. Findings of this study suggest a high frequency of breastfeeding among Arab women in which the majority 87% reported that they had breastfed or still breastfeed their babies. In Islam, mothers are encouraged to breastfeed their babies. Findings of our study indicated that the encouragement of breastfeeding in Islam was the main factors that influenced 75% of Arabic mothers to

choose breastfeeding. Usually, religious values are often strong and influence people's perceptions and actions wherever they live. A study of McLachlan and Forster [15] of Turkish women, who gave birth in Australia, showed that the majority (98%) of Turkish women who were mostly Muslims initiated breastfeeding.

Although the majority of Arab mothers in this study breastfed their infants, only 15.6 % of them were exclusively breastfed for six months. Similar findings among Arab mothers in Middle Eastern countries were reported by Musaiger [7], Oweis *et al.* [8] and Al Tajir *et al.* [9]. These findings are also in consistence with the WHO's report of lack of exclusive breastfeeding worldwide. According to this report, no more than 35% of infants worldwide are breastfed exclusively during the first four months of infant's life [4]. A study of Emirati mothers showed that only 25% were exclusively breastfed for six months [10]. The most common reason reported in this study for giving fluids other than breast milk was to comfort the baby (38.0%). This finding is consistent with a study of Jordanian mothers who gave fluids as a way to express their caring to their babies [8]. The next two common reasons were that they did not have enough breast milk (37%) and baby needs such fluids in addition to breast milk (23%). These findings are consistent with a study of Arab mothers who started bottle-feeding because they perceived that breastfeeding alone was not satisfying the baby's hunger [8, 17,18]. It appears doubtful that mothers truly experience insufficiency of breast milk; since previous studies showed that milk productions increase when mother breastfeed her infant on demand [19]. More efforts and resources should be put into providing breastfeeding education culturally specific for Arab mothers to dispel any mythrelated to breastfeeding. Issues related to breastfeeding would be better discussed during the antenatal and postnatal periods.

As for types of non-breastmilk fluids, the most frequent reported fluids were water (59.7%) followed by infant formula (58.3%) and herbal drinks (39%). Similar findings were recorded in a study of 221 mothers in the UAE where the prevalence of feeding water was the highest and increased from 70% in week one to 82% in week four [20]. Findings of this study showed that most Arab mothers think that giving the baby other fluids in addition to breast milk does not negatively impact the breastfeeding process. This finding indicated that Arab mothers in this study had a positive attitude toward the use of supplemental feeding. The use of water, glucose and formula supplements has been associated with the

reduction of the frequency of breastfeeding, reduction of breastfeeding duration and delay the onset of lactation [11]. A study has shown that women who practiced giving liquid supplementations to their infants were at higher risk of early breastfeeding termination [12]. Moreover, consumption of water or other liquids can fill the stomach of infants resulting in reducing their appetite for breast milk [21]. In fact, water in the breast milk consumed by an exclusively breastfed infant meets the water requirements for infants since breast milk contains .88% water [21]. Findings of the current study indicated that the majority of mothers (67%) had better knowledge of what exclusive breastfeeding was, but were not aware of the recommend number of months to exclusively breastfeed. The mothers' lack of knowledge about exclusive breastfeeding recommendations, positive attitudes toward the use of fluids other than breast milk and unawareness of the negative impact of these fluids on breastfeeding frequency and duration suggests a need for increased prenatal and postnatal breastfeeding education among immigrant Arab mothers.

As for demographic variables, maternal education was shown to have a significant association with early introduction with supplemental feeding among mothers who had received four or more years of college education; such women gave fluids within the first months of life. This finding is consistent with the literature that the more educated the mother was, the less likely she was to exclusively breastfeed for up to 6 months [9]. Possibly because such mothers typically return to work and may have difficulty combining employment and exclusive breastfeeding. In the current study, the most common reason for discontinuing breastfeeding was perceived breast milk insufficiency (37%) and that baby continued to be hungry after feeding (19%). This reason was recorded by a number of studies of Arab mothers in their home countries [8, 10, 17, 19]. To address this widespread practice of early introduction of liquid supplementations, breastfeeding education programs are encouraged to understand the cultural motives of this practice, increase awareness of exclusive breastfeeding benefits and develop effective communications strategies targeting Arab mothers to ensure that perceptions and problems of breastmilk insufficiency do not lead to breastfeeding termination [20]. Other participants, in this study, indicated that they discontinued breastfeeding because breastfeeding was too tiring (22%). Breastfeeding could be challenging for mothers especially first time mothers. Therefore, mothers are encouraged to seek advice from

lactation consultants of problems they may face during lactation and how they can overcome these problems to adapt more effective breastfeeding techniques. Although the generalizability of this study is limited due to its small sample size, non-random selection of participants, lack of a quantitative method for measuring infant feeding and possible recall bias especially in case of older children, it adds relevant information to the literature.

CONCLUSION

Few research studies have been conducted on breastfeeding practices among immigrant Arab in Western countries. This study contributes unique data about breastfeeding practices and beliefs among Arab mothers in the U.S. Findings of this study can help health educators, nurses and health care professionals promote exclusive breastfeeding through breastfeeding educational programs to Arab women not only in the U.S. but worldwide and identify areas for future research. A longitudinal study on a larger, more representative sample that includes an objective, validated measure of infant feeding would be beneficial to accurately track breastfeeding practices in this unique population.

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