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Breastfeeding Practices Among Arab Women Living in the United States

Afnan H. Saaty

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Breastfeeding Practices Among Arab Women Living in the United States

by

Afnan H. Saaty

Thesis

Submitted to the School of Health Promotion and Human Performance

Eastern Michigan University in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

in

Community Health Education

Thesis Committee:

Joan Cowdery, Ph.D., Chair

Susan McCarthy, Ph.D.

Christine Karshin, Ph.D.

May 10, 2010

Ypsilanti, Michigan

Dedication

This thesis is dedicated to all Arab mothers worldwide.

Acknowledgment

First, I would like to express my deepest gratitude to my chair person, Professor Joan Cowdery. She was the most helpful and encouraging person throughout my program and the course of this thesis. She was very understanding of my concerns and was generous with her time and advice. It has been a great pleasure to work under her guidance.

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ABSTRACT

Background: 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 Arabic countries, but no published studies were identified that looked at these practices in Arab women living in the United States.

The purpose: The purpose of this study was to explore breastfeeding practices including exclusive breastfeeding among Arab women living in the United States.

Methods: A descriptive cross-sectional design with a convenience sample of 90 Arab mothers was used. Participants were recruited from the Muslim Community Association of Ann Arbor, MI; Islamic Institute of Knowledge, Dearborn, MI; Michigan Islamic Academy; and Entesar's Beauty Salon, Ann Arbor, MI.

Results: The results of this study showed low levels of exclusive breastfeeding, as well as early introduction of supplementations.

Conclusions: A health education program related to exclusive breastfeeding is needed targeting Arab mothers in the U.S.

Keyword: Arab women, exclusive breastfeeding, breastfeeding practices.

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CHAPTER I: Introduction

Breastfeeding is a natural, basic, and cost-effective approach that can have a significant impact on establishing the foundation of an individual's life time optimal health. According to the World Health Organization (WHO), breast milk provides all of the energy and nutrients that are necessary for an infant's health for the first six months of his and her life and continues to provide the nutritional needs for the second half of the first year and up to one-third of the second year. Breastfeeding is also associated with the mother's health and well-being. It helps to space children and decrease the risk of ovarian and breast cancer (WHO.n.d). In addition, breastfeeding can reduce the overall health care costs (United States Breastfeeding Committee, 2001).

Breastfeeding is very widespread in Arabic and Islamic culture, in which Islam carries encouragement for Muslim women to breastfeed their babies for a full two years. This encouragement of breastfeeding by the Islamic religion supports the great importance of breastfeeding to the health of humanity. In Jordan, 94% of mothers initiated breastfeeding, and 27% of mothers initiated breastfeeding immediately within the first hour after delivery (Oweis, Tayem & Froelicher, 2009). Yet introducing supplements other than breast milk, such as water, juice, herbal tea, is very common practice in Arabic culture. A study in United Arab Emirates (UAE) of 221 mothers showed that at one-month follow-up, only 43% of mothers practiced exclusive breastfeeding and others used extensive amount of fluids such as water, tea, and herbal combinations. At six-month follow up, only 13.3% of the sample exclusively breastfed their babies (Tajir, Sulieman, & Badrinath, 2006). This percentage falls below the WHO's recommendations of exclusive breastfeeding. The early use of other

supplementation has been associated with a reduction in frequency of breastfeeding (Kirkland & Fein, 2003) and may cause discontinuation of breastfeeding (DiGirolamo, Grummer-Strawn, & Fein, 2001). This cultural practice could be applicable to Arab women living in western countries, such as the United States, because people tend to bring with them their cultural values. Many studies were conducted to determine breastfeeding practices among Arabic women in their home countries but have not looked at breastfeeding practices of Arabic women who are living in the U.S. According to the Arab American Institute, there are approximately 3.5 million Arab Americans living in the U.S., with one third of them living in California, New York, and Michigan. Without clear understanding of cultural differences, health educators, nurses, and health care professionals are limited in promoting exclusive breastfeeding targeting Arab women.

Purpose Statement

The purpose of this study was to explore breastfeeding practices including exclusive breastfeeding among Arab women living in the United States.

Significance of study

The findings from this study have the potential to help better understand Arab women's breastfeeding attitudes and practices and accordingly having the insight to recognize cultural differences that would assist in promoting exclusive breastfeeding to Arab women not only in the U.S. but worldwide. Additionally, findings of this study can help health educators, nurses, and health care professionals promote exclusive breastfeeding through breastfeeding educational programs to dispel myths and misinformation about early introduction of supplementation other than breast milk.

Research Questions

- 1- At what age of an infant's life do Arab mothers introduce supplementation other than breast milk?
- 2- What are the reasons for early introduction of supplementation other than breast milk?
- 3- What are the participants' attitudes about the effects of other supplementation on the breastfeeding process?
- 4- Do participants have adequate knowledge regarding exclusive breastfeeding?
- 5- Has living in the U.S. influenced Arab women's attitudes and practices of breastfeeding?

Limitations

Like other studies, this study had a number of limitations. The non-random selection of participants might limit the ability to generalize the findings to settings similar to those where the study took place. Another possible limitation is recall bias, especially in case of older children. Also, the study was a self-report cross-sectional survey that assessed women's attitudes and behaviors at the time of the survey and might change over the time.

Assumptions

In this study, it was assumed that since Muslim women are encouraged to breastfeed their babies in Islam religion, Arab women in other countries would hold the same religious beliefs. Another assumption was that Arab mothers would practice early introduction of supplementation other than breast milk in the U.S., as Arabic families living in the Arabic

world and Arabs who immigrated to the U.S. tend to bring with them their social, cultural, and religious values and beliefs.

CHAPTER II: Review of Literature

Breastfeeding is a common practice among Arab mothers; however, practicing exclusive breastfeeding for six months has been shown to be less common. In fact, cultural beliefs and norms have significant impacts on women's attitudes and practices that affect mothers' decision regarding infant feeding. Understanding cultural differences will assist in promoting breastfeeding education among Arab women in the U.S.

Benefits of Breastfeeding

Breastfeeding has various benefits not only for child health but also for breastfeeding mothers and for the community as well. Many studies have shown that breastfeeding reduces the incidence and/or the severity of a wide range of infectious diseases, such as bacterial meningitis, bacteremia, diarrhea, and respiratory tract infection (American Academy of Pediatrics, 2005). Breastfeeding is highly associated with a decrease in childhood morbidity and mortality (Kong & Lee, 2004). Moreover, a study has shown that breastfeeding is a potential means of obesity prevention in the context of the United States (Metzger & McDade, 2009). Additional benefits for mothers include decreased postpartum bleeding, decreased menstrual blood loss, increased child spacing, earlier return to weight prior to pregnancy, decreased risk of breast cancer and ovarian cancer, and possibly decreased risk of hip fractures and osteoporosis during the postmenopausal period (AAP, 2005). In addition to infant and mother health benefits of breastfeeding, there are some community benefits including reduced annual health care cost of \$3.6 billion in United States, decreased parental employee absenteeism as a result of decreased infant illnesses, decreased cost of buying

infant formula, and decreased environmental burden of disposal infant formula bottles and cans (AAP, 2005).

Breastfeeding Recommendations

Breastfeeding is a natural way of providing infants with essential nutrients that ensure child health and survival. According to the World Health Organization and American Academy of Pediatrics, infants should be breastfed exclusively for the first six months of age to achieve optimal growth, development, and health. Thereafter, to meet their growing nutritional requirements, infants should receive adequate and safe nutritious complementary foods while breastfeeding continues for up to two years of age or beyond. WHO and UNICEF recommended the following to help mothers establish and maintain exclusive breastfeeding:

- Initiate breastfeeding within the first hour of life;
- Practice exclusive breastfeeding, that is feeding the baby only breast milk, no drinks, foods, not even water;
- Breastfeed the baby on demand, that is as often as the child wants, day and night;
- No use of pacifiers, teats, and bottles. (WHO, n.d.).

Factors Impacting a Woman's Decision to Breastfeed

International studies have identified a number of factors that influence a woman's decision to breastfeed including personal, social, cultural, environmental, and religious factors. Issues such as employment, social support, public facilities, health professionals' advice, adequate knowledge of breastfeeding, religious beliefs, and personal intention are examples of previous factors. A study in Hong Kong has shown that mothers who have more

knowledge about breastfeeding tended to choose to breastfeed. In contrast, those who knew less tended to choose bottle feeding (Kong & Lee, 2004). The study also showed that the role of husbands was an important influence of mothers' decisions of breastfeeding. In a study of 100 primiparas, 79% reported the intention to breastfeed. The intent of breastfeeding was associated with positive attitudes toward breastfeeding and also being born outside the U.S. (Persan & Mensinger, 2007).

Breastfeeding Practices

In fact, infant feeding practices are shaped by the context of ethnic and cultural beliefs. The context of a mother's beliefs may or may not be influenced by living in another country where the culture and practices are different. In a study conducted in Australia of Chinese mothers, who have at least one child born in China, there were no significant differences between breastfeeding rates of Chinese mothers in China and Australia (Li, Zhang, Scott, & Binns, 2005). In contrast, another 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 (McLachlan & Forster, 2006). Moreover, breastfeeding practices can be shaped by religious beliefs. For instance, Islam encourages mothers to breastfeed their babies. The Qur'an (Holy Book) specifically endorses breastfeeding: "Mothers shall give suck to their children for two full years for those who desire to complete the term" (Qur'an, 2:233). Religious structures are often strong principles that influence people's perceptions and actions wherever they live. In the study of immigrant women in Australia, 98% of Turkish women breastfed their babies, compared with 84% of Australian women and only 75% of Vietnamese women. The breastfeeding rate among

Turkish women who migrated to Australia was consistent with breastfeeding rates in Turkey. Most of Turkish women in the study were Muslims (McLachlan & Forster, 2006).

Exclusive Breastfeeding

As a global health policy in both developing and developed countries, it is recommended that mothers breastfeed exclusively for the first six months of an infant's life and continue breastfeeding with safe, appropriate, and adequate feeding (Sguassero, 2008). According to WHO, exclusive breastfeeding is the practice of feeding only breast milk (including expressed breast milk) and allowing the baby to receive vitamins, minerals, or medications. Water, breast milk substitutes, other liquids and solid foods are excluded (WHO, 2004). Exclusive breastfeeding can decrease infant mortality caused by regular childhood illnesses such as diarrhea or pneumonia and helps to recover quickly during illnesses (WHO, n.d.). It has been shown that infants who are exclusively breastfed for six months experience less gastrointestinal infection morbidity compared to those who are mixed breastfed for three to four months. Furthermore, exclusive breastfeeding through the first six months is associated with rapid postpartum weight loss in mothers and reduction of postpartum bleeding (Kramer & Kakuma, 2002). However, 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 (WHO, 2003). In 2000, the initial Healthy People 2010 breastfeeding goals were established of increasing the proportion of mothers who breastfeed their baby: 75% at initiation, 50% at 6 months, and 25% at 12 months. In 2006, the objectives were expanded to include two new goals of breastfeeding exclusivity. The following were the new goals: 60% of mothers breastfeed exclusively for 3 months and 25% for 6 months. Thereafter, the annual National Immunization Survey

revealed an overestimation on the rates of exclusive breastfeeding. Healthy People 2010 responded to these data by revising the goals related to exclusive breastfeeding. The new targets released in October 5, 2007, were 75% for early postpartum; 50% at 6 months; 25% at 12 months; 40% exclusively for 3 months; and 17% exclusively for 6 months (Bosco, 2007)

On the other hand, the use of water, glucose, and formula supplementation is associated with the reduction of both the frequency and duration of breastfeeding and a delay in the onset of lactation (Kirkland & Fein, 2003). A study has shown that women who practiced giving supplementation to their infants were at high risk of early breastfeeding termination (DiGirolamo et al., 2001). Moreover, consumption of water or other liquids can fill the stomach of infants and then reduce their appetite for breast milk. In fact, the water in the breast milk consumed by an exclusively breastfed infant meets the water requirements for infants since breast milk contains 88% water (Linkages, 2004).

Breastfeeding Practices among Arab Women

Religious beliefs and cultural practices in Muslim communities guide women's breastfeeding decisions and attitudes and are important factors in early infant care and feeding. The rate of Arab mothers who breastfeed is considered high since they are encouraged to do so in Islam. However, the practice of introducing non-milk supplementation in early age of infant's life is especially common in Arabic culture and norms. A study in Jordan showed that even though the majority of Jordanian women initiated breastfeeding, 59% gave supplementation other than breast milk during the first six months, such as sweetened water (Oweis et al., 2009). According to Jordan culture, mothers give supplementation as an expression of their love and care for their babies. The study also showed that mothers who discontinued breastfeeding perceived their breast milk to be

insufficient to satisfy the baby's hunger. Melnikow and Bedinghaus (1994) reported that it appears doubtful that mothers truly experience insufficiency of breast milk, since the physiological studies showed that only 1 – 5% of mothers have genuine problems with milk production. Tajir, Sulieman, and Badrinath found that the level of mother's education played an important role of exclusive breastfeeding at 6 months (2005). In their study, the more educated the mother was, the less likely she was to exclusively breastfeed to 6 months. Another study conducted in Al Ain city, United Arab Emirates, of multiethnically and culturally diverse population of 221 mothers, showed that all Arab mothers initiated breastfeeding, but only 4 % of them practiced exclusive breastfeeding within the first month of the infant's life. Non-milk supplementation that mothers used to feed the babies included water, juice, yansun, and babunj (local herbal drinks). The study also showed a significant association between the use of supplementation and nationalities of mothers. Yansun was given by only Arab mothers, and none of the Asian groups gave herbal drinks to their babies (Al-Mazroui, oyejide, Bener, & Chema, 1997). One study in Saudi Arabia of 704 mothers showed that partial breastfeeding, which includes breastfeeding plus bottle feeding, was the most common method in this sample (66.1%). Exclusive breastfeeding was the next common (27.3%). Finally, exclusive bottle feeding was the least common with only 6.7% (Ogbeide, Siddiqui, Al Khalifa, & Karim, 2004).

Theoretical Foundation

The Theory of Reasoned Action (TRA) was utilized in this study in which the focus is going to be more on the mothers' attitudes toward breastfeeding and exclusive breastfeeding, and the influence of other people in their lives regarding their decisions to breastfeed and to introduce any supplementation other than breast milk, such as water, juice,

formula, and herbal drinks. The TRA (see Figure 1) presents that the most determinant factor of performing the behavior is the behavioral intention, and the direct determinants of the behavioral intention are the individual's attitude toward performing the behavior and what important people would approve or disapprove of that behavior (subjective norm). Attitude is influenced by the person's beliefs about the outcomes of the behavior (behavioral beliefs) and the evaluations of those outcomes. Therefore, if the person holds strong beliefs that positive outcomes will result from the behavior, he/she will have positive attitude regarding the behavior. On the other hand, if a person holds strong beliefs that negative outcomes will result from the behavior, he/she will have negative attitude about the behavior (Glanz, Rimer, Lewis, & Editors, 2002). According to this concept, mothers who believe that breastfeeding is a healthy way to feed their babies are going to have a positive attitude toward breastfeeding, which results in performing this behavior.

Similarly, subjective norm is influenced by the person's normative beliefs in which important people approve or disapprove of the behavior and the person's motivations to comply with those people. Therefore, if the person believes that certain people think should perform the behavior and is motivated to comply with those people, the person has a positive subjective norm. In contrast, if a person believes that certain people think he/she should not perform the behavior, the person will have a negative subjective norm (Glanz et al., 2002). In view of that, a mother whose important people, (i.e. family member, friend) think she should give her baby supplementation other than breast milk, such as, water, juice, and herbal drinks, before the baby is six months, and who is motivated to comply with them, will have the intention to do so.

The TRA has been shown to be effective in identifying and measuring the behavioral and normative beliefs and how those factors determine the intention and behavior.

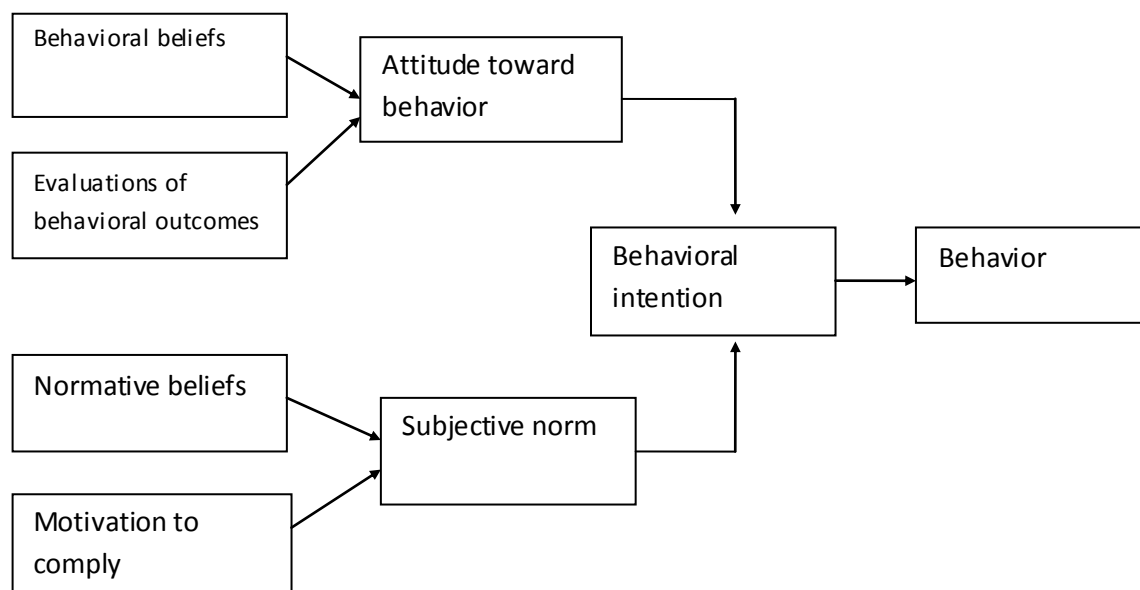


Figure 1. Theory of Reasoned Action (Glanz et al., 2002)

Deficiencies in Past Research

Many studies have determined the socioeconomic variables of breastfeeding; however, fewer studies have attempted to investigate ethnic, religious, and cultural differences about breastfeeding. There is a need to better understand the cultural factors that have a strong impact on breastfeeding initiation and practices. Previous studies have investigated Arab women's breastfeeding practices in their home countries, but no published studies were identified that looked at these practices in Arab women living in the U.S. In addition, some studies included the term "exclusive breastfeeding" in their survey instruments without providing the definition. Doing so could cause misunderstanding of the

meaning of “exclusive breastfeeding,” since some women do not consider the use of supplementation as “non- exclusive” breastfeeding.

To sum up, breastfeeding is the most natural and optimal way of nourishing infants and young children. Since breast milk has all the needed nutrients for infant’s health and well-being in the first six months, WHO recommends exclusive breastfeeding through the first six months of an infant’s life. In fact, breastfeeding attitudes and practices are shaped by cultural means. In Arabic cultures, Muslim women are highly encouraged to breastfeed their babies for a full two years as stated in the Qur’an. A large number of studies have shown that breastfeeding rates are considered high among Arab mothers; yet to start giving supplementation, such as water, juice, and herbal tea, at an early age with breastfeeding is a common practice in Arabic culture. Introducing supplementation earlier affects the frequency of breastfeeding and may cause a reduction in the amount of breast milk. Those practices may be relevant to Arabic women living in the west, since cultural beliefs are part of women’s lives.

Without having a clear understanding of cultural variances that influence Arab women’s breastfeeding attitudes and practices in U.S., health care professionals are likely to be limited to developing and implementing programs and interventions to promote exclusive breastfeeding targeting this group. This study will aim to explore breastfeeding practices including exclusive breastfeeding among Arab women living in United States.

CHAPTER III: Methodology

The study was designed to determine breastfeeding attitudes, knowledge, and infant feeding practices among Arab women who have been living in the U.S.

Participants

A convenience sample of 90 Arab mothers was recruited for the study. The Arab mothers were recruited from different sites including the Muslim Community Association of Ann Arbor (MCA), MI; Michigan Islamic Academy, Ann Arbor, MI; Islamic Institute of Knowledge, Dearborn; Entesar's Beauty Salon, Ann Arbor, MI; and by the researcher's acquaintance. MCA is a significant place for all Muslim and Arab community, where they can perform their religious practices, community gatherings, and Islamic related celebrations. 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 or younger. If the woman had more than one child, she was asked to give information on her last-born child. The eligible mothers were invited to participate in the study.

Data Collection/Instruments

A hard copy and online survey were constructed for self-administration. The survey consisted of 23 items (see Appendix A). There were 13 questions about different aspects of breastfeeding including exclusive breastfeeding practices, attitudes, and knowledge. For instance, mothers were asked if they had breastfed the child and; if the child was no longer being breastfed, the total length of time that the child had been breastfed. Moreover, information about the introduction and use of supplementation other than breast milk, types of supplementation fed to infants, and factors influencing infant feeding choices were collected. In addition to data on infant feeding practices, the survey included 10

demographic questions used by the researcher to collect data about selected demographic variables, including age, original nationality, marital status, level of education, employment, perceived household income, place of birth, sex of the baby, and number of children the mother has. The two instruments were pilot tested by four people to identify ambiguities in questions and time required to complete the whole survey.

Research Procedures

Prior to data collection, this research protocol was reviewed and approved by the college of Health and Human Services Human Subjects Review Committee at Eastern Michigan University. Moreover, permission was obtained from chosen sites and from the participants to survey eligible women who attended the selected sites. Mothers who accepted the invitation were asked to sign a written informed consent form (see Appendix B). The nature and purpose of the study was explained to women, and the surveys were given to them in order to complete the questions. The surveys and informed consent were collected in separate files to ensure the confidentiality of all participants. During the process of data collection, a teacher who was working at the Michigan Islamic Academy helped the researcher to locate eligible women for this study. Since she has been living in the U.S. for more than 16 years, the teacher was very familiar with the Arab women community in the area of Ann Arbor, MI.

Furthermore, an online survey was emailed to more than one thousand people for those who were out of reach. This online survey was identical to the written form given to other participants and also included an informed consent form (see Appendix C) for the participants to review and accept to participate. The SurveyMonkey program, an online survey creation package, was used to administer the online instrument questions for this

study. The SurveyMonkey program allowed the primary investigator to create, modify, and launch an instrument with participant confidentiality. To inform potential participants about the study, flyers were developed and distributed in Arabic beauty salons, Arabic restaurants, mosques, and Arabic events to announce the online survey (see Appendix D). In addition, e-mailing lists were obtained from MCA to email the online survey to as many people as possible.

Data Storage and Handling

For the hard copy instrument, the confidentiality of the participants' responses was insured by several steps. First, no responses could be directly linked to the participants' names. The surveys and informed consent were collected in two separate files. Data were kept in a locked file drawer of the researcher as it was being collected. Data were shared with faculty at Eastern Michigan University as part of the principal investigator's master's thesis defense process. Results will also be shared at professional health education meetings. For the online instrument, participants had almost two weeks to complete the questionnaire. Thereafter, the online study tool was removed from the internet. The SurveyMonkey program organized the data into a folder. The aggregate data were then downloaded into Microsoft Excel and exported into the Statistical Package for Social Sciences (SPSS). This procedure of data storage and handling was secure and ensured the confidentiality of information provided by the participants.

Research Design and Analysis

A descriptive cross-sectional design was used to achieve the aim of this study. This design has proved to be a useful way to gather information on important health-related aspects of people's knowledge, attitudes, and practices.

Data were analyzed using the SPSS computer program, version 16.0. Descriptive statistics included frequencies, cross tabulations, and Chi-square tests. To assess the first question, at what age of an infant's life do Arab mothers introduce supplementation other than breast milk, frequency analyses were conducted. Another frequency analysis was used to answer the second research question, which asked, *What are the reasons of early introduction of supplementations other than breast milk?* Additional frequency analyses were used to answer the research question, *What is the participants' attitude of the effects of other supplementations on breastfeeding process? Do participants have an adequate knowledge regarding exclusive breastfeeding?* was answered through cross tabulation and chi-square tests. The final research question, *Has living in the U.S. influenced Arab women' attitude and practices of breastfeeding?* was analyzed using cross tabulations and chi-square tests.

CHAPTER V: Results

The present study used a self-reporting questionnaire in an attempt to answer questions pertaining to breastfeeding practices including exclusive breastfeeding among Arab mothers living in the United States. This chapter presents a description of the sample, which includes background demographic characteristics and description of breastfeeding practices, as well as results from the statistical analyses used to answer the five research questions.

Description of the Sample

A total of 90 Arab mothers (28 participants were collected using online survey and 60 participants were collected by the hard copy survey) 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. 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 (76.8%) perceived their income to be adequate. Based on the nationality, the sample represented 27.9 percent Palestinian; 15.1 percent Syrian; 14.0 percent other; 12.8 percent Saudi; 8.1 percent Egyptian; 7.0 percent Jordanian; 5.8 percent Lebanese; 5.8 percent Yemeni; and 3.5 percent Iraqi. It was also shown that the majority of the participants (32.6%) have lived in the U.S. for 11 years or more. Findings showed that 41.2% of Arab mothers were between 16-20 years old when they first came to live in the U.S. Findings also showed that 78.8% of the mothers had more than one child, and 51.7% of the babies were male (see Table 1).

Table 1
Demographics

Characteristics	Number	Percent
Age (years)	(n = 90)	
18-20	5	5.7
21-25	17	19.5
26-30	25	28.7
31-35	23	26.4
36-40	12	13.8
41 and older	5	5.7
Missing	3	3.3
Marital status	(n=90)	
Married	80	92.0
Divorced	4	4.6
Widowed	1	1.1
Other	2	2.3
Missing	3	3.3
Level of Education	(n=90)	
High school or less	22	24.4
College 1-3 years	27	30.0
College 4 year or more	38	42.2
Missing	3	3.3
**Employment	(n=90)	
Full time worker-Yes	16	17.8
Part time worker-Yes	13	14.4
Student-Yes	28	31.1
House wife-Yes	61	67.8
Perceived Income	(n=90)	
Highly adequate	12	14.6
Adequate to some extent	63	76.8
Not adequate at all	7	8.5
Missing	8	8.9
Nationality	(n=90)	
Saudi	11	12.8
Iraqi	3	3.5
Lebanese	5	5.8
Egyptian	7	8.1
Palestinian	24	27.9
Yemeni	5	5.8
Jordanian	6	7.0
Syrian	13	15.1
Other	12	14.0
Missing	4	4.4
Length of living in the U.S.	(n=90)	
Less than one year	1	1.2
1-3 years	20	23.3
4-6 years	15	17.4
7-10 years	22	25.6
11 years and more	28	32.6
Missing	4	4.4

Characteristics Cont.	Number	Percent
Sample's age when first came to live in the US	(n=90)	
10 years old or less	8	9.4
16-20	35	41.2
21-25	22	25.9
26-30	16	18.8
31-35	2	2.4
36-40	2	2.4
Missing	5	5.6
Number of Children	(n=90)	
One	18	21.2
2-3	47	55.3
4-5	17	20.0
6 and more	3	3.5
Missing	5	5.6
Gender of Baby	(n=90)	
Male	45	51.7
Female	42	48.3
Missing	3	3.3

*Percentages based on completed question

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

Breastfeeding Practices

When asked if they had ever breastfed their babies, the majority of the participants (86.7%) responded "Yes." Moreover, participants who did not breastfeed their babies were asked to indicate the reasons for their decision. The majority of mothers (54.5%) reported that they did not have enough breast milk. Only 18.2% of mothers chose not to breastfeed because they wanted their body back to themselves. None of the participants chose the option indicating that they believed formula was as good as breast milk (see Table 2).

Table 2
Reasons for Decision not to Breastfeed (n=12)

Response	(n)	%
I didn't have enough breast milk	6	54.5
I believed that formula as good as breastfeeding	0	0
I thought that breastfeeding is inconvenient	3	27.3
I planned to go back to work or school	3	27.3
I wanted my body back to myself	2	18.2
For medical reasons	3	27.3

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

Participants who breastfed their babies were asked to indicate how long they breastfed the baby. Table 3 shows that 22.7% of mothers reported that they breastfed their babies for a period of 13-18 months followed by 21.3% who breastfed only between 4-6 months. Seven participants (9.3%) were still breastfeeding.

Table 3
The Duration of Breastfeeding

Response	(n)	%
	(n=75)	
1 – 3 months	14	18.7
4 - 6 months	16	21.3
7 – 9 months	5	6.7
10 – 12 months	10	13.3
13 – 18 months	17	22.7
19 - 24 months	6	8.0
Still breastfeeding	7	9.3

*Percentages based on completed questions

Table 4 presents the factors that influenced the Arab mothers' decision to breastfeed. *Breastfeeding has health benefits for the baby* was the most frequently reported factor (86.1%) that influenced them to breastfeed. *Islamic religion encourages breastfeeding* was the next most frequently reported factor (74.7%). Thirty-one mothers (39.2%) reported that their *family support* of mother, sister, or/and husband had influenced their decision to

breastfeed followed by the influence of *advice from a health care professional or nurse* (35.4%).

Table 4
Factors that Influenced Mothers' Decision to Breastfeed (n=79)

Item	(n)	%
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

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

Table 5 presents the reasons for discontinuation of breastfeeding if the mother stopped before her baby was two years of age. Twenty-five mothers (36.8%) discontinued breastfeeding because *they did not have enough breast milk* followed by 22.1% because *breastfeeding was too tiring* for them. Other reasons reported for discontinuation of breastfeeding were *baby continued to be hungry after feeding* (19.1%) and *breastfeeding was inconvenient* (10.3%). With regard to the types of supplementation other than breast milk that were given to the babies, the three highest ranked fluids were as following: Water (59.7%), infant formula (58.3%), and herbal drinks such as Yansun and/or babunj (38.9%) (see Table 6).

Table 5
Reasons for Discontinuation of Breastfeeding (n=68)

Item	(n)	%
Why did you stop breastfeeding?		
Breastfeeding was too tiring	15	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 6
Types of Supplementations Given to the Babies (n=72)

Item	(n)	%
Water	43	59.7
Infant formula	42	58.3
Herbal drinks (i.e., Yansun and/or babunj)	28	38.9
Sweetened water	5	6.9
Tea	3	4.2
Juice	12	16.7

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

Results of Research Questions

The following section contains a discussion of each of the research questions.

Research question #1: At what age of an infant's life do Arab mothers introduce supplementation other than breast milk?

A frequency analysis was performed on items referring to supplementation's introduction. Of those who breastfed, (84.3%) gave supplementation before the baby was six months old. Only 15.6% participants gave supplementation at six months of age. Of those who gave supplementation, the majority (34.4%) gave those supplements within the first month, followed by 21.9% who gave supplementation at three months (see Tables 7 & 8).

Table 7
Time of Supplementations Introduction

Item	(n)	%
Prior to 6 months	(n=64) 54	84.3
At 6 month	10	15.6

*Percentages based on completed questions

Table 8
The First Time of Supplementation Introduction

Item	(n)	%
How old was your baby when you first fed him/her fluids other than breast milk?	(n=64)	
1 month	22	34.4
2 months	4	6.2
3 months	14	21.9
4 months	8	12.5
5 months	6	9.4
6 months	10	15.6

*Percentages based on completed questions

Research question #2: What are the reasons for early introduction of supplementation other than breast milk?

A frequency analysis was performed to determine the most common factors for giving the baby supplementation other than breast milk. The most common reasons were reported as following: The majority (38.0%) of the participants reported that they gave supplementation to *comfort the baby* followed by 37.1% who reported that *they did not have enough breast milk*. Sixteen of the participants (22.9 %) reported that *baby needs such fluids in addition to breast milk*. Few participants (5.6%) reported that they gave supplementation because of *advice from a friend* (see Table 9).

Table 9
Reasons for Introducing Supplementations (n=71)

Item	(n)	%
Why have you given your baby fluids besides breast milk?		
I don't have enough breast milk	26	37.1
To comfort the baby	27	38.0
Advice from a family member (i.e., my mother, my 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

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

Research question #3: What are the participants' attitudes about the effects of other supplementation on breastfeeding process?

A frequency analysis was performed to determine the participants' attitude regarding giving the baby fluids other than breast milk on breastfeeding process. The majority of the participants (72.6%) reported that they think that giving the baby other fluids in addition to breast milk did not negatively impact the breastfeeding process. In contrast, 27.4% of

mothers thought that giving the baby other fluids had negative impact on breastfeeding (see Table 10).

Table 10
Mothers' Attitudes Regarding Supplementations

Item	(n)	%
I think giving the baby other fluids in addition to breast milk does not negatively impact the breastfeeding process.	(n=73) 53	72.6
I think giving the baby other fluids in addition to breast milk can negatively impact the breastfeeding process.	20	27.4

*Percentages based on completed questions

Research question #4: Do participants have adequate knowledge regarding exclusive breastfeeding?

Two frequency analyses were performed to determine Arab mothers' knowledge of exclusive breastfeeding. The first frequency analysis was performed to determine participants' knowledge of what is exclusive breastfeeding. The majority of the participants (66.7%) chose "the baby is only fed breast milk". Only 18.1% chose "the baby is fed breast milk beside water, juice, and/or herbal drinks", and 15.3% did not know the answer (see Table 11).

Table 11
Mothers' Knowledge of Exclusive Breastfeeding

Item	(n)	%
What is exclusive 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

*Percentages based on completed questions

The second frequency analysis was performed to determine participants' knowledge of the recommended number of months for only breastfeeding. More than half of the mothers (52.8%) reported that the recommended number of months to only breastfeed the baby was greater than six months. Only 11.1% of mothers reported four months, and 12.5% did not know the answer (see Table 12).

Table 12
The Recommended Number of Months for Only Breastfeeding

Item	(n)	%
What is the recommended number of months to only breastfeed your baby?	(n=72)	
2 month	1	1.4
4 months	8	11.1
6 months	16	22.2
Greater than 6 months	38	52.8
I don't know	9	12.5

A cross tabulation and chi-square analysis was performed to determine if there was a significant interaction between supplementation introduction and mothers' knowledge of the recommended months of exclusive breastfeeding. A chi square test of independence was calculated in order to test for significance. A significant contrary interaction was found ($\chi^2(1) = 13.929, p < .05$). All mothers who thought that the recommended number of months to

exclusively breastfeed their child was greater than six gave supplementation to their babies prior to six months. In addition, among mothers who thought that six months was the recommended timeframe of exclusive breastfeeding, 84.6% gave supplementation prior to six months (see 13 Table).

Table 13

Cross tabulations – Supplementations' Introduction and Participants' knowledge

Item	6 months		Greater than 6 months	
	(n)	%	(n)	%
Giving supplementations prior to 6 months	11	84.6%	29	100.0
Giving supplementations at the 6 months	2	15.3	0	0.0

*Percentages based on completed questions

Research question #5: Has living in the U.S. influenced Arab women's attitudes and practices of breastfeeding?

Cross tabulations and chi-square analysis were performed to determine if there is a significant relationship between living in the U.S. and the participants' attitudes and practices. A chi-square test of independence was calculated in order to test for significance between the length of time having lived in the U.S. and the duration of time one breastfed her child. Even though no significant interaction was found ($\chi^2 (1) = 32.410, p = .11$), mothers who have lived at least seven years in the U.S. were more likely to breastfeed longer (32.6%) than mothers who lived in the U.S. fewer years (7.1%) (see Table 14).

Table 14
Cross tabulation – Length of Living in the U.S. and Duration of Breastfeeding

Item	Less than seven years		Seven years and more	
	(n)	%	(n)	%
1-3 months	5	17.8	9	19.5
4-6 months	9	32.1	7	15.2
7-9 months	3	10.7	2	4.3
10-12 months	3	10.7	7	15.2
13-18 months	2	7.1	15	32.6
19-24 months	1	3.5	4	8.6

A second chi-square test of independence was calculated to test for significance between the length of living in the U.S. and the mothers' practice of exclusive breastfeeding. No significant interaction was found ($\chi^2(1) = 4.0, p = .40$); however, mothers who had lived in the U.S. for at least seven years were more likely to have given supplementation prior to six months (29%) than mothers who lived in the U.S. less than seven years (24%) (see Table 15).

Table 15
Cross tabulations- The length of living In the U.S. and Introduction of Supplementation

Item	Less than seven years		Seven years and more	
	(n)	%	(n)	%
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

A third chi-square of independence was calculated comparing the length of living in the U.S. and the mothers' attitudes of introduction of supplementation. No significant interaction was found ($\chi^2 (1) = 5.6, p = .22$). Nevertheless, it was found that the majority of those who have lived in the U.S. for at least seven years (63.6%) thought that giving supplementation did not negatively impact breastfeeding (see Table 16).

Table 16

Cross tabulation- The Length of Living in the U.S. and Attitude

Item	Less than seven years		Seven years and more	
	(n)	%	(n)	%
Supplementations doesn't negatively impact breastfeeding	24	85.7	28	63.6
Supplementations can negatively impact breastfeeding	4	14.2	16	36.3

CHAPTER V: Discussion

The present study used a self-reporting questionnaire to explore breastfeeding practices, including exclusive breastfeeding among Arab mothers who are living in the United States. The purpose of this chapter is to present the findings, conclusions, and recommendations resulting from the assessment conducted in this study. The following research questions guided this study:

- 1) At what age of an infant's life do Arab mothers introduce supplementation other than breast milk?
- 2) What are the reasons for early introduction of supplementation other than breast milk?
- 3) What are the participant's attitudes about the effects of other supplementation on breastfeeding process?
- 4) Do participants have adequate knowledge regarding exclusive breastfeeding?
- 5) Has living in the U.S. influenced Arab women's attitudes and practices of breastfeeding?

Summary of Procedures

Data for this study were collected using a 23-item self-report survey to determine Arab mothers' practices, attitudes, and knowledge regarding breastfeeding and whether living in the U.S. has changed any of these aspects. Participants were asked demographic questions as well as questions relating to breastfeeding practices, introduction of supplementation, exclusivity of breastfeeding, and factors that influenced mothers' decision to breastfeed. Frequency analyses, cross tabulations, and chi-squared tests were used to explore the five research questions.

Summary of Findings and Discussion

The research questions in this study were determined based on the amount of current literature on breastfeeding and examining gaps in the research. The following summary presents the important findings for each of the study research questions. It is important to note that the results of the current study were responses from Arab women who have been living in the United States. Therefore, the findings may not reflect all Arab women living in other west countries.

Although the response rate was small (n=90), findings of this study shed some light on the current breastfeeding practices including exclusive breastfeeding among Arab women in the U.S. Findings suggest a high frequency of breastfeeding among Arab women in which the majority, 86.7%, reported that they already breastfed or still breastfeed their babies. The criteria of this study included that the participants were born in Arabic countries and gave birth in the U.S. This finding is consistent with McLachlan and Forster's (2006) study where the authors described the initial breastfeeding attitudes and practices of women born in Vietnam, Turkey and Australia who gave birth in Australia. It was found that the majority of Turkish women, 98%, initiated breastfeeding. Almost all Turkish mothers were Muslim; in Islam, mothers are encouraged to breastfeed their babies. In the present study, mothers were asked which factors had influenced their decision to breastfeed, 74.7% reported that Islamic religion encourages breastfeeding. Usually, religious values and instructions are often strong and they stay with people wherever they live.

Exclusive Breastfeeding

Findings of this study indicate that 84.3% of mothers gave supplementation other than breast milk in the first six months of the infant' life, and the majority of them (34.4%)

gave supplementations within the first month. In other words, the majority of Arab mothers did not practice exclusive breastfeeding as recommended by the World Health Organization and the American Academy of Pediatrics, which says that infants should be breastfed exclusively for the first six months of age to achieve optimal growth, development, and health. These findings are consistent with the WHO's report of lack of exclusive breastfeeding worldwide. Similar findings were reported by Oweis, Tayem, and Froelicher (2009), who studied 200 Jordanian mothers. Almost 60% of them gave supplementations to their child within the first six weeks. Also, this finding is supported by another study in United Arab Emirates, of 221 mothers, where all mothers initiated breastfeeding, but only 4 % of them practiced exclusive breastfeeding within the first month (Al-Mazroui, Oyejide, Bener, & Cheema, 1997).

Introduction of Supplementation

When asked about the reasons for giving supplementation, the majority of mothers (38.0%) reported that they did so to comfort the baby. This finding is similar with the literature that giving supplementation is as an expression of Arab mothers' love and caring to their babies (Oweis et al., 2009). The next common reason was that they did not have enough breast milk (37.1%). This is supported by a study where mothers started bottle-feeding because their perception was that breastfeeding alone was not satisfying the baby's hunger (Oweis et al., 2009). According to Melnikow and Bedinghaus, it appears doubtful that mothers truly experience insufficiency of breast milk, since the physiological studies showed that only 1 – 5% of mothers have genuine problems with milk productions (1994). In addition, 22.9 % reported that baby needs such fluids in addition to breast milk. More efforts and resources should be put into providing health education related to breastfeeding

including information of what the baby really needs and what the WHO recommends mothers. These issues would be better discussed during the prenatal and postnatal periods. Regarding types of supplementation, the most frequent reported fluids were water (59.7%), followed by infant formula (58.3%) and herbal drinks (38.9%). The previous finding is similar to Al-Mazroui et al.' study (1997) where the prevalence of feeding water was the highest and increased from 70 percent in week 1 to 82 percent in week 4.

Arab Mothers' Attitude

Attitude associated with the use of supplementation was also explored. Frequency analysis 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 supplementation and hence the majority of them gave supplementation to their babies without knowing the negative impact on breastfeeding. Consistent with the present finding, a study of 100 primiparas, 79% reported the intention to breastfeed. The intent of breastfeeding was associated with positive attitudes toward breastfeeding and also being born outside the U.S. (Persan & Mensinger, 2007). The Theory of Reasoned Action presents that the most determinant factor of performing the behavior is the behavioral intention, and the direct determinants of the behavioral intention are the individual's attitude toward performing the behavior (Glanz, Rimer, & Lewis, 2002).

Knowledge and Education

Findings of the present study showed that the majority of mothers (66.7%) had better knowledge of what exclusive breastfeeding was. These findings are inconsistent with

findings of Oweis et al. (2009), where Arab mothers in Jordan did not consider the use of supplementation as ‘non-exclusive’ breastfeeding. In contrast, mothers in the present study were not aware of the recommended number of months for exclusive breastfeeding. Even though, more than half of mothers (52.8%) reported that the recommended number of months for only breastfeeding is greater than six months, 84.6% of those gave supplementation prior to six months.

Moreover, findings also showed that there was a significant association $p > .05$ between the use of supplementation and mothers’ level of education. In the present study, mothers who were more educated tended to introduce supplementation early. Most mothers who were at the college level of four years and more gave supplementation as early as the first months of their infant’s life. This finding is in agreement with a study done in UAE, in which the more educated the mother was, the less likely she was to exclusively breastfeed up to 6 months (Tajir, Sulieman, & Badrinath, 2005). It would be interesting to examine whether the reasons for less exclusive breastfeeding in more educated Arab mothers is because of returning to work.

Living in the U.S.

Infant feeding practices are associated with the context of cultural norms and beliefs. For some ethnic groups, the context of mothers’ beliefs and practices may change for those who immigrate to a new country; however, this is not the case in this study. Findings of the present study showed that breastfeeding practices of Arab immigrants in the U.S. were very similar to breastfeeding practices among Arab mothers in their home countries. It was shown that 41.2% of the participants were between 16-20 years of age when they first came to live in the U.S. Participants in that age group were exposed to the Arabic culture for a significant

period of their lives, and so the cultural values and beliefs would shape a lot of their behaviors and attitudes. Moreover, even though 32.6% of mothers have lived in the U.S. for at least 11 years, that did not change much of the Arabic breastfeeding practices. Findings showed that most mothers who lived in the U.S. for seven years and more breastfed longer and introduced supplementations earlier than those who lived less than seven years. In addition, mothers had a positive attitude toward giving supplementation and thought that the use of supplementation did not negatively impact breastfeeding. Also, the most common reason for discontinuation of breastfeeding in Arab mothers' home countries and in the U.S. was breast milk insufficiency. Breastfeeding education culturally specific for Arab mothers is needed to dispel any concerns of mothers.

Limitations

Like other studies, this study has a number of limitations. First, the issue of generalizability is a factor in that the non-random selection of participants might limit the ability to generalize the findings to settings similar to those where the study took place. The limited number of participants does not represent the beliefs and behaviors of the entire Arab mothers populations in the U.S. Since the criteria of this study included having at least one child aged 5 years and younger, another possible limitation is recall bias, especially in case of older children. Also, the study was a self-report cross-sectional survey that assessed their behaviors and knowledge at the time of the survey, and those may change over time. Furthermore, the amount of infant feeding supplementation were not assessed accurately in the present study. A future study using a more accurate assessment of early infant feeding would be helpful.

Despite these limitations, this study was able to explore unique data on breastfeeding practices, attitudes, and knowledge among Arab mothers in the U.S.

Conclusions

The following are the major findings of this study:

1. The results of this study showed low levels of exclusive breastfeeding, as well as early introduction of supplementation.
2. Arab mothers had better knowledge of what is exclusive breastfeeding, but were not aware of the recommended number of months for exclusive breastfeeding.
3. Overall infant feeding practices of Arab mothers in the U.S. were similar to the practices in their home countries.

Recommendations for Future Research

There are several recommendations can be made for further research into breastfeeding practices among Arab mothers in the U.S. based on current study. For one, a larger sample would be preferable to represent the population accurately. Also, using an accurate assessment of early infant feeding would be useful to better assess types and amounts of supplementation in addition to solid foods. Moreover, a longitudinal study that follows a cohort of Arab mothers from the time of giving birth through two years of the infant's age would be beneficial to track accurately breastfeeding practices and possibly minimize recall bias.

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Appendix A

Eastern Michigan University

This survey is part of a Master's thesis in Health Education. I am administering this survey to explore breastfeeding practices including exclusive breastfeeding among Arab women living in the United States. Please answer all of the questions honestly and to the best of your ability. Note, Breastfeeding practices include the pumped breast milk. Thank you for taking part in the survey.

Please select the following:

1- Are you...?

- Married

 Divorced

 Widowed

 Other:

2- What is your age?

- 18 - 20

 21 – 25

 26 – 30

 31 – 35

 36 - 40
 41 +

3- What is your level of education?

- High school or less

 College 1-3 year

 College 4 year or more

4- Are you...? (Check all that apply)

- Full time worker

 Part time worker

 Student

 Housewife

5- How do you perceive your income?

- Highly adequate

 Adequate to some extent

 Not adequate at all

6- What is your original nationality?

- Saudi

 Lebanese

 Palestinian

 Jordanian

 Syrian
- Iraqi

 Egyptian

 Yemeni

 Other:

7- What is your place of birth (Country)?

.....

8- How long have you (lived) been living in the US?

- Less than one year 1 – 3 years 4 – 6 years 7 – 10 years
 11+

9- How old were you when you first came to the US?

- 10 years old or less 16 – 20 26 – 30 36 – 40
 11 – 15 21 – 25 31 – 35 41+

10- How many children do you have?

- 1 2 – 3 4 – 5 6+

If you have more than one child, please consider the youngest one when answering the questions.

11- What is the gender of your child?

- Male Female

12- How old is your child?

- 1 – 3 months 10 – 12 months 2 – 3 years
 4 – 6 months 13 – 18 months 4 – 5 years
 7 – 9 months 19 – 24 months

13- Did you ever breastfeed your child?

- Yes ⇒ (Go To Question 15) No

14- If No, what are the reasons for your decision not to breastfeed your baby? (Check all that apply)

- I didn't have enough breast milk
 I believed that formula is as good as breastfeeding
 I thought that breastfeeding is inconvenient
 I planned to go back to work or school
 I wanted my body back to myself
 For Medical reasons
 Other:

If you answered this question, you are done. Thank you for participating.

15- How long did you breastfeed your baby?

- 1 – 3 months 10 – 12 months Still breastfeeding
 4 – 6 months 13 – 18 months
 7 – 9 months 19 – 24 months

16- What had influenced your decision to breastfeed your baby? (Check all that apply)

- Islamic religion encourages breastfeeding
 Breastfeeding has health benefits for the baby
 My family support (i.e., mother, sister, husband)
 My friend encouraged me
 Advice from a health care professional or nurse
 My past experience
 Other:

17- Have you given your baby any of the following besides breastfeeding, If YES: Check all that apply. If NO go to question 20.

- Water
 Infant formula
 Herbal drinks (i.e. Yansun or babunj)
 Sweetened water
 Tea
 Juice

18- How old was your baby when you first fed him/her any of the above?

- 1 Month 3 months 5 months
 2 months 4 months 6 months

19- Why have you given your baby fluids besides breast milk? (Check all that apply)

- I don't have enough breast milk
 To comfort the baby
 Advice from a family member (i.e., my mother, my sister)
 Advice from a friend
 Baby needs such drinks besides the breast milk
 It is good for the baby's health.
 Other:

20- As best you know, what is exclusive breastfeeding?

- The baby is only fed breast milk
 The baby is fed breast milk with water, juice, or herbal drinks
 I don't know

21- As best you know, what is the recommended number of months to only breastfeed your baby?

- 1 month 4 months Greater than 6 months
 2 months 6 months I don't know

22- Which of the following statements best describes your attitude regarding giving the baby fluids other than breast milk within the first 6 months of the baby's life?

- I think giving the baby other fluids in addition to breast milk does not negatively impact the breastfeeding process.
- I think giving the baby other fluids in addition to breast milk can negatively impact the breastfeeding process.

If you stopped breastfeeding before your baby was two years old:

23- Why did you stop breastfeeding?

- Breastfeeding was too tiring
 I didn't have enough breast milk
 Baby continued to be hungry after feeding
 For Medical reasons
 Because of becoming pregnant
 Breastfeeding was inconvenient for me
 Planning to go back to work or school
 Lack of encouragement
 Other:

Appendix B

Eastern Michigan University School of Health Promotion and Human Performance INFORMATION OF RISK

Description of the Study: This study is being conducted by a researcher in Eastern Michigan University's School of Health Promotion and Human Performance to explore breastfeeding practices including exclusive breastfeeding among Arab women living in the United States.

Procedure: You can help the researcher by filling out the accompanying survey. You will be asked to answer some demographic questions such as your age range, level of education, number of children you have, employment status, and marital status. After that, you will be asked to answer questions related to your breastfeeding practices and perceptions. It should take approximately 10 minutes to complete the survey.

Benefits and Risks: As a participant in this study, you will not benefit personally, however, you will be helping to explore the breastfeeding practices among Arab women in the US. The risks are minimal. You may find some of the questions about your breastfeeding practices to be sensitive. Please notify the researcher if you feel uncomfortable.

Voluntary Participation: Your participation is strictly voluntary. Feel free to ask questions at any time during the course of the study. You will not be credited or compensated in any way for your participation.

Right to Withdraw: You have the right to refuse participation and withdraw from the study at any time. You may refuse to answer any question, or respond directly to any statement on the questionnaire. No penalties or negative consequences will result from your withdrawal or refusal.

Confidentiality: All information collected will be held in the strictest of confidence. Your name will not be associated with this research and all data will be maintained using confidential code numbers. The completed questionnaires will be kept in a locked file drawer in the locked office that only the investigator will have access to.

Dissemination of Information: Results of this study will be presented at a national forum in Saudi Arabia/United States and will be submitted for publication in an internationally recognized, peer reviewed health publication. All published results will present only group data. Subject names will not be used in any presentations/publications.

If you have any questions or concerns related to this study, please contact:

Joan Cowdery, PhD
Associate Professor and Program Coordinator
Eastern Michigan University

734-487-7120 x2698
jcowdery@emich.edu

“ This research protocol and informed consent document has been reviewed and approved by the Eastern Michigan University CHHS Human Subjects Review Committee for use from 02/16/2010 to 02/16/2011. If you have questions about the approval process, please contact Dr. George Liepa (734.487.0077, Chair of CHHS, chhs_human_subjects@emich.edu).”

Consent to Participate

My signature below indicated that I understand the information provided about the research study including research procedures, the confidentiality of my information, and that I may withdraw from the study at any time without negative consequences. I hereby consent and do voluntarily offer to follow the study requirements and take part in the study.

Signature of Participant

Date

Please return this form to the administrator of the research project.

Appendix C

Online Survey

Eastern Michigan University School of Health Promotion and Human Performance Information of Risk

Description of the Study:

This study is being conducted by a researcher in Eastern Michigan University's school of Health Promotion and Human Performance to explore breastfeeding practices including exclusive breastfeeding among Arab women living in the United States. To participate in this study, you should be an Arabic mother born out of US and have at least one child aged 5 years or younger and was born in US. Note, breastfeeding practices include the pumped breast milk.

Benefits and Risks:

As a participant in this study, you will not benefit personally, however, you will be helping to explore the breastfeeding practices among Arab women in the US. The risks are minimal. You may find some of the questions about your breastfeeding practices to be sensitive. Please feel free to notify the researcher listed below if you feel uncomfortable.

Voluntary Participation:

Your participation is strictly voluntary. Feel free to ask questions at any time during the course of the study. You will not be credited or compensated in any way for your participation.

Right to Withdraw:

You have the right to refuse participation and withdraw from the study at any time. No penalties or negative consequences will result from your withdrawal or refusal.

Confidentiality:

All information collected will be held in the strictest of confidence. Your name will not be associated with this research and all data will be maintained using confidential code numbers.

Dissemination of Information:

Results of this study may be presented at a national forum in Saudi Arabia/United States and may be submitted for publication in an internationally recognized, peer reviewed health publication. All published results will present only group data. Subject names will not be used in any presentations/publications.

You may print or write down this information for your references. If you have any questions or concerns related to this study, please contact:

Joan Cowdery, PhD

Associate Professor and Program Coordinator/ Health Education Program
Eastern Michigan University, Tel: 734-487-7120 x2698.
jcowdery@emich.edu

CHHS Human Subjects Review Committee

chhs_human_subjects@emich.edu

Online Survey

Eastern Michigan University School of Health Promotion and Human Performance

INFORMED CONSENT AGREEMENT

Your clicking the "NEXT" button below indicates that you have read and fully understand the information provided about the research study and have decided to voluntarily participate in the study. Again, if you have any questions, feel free to contact the administrator of this study.

I understand that the primary purpose of this research study is to gather information to explore breastfeeding practices including exclusive breastfeeding among Arab women living in the United States. I understand that while the risks of participation are minimal, I may experience discomfort due to some sensitive questions.

I understand that my participation is strictly voluntary. I understand that I am free to ask questions at any time during the course of the study. I understand that I will not be credited or compensated in any way for my participation.

I understand that I have the right to refuse participation and withdraw from the study at any time. I understand that no penalties or negative consequences will result from my withdrawal or refusal.

I understand that the information that I give will be held in the strictest confidence and that my responses will be kept separately from my identifying information. I understand that my name will in no way be associated with this study.

IF YOU CONSENT, PLEASE PROCEED TO THE NEXT PAGE.

Appendix D

Breastfeeding Practices among Arab Women Living in the U.S.



I am a graduate student at EMU working on my thesis, and I need your valuable inputs and your participation will be highly supportive

If you are:

- **Arabic mother born out of the U.S.;**
- **Have at least one child aged 5 years or younger; and**
- **The child was born in the U.S.,**

I would appreciate it if you fill out the Online Survey at

<http://www.surveymonkey.com/s/9JMDRG7>

The survey will take approximately 10 min, so I would be grateful if you fill out the survey before March 31, 2010.