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Original Research Article

Attitudes toward breastfeeding practices among breastfeeding women in Buraydah city, Saudi Arabia: a cross-sectional study

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ABSTRACT

Background: This study assessed the attitudes toward breastfeeding among mothers receiving healthcare services in Primary Healthcare Centers (PHCCs) in Buraydah, Saudi Arabia. It also examined the association between the mothers' demographic characteristics and breastfeeding attitudes.
Methods: This study utilized a descriptive cross-sectional design. A purposive sample of 415 breastfeeding mothers who were receiving healthcare services from the selected PHCCs during the conduct of the study were recruited in PHCCs in Buraydah, Saudi Arabia. A two-part self-administered questionnaire containing a demographic sheet and the Iowa Infant Feeding Attitude Scale (IIFAS) Arabic version was employed to collect data from the respondents. Descriptive and inferential statistics were used accordingly in data analyses.
Results: The overall mean score of the women in the IIFAS was 60.50 (SD = 11.08), with individual scores ranging from 17.00 to 82.00. This finding implies good attitudes toward breastfeeding. Mothers who were divorced/widowed (M = 63.75, SD = 5.20) had significantly better breastfeeding attitudes than married mothers (M = 60.24, SD = 11.38). Mothers who were not working (M = 61.41, SD = 10.03) reported more positive breastfeeding attitudes compared with working mothers (M = 58.36, SD = 13.02).
Conclusions: The mothers reported good attitudes toward breastfeeding, but expressed poor beliefs in some areas of breastfeeding. The present findings have implication to medicine, nursing, and healthcare policies.

Keywords: Breastfeeding, Breastfeeding attitudes, Health promotion, Public health, Women health

INTRODUCTION

Human milk is a very good source of nourishment for newborn children, and breastfeeding has numerous benefits.[1] Breastfeeding is not just the norm but the best way to supply an infant with required nutrition.

It also has a beneficial role in improving health outcomes for infants and women. Breastfeeding is cost effective and is considered a health investment to help protect against certain infections and chronic diseases. Several international organizations, such as the American Academy of Family Physicians, the United Nations Children's Fund, and the World Health Organization (WHO), recommend that breastfeeding should be done exclusively for at least six months and continued for the first year of life combined with complimentary food.[2]

Current evidence suggests that exclusively breastfeeding the infant for six months has several advantages, including decreased risk of gastrointestinal infection in the infant; faster weight loss of mothers after delivery; delayed return of menstruation; and decreased risk of postpartum ailments, such as depression, Diabetes

Mellitus type 2, breast and ovarian cancer, and cardiovascular diseases.[3]

Despite the acknowledged advantages of breastfeeding, several studies have shown a sub-optimal practice of breastfeeding in developed and developing countries.[4-6] A study in China reported that only 44.9% (n = 1,659) of children below the age of five received exclusive breastfeeding during their first six months of life.[5] Another study conducted in 2013 in Bangladesh measured the prevalence of exclusive breastfeeding among mothers who have infants aged 0 to six months. Findings showed a prevalence rate of exclusive breastfeeding of only 36%, which was lower than the 64% prevalence rate previously reported in 2011.[7] In the United States, an increasing rate of exclusively breastfed infants through six months was reported from 2009 (15.6%) to 2015 (24.9%). However, these rates are still considered very low.[8] A secondary analysis on the WHO Global Survey on Maternal and Perinatal Health across 24 countries also revealed that the prevalence of early initiation of breastfeeding varied significantly between countries, ranging from 17.7% to 98.4% and with an average of 57.6%.[6] A similar situation is also prevalent in Saudi Arabia. A previous review of studies examining data on breastfeeding in the country reported a low prevalence rate of exclusive breastfeeding ranging from 0.8% to 43.9%.[9]

Several factors that influence exclusive breastfeeding among mothers were reported in previous studies. Type of delivery, household income, maternal age, and maternal diseases such as gestational diabetes showed an impact on the intention of mothers to breastfeed their infants.[4,7,10] In Saudi Arabia, high maternal age, low educational levels, living in rural areas, low income, multiparity, and avoidance of contraceptives were identified as factors related to the high prevalence of breastfeeding. By contrast, insufficient breast milk, illness, new pregnancy, and breastfeeding problems were identified as reasons for stopping breastfeeding.[9]

Moreover, attitudes toward breastfeeding were shown to influence mothers on their choice to exclusively breastfeed their infants.[4,11] Despite this finding, previous studies showed poor to neutral attitudes of mothers toward breastfeeding. In a study conducted in India, mothers reported neutral attitudes toward breastfeeding, with some of them thinking that formula feeding is better than breastfeeding.[11] Another study carried out in Western Australia reported that 33.3% of the surveyed mothers believed that formula feeding does not cause the mother to miss the great joys of motherhood, while 24.6% had neutral feelings toward the subject. The same study also reported that the majority of the respondents did not agree that breastfeeding increases mother–infant bonding, and 25.3% disagreed that breastfed babies have better health compared with formula-fed babies.[12] Having positive attitudes toward breastfeeding was associated with high intentions to breastfeed and long durations of exclusive breastfeeding.[12] Religious and cultural factors showed positive impacts on intention to breastfeed and attitudes among Saudi mothers.[13]

Although breastfeeding attitudes among women have been investigated in the past, this topic has not been intensively studied yet in Saudi Arabia, especially in areas outside the main cities. Previous studies on this topic were conducted in big cities, such as Riyadh, which may not reflect the attitudes of mothers living in other parts of the country.[14] The country is also transitioning from a traditional to a modern society. This societal change impacts the health needs of the people. Hence, continuous assessment of people's health need indicators, such as attitudes toward breastfeeding, is necessary to develop up-to-date healthcare policies. Furthermore, the low prevalence of exclusive breastfeeding in the country demands a thorough investigation into possible factors influencing such prevalence. Hence, appropriate interventions can be planned and implemented to improve the situation in the country. The current study was conducted to assess the attitudes toward breastfeeding among breastfeeding women in primary healthcare centers (PHCCs) in Buraydah City, Saudi Arabia. It also examined the association between the demographic characteristics and breastfeeding attitudes of mothers.

METHODS

This descriptive, cross-sectional study was conducted to assess the attitudes toward breastfeeding practices among breastfeeding women in PHHCs located in Buraydah City, Saudi Arabia. The city is located in the Qassim region, with a total population of 614,093. Buraydah City has 33 PHCCs. Two PHCCs were selected from each geographic area of the city, namely, North, South, East, West, and Central areas. Through purposive sampling, 415 breastfeeding mothers who were receiving healthcare services from the selected PHCCs during the conduct of the study were recruited, taking into consideration the drop-out rate of 10%. From the 415 questionnaires distributed, 381 were retrieved and included in the analyses (response rate = 91.8%). The inclusion criteria were as follows: (1) breastfeeding women, (2) aged 18 years and above, and (3) visiting the PHHC for vaccination and infant check-up during the conduct of the study. Breastfeeding women who were below 18 years old, who have relative or absolute contraindication, who cannot initiate ejaculation of milk due to any cause, and those who underwent mastectomy were excluded.

Instrument

A two-part survey was utilized to collect data from the respondents. Part one was constructed by the researchers to elicit information on demographic characteristics of the respondents, including age, nationality, marital status, educational level, employment status, monthly income, type of family, and source of breastfeeding information.

Part two was constructed by the Iowa Infant Feeding Attitude Scale (IIFAS) Arabic version by Charafeddine et al.[15] The IIFAS was originally developed by Mora, Russell, Dungy, Losch, and Dusdieker.[16] The scale has 17 items, which are responded to using a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = no opinion, 4 = agree, and 5 = strongly agree).

The scale was composed of eight items that are in favor of breastfeeding, and nine items in favor of bottle feeding. The total score was calculated by reversing scores in the items in favor of bottle feeding and adding them to the items in favor of breastfeeding. Scores can range from 17 to 85, with high scores indicating positive attitudes toward breastfeeding. The Arabic version of the tool had acceptable reliability (Cronbach's $\alpha = 0.640$) and validity with the principal component analysis supporting the unidimensionality of the scale.[15] Cronbach's α in the present sample was 0.84.

Ethical consideration

Ethical approval was obtained from the local research ethics committee of the Ministry of Health at Al-Qassim region, project number 20180505. Information regarding the study, such as its purpose, significance, and expected participation, were included in the cover page of the questionnaire. During the recruitment of participants, the participants were informed about their rights when participating in the study, including their anonymity, their right to refuse participation without removal of any benefits and services they receive from the PHCC, and their right to terminate their participation at any time.

Adequate time was provided to the respondents to ask questions regarding the study and their participation. An informed consent form was signed by each participant to signify their understanding and voluntary participation in the study.

Data collection

Data collection was performed over two months from May to June 2018. Prior to data collection, appropriate coordination with each PHCC was observed. After the appointment of the respondents to the PHCC, the researchers invited each respondent in a private room. After providing them the necessary information and securing their signed informed consent forms, the researchers handed the questionnaire with a blank white envelope to the respondents.

The respondents were given enough time to answer the questionnaire. After the respondents filled in the questionnaire, they were instructed to put the questionnaire in the envelope and seal it themselves before returning it to the researchers. The envelopes containing the questionnaires were kept in a locked cabinet in the office of the principal investigator until the end of the data collection period.

Data analysis

Descriptive statistics were performed to analyze the demographic characteristics of the respondents. Means and standard deviations were calculated for the attitudes of the respondents. Independent samples t-tests and one-way analyses of variance were carried out to examine the association between the respondents' demographic characteristics and breastfeeding attitudes. SPSS version 22.0 was used in all analyses, and p-values below 0.05 were considered significant.

RESULTS

Demographic characteristics

The demographic characteristics of the respondents are summarized in Table 1.

Table 1: Demographic characteristics of the respondents (n = 381).

Variable	n	%
Age		
18 to 28	110	28.9
29 to 39	180	47.2
40 and above	91	23.9
Nationality		
Saudi	320	84.0
Non-Saudi	61	16.0
Marital status		
Divorced/Widowed	28	7.3
Married	353	92.7
Education		
No education	34	8.9
Intermediate	48	12.6
Secondary School	92	24.1
Higher Education	207	54.3
Employment status		
Unemployed	267	70.1
Employed	114	29.9
Monthly income		
less than 3000 SR	59	15.5
3000 to 5000 SR	85	22.3
more than 5000 SR	237	62.2
Type of family		
Nuclear family	350	91.9
Extended family	31	8.1
Source of breastfeeding information		
Health care staff	56	14.7
Family and friends	228	59.8
Media (internet, TV, etc)	60	15.7
School education	37	9.7

As reflected, more than two-thirds of the respondents were Saudi nationals (84.0%), married (92.7%), unemployed (70.1%), and belong to a nuclear type of

family (91.9%). Nearly half of the respondents were between 29 and 39 years of age (47.2%), while 28.9% and 23.9% were between 18 and 28 years and 40 and above years old, respectively.

In terms of educational attainment, 8.9% had no education, 12.6% finished intermediate school, 24.1% accomplished secondary school, and 54.3% hold a university degree. The majority of the women earned more than 5,000 SR monthly income (62.2%), while only 22.3% and 15.5% had 3,000-5,000 SR and less than 3,000 SR monthly income, respectively. Most of the respondents reported that they received information about breastfeeding from friends and family (59.8%), while the rest reported that healthcare staff (14.7%), media (Internet, TV, others; 15.7%), and school education (9.7%) were their sources of information.

Attitudes toward breastfeeding

Attitudes toward breastfeeding among the respondents were measured using the Arabic version of the IIFAS. Overall mean score of the women in the IIFAS was 60.50 (SD = 11.08), with individual scores ranging from 17.00 to 82.00. This finding implies good attitudes toward breastfeeding.

Table 2: Attitudes toward breastfeeding among the respondents (n = 381).

Item	Mean	SD
The benefits of breastfeeding last only as long as the baby is breastfeda	3.54	1.45
Formula feeding is more convenient than breastfeedinga	3.09	1.44
Breastfeeding increase mother infant bonding	4.32	1.08
Breast milk is lacking in irona	3.48	1.36
Formula fed babies are more likely to be overfed than breastfed babies	3.92	1.29
Formula feeding is the better choice if the mother plans to go back to worka	2.15	1.02
Mothers who formula feed miss one of the great joys of motherhood	3.92	1.33
Women should not breastfeed in public places such as restaurantsa	2.37	1.39
Breastfed babies are healthier than formula fed babies	4.15	1.18
Breastfed babies are more likely to be overfed than formula fed babiesa	4.02	1.19
Fathers feel left out if a mother breastfeedsa	3.38	1.39
Breast milk is the ideal food for babies	4.36	1.02
Breast milk is more easily digested than formula	4.29	1.07
Formula is as healthy for an infant as breast milka	4.06	1.21
Breastfeeding is more convenient than formula	3.45	1.30
Breast milk is cheaper than formula	4.30	1.11
A mother who occasionally drinks alcohol should not breastfeed her babya	1.69	1.01

Note: A Scores were reversed coded

In examining the items in the IIFAS, seven items received positive attitudes, including "breast milk is the ideal food for babies," "breastfeeding increases mother-infant bonding," "breast milk is cheaper than formula," "breast milk is more easily digested than formula," "breastfed babies are healthier than formula-fed babies," "formula is not as healthy for an infant as breast milk," and "breastfed babies are less likely to be overfed than formula-fed babies."

By contrast, poor attitudes were reported in three items of the scale.

More respondents believed that mothers who occasionally drink alcohol can still breastfeed, formula feeding is a better choice when the mother is planning to go back to work, and mothers should not breastfeed in public areas (Table 2).

Association between the demographic characteristics and breastfeeding attitudes of respondents

Table 3 presents the results of the tests of association between the respondents' demographic characteristics and attitudes toward breastfeeding. Significant differences in breastfeeding attitudes were observed when the respondents were grouped according to nationality ($t = -2.74$, $p = 0.007$), marital status ($t = 3.04$, $p = 0.004$), and employment status ($t = 2.24$, $p = 0.027$). Specifically, non-Saudi mothers (M = 63.18, SD = 7.58) had more positive attitudes compared with mothers with Saudi nationality (M = 59.99, SD = 11.57). Mothers who were divorced/widowed (M = 63.75, SD = 5.20) had significantly better breastfeeding attitudes than married mothers (M = 60.24, SD = 11.38). Mothers who were not working (M = 61.41, SD = 10.03) reported more positive breastfeeding attitudes compared with working mothers (M = 58.36, SD = 13.02).

Table 3: Association between the respondents' demographic characteristics and attitudes toward breastfeeding.

Demographics	Mean	SD	Statistical test	p
Age				
18 to 28	60.49	10.95	F = 1.57	0.210
29 to 39	59.66	12.02		
40 and above	62.18	9.04		
Nationality				
Saudi	59.99	11.57	t = -2.74	0.007**
Non-Saudi	63.18	7.58		
Marital status				
Divorced/Widowed	63.75	5.20	t = 3.04	0.004**
Married	60.24	11.38		
Education				
No education	61.91	8.75	F = 0.71	0.549
Intermediate	62.19	9.31		
Secondary School	60.07	11.54		
Higher Education	60.07	11.59		
Employment status				
Unemployed	61.41	10.03	t = 2.24	0.027*
Employed	58.36	13.02		
Monthly income				
less than 3000 SR	58.37	13.34	F = 1.99	0.138
3000 to 5000 SR	62.11	9.53		
more than 5000 SR	60.45	10.94		
Type of family				
Nuclear family	60.53	11.20	t = 0.16	0.873
Extended family	60.19	9.84		
Source of breastfeeding information				
Health care staff	59.68	13.01	F = 0.85	0.468
Family and friends	60.93	10.37		
Media (internet, TV, etc)	61.08	10.20		
School education	58.11	13.45		

DISCUSSION

This study investigated the attitudes of mothers toward breastfeeding and examined the association of such attitudes with demographic characteristics. Three critical findings are discussed in this section as follows: the respondents' breastfeeding attitudes were good, several aspects of breastfeeding received poor attitudes from the mothers, and some demographic variables were associated with breastfeeding attitudes.

The overall mean score of the IIFAS was above the possible mid-score (M = 60.50, SD = 11.08), signifying that the respondents had positive attitudes toward breastfeeding. The current finding revealed more positive attitudes toward breastfeeding compared to those reported in previous studies in India (M = 58.77, SD = 4.74), Yemen (M = 56.17, SD = 6.91), Lebanon (M = 56.23, SD = 6.13), and Syria (M = 59.97, SD = 6.30).[11,17,18] By contrast, less positive attitudes were reported in studies from West Australia (M = 66.00, SD = 8.3) and Spain (M = 69.76, SD = 7.75).[12,19] Awareness on breastfeeding and willingness to breastfeed among mothers in Saudi Arabia have been growing in recent years.[20] Previous studies conducted in different parts of Saudi Arabia also showed high percentages of mothers who initiate breastfeeding at an early time after delivery and exclusively breastfeed their infants through the first six months.[9] A study conducted in Tabuk, Saudi Arabia reported that out of 671 mothers who were surveyed, 92.7% initiated breastfeeding within the first 48 hours after delivery. This finding supports the claim that mothers in Saudi Arabia have positive attitudes toward breastfeeding. Furthermore, the main religion in the country, Islam, may have played a role in promoting the positive attitudes of mothers toward breastfeeding. Saudi Arabia is one of the most religious countries in the world, where rules are guided by their holy book, the Qur'an. The Qur'an advises mothers to exclusively breastfeed their children for the first two years of life.[21] This may have contributed in the positive attitudes of the mothers in this study.

Despite positive attitudes reported by the mothers in this study, several items in the IIFAS were perceived poorly by some mothers. As revealed in this study, some believed that mothers who occasionally drink alcohol can still breastfeed their baby, formula feeding is the better choice if the mother plans to go back to work, and women should not breastfeed in public places. The unfavorable attitudes of mothers toward these areas of breastfeeding were also observed in a previous study conducted among Chinese mothers in Australia and China.[22] Societal and cultural aspects may have played a role in the poor attitudes of mothers in these areas. For example, drinking alcohol is strictly prohibited in the country. Hence, it is nearly impossible for anyone, including mothers, in Saudi Arabia to drink alcoholic beverages. Moreover, their society encourages women to be modest in all aspects of life. That is, women are not allowed to wear revealing clothes, and they are required to wear an abaya (a black robe-like dress worn by Muslims) at all times in public areas. Hence, breastfeeding in public areas seems impossible because this exposes the breast of the mother to the public. Breastfeeding in public places in the country may be viewed as unacceptable and offensive by the Saudi society.[23] Workplace environment, as well as policies in the workplace in the country, may have also caused low attitudes toward breastfeeding among mothers who were planning to go back to work.[21]

A master's thesis on breastfeeding working mothers in the country revealed the lack of a supportive working environment in terms of breastfeeding employees and the lack of policies in the workplace that support breastfeeding. Among the 198 surveyed mothers, 43.6% reported that they did not have breastfeeding breaks during work hours, only 6.34% reported that they had a policy supporting breastfeeding in their workplace, and 64.55% were unaware of policies supporting breastfeeding at work. Moreover, almost all respondents (95.0%) revealed that their workplace did not have a lactation room.[21] These inadequacies in policies in workplaces may have influenced the working respondents' attitudes toward breastfeeding.

The breastfeeding attitudes of the mothers were associated with their nationality, marital status, and employment status. Saudi nationals reported poorer attitudes compared with non-Saudi mothers. This present finding cannot be compared with other studies owing to the lack of studies comparing the attitudes of Saudi and non-Saudi mothers. However, it is a fact that breastfeeding practices vary across countries because of cultural and societal norms. For example, breastfeeding in public areas is unacceptable in Muslim countries, such as Saudi Arabia and Indonesia.[23] Another study revealed that mothers from countries where the dominant religion is Roman Catholic had weaker intentions to start breastfeeding.[24] Race was likewise found to influence the initiation and duration of breastfeeding.[25] Hence, the differences in breastfeeding attitudes found between Saudi and non-Saudi mothers in this study may be due to cultural and belief differences. This assumption, however, needs to be proven in future studies.

Furthermore, mothers who were either divorced or widowed were observed to have more positive attitudes than married mothers. This finding is contrary to the results of a previous study reporting that mothers who indicated they had a partner continued to breastfeed their infant at a greater rate compared with mothers without a partner.[25] Another study conducted in Tanzania reported that single mothers had lesser odds of exclusive breastfeeding compared with married or cohabiting mothers.[26] This contradiction in literature warrants more extensive investigation on the impact of marital status on breastfeeding attitudes and practices across different cultures.

Finally, unemployed mothers showed more positive attitudes toward breastfeeding compared with working mothers. The differences in breastfeeding attitudes and practices according to the employment status of mothers have been investigated and supported by the literature. In fact, the employment of the mother is always associated with the early cessation of breastfeeding as a result of several factors that hinder breastfeeding practices in the workplace.[25] Workplace factors, such as "attitudes of coworkers, length of maternity leave, length of working shifts, and hourly wages or salary," negatively impact the intention of working mothers to breastfeed.[25] Working mothers who were given long maternity leaves, high salaries, and more flexible schedules have longer duration of breastfeeding.[27] Hence, it is imperative that working conditions among working mothers be improved to cater to their needs and promote breastfeeding.

This study has several limitations. It used non-random sampling, which may limit the generalizability of the findings. However, the high sample size is a strong feature of the study. In addition, the study did not measure the duration at which the mothers breastfeed their child. Future studies should include this as variable. The study was conducted in only one city. Thus, different cities in the country should be included in future studies. The study did not identify nationalities of the non-Saudi group. It would have been beneficial to know the nationalities so that a clear explanation as to cultural differences could be offered. Nonetheless, the current study contributed valuable insights to the existing knowledge on breastfeeding attitudes among mothers in Saudi Arabia and the Middle East region.

CONCLUSION

This study investigated the breastfeeding attitudes of breastfeeding mothers receiving healthcare services in PHCCs in Buraydah City, Saudi Arabia. The mothers reported good attitudes toward breastfeeding but expressed poor beliefs in some areas of breastfeeding. Mothers who were non-Saudis, divorced/widowed, and

unemployed exhibited more positive attitudes toward breastfeeding. The present findings have implications in medicine, nursing, and healthcare policies. It is suggested that additional efforts be given by healthcare workers, particularly doctors and nurses, in educating mothers about breastfeeding based on recommended guidelines. This approach ensures that all aspects of breastfeeding are perceived positively by mothers. The Ministry of Health should also intensify their programs which promote breastfeeding, most especially to Saudi mothers, who have poorer attitudes toward breastfeeding compared with non-Saudis in this study. Different workplaces in the country should develop internal policies that support breastfeeding as well. Policies such as creating lactation or breastfeeding rooms, allotting breaks for breastfeeding, and increasing the length of maternity leave may improve the breastfeeding attitudes and practices among employed mothers.

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