

Breastfeeding and Weaning: Awareness and Practices among Female Health Providers working in a Tertiary Care Hospital of Karachi-Pakistan

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Abstract

Objectives: To assess the awareness and practices regarding breastfeeding and weaning among female healthcare providers working in tertiary care hospital of Karachi.

Materials and Methods: This descriptive cross-sectional study was conducted among married female healthcare professionals who have at least one child under the age of five years. A sample of 94 study participants working in a private tertiary care hospital was selected through convenience sampling technique. Data collected using structured and self administered questionnaire. Data analysis was done by SPSS version 20 and Chi-square was applied with P-value <0.05 was considered significant.

Results: Of the 94 female healthcare providers questioned, 90 (95.7%) recognized breast feeding as the preferred mode of feeding however, only 74 (78.7%) practiced it while 28 (29.8%) did not. 15 (15.9%) of these cited workplace related issues as an important reason for hindrance. Although healthcare providers were aware of the hazards of bottle feeding yet majority i.e. 80 (85.1%) practiced it. The most appropriate age for weaning was considered to be six months by 73 (77.7%) of the participants, however, only 50 (53.2%) practiced it. Homemade meals were used by 80 (85.1%) of the participants for hygienic reasons.

Conclusion: Healthcare providers were found to have the right knowledge regarding the practices of breast feeding and weaning, however there was a significant gap between their knowledge and practice. Workplace related hindrances were found to be the main reason for this gap. So it is recommended to empower working mothers in order for them to be able to carry out the best feeding practices.

Keywords: Breast Feeding, Weaning, Healthcare Providers, Workplace

Introduction

A human baby is vulnerable to infections due to the immaturity of the immune system as well as of the major organs (1). Due to this reason, it needs the added protection of the bioactive factors in human milk that enhance the immature immunologic system of the neonate and strengthen host defense mechanisms against infective and other foreign agents (2). Human breast milk is not only the best source of nutrition for the neonate but also the fundamental right of every baby (3). It is a wholesome source of nutrition containing proteins, lipids, carbohydrates, micronutrients and trace elements required for growth and development (4). Breast milk has efficacy to protect against atopic diseases (5), respiratory and gastrointestinal illness (6,7) and obesity (8,9). Further, it improves cognitive ability of the child (10).

Health professionals have an integral role to play in supporting women to enable them to breast feed (11); as promotion of breast feeding is the least expensive and most cost effective intervention for saving children's lives (12). Several studies have concluded a lack of knowledge

on the subject amongst health professionals working at all levels of healthcare (13-15). It has also been noted that female health professionals who have breastfed their own children according to recommended guidelines are more likely to have better knowledge (16-18) and counsel their patients more effectively (19,20). According to research, in Pakistan, from 1983 to 2008, the prevalence of breast feeding amongst working mothers at sixth month had decreased from 96% to 31% (21). Workplace barriers have been cited as the main cause for this decline (21).

Keeping the aforementioned information in mind, this study was conducted to assess the breast feeding and weaning knowledge and practices prevalent amongst female healthcare providers according to recommended guidelines. Literature revealed various articles on the topic of breast feeding and weaning practices both internationally and locally but up to the best of our knowledge there was no such article where personal practices of female healthcare professional were assessed. Results from this research may help to bring to light healthcare providers own practices and need for

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facilitating best feeding practices.

Materials and Methods

This descriptive cross-sectional study was carried out among female healthcare professionals working at a private tertiary care hospital in Karachi. The study was conducted for the duration of one year, from September 2012 to September 2013, and convenience sampling was done. On the basis of 16% (22) prevalence of exclusive breast feeding in Pakistan according to UNICEF and at 95% confidence level with 0.05 margin of error; sample size was calculated as 207 by using WHO sample size estimation calculator. Only those female doctors and nurses who were married and had at least one child below age 5 years were included in the sample. This restriction in inclusion of sample was taken to avoid recall bias. They may or may not have been employed at the time of breastfeeding/weaning. Females employed at healthcare centers not working in the capacity of a healthcare provider were excluded from the study e.g. secretaries or receptionists. Individuals those were on leave and did not give consent were also excluded from the study. Information regarding marital status and number of children of female health professionals was taken from human resource department of the hospital and only 108 individuals were found appropriate to the inclusion criteria. Out of them 94 individuals were available and gave consent. Due to limitation in availability of study individuals calculated sample size of 207 was compromised to 94.

Data collection tool was comprised of structured questionnaire that was constructed after thorough literature search and was pretested before final data collection. Changes were incorporated in the questionnaire after pilot study and data was collected via self-administration technique by the doctors, while most of the nurses were interviewed. The questionnaire was in three parts dealing with the practitioner's demographics in one, breastfeeding associated questions in second and questions related to weaning practices in the third. Verbal informed consent was taken after briefing participants about the aim and conduct of study.

Data was analyzed on SPSS version 17.0. All categorical variables were presented as percentage and frequency, and all numerical variables as mean and standard deviation. Chi square test of significance was applied and P-value <0.05 was calculated as significant.

Results

Total 94 female healthcare providers working in a tertiary care hospital of Karachi were participated in the study with mean age of 32.92 + 5.4 years. Out of these 66 (70.2%) were doctors by profession while 28 (29.8%) were nurses. 67 (71.3%) of the participants had jobs with fixed timings while 27 (28.7%) worked in shifts. 30 (31.9%) healthcare providers had been employed for more than 5 years, 15 (15.9%) had been employed for the past 4 years, 21 (22.3%) for the past 3 years while 28 (29.7%) had been working for only one or two years. Average number of

children per participant was 2 + 0.9. Almost half of the study population i.e. 49 (52.1%) had their youngest child while they were employed.

Among the total participants, 90 (95.7%) recognized breast feeding as the preferred way of feeding a newborn and 87 (92.6%) said it should be started soon after the birth of child. In our study participants 74 (78.7%) were practiced breastfeeding whereas 20 (21.3%) did not breast feed their youngest child. It was also found that among those 74 (78.7%) mothers, 67 (71.3%) initiated breastfeeding soon after birth while others were initiated at some other time after birth. Of the ones who were practicing breast feeding, 28 (29.8%) fed their child 5-6 times/day, 22 (23.4%) fed more than 7 times/day, 20 (21.3%) fed 3-4 times/day while 3 (3.2%) fed their infant 1-2 times/day. Out of the 20 (21.3%) females who were not breast feeding, 15 (15.9%) cited professional affiliation as the main reason, 4 (4.3%) had maternal health problems while 2 (2.1%) had child related health issues due to which they could not practice breast feeding. 72 (76.6%) of the participants believed that exclusive breast feeding should be continued up to six months after birth. Among those who breast fed their child 48 (51.1%) stopped breastfeeding at the recommended age i.e. 2 years while 46 (48.9%) stopped feeding earlier due to their professional reasons. It was also found that 11(11.7%) mothers practiced other feeding practices along with breast milk. Table 1 shows the responses of candidates regarding their feeding practices in the absences and along with breast feeding.

Sixty six (70.2%) of the mothers were aware of the drawbacks of bottle feeding when questioned. However, majority of the participants i.e. 80 (85.1%) used bottle to feed their child while only 14 (14.9%) did not. Forty one (43.6%) mothers also reported an increase in occurrence of illness among the children with bottle feeding; while 70 (74.5%) mothers had encountered no such issues during breast feeding. Figure 1 depicts the response of the participants regarding the drawbacks of bottle feeding.

Table 2 shows the association between bottle feeding and various illnesses. A significant association between bottle feeding and diarrhea (OR= 2.01, 95% CI=1.04-3.84, p= 0.000) and bottle feeding and vomiting (OR=3.89, 95% CI=1.65-9.12, p= 0.004) was found. While the association of acute respiratory infections (ARI) and bottle feeding was not found to be significant (OR=1.67, 95 CI%=0.82-

Table 1. Feeding practices of healthcare providers in the absence and along with breast feeding

Mode of feeding	Frequency	Percentages (%)
Bottle	80	85.1
Cup & spoon	18	19.1
Other	4	4.3
Type of milk used		
Expressed milk	8	8.5
Formula milk	64	68.1
Cow milk	13	13.8

Table 2. Association of Bottle & Breast Feeding with various Illnesses as observed by the study participants

	Bottle Feeding n (%)	Breast Feeding n (%)	Odds Ratio	Confidence Interval (95%CI)	P-value
Diarrhea	33 (35.1)	20 (21.3)	2.01	1.04-3.84	0.000
Vomiting	25 (26.6)	8 (8.5)	3.89	1.65-9.12	0.004
ARI	24 (25.50)	16 (17)	1.67	0.82-3.40	0.000

P-value <0.05 considered significant

3.40, $p=0.000$). Of those who had any problem, 9 (9.6%) consulted General Practitioner, 4 (4.3%) consulted Obstetrician while rest of them did not consult for their health issue related to breast feeding.

The participants of this study were also questioned about their weaning practices. Most participants 73 (77.7%) said that the most appropriate time to initiate weaning was at the age of six months; while 20 (21.3%) believed it was at four months and 1 (1.1%) said it was at 2 years of age. In practice 50 (53.2%) initiated weaning at 6 months while 23 (24.5%) and 21 (22.3%) initiated at five and four months respectively. It was found that majority i.e. 92 (97.9%) of the participants practiced hand washing before feeding the child. 80 (85.1%) mothers preferred making homemade meals for weaning while 14 (14.9%) used commercial preparations. Figure 2 illustrates the various food items used for weaning by the participants.

In our study population, 48 (51.1%) mothers breast fed their child for two years while 23 (24.5%) continued for one year. 5 (5.3%) continued breast feeding for more than

2 years while 18 (19.15%) stopped breast feeding as soon as weaning was initiated. During the phase of weaning 25 (26.6%) mothers said their children did not have any health related issue or illness whereas 69 (73.4%) had some health problems. 27 (28.7%) mothers reported problem of diarrhea, 17 (18.1%) reported ARI, 13 (13.8%) informed of vomiting while 12 (12.8%) study participants reported other minor illnesses. 55 (58.5%) mothers consulted a pediatrician for these issues while the rest either consulted a general practitioner or did not seek help.

Discussion

Personal breastfeeding and weaning experiences of healthcare professionals play a major role in influencing their attitudes and expertise regarding counseling and managing breastfeeding and weaning issues in patients (23). This study was done with the objective of assessing the practices of female healthcare professionals themselves regarding breast feeding and weaning in a private tertiary care hospital of Karachi. The sample was comprised mainly of doctors and nurses. To minimize recall bias, it was ascertained that all the participants had at least one child under the age of 5 years.

It was obvious from our research that although 95.7% participants preferred breast feeding over any other method; it was practiced by only 78.7% female health professionals. For those 21.3% mothers who did not practice breast feeding the main reason identified was professional and job related issues. So it can be anticipated that inadequate attention was paid towards providing facilities and environments that may support a working mother to breastfeed her child (24). Different studies reported in literature showed findings similar to our analysis (19,25). Work has been identified as the main barrier to continue breast feeding practice in many studies (19). Majority of the respondents were aware about the importance of breast feeding, time of initiating breast feeding, appropriate time for exclusive breast feeding and time of initiating weaning as per WHO guidelines (25), however it was not highlighted from their practices and similar gaps in knowledge and practice were also identified by Utoo *et al.* and Sadoh *et al.* (19,26).

It was observed from the results of our study that bottle feeding was the most popular mode of feeding (85%) in the absence of and/or in complement with breast feeding; even though most respondents were aware of the disadvantages of bottle feeding. Along with bottle feed, formula milk was the most commonly consumed milk type (68.1%). Sadoh *et al.* have similarly mentioned in their study that bottle feeding was practiced by 77.4%

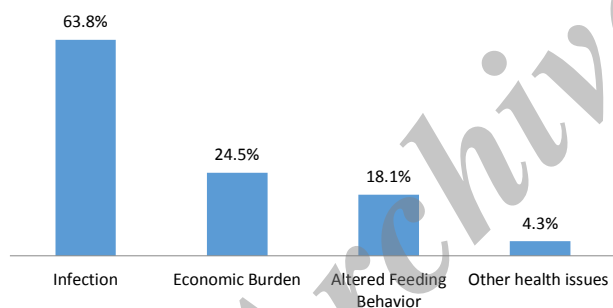


Figure 1. Drawbacks of bottle feeding as stated by study participants

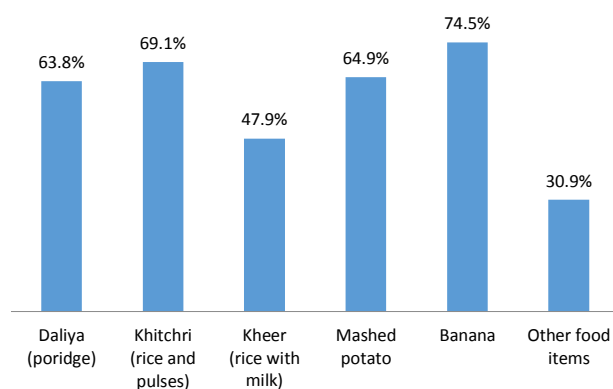


Figure 2. Food items consumed for weaning by study participants

health professionals; however only 21.9% were consuming formula milk and 34.7% were using expressed milk (19). Main objective of our study was to assess the breast feeding practices of healthcare providers but we also inquired about the practices in absence of breast feeding; as most of the participants stopped breast feeding due to their professional reasons. Majority of the study participants in this study were practicing bottle feeding and were inquired about their personal experiences regarding bottle feeding related hazards. Diarrhea, vomiting and ARI were the commonly identified illnesses found among the children on bottle feed. Lukman *et al.* concluded from their results that bottle feeding was mostly practiced by educated mothers and these findings were supported by our results, where healthcare providers in spite of their education and awareness were practicing bottle feeding (27). In the similar study diarrhea and respiratory infections were identified as the important risks associated with bottle feeding that was the leading cause of malnourishment among children (27). Significant association of diarrhea, ARI and vomiting was also proved by the results of Palti *et al.* in a study conducted at Jerusalem (28). Mothers were also asked about their own health related problems while breast feeding their newborns for which only 9.6% were affirmative and of those only 4.3% stopped breastfeeding. Results of study by Tarrant et al reported 10.6% mothers stopped breastfeeding and initiated early weaning due to their personal health problems related to breastfeeding (29).

One of the objectives of this study was to assess weaning practices along with breast feeding practices among healthcare providers. It was surprising to know that 77% mothers knew that weaning should be initiated at 6 months of age as per WHO guidelines (26) but only 53.2% were practicing it in reality. The rest were either too early or too late in initiating weaning. Importance of supplementary food for an infant at the right age cannot be disregarded (30). After 6 months of age breastfeed is not sufficient for providing the nutrients required for the needs of a growing child. Similarly premature weaning may also lead to caloric and nutritional deficiency (31). Failure to meet these demands may lead to nutritional deficiencies, keeping this in mind; it was suggested to reinforce the knowledge of health professional mothers regarding appropriate weaning practices.

Although this study was conducted among working mothers yet surprisingly a very good proportion of mothers preferred homemade food for weaning while only 15% used commercial preparations. Reasons mentioned for preferring homemade meals over commercial products were that they were healthy, cheap, clean, hygienic, natural and economical. Kulsoom *et al.* in her study observed that 28.7% mothers were using commercial products and majority (47%) of the mothers gave commercial products at the age of six months i.e. at the commencement of weaning. In a similar study it was also stated that commercial products were more consumed by illiterate and poor families rather than mothers from upper

socioeconomic class (32). Findings of this study support the results of our study since our study participants were educated and they were less likely to consume commercial products. In our sample almost all i.e. 97.9% washed hands before preparing food for weaning and feeding their child. Jindal AK conducted study in India also reported a 100% hand washing frequency (33), on the other hand study conducted in Vietnam showed that only 69.9% mothers washed their hands before preparing food for weaning (34).

Overall, various aspects related to breast feeding and weaning practices of health professionals were discussed in this article. Various studies have been conducted in past covering this topic but this study is the first of its type in our setting where mothers from healthcare background were assessed about their breast feeding and weaning practices. However, there were some limitations in this study specially the sample size, as it was difficult for us to find mothers who fulfilled our inclusion criteria. Most mothers did not pursue their profession after having children. Others had children of more than ten years of age which may have caused recall bias. It was also difficult to ask study participants to fill in the forms as they were not interested in sharing their personal experience. Data was collected through self-administered questionnaires so there is a chance of subjective bias. Apart from these limitations this study opens future research avenues to look into this topic not only from research point of you, but also to highlight the problem that is faced by healthcare providers for practicing appropriate breast feeding and weaning practices. Our study was conducted in one institute so it is recommended to conduct similar studies in other healthcare institutes with larger sample size.

Since it was pointed out in various studies that work environment was the main barrier for professional mothers to continue breastfeeding (19,27,33), so it is fair to recommend that such policies should be developed at the governmental and institutional levels that promote this practice and eradicate the barriers. The baby friendly hospital initiative (BR-H) is a program launched by the government of Pakistan to promote healthy infant feeding practices (32). In addition to such a program hospital policies should be modified to provide social support and incentives for the promotion of breastfeeding among professional mothers (32). There is a lot that needs to be done at the government as well as the community level for the support of working women in order for them to be able to provide the best feeding practices for their children.

Conclusion

The results of this study have supported the conclusions of previous studies suggesting that the environmental barriers at workplace remain the main hindrance for professional women to continue breastfeeding of their infants. Majority of the women assessed had the correct information regarding the importance of breastfeeding and initiation of weaning yet there was a significant gap between the knowledge and practice. We suggest that a

co-operative attitude be promoted at the work place for professional mothers, in order for them to continue the best feeding practices for their children.

Ethical issues

The study was approved by the ethic committee of Ziauddin University.

Conflict of interests

Authors declare that there is no any conflict of interests.

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