Feeding and Nutritional Requirements of Infants – Practices and Attitudes of Mothers

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Abstract

Background: To assess the attitude and practices of mothers regarding feeding and nutritional requirements of their infants.

Methods: This cross-sectional study was conducted from August to November 2016 and included 395 mothers of infants from the immunization centres of Holy Family Hospital and Benazir Bhutto Hospital Rawalpindi. Mothers were interviewed to gather information regarding their socio-demographic profiles and their attitudes and practices regarding the feeding practices and nutritional requirement of their infants including breast feeding, weaning and source of awareness regarding nutritional requirement of infants. A scoring system was devised to categorize the practices of mothers as good, appropriate or poor based on response.

Results: Amongst 395 mothers, Ghutti was given by 55.4% mothers to their newborns as their first feed whereas 40.5% mothers gave colostrums. 41% mothers breast fed their infants along with complementary feeding, 50.1% exclusively breast fed and 7.3% gave formula milk. 54.2% mothers started weaning at the age of 6 months and majority of them gave processed cereals available in market (44.8%). 15.4% (n=61) mothers observed poor practices, 50.4% (n=199) mothers had appropriate practices, and 34.2% (n=135) mothers observed good practices regarding nutritional requirement of their infants. 98.48% (n=389) mothers exhibited positive attitudes regarding feeding.

Conclusion: Most of mothers had a positive attitude and appropriate practices regarding nutritional requirement of their infants.

Key words: Attitude, Practices, Nutritional Requirement, Breastfeeding, Weaning.

Introduction

Pakistan has a high infant mortality rate due to practices like avoiding colostrum, giving some pre-lacteal feed and bottle feeding leading to preventable diseases like diarrhea and respiratory tract illnesses.1,2 A mother’s knowledge, education and common feeding practices in a community have a great impact on child’s nutrition. The first 2 years of age is a critical time for ensuring proper development of a child through recommended feeding practices. As recommended by WHO, colostrum is the perfect food for the newborn that should be given within the first hour of life.3 WHO further recommends initiation of complementary foods at 6 months of age along with breast milk, initially 2-3 times a day between 6-8 months, increasing to 3-4 times daily between 9-11 months and 12-24 months with additional nutritious snacks offered 1-2 times per day, as demanded by the child.4 A meta-analysis from three developing countries shows that infants who are not breastfed have a 6 times increased risk of dying from infectious diseases within the first 2 months of life as compared to those who are breastfed.5 According to systematic reviews from the Bellagio Child Survival Study Group, exclusive breastfeeding up to 6 months and continuing it along with complementary feeding up to one year could prevent 1.3 million child deaths worldwide.6 But according to WHO, Infant and Young Child Feeding (IYCF) survey done in 2009 in Pakistan, only 37.1% infants are exclusively breastfed up to 6 months of age.7 In developing countries like Pakistan, one of the major causes of morbidity and mortality is childhood malnutrition6 due to prevalence of poverty, ignorance and lack of knowledge about balanced diet.8 The UNICEF survey has shown that from 1999 to 2003 the prevalence of malnutrition has remained the same that is 57% in South Asia, while in 2006 it has been reduced to 53%.9 Maternal education is related to timely introduction of complementary feeding10,11, minimum meal frequency, minimum dietary diversity, and minimum acceptable diet12,13,14 [10,11], all of which are recommended core
indicators for Infant and Young Child Feeding (IYCF). Other factors influencing complementary feeding practices are socioeconomic status, locality, media exposure, maternal age and family size. Assessment of the commonly prevalent attitudes and practices of mothers regarding the nutritional requirement of infants would provide more evidence about the prevalent malpractices in our community thus helping in establishing a plan to negate the false beliefs and practices. It would also help to determine whether there has been an improvement in statistics about knowledge of mothers about the feeding requirement of children.

**Subjects and Methods**

This descriptive cross-sectional study was conducted in immunization centers of 2 tertiary public health care facilities of Rawalpindi; Holy Family Hospital Rawalpindi and Benazir Bhutto Hospital Rawalpindi. The study was conducted from August 2016 to November 2016. Keeping level of confidence 95%, absolute precision 5% and anticipated population proportion 0.599, minimally required sample size through WHO sample size calculator was 370, but we included 395 subjects. The study population comprised of mothers of physically and mentally children up to one year of age, visiting immunization center for vaccination of their infants. Mothers who were themselves taking care of their infants were included and mothers who were themselves not actively involved (due to any reason e.g., ill health or living away) in feeding and weaning of their infants were excluded. Mothers of children with any known physical or mental illnesses or any condition requiring special or compromised dietary practices were also excluded. The sampling technique used was non-probability consecutive sampling.

After approval from Institutional Research Forum of RMC and permission from the pediatric departments of respective hospitals; a structured questionnaire was pretested on 15 mothers and was finalized after necessary modification. The research team recorded the responses in the questionnaire after interviews of mothers in Urdu. Collected information included age and education of mother, parity, family income, first feed of infant, feeding pattern, weaning age and weaning food, bottle washing and water purification method, contraceptive awareness and practices, child spacing and source of awareness regarding nutritional requirement of infants. Responses to questions related to first feed, feeding pattern, hand washing, bottle washing, weaning age, and water purification were scored and practices of mothers were categorized as good and poor based on these scores. Maximum score of 21 and minimum of 6 could be attained. A score of 18-21 was considered as good practices, 14-17 as appropriate practices, and a score of below 14 was considered as poor practices among mothers. Five questions related to attitudes of mothers, including their perceptions related to common misconceptions regarding feeding and weaning of infants, were scored based on likert scale and those scoring more than 2 out of attainable total score were labeled to have positive attitudes while those scoring 2 or less were labeled to have negative attitudes. SPSS version 22 for windows was used to analyze the data through percentages and frequencies.

**Results**

395 mothers were selected and interviewed from immunization center of Holy Family Hospital and Benazir Bhutto Hospital. The mean age of mothers was found to be 28.90 (±5.57) years ranging from 19 to 45 years. Majority of the women belonged to Urban dwellings, were educated, and were housewives, the socio-demographic profile being exhibited in table 1. Ghutti was given by 55.4% (n=219) of mothers to their newborns as their first feed whereas 40.5% (n=160) gave colostrum and 4.1% (n=16) mothers gave formula milk. Regarding employment status, 86.8% (n=343) mothers were unemployed whereas 13.2% (n=52) were employed. 17.5% mothers gave breast milk with formula milk, 23.5% gave breast milk along with cow’s milk, 50.1% exclusively breast fed, 7.3% gave formula milk, and 1.5% mothers gave only cow’s milk to their infants.

Regarding methods of water purification, majority of the mothers (40.3%) gave boiled water, 23.5% did not use any method of water purification, 17% gave filtered water, and 19.2% gave fresh water to their infants. Bottle washing was not practiced by 19.2% mothers who exclusively breastfed their infants, bottle washing by boiling was done by majority of the mothers (52.9%), tap water was used by 16.2% and only soap was used to wash the bottles by 11.6% mothers. 93.7% mothers washed their hands before preparing milk and food.

54.2% mothers started weaning at the age of 6 months and majority them gave processed cereals available in market (44.8%). 37% infants had no episodes of diarrhea in the first year of life whereas 17% had at least one episode of diarrhea during the first year for which majority of the mothers gave doctor’s prescription. 22.8% mothers did not know the reason for diarrhea, 4.6% considered teeth eruption as the
cause, 5.8% thought milk intolerance was the reason, and 24.3% considered unhealthy food as the causative factor for diarrhea in their infants.

The main source of health education and awareness was found to be family members in 55.4% (n=219) mothers and 23% (n=91) received information from health professionals, 11.9% (n=47) from television, 7.6% (n=30) from both health professional and television.

Based on devised scoring system regarding categorization of overall practices of mothers regarding their infants’ nutrition and feeding, 15.4% (n=61) mothers observed poor practices, 50.4% (n=199) mothers had average practices, and 34.2% (n=135) mothers observed good practices regarding nutritional requirement of their infants. 98.48% (n=389) mothers exhibited positive attitudes while only 6 mothers had negative attitudes towards the appropriate feeding and nutritional requirements of infants.

**TABLE 1. Socio-demographic Details of Mothers:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>219</td>
<td>55.4%</td>
</tr>
<tr>
<td>Rural</td>
<td>176</td>
<td>44.6%</td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>52</td>
<td>13.2%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>343</td>
<td>86.8%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educated</td>
<td>302</td>
<td>76.5%</td>
</tr>
<tr>
<td>Uneducated</td>
<td>93</td>
<td>23.5%</td>
</tr>
<tr>
<td>Parity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to 2 children</td>
<td>228</td>
<td>57.7%</td>
</tr>
<tr>
<td>3-5 children</td>
<td>157</td>
<td>39.7%</td>
</tr>
<tr>
<td>&gt;5 children</td>
<td>10</td>
<td>2.5%</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower class</td>
<td>209</td>
<td>52.9%</td>
</tr>
<tr>
<td>Middle class</td>
<td>142</td>
<td>35.9%</td>
</tr>
<tr>
<td>Upper class</td>
<td>44</td>
<td>11.1%</td>
</tr>
</tbody>
</table>

**Discussion**

Introduction of proper nutrition at the right time is very critical in preventing malnutrition in the first year of an infant. Since the infants cannot attend to their own needs, a mother’s attitude, and practices are the most important determinants of an infant’s health. Only 23.5% mothers were illiterate which is lower than 61.5% found in another study done in Hyderabad. Among the pre-lacteals given, 55.4% gave Ghutti and 4.1% gave formula milk. These statistics are considerably higher compared to a study done in 2010 in Lahore which indicates 13.5% mothers gave formula milk and 12.3% gave Ghutti. Most of the mothers (54.2%) started weaning at the age of 6 months which correlates with WHO guidelines.

Exclusive breastfeeding rate is 50.1% in our study but the percentage of exclusive breastfeeding<6 months was 25.5% which is lower than WHO statistics (37.1%) of 2006-2007. Breast milk with formula milk as given by 17.5% mothers, 23.5% gave breast milk along with cow’s milk and 1.5% gave cow milk only. These statistics are much better compared to a study done in Iran in 2014 which showed 48.4% gave breast milk and formula milk, 25.8% gave breast milk and cow’s milk and 24.7% gave only cow’s milk to their infants.

The main source of awareness was found to be family members and elders in 55.4% mothers and only 23% mothers received health education from health professionals in our study while another study done in Lahore indicated that 37.2% mothers received information from relatives and friends and 24.6% received health education from health professionals. The percentage of mothers who received education from health officers remains almost same in the two studies. There is a need to assess reasons for decreased awareness through health professionals and plans need to be implemented to make sure that more mothers are aware of nutritional requirement of infants.

When responses to various questions were scored and categorized 50.4% (n=199) mothers were found to observe appropriate practices and only 34.2% (n=135) mothers had good practices. This indicates that more than half of the mothers have average and below average feeding practices.

Another point of significance noted was that none of the mothers knew that Cerelac is the brand name of readily available cereal. They considered cerelac and cereal as different entities that played different roles in an infant’s nutrition. The practices of Exclusive Breastfeeding, timely introduction of complementary food and proper hygienic measures are still inadequate. Education had no significant relation to feeding practices and most common source of awareness was found to be family members and elders. This indicates that despite good education traditional customs have a stronghold even in urban areas. Door to door awareness campaigns
through health professionals and counseling of family members along with the mother need to be done. Along with it, advantages of child spacing and various contraceptive methods for better nourishment of infants need to be promoted.

References


