

Knowledge Attitude and Practices of Mothers regarding Complementary Feeding

Shazia Samad Mohsin,¹ Abdul Sattar Shaikh,² Rehana Shaikh,³ Nighat Haider⁴ and Arit Parkash⁴

ABSTRACT

Objectives: To determine the knowledge attitude and practices of mothers regarding complementary feeding. **Study Design:** Descriptive study conducted at outpatient department of Civil Hospital Karachi over duration of 12 months.

Material and Methods: One hundred and thirty eight mothers of children age up till 2 years attending OPD of Pediatrics Civil Hospital Karachi were selected for the study. Mothers were interviewed to ascertain their infant feeding practices and various beliefs / taboos / feeding during illness affecting these practices.

Results: Hundred and thirty eight mothers were interviewed. Hundred and nineteen (86.2%) mothers started breast milk soon after birth. The frequency of breast feeding was high initially but then declined rapidly with supplementation of bottle feeding. Exclusive breast feeding was of short duration. Knowledge attitude and practices of mothers regarding complementary feeding was poor in terms of quantity and quality. Commonest age of introduction of complementary feeding was before 6 months with readymade items as their first choice.

Conclusion: The knowledge attitude and practices of mothers regarding EBF, complementary feeding, is defective. Therefore there is a need to educate mothers to ensure better growth and development of our children.

Key words: Malnutrition, complementary feeding practices, breast feeding, infant.

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INTRODUCTION

During first six months of life breast milk should be fed alone and must remain the first food for infants.^{1,2} From then onwards it should be complemented with other sources of nutrition until at least 2 years of age.^{3,4} The weaning process is slow reduction in breastfeeding with introduction of foods other than breast milk into an infant's diet. There is very little documented information on complementary foods and practices of the infants and young children in Pakistan. There is

increased risk of episodes of gastrointestinal infections that remain the principal justification against the introduction of complementary food stuff before the sixth months of life. Moreover, complementary foods are introduced much earlier than the recommended age of four months,⁵ often even in the first month of life. Absorption of breast milk iron altered with early introduction of cereals and particularly vegetables, while iron deficiency anemia noted when late weaning started.⁶ Complementary feeding started late in developing countries.^{7,8} In Pakistan many complementary foods are only a slight modification of adult foods, without consideration of nutritional requirements of children.⁹ The present study was therefore undertaken to determine the child feeding practices in children 0-2 years old and identify influencing factors.

MATERIAL & METHODS

This cross sectional descriptive study was done in the Out Patient department of Pediatric unit-1 of Civil Hospital Karachi over the period of 12 months, children up till 2 years of age attending the outpatient department of Civil Hospital Karachi were included in the study.

1 Department of Pediatrics, Liaquat National Medical College Karachi, Pakistan.

2 Pediatric Fellow, Department of Pediatrics and Child Health, Aga Khan University Hospital Karachi, Pakistan.

3 Women Medical Hospital, Dow University of Health Science and Civil Hospital, Karachi, Pakistan.

4 National Institute of Child Health Karachi, Pakistan.

5 National Institute of Child Health Karachi, Pakistan.

Correspondence: Dr. Abdul Sattar Shaikh, Pediatric Cardiology Fellow Department of Pediatrics and Child Health, Aga Khan University Hospital Karachi, Pakistan.

Email: sattar.shaikh@aku.edu

Care takers other than parents accompanying the children were excluded from the study. Mothers were administered a detailed printed questionnaire, which was filled in by the researcher herself. The questions were in their native language about age of starting complementary feed, their knowledge attitude and practices regarding type, quantity and quality of complementary feeds given. They were asked about any specific social taboos, food intake during illness, method of preparation of infant's food and hygiene during preparation of food. Other variables addressed were age of the mother, educational status of mother, socio economic status of family and number of children. The Proforma was explained to mother in her native language and after her consent it was filled. Data analysis was performed through SPSS version 19.0. Frequencies and percentages were computed to present all categorical variables.

RESULTS

Data from 138 mothers were collected and following observations were made: Average age of the respondents was 25.47 + 5 years. Commonest age group was 20-30 years in which 71% respondents were found. Majority of respondents, 76(55%) were illiterate, 43(31.2%) had received Primary education, 15(10.9%) had received secondary education and 4 (2.9%) were graduates. Income of large number of families 123 (89%) was Rs. 3000-6000 i.e. Low socioeconomic group as replied by respondents. Fifty seven respondents (41.3%) had >2-4 children, 33(23.9%) had 5, 25(18.1%) had 1, and 23 (16.7%) had >5 children.

Various aspects of knowledge: Majority of the respondents answered correctly when asked about optimal time to start breast feeding 119 (86.2%) said soon after birth, 18(13%) answered one day after birth, and only 1 mother had no idea when to start breast feeding. Sixty seven (48.6%) of mothers had the knowledge that exclusive breast feeding was sufficient for 6 months, forty seven (34.1%) thought it should be continued till 2-4 months, twenty two (15.9%) knew it should be continued till 1 year and beyond, two mothers had no idea. Out of 138, seventy nine (57.2%) considered 4-6 months appropriate to start complementary feeding, thirty eight (27.5%) considered <4 months optimal time to start complementary feeding. Eighty two mothers (59%) had the knowledge that common commercial complementary feed and tea crackers should be the first choice of complementary feed, whereas forty five (32%) mothers considered homemade items as first choice. Regarding the frequency of complementary feed in a day seventy three (52.9%) mothers knew it should be at least thrice

a day, fifty one (37%) considered twice a day was enough. A large number of respondents had knowledge about common commercially available complementary food items. Doctors were the dominant source of knowledge of commercially available complementary feeding items, comprising about seventy three (52.9%), Friends and relatives were second with thirty five (25.4%), electronic media ranked third with twenty four (17.4%) respondents among the sources. Eighty six (62.3%) mothers had no idea how to increase the caloric value of baby's food. Only twelve (8.7%), and eight (5.8%) knew the importance of adding sugar, and oil respectively. Regarding the continuation of breast feeding, 115(83.3%) mothers answered that it should be continued up till 2years and eighteen (13%) considered 1 year as optimal time to continue breast feeding.

Evaluation of attitudes: 104 mothers (75.4%) said that selection of food items should be from different food groups so as to provide variety and balanced food to the child. Attitude of mothers towards feeding during illness varied. Seventy eight (56.5%) mothers thought less amount of food should be given during illness, 30(21.7%) believed that food should be withheld during illness, 18(13%) thought it was appropriate to give same amount during illness. Only five mothers (3.6%) considered adding extra amount necessary. Evaluation of forbidden foods items due to cultural or social taboos revealed that seventy three (52%) did avoid certain food items when probed further 30 (41%) considered rice, banana and yogurt as cold, 36(49%) considered wheat bread, meat, potato, pulses, oil, honey, nuts and egg to be hard to digest and hot. Sixty three (45.7%) mothers preferred both homemade and commercial complementary food items whereas majority i.e. forty eight (34.8%) favored homemade items only. Seventy four (53.6%) mothers preferred cooking baby's and adult food separately whereas fifty five (37.9%) thought it was alright to cook the two together.

Practices: Evaluation of hygiene practices revealed that 128(92%) mothers were washing their hands before cooking. Evaluation of other practices revealed that 97(71.7%) mothers were not boiling drinking water. Eighty six (61.5%) introduced solid foods early before 6 months of age, 30 (21.8%) at 1 year of age. Sixty four (46.4%) mothers introduced commercial food items as complementary feed to their children, 17(12.3%) gave tea and crackers as first solid food to their babies. Fourteen out of 19 (73%) educated mothers, 11 out of 15 (73%) middle socio economic status, 5 out of 10 (50%) mothers younger than 20 years of age were using commercial food items. When asked about preparation of commercial food items

hundred and thirteen (81%) were not diluting commercial prepared items as per dilution. The majority of children were fed solid foods three times a day (55.8%) followed by those who were fed two times a day (39.9%). a small proportion of children (2.2%) were fed only once a day. Majority of mothers 130 (94.2%) continued to breast feed their children after starting complementary feeding, 86 (62.3%) mothers continued breast feeding till 2 years of age. Hundred and sixteen (84%) mothers gave other supplement milk along with breast milk and 100 (86%) of them used bottles. Fifty percent of the mothers were cooking food separately and other half were cooking it along with adult food. Hundred and twenty six (91 %) mothers did not add extra oil butter or ghee to their child's diet.

DISCUSSION

In this study we sought to establish the age when complementary feed was started, duration of breast feeding, what items were given as complementary feed and various other aspects related to the subject. The knowledge regarding breast feeding was high; the initiation of breastfeeding soon after birth was universal. Breast feeding was continued till 1-2 years by 90 % of mothers. These results are in agreement with Kilafunda JK et al.¹⁰ 51% mothers in this study were illiterate. In spite of differences between age and socioeconomic conditions breast feeding was started at the appropriate time and momentum was also maintained. These results are similar to the study done by Aneja et al.¹¹ W.H.O recommends exclusive breast feeding till 6 months of age,² however in our setting exclusive breast feeding (EBF) till six months is rare. Mothers usually give water, milk, juices, cereal, biscuits and tea. Indeed this study's result shows that 48.6% mothers had the knowledge that EBF is sufficient for infants till six months, 34% thought EBF is sufficient till 2-4 months of age as shown by Giovannini M et al.⁶ In this study 84% mothers had the knowledge that optimal time to introduce solids to an infant's diet was less than six months, only 13% had the knowledge about correct timing. These results are similar to shown by Prammar RV et al.¹² This study revealed that introduction of complementary feeding beyond seven months of age was found in 21.8 % of mothers only. These findings are similar to the studies done by Vaahtera M et al,¹³ Haider R et al¹⁴ and Kilafunda JK et al.¹⁰ Out of 19 secondary and graduate mothers 16 (84%) had introduced solids at less than 6 months of age, similarly eleven out of fifteen (73%) mothers belonging to middle socioeconomic status started complementary feeding early and eight out of ten (80 %) mothers younger than 20 years started early complementary feeding. Starting complementary foods

too early can have devastating consequences on child's health, as concluded in a study done by Akram DS et al.¹⁵

Study done by Dewey KG et al.¹⁶ suggest, prolonged exclusive breastfeeding, inappropriately introduction of complementary foods and small amounts of these foods to infants likely contribute to iron deficiency; same observation was in our study. Malnutrition occurs by delaying the introduction of complementary foods too long or later than six months. A longitudinal study done by Simondon KB et al,¹⁷ has shown infants who had started earlier complementary feed had significantly lower length for age, weight for length and Mid Arm Circumference (MAC). In determining the type of complementary foods there are strong traditional influences. Majority of mothers 82 (60%) preferred commercial food items. Doctors and Lead Health Workers (53%) were the dominant source of information. However 75% of them were over diluting the formula, as also shown in another study from Pakistan by Shamim S et al¹⁸ & India Devi PY et al.¹⁹ There is lack of skilled support from the health workers in hospitals and nutrition workers at grass root level to help women in establishing and maintenance of exclusive breastfeeding. Thus they overlooked the importance of counseling on optimum infant feeding practice. When asked about the frequency of feeds in a day 56 % were giving their children solid foods thrice a day followed by 55 % who were feeding their infants solid food twice a day. Less frequent complementary feeds is a risk factor to develop malnutrition as seen in a study by Gibriel et al.²⁰ Another positive finding apart from early initiation of breast feeding revealed in this study was continuation of breast milk along with complementary feed in 93% of the cases up till 1-2 years, A sharp decline in breast feeding and early supplementation was observed in 84 % (116) mothers who supplemented breast milk with top milk and 86% of these mothers used bottle. These results are similar to the findings by Shamim S et al,²¹ who also observed the similar decline and supplementation of bottle feed. It is a known fact that supplemented milk can lead to inadequate breast milk and malnutrition. Variety of infections including diarrhea, respiratory infections and otitis media can occur secondary to bottle feeding. Formula milk is without any important antibodies that are present in breast milk, that is why it doesn't provide any protection against infection and illness. When asked about the practice of fortification of food by adding ghee, butter or oil , only 20 (14 %) mothers knew about the addition of oil or sugar and 12 (8.6 %) mothers actually added extra ghee/oil or butter to their infants' diet. This again points towards lack of knowledge and awareness regarding optimum food.

These measures can help combat under nutrition in children as shown in study from Jamaica Gardne JM et al.²² Almost all the mothers (96%) were practising good hygienic habits before preparing food for their infants but only 28 percent were boiling water. Food safety especially in the infants on weaning diet is one of the major concerns for health of the children. Feeding leftover and overnight foods, not washing hands prior to cooking and feeding, use of dirty cloth for wiping hands and utensils and the use of inappropriately washed feeding bottles remain the potential risk factors leading to diarrhea in young children.^{23,24} Another important aspect of this study was enquiry about food items considered to be forbidden by mothers and reasons for avoidance were also enquired. The body needs different nutrients. A deficiency of a nutrient over time will lead to disease. Eating a variety of food is the best way to ensure quality growth. In many instances, more nutritious foods were available but not given to the infant due to the mistaken belief that they can cause illness. 52% mothers had reservations about certain food items. Forty one percent considered rice, curd, banana to be cold and hence should be avoided in winters and whenever child has cold. Forty nine percent regarded roti, meat, pulses, potatoes, nuts, honey and egg to be hard on stomach as well as hot for the baby. Minority of mothers considered vegetables and fruits to be a cause of diarrhea. Only two mothers considered tea and biscuits to be forbidden food. A large number of mothers 78% (108) restricted their infants' diet during illness specially diarrhea, whereas a child should be fed even when he/she is sick. Feeding children with adequate and nutritious foods is necessary to reduce the risk of becoming malnourished. Fifty percent of the mothers were cooking food separately where as fifty percent were cooking it with adult food. Adult diet specially in our part of the world consists of highly starchy staples which are bulky and unless properly modified unsuitable for infants due to their small gastric capacities.¹² All the results in this study were not influenced by socio-economic or educational statuses of mothers the reasons could be two fold. Either the basic knowledge regarding food health and nutrition is not known to masses in general or, the proportion of mothers who were educated and belonged to middle class was very small to affect the results. This could be due to the fact that population visiting Civil Hospital, Karachi mostly belongs to poor class, and majority is illiterate. In Asia malnutrition is decreasing, but South Asia still has both the highest rates and the largest numbers of malnourished children. Contrary to common perceptions, under nutrition prevalence rates in the populous South Asian countries-India, Bangladesh, Afghanistan, and Pakistan are much higher (38 to 51

percent) than those in Sub-Saharan Africa (26 percent).²⁵ Under-nutrition is not simply a result of food insecurity, many children in food secure environments and from fair socioeconomic background are underweight or stunted because of inappropriate infant feeding and care practices, poor access to health services, or poor sanitation. The most important factors are firstly inadequate knowledge about the benefits of exclusive breastfeeding and complementary feeding practices and the role of micronutrients and secondly the lack of time women have available for appropriate infant care practices and their own care during pregnancy.

CONCLUSION AND RECOMMENDATIONS

This study revealed that the Knowledge Attitude and Practices (KAP) of mothers regarding initiation of breast milk and continuation till two years were appropriate, but their KAP regarding EBF were insufficient. BF was supplemented early with bottle feed. Complementary feed was started early and was defective in terms of frequency, quality and quantity due to lack of proper guidance. Exclusive breastfeeding is ideal nutrition and sufficient to support optimal growth and development for approximately the first six months after birth. Malnutrition among young children can be greatly reduced by educating parents regarding the preparation of safe and adequate local weaning foods. Early introduction of complementary foods can lead to malnutrition and decreases mother's milk production.

The only way to improve child nutrition is to take the message to the community through the workers working at the community level.

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