Qualitative Study

Weaning Practices and Perceptions of Mothers Residing in Urban Slums of Lahore, Pakistan: A Focus Group Design

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Abstract

Objectives: Current study aimed to explore the perceptions and practices about weaning among mothers of children from 6 months to 2 years of age.

Method: An exploratory qualitative research using methodology of focus group discussions (FGD) was conducted on mothers of 6 months to 2 years of age children in urban slums of Lahore. Perceptions and practices of mothers regarding weaning foods were explored through 3 FGDs (n = 30) conducted in the Government dispensaries in 3 conveniently selected slum areas of Lahore. FGDs were audio-taped and noted followed by transcription, coding and thematic analysis.

Results: Themes from FGD showed that mothers' perceptions were poor about the initiation time of weaning, types, quality, frequency and amount of weaning foods. Practice of initiation of weaning varied from 3rd month to 12th months. Despite of the economic concerns almost all mothers preferred instantly prepared foods available in the market. Commonly used weaning foods included processed, dried, packed, instant snacks, breads, cereals, chips and noodles available in market. All mothers were not interested in preparing weaning foods at home. Most of the mothers experienced diarrhea in their infants quite frequently.

Conclusion: Perceptions and practices of weaning in mothers are both poor and inadequate regarding time of initiation of weaning, age-appropriate quantity, quality and frequency of weaning. Measures should be taken to improve their perceptions and practices because improper weaning determines nutritional status of child in future years of development.

Key words: Focus group discussion, Weaning, perception.

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Introduction

Malnutrition is a chronic problem in Pakistan[1] which is affecting children under five badly.[2] Pakistan as a developing country has second highest infant morbidity and mortality rate in South Asia.[3] Pakistan is one of those countries in which more than 50% under five children are suffering from some degree of malnutrition.[4]

Nutrition makes the foundation for healthy development from the start of life.[5] Poor nutrition results in poor nutritional status.[6] The effects of poor nutrition appear readily in young infants as this is the period of rapid growth which demands more nutrients. Infants are on high risk for increased mortality and morbidity due to poor nutrition.[7] In 2001, 50% to 70% of the burden of diarrheal diseases, measles, malaria, and lower respiratory infections was attributable to malnutrition throughout the world. Contributing factors include maternal malnutrition, inappropriate breast feeding

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and complementary feeding practices.[8]

Chronic malnutrition in under five children can affect their growth and development. They tend to develop into adults with poor nutritional status which affects their mental and physical productivity.[9,10] Deficiency of macro and micronutrients leads to poor cognitive and physical development.[11] These deficiencies have long term effects on the development of the young children.[12]

Mother's nutrition knowledge is related to their educational level as well as their awareness.Awareness of mothers about the weaning period ininfant's life plays an important role in keeping the baby healthy. Weaning is a time when the baby starts taking semi-solid foods other than milk (WHO report, 2010). If the foods are introduced to the baby wisely and timely than many health issues can be prevented.

Knowledge of mothers about the weaning period is a must.[13] This includes their knowledge about the age of initiation of weaning, quality of the weaning food, type of foods, frequency and quantity of foods etc. all these factors affect the nutritional status of infants.

Quality of the weaning foods is determined by the nutrient density.[14,15] Good quality foods mean that they are nutrient dense as they contain more nutrients in a small amount of food.[16] WHO has given guidelines about infant weaning practices[17-19] but in Pakistan they are not being practiced due to lack of awareness of mothers.[20-22] People residing in Urban slums are undergoing lifestyle changes and this change is having a strong impact on the health of their younger generation.[23-26]

Quantity and frequency of the weaning foods also affects the health of the baby. It is very important to feed the required amount to the infant. If weaning foods are not given in the proper amount, the baby will not receive all the nutrients needed for the growth.[27] Babies have a small stomach so they have limited digestive abilities. Small quantity of food has to be fed at frequent intervals.[14]

Nutrition education can be helpful in creating awareness among mothers to change improper weaning practices.[28] In past few years government organizations, NGOs and WHO have developed nutrition education programs to improve infant feeding practices as good feeding practices lead to healthy individuals. Awareness about various nutritional issues can be increased through nutrition education.[29]

In Pakistan, our socio-demographic, economic, cultural and geo-political factors are different from other parts of the world. Exploring the perceptions and practices of mothers of low socioeconomic status is very much important to build a need assessment for weaning education of mothers. This article is part of a PhD research in which focus group discussion method was used to explore the perceptions and practices of mothers about weaning.

Method

In this qualitative research, focus group discussion (FGD) methodology was used. Focus group discussion[30] describes focus groups as very useful data collection method in health and medicine researches. People tend to talk about in group discussions even on the issues which they usually do not discuss. Focus groups also give a chance to illiterates or less educated to speak and convey their varied opinions and views. This was the main reason that focus groups were used to collect detailed information about the perceptions and weaning practices of mothers belonging to these low socio-economic communities in current study.

Three FGDs were conducted in Government health care dispensaries in three urban slum areas of Lahore selected through simple random sampling out of a list of slum areas in and around Lahore. The researcher herself was the moderator of FGDs. There were 10 participants in each focus group. Mothers of infants aged between 6 to 24 monthsliving in these urban slum areas of Lahore were selected through convenience sampling. Saturday is fixed as the vaccination day for young children by the dispensary staff so this was the best possible opportunity for the researcher to gather mothers for the discussion. The commonest reason for non-willingness to participate was that they have to look after their family members so they need to go home quickly after vaccination.

Each FGD took 2 hours to complete. FG sheets were filled and signed by participants (thumb impression in case of illiterate) and moderator. FGD questions were formulated by researcher and debated upon in a meeting with supervisor and co-supervisor to finalize 4 questions and their probing questions were identified and written for each question to initiate and direct the discussion. These questions were about different aspects related to weaning foods and complementary feeding such as quality, quantity and frequency of weaning foods. Different visual aids were also usedto stimulate discussion such aphotographs of infants,

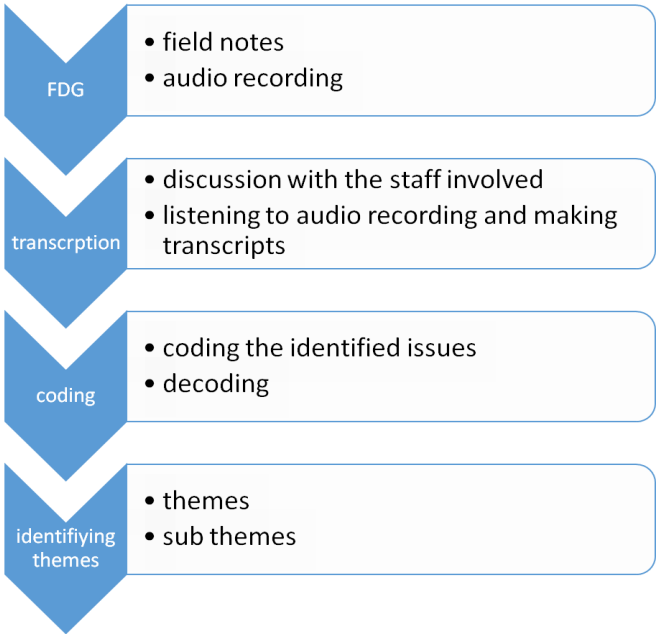

Fig. 1: *Data Reduction Process.*

fruits and vegetables, cereals, cleaning agents etc. A mother belonging to the same area, having a better level of education and could understand both locally spoken languages i.e. Urdu and Punjabi, was selected as translator to help researcher/moderator to understand the words and sentences spoken by the participants. Researcher used Urdu language primarily and where required a translation in Punjabi was used.

The session was audio-recorded along with written notes taken by two final year food and nutrition students from college of Home Economics Lahore, trained for this purpose. Each FG session started with introduction and objectives and ended with summaryzation of whatever was said and discussed in the session along with sharing of notes with participant with a purpose to ensure validity and authenticity of the information. Notes of each recorder were separately transcribed and audio-recordings were also transcribed. All transcriptions were compared for getting a more authentic and reliable final transcript of each FGD.

Transcription was done the same day and next day researcher and co-supervisor separately coded the text using open and relational coding and highlighted the text and quotations which were to be used as support in describing themes. Both researchers discussed the codes followed by merging and developing new codes and classifying codes until they reached a consensus. Themes and sub-themes were developed, defined and described using quotes from field notes. A summary of the data reduction process is presented in Fig. 1. Ethical issues were considered while designing the study and were addressed. Ethical clearance was obtained along with scientific clearance from the institution.

Results

Total 30 females having children less than 2 years of age particpated, with mean age 25± 5SD. Average parity was 3 children per women. All 30 women belonged to poor families living below poverty line (2 $ per day per capita).Among the participants two groups were identified depending upon their level of awareness and degree of participation as ***'awared and active group'*** (AA group) and the ***'ignorant and docile group'*** (ID group). They showed different perceptions and level of participation in FGDs. AA group participated significantly more and was much awared, though this group was small than the ID group. Age range in ID group was 20 – 25 while in AA group it was 25 – 30. Average number of children per women in ID group was 4 while in AA group it was 3.

Mean age of weaning among infants practiced by these mothers was 9.12 months ± 2among ID group and among AA group 8.14 ± 2 months. Preferred weaning foods were commercially availabe porridge and noodles, kichri and tea and rusk in ID group and kitcri, tea and rusk, egg in AAgroup.

Theme I: Initiation of Weaning

The knowledge of respondants about the reasons why weaning was started was vague and insufficient. ID group mothers had to think a lot before giving opinion and comments on why to start? how to start? When to start? What to start? What are the reasons of delayed or early weaning?

Sub Theme 1a: Reasons for Early or Delayed Weaning

In all three FGDs the common reasons for early initiation of weaning foods stated by the motherswere *'insufficient milk'*, *'for the growth of the baby'*, *'elders in house proposed the time to start semi – solid foods'* and *'again pregnancy'*. Most of females were ignorant about the reasons to start semi-solid foods to infant at 6 months. *FGD 1, participant 8 mentioned the reason of initiation as "when I came to know that I am pregnant again, I started giving some food to the infant". FDG 2, participant 1 said " because baby grows in size, so more food other than milk is needed".*

For delayed weaning mothers were mostly against and they knew that this can hamper the growth of the child. *'Baby didn't like the taste of foods'* and another reason given was the inability of baby to eat normal spicy homemade foods and it was difficult to cook separately for the baby.

Sub Theme 1b: Age of Weaning Initiation

Mothers had this concept that '*just milk is enough for the baby'*so they did not bother about the initiation of weaning at the proper time. Delayed weaning and early weaning was a common practice according to the participants, many stated '*i don't know about the correct time of weaning', 'I don't know about the age at which the infant should be given semi-solid food'*.Most of them had this idea that there is no fixed age for weaning, foods can be started when ever convenient.*A common statement was "when I realized that the infant is crying a lot and not satisfied with milk feed then I started giving him some food". The infant does not like eating anything so has not been weaned'*; It was a very common complaint.

Sub Theme 1c: Types of Best Weaning Foods

Mothers knew that food is required by the baby as he grows but do not know which foods should be prefered as weaning foods. Common statement made was; *"the baby needs something for taqat (energy) to grow into a healthy child".* It means that they are awared that food is required for the infant after a certain time, but at the same time their awareness regarding the foods which should be introduced to the infant was poor. Mothers think that any food can be given to the infant and it will be suitable for him. Majority mothers thought and made statement that *"rusk is very good as first weaning food because it gives 'taqat'(power) to the baby".* Others thought that roti, commercially prepared noodles, tea , commercially prepared porridge, banana and biscuits are good foods which can be given to infants as first weaning foods.

Theme 2: Quality of Weaning Foods

Sub Theme 2a: Consistency and Type of Weaning Foods

When the question was asked regarding the consistency of first weaning foods, most of the mothers say that soft foods which do not need chewing can be given. *Participant 3 in the first FDG said that "I put that amount of water in the porridge which makes it thin, so that baby can drink it easily".*

Foods which were usually given to the infants included rusk with tea, biscuits with tea, noodles and commercially available ready to eat porridge. It was obvious from the answers of the mothers that they do not have an idea that there should be a gradual change in the consistency of the weaning foods. *Only participant 6 in the third FGD said that "the initial weaning food should be thin in consistency and gradually its thickness should be increased".*

Sub Theme 2b: Nutritive Value of the Weaning Foods

Mothers think that any thing like rusk can provide " taqat" to the infant for growth. Common practice of adding water without any measurement was reported with the end result of a thin watery mixture which is fed to the baby.*Participant 4, 5, and 9 in the first FDG asked the researcher "Is it important to add less water?".*Similarly in second and third FDGs most of the mothers said that *'What difference does it make if we add more water?'*Majority thought that milk is a complete diet and will be enough for baby so no need to be worried about these specifications in weaning foods.

Theme 3: Quantity of Weaning Foods

It is very important to feed proper amount of weaning foods to the baby. Too little or too much food can not benefit the infant. Participants of ID were having no idea about this concept whileAA group was awared but majority not practicing it.

Sub-theme 3a: Amount of the First Weaning Foods

It was found while talking to the mothers in FDGs that mothers are not awared about how much should be offered to the infant as first weaning food. *Majority mothers said "oh I do not know the amount which should be given to the infant". Then few added " how do we know about the amount, baby can eat any amount?"*

Sub-theme 3b: Gradual Increase in Amount of Weaning Foods

Just four mothers in all the three FDGs said that a very little amount is given at first and then it is increased

gradually. *Majority mothers in FDGs said "I do not think that this is important. It depends upon the baby's willingness to eat".*

Theme 4: Frequency of Weaning Foods

Most of the mothers answered *" When the baby demands, the food is given".* Frequency of weaning foods varied among participants. They were of the idea that Infants have a small stomach and generally they just need to taste foods and no need to feed them in correct amount and frequency. Mothers were mostly unawared that infants have less digestive abilities and they have to be fed frequenly with nutrient dense foods so that their increasing requirements can be met.Three mothers in the first and 6 and 5 mothers in the second and third FDGs said, *"it does not matter how many times the baby eats".*

Discussion

Infant feeding practices have a profound effect on the health of infants in later years.[31] Weaning is a process by which an infant gets used to the solid food. The proper weaning age is six months.[17] Perceptions and practice of weaning by mothers is dependant on multiple factors and varies from culture to culture and region to region.[32] Quantity, quality and frequency of weaning foods are the main areas which are usually explored in one or another way.[33]

It was found that the mothers of ***'awared and active group'*** (AA group) were more awared and knowledgeable than the ***'ignorant and docile group'*** (ID group). Mothers' age range in AA group was higher (25 – 30 years) than the ID group (20 – 25) because of being in higher age group they were moremature and may be exposed to more information, thus more awared and knowledgeable. Average parity per women was low (3) in AA group then ID (4) group and this might be another reason of more experiential learning about weaning. A study from Lahore reported delayed weaning in mothers belonging to higher age.[34] As all mothers were from low socio-economic class, they were illiterate and all were house wives. Many studies showed a significant association between mother's education and child health.[35,36]

Mothers perceived insufficient breast milk, a reason for early initiation of weaning in our study which was also reported as an important reason in another study from Pakistan.[37,38]

One of the major perceptions in relation to time of initiation of weaning was lack of awareness about age of weaning and also type of diet or foods that should be given.[36]

Common reasons for early weaning were another conception andreduced quantity of mothers milk which are similar to the findings of a study conducted in America in 2008.[39] For delayed weaning reasons given in current study were similar to findings of many researches in Pakistan. Proper weaning time has to be followed to ensure good health of the younger generation. Early or delayed weaning is a problem which need to be tackled wisely[40] as early weaning leads to digestive problems and delayed weaning leads to non-development of taste buds which causes refusal of food by infants.[41] Proper age for the infant is 6 months as the baby needs more nutrients at this age for growth.[42,43] It is clear from the above results that mostly mothers are not aware of the correct age for the initiation of weaning. Their general concept is that the baby will start eating himself when he will be able to eat.

Mother's knowledge about quality, quantity and frequency is essential to minimize malnutrition. Lack of knowledge can lead to poor quality, less quantity and poor frequency of weaning foods which can result in deficiency of nutrients leading to poor health of infants.[20] The baby should be fed at least three times a day other than milk. Most of the mothers in the focus groups were not aware about the frequency. According to mothers perception baby can eat when ever he or she wants to eat. They have not fixed any meal timings for the baby. In National Nutrition Survey 2011 it has been mentioned that half of the mothers were practicing the minimal meal frequency for their infants.[4] The problem lies in the fact that when the baby is not weaned at the correct age, different tastes remain alien to him. This is the reason that infant does not eat any thing lately. In a study conducted by Manzoor I, *et all* (2009) in peri urban area in Lahore, it was found out that 42% were weaned at the age of 5-6 months and 32% mothers weaned their babies after the age of 6 months. National Nutrition Survey (2011) also revealed the same results that delayed weaning is a major nutrional problem and it is leading to malnutrition in under five children. Another study conducted on Bangladeshi and white infants by,[44] revealed that delayed weaning is common in Asian infants and due to this the taste buds of the infants do not develop which normally should develop in 4 – 6 months. This resulted in taking a bland diet by the infants as they do not not get used to different tastes.

Knowledge related to the nature of foods which should be given to infant was very poor. Previously done researches indicated that the selection of first solid food is improper specially by the illiterates and low income families.[40] Some mothers do have this knowledge but do not want to practice. This indicates the gap between the knowledge and practice which leads to poor diet diversity. Inclusion of foods from different food groups increases the nutritient content of the weaning foods. Unfortunately the mother's awareness about making nutrient dense weaning foods for infants is limited and thus leading to malnutrition.[45,46] The present study also found that mothers are not including foods from food groups in the diet of the baby. A study which was conducted in India concluded the same results.[47] According to this research only 30% mothers were using foods from the three food groups maximum.

Mother's knowledge about nutritive value of weaning foods is extremely poor. It is an established fact that mothers of the infants should be very conscious about the addition of nutritious foods, failure to do so may lead to lack of essential nutrients in the infant's body.[48] Although this study included only mothers living in the slum areas belonging to low income strata of the community, even then they could have something homemade and better for their infant. The problem is lack of knowledge and desired level of motivation, in addition carelessness of mothers.

Mothers can provide better foods in the same amount of money which they spend on commercially prepared foods for their infants if they prepare it at home. The porridge has more water content, whether it is made at home or mothers are using ready to eat cereal. Foods are thin in consistency and are monotonous. They do not include foods from the food groups to provide them all nutrients. Results of National Nutrition Survey (2011) also indicate that foods from grain and cereal group are frequently (1.02% – 2.06%) fed to the infants of 6 – 24 months leading to minimum dietary diversity and less nutritive value. Quality of weaning foods is a sum of mainly two characteristics. Nutritive content of the food andconsistency of the weaning foods. Nutritive content and consistency are interrelated. Foods of thin consistency have less nutritive value. Mothers think that the first weaning food should be so thin that the baby can drink it easily, with the bottle or with cup. This results in a porridge without or minimum nutrients. A research conducted in Uganda indicated that 93.3% infants were fed very thin porridge.[49] It has been mentioned in the National Nutrition Survey of Pakistan, that the quality and quantity of weaning foods is poor which is a major determinant for malnutrition.[4] Knowledge and practice about the gradual increase in the amount is lacking and it may be concluded that mothers are very casual about the diet of their babies at the time of weaning. Quantity of weaning foods according to age of the infant and frequency of the weaning food is very important as it affects the nutrient intake of the infant. If too little food is given twice or thrice, it will not provide the required nutrients. Similarly if portion size is good according to the age of the child but it is provided just once even then the supply of the nutrients will be affected. The findings of the National Nutrition Survey 2011 were similar to the findings of the present research.

Limitations of the study was the use of only a qualitative exploration and not moving to a mix method using quantitative exploration as well. Perceptions were only taken from mothers of slum areas so low socioeconomic status mother were the study population and this could be better if perceptions could have been compared between different socioeconomic stratas.

Conclusion

There is a huge gap betweenknowledge and practice of mothers about weaning their infants. Mothers' perceptions about quantity, quality and frequency of weaning starting from initiation of weaning till shifting to solid foods are variable but predominantly poor and only a small proportion of mothers who are active and awared have better knowledge, attitude and practice. Exploration of perceptions of mothers will help designing effective interventions for improving weaning practices.

References

1. Mian RM, Ali M, Ferroni PA, Underwood P. The nutritional status of school – aged children in an urban squatter settlement in Pakistan. Pak J Nutr. 2002; 1 (3): 121-3.
2. Arif GM. Child health and poverty in Pakistan. The Pakistan Development Review, 2004: 211-38.
3. Hirani S. Malnutrition in young Pakistani children. J Ayub Med Coll Abbottabad, 2012; 24 (2): 150-3.
4. Commission P, Division PaD, Government of Pakistan AKU, Pakistan, UNICEF Pakistan. National Nutrition Survey, 2011: 2011.

5. Muller O, Krawinkel M. Malnutrition and health in developing countries. Cmaj. 2005; 173 (3): 279-86.
6. Becker G, Remmington T. Early additional food and fluids for healthy breastfed full-term infants. status and date: New search for studies and content updated (no change to conclusions), published in. 2014: (11).
7. De Onis M, Blössner M, Borghi E, Morris R, Frongillo EA. Methodology for estimating regional and global trends of child malnutrition. International journal of epidemiology, 2004; 33 (6): 1260-70.
8. Pelto GH, Levitt E, Thairu L. Improving feeding practices: current patterns, common constraints, and the design of interventions. Food and Nutrition Bulletin-United Nations University, 2003; 24 (1): 45-82.
9. Brown JL, Pollitt E. Malnutrition, poverty and intellectual development. Scientific American, 1996; 274 (2): 38-43.
10. Wolde T, Adeba E, Sufa A. Prevalence of Chronic Malnutrition (Stunting) and Determinant Factors among Children Aged 0 – 23 Months in Western Ethiopia: A Cross-Sectional Study. Journal of Nutritional Disorders and Therapy, 2014: 2014.
11. Grantham-McGregor S, Ani C. A review of studies on the effect of iron deficiency on cognitive development in children. The Journal of nutrition, 2001; 131 (2): 649S-68S.
12. Martorell R. The nature of child malnutrition and its long-term implications. Food & Nutrition Bulletin, 1999; 20 (3): 288-92.
13. Saha KK, Frongillo EA, Alam DS, Arifeen SE, Persson LÅ, Rasmussen KM. Appropriate infant feeding practices result in better growth of infants and young children in rural Bangladesh. The American journal of clinical nutrition, 2008; 87 (6): 1852-9.
14. Brown KH. The importance of dietary quality versus quantity for weanlings in less developed countries: a framework for discussion. Food Nutr Bull. 1991; 13 (2): 86-94.
15. Kimmons JE, Dewey KG, Haque E, Chakraborty J, Osendarp SJ, Brown KH. Low nutrient intakes among infants in rural Bangladesh are attributable to low intake and micronutrient density of complementary foods. The Journal of nutrition, 2005; 135 (3): 444-51.
16. Lutter CK, Rivera JA. Nutritional status of infants and young children and characteristics of their diets. The Journal of nutrition, 2003; 133 (9): 2941S-9S.
17. Foote K, Marriott L. Weaning of infants. Archives of disease in childhood, 2003; 88 (6): 488-92.
18. Dewey KG, Brown KH. Update on technical issues concerning complementary feeding of young children in developing countries and implications for intervention programs. Food And Nutrition Bulletin – United Nations University, 2003; 24 (1): 5-28.
19. Ugwu F. The potentials of roots and tubers as weaning foods. Pakistan Journal of Nutrition, 2009; 8 (10): 1701-5.
20. Liaqat P, Rizvi MA, Qayyum A, Ahmed H, Ishtiaq N. Maternal education and complementary feeding. Pakistan Journal of Nutrition, 2006; 5 (6): 563-8.
21. Dewey KG, Adu-Afarwuah S. Systematic review of the efficacy and effectiveness of complementary feeding interventions in developing countries, 2008.
22. Memon Y, Sheikh S, Memon A, Memon N. Feeding beliefs and practices of mothers/caregivers for their infants. J Liaquat Uni Med Health Sci. 2006; 5 (1): 8-13.
23. Dykes F, Lhussier M, Bangash S, Zaman M, Lowe N. Exploring and optimising maternal and infant nutrition in North West Pakistan. Midwifery, 2012; 28 (6): 831.
24. Khattak AM, Gul S, Muntaha ST. Evaluation of nutritional knowledge of mothers about their children. Gomal Journal of Medical Sciences, 2007: 5 (1).
25. Lindsay AC, Machado MT, Sussner KM, Hardwick CK, Peterson KE. Infant – feeding practices and beliefs about complementary feeding among low-income Brazilian mothers: a qualitative study. Food and Nutrition Bulletin, 2008; 29 (1): 15-24.
26. Nawaz R, Ur Rehman S, Nawaz S, Mohammad T. Factors causing non-breastfeeding in children under six months of age in district Nowshera, Pakistan. J Ayub Med Coll Abbottabad, 2009; 21 (4): 93-5.
27. Ashworth A, Draper A, Organization WH. The potential of traditional technologies for increasing the energy density of weaning foods: a critical review of existing knowledge with particular reference to malting and fermentation, 1992.
28. Zahid Khan A, Rafique G, Qureshi H, Halai Badruddin S. A nutrition education intervention to combat undernutrition: Experience from a developing country. ISRN nutrition, 2013: 2013.
29. Pomerleau J, Lock K, Knai C, McKee M. Interventions designed to increase adult fruit and vegetable intake can be effective: a systematic review of the literature. The Journal of Nutrition, 2005; 135 (10): 2486-95.
30. Kitzinger J. Qualitative research. Introducing focus groups. BMJ: British medical journal, 1995; 311 (7000): 299.
31. Wilson AC, Forsyth JS, Greene SA, Irvine L, Hau C, Howie PW. Relation of infant diet to childhood health: seven year follow up of cohort of children in Dundee infant feeding study. Bmj. 1998; 316 (7124): 21-5.
32. Negayama K, Norimatsu H, Barratt M, Bouville J-F. Japan–France–US comparison of infant weaning from mother's viewpoint. Journal of reproductive and infant psychology, 2012; 30 (1): 77-91.
33. Mittal A, Singh J, Ahluwalia S. Effect of maternal factors on nutritional status of 1-5-year-old children in urban slum population. Indian Journal of Community Medicine, 2007; 32 (4): 264.
34. Chuodhry R, Humayun N. Weaning practices and their determinants among mothers of infants. Biomedica, 2007; 23: 120-4.
35. Ali SS, Karim N, Billoo AG, Haider SS. Association of

Literacy of Mothers with Malnutrition among Children Under Three Years of Age in Rural Area of District Malir, Karachi. Journal – Pakistan Medical Association, 2005; 55 (12): 550.
36. Sethi MV, Kashyap S, Seth V. Effect of nutrition education of mothers on infant feeding practices. The Indian journal of pediatrics, 2003; 70 (6): 463-6.
37. Al-Shoshan AA. Factors affecting mother's choices and decisions related to breast feeding practices and weaning habits. Pakistan journal of nutrition, 2007; 6 (4): 318-22.
38. Marandi A, Afzali H, Hossaini A. The reasons for early weaning among mothers in Teheran. Bulletin of the World Health Organization, 1993; 71 (5): 561.
39. Li R, Fein SB, Chen J, Grummer – Strawn LM. Why mothers stop breastfeeding: mothers' self-reported reasons for stopping during the first year. Pediatrics, 2008; 122 (Supplement 2): S69-S76.
40. Kulsoom U, Saeed A. Breast feeding practices and beliefs about weaning among mothers of infants aged 0 – 12 months. J Pak Med Assoc. 1997: 47.
41. Shaharyar MS. Knowledge and Practices. Professional Med J. 2009: 16 (2).
42. AbdElAziz SB, Hegazy R. Socioeconomic risk factors of malnutrition among Egyptian children between 6 months and 2 years of age, Cairo, Egypt. The Journal of the Egyptian Public Health Association, 2012; 87 (5 - 6): 124-30.
43. Organization UWH. WHO: Report of Informal Meeting to Review and Develop Indicators for Complementary Feeding. Washington, D.C.; 2002: 2010.
44. Harris R. Nutrition in the 21st century: what is going wrong. Archives of disease in childhood, 2004; 89 (2): 154.
45. Caulfield LE, Huffman SL, Piwoz EG. Interventions to improve intake of complementary foods by infants 6 to 12 months of age in developing countries: Impact on growth and on the prevalence of malnutrition and potential contribution to child survival. Maternal dietary intake and pregnancy outcomes in Baghdad, Iraq, 1999; 20 (2): 183.
46. Elliott CD. Sweet and salty: nutritional content and analysis of baby and toddler foods. Journal of Public Health, 2010: fdq037.
47. Budimelli S, Chebrolu K. Breast Feeding, Infant and Young Child Feeding, Minimum Dietary Diversity, Minimum Meal Frequency, Minimum Acceptable Diet. Infant and Young Child Feeding Practices in Guntur District – A Cross Sectional Study, 2015; 93: 802.
48. Ssemukasa E, Kearney J. Six months of exclusive breastfeeding recommendation: How applicable is the universal exclusive breastfeeding recommendation policy? African Journal of Food, Agriculture, Nutrition and Development, 2014; 14 (4): 9071-84.
49. Kikafunda J, Walker A, Tumwine J. Weaning foods and practices in central Uganda: A cross-sectional study. African Journal of Food, Agriculture, Nutrition and Development, 2003: 3 (2).