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Original Research Article

Knowledge, attitude and practices regarding complementary feeding among mothers of children 6 to 24 months of age in Konaseema region

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ABSTRACT

Background: Complementary feeding is the introduction of semisolid or solid food in infant who is on breast feeding, when mother's milk is no longer enough to meet the nutritional needs. Understanding the social beliefs, knowledge, attitude and practices about complementary feeding among mothers is an important step prior to designing an intervention strategy to prevent malnutrition in children. Aim of the study was to assess the knowledge, attitude and practices regarding complementary feeding among mothers and its effect on growth of the child.
Methods: Prospective study including 500 mothers with children between 6 to 24 months of age in KIMS, from December 2014 to November 2015.
Results: Mean age of knowledge regarding complementary feeding in mothers was 8.01 months. Most of the mothers 307/500 (61.4%) started complementary feeding because of insufficient milk, 183/500 (36.6%) mothers started complementary feeding as they felt the child required more milk, 30/500 (6%) mothers started complementary feeding as the child was sick and not drinking milk. There is significant positive correlation between age of complementary feeding and malnutrition in first 2 years of life.
Conclusions: Mother's knowledge regarding timing of complementary feeding is inadequate and practices are inappropriate. Majority of them are not aware of the current recommendations. It is essential to give accurate information and education about complementary feeding to prevent malnutrition and improve the health status of children.

Keywords: Attitude, Complementary feeding, Knowledge, Malnutrition, Practices

INTRODUCTION

Complementary feeding is the systemic process of introduction of semisolid or solid food in infant at the right time in addition to mother's milk in order to provide needed nutrition to the baby. Complementary feeding should be started when breast milk is no longer enough to meet the nutritional needs of the infant.[1] The transition from exclusive breast feeding to semisolid food is a very vulnerable period because it is the time when malnutrition starts in many infants, contributing significantly to the high prevalence of malnutrition and infection in children under five years of age worldwide.[2] Timely complementary feeding is an important process in every child which has an impact on future health, growth and development of the child. Complementary feeding also marks the beginning of the child developing some degree of independence. Complementary feeding foods should be adequate in nutrition, appropriate in consistency, given in sufficient quantity and hygienic. According to the WHO guidelines complementary feeding should be started at 6 months of age along with

breast feeding up to 2 years or more.[3,4] The decision when and how to start complementary feeding is a complex issue among mothers and there are various factors influencing complementary feeding. Understanding the decision making process, social beliefs, knowledge, attitude and practices of complementary feeding is an important step prior to designing an intervention strategy to prevent malnutrition in children. Poor feeding practices including breastfeeding and complementary feeding, coupled with high rates of infectious diseases, are the principal proximate causes of malnutrition during the first two years of life. Aim was to assess the knowledge, attitude and practices regarding complementary feeding among mothers with children between 6 months to 24 months of age, age of complementary feeding started and its effect on growth of the child.

METHODS

Prospective study was designed. The study was done at Department of Pediatrics, Konaseema Institute of Medical Sciences and RF, Amalapuram, Andhra Pradesh, India. 500 mothers with children between 6 to 24 months of age were studied. Study was done from December 2014 to November 2015.

Inclusion criteria

Mothers were selected with children between 6 to 24 months of age based on convenience attending for OPD or immunization in Konaseema institute of medical science hospital, Amalapuram. Mothers of selected children who were willing to participate in the study were interviewed for collecting data after informed consent.

Exclusion criteria

Mothers with children of aged less than 6 months or more than 24 months, mothers with babies suffering from chronic illness.

Data collection

Data was collected using a self-administered, predesigned structured questionnaire from the mothers regarding knowledge, attitude and practices of complementary feeding. Anthropometric parameters (weight and length) were obtained in children included in the study. The weight and length measurements were converted into three summary indices of nutritional status: weight-for-age, length-for-age and weight-for-length according to WHO criterion based on standard deviation (SD) units (termed as Z scores), children who were more than two standard deviations below the reference median on the basis of weight-for-age, length-for-age and weight-for-length indices were considered respectively to be underweight, stunted and wasted.

Statistical analysis

The data was collected and analyzed. Mean, range, standard deviation, frequency and percentages were calculated. Ethics clearance and informed consent: The study was approved by the ethical committee of KIMS hospital and RF, Amalapuram, Andhra Pradesh, India

RESULTS

500 mothers with children between 6 to 24 months of age attending pediatric OPD in our hospital, were interviewed on basis of a pre-designed, self-administered, semi structured questionnaire. Mean age of knowledge regarding complementary feeding was 8.01 months with standard deviation - 2.50 and range 4 - 20 months. 42.0 % of mothers had the knowledge that complementary feeding should be started by 6 - 7 months, 26.8 % by 8 - 9 months, 20.0 % by 10 -12 months, 1.2 % by > 12 months and 4.2 % had no idea about complementary feeding. The knowledge regarding the consistency, amount and type of complementary foods to be started was also very poor.

Table 1: Knowledge regarding complementary feeding.

Age of complementary feeding	No. of mothers	Percentage
< 4	0	0
4 - 5	29	5.8
6 - 7	210	42.0
8 - 9	134	26.8
10 - 12	100	20.0
13 - 18	4	0.8
19 - 24	2	0.4
No idea	21	4.2

Mean age of complementary feeding = 8.01 months with S.D = 2.50 and Range = 4-20 months

Table 2: Attitude towards complementary feeding.

Attitude (reasons)	No. of mothers	Percentage
1	202	40.4
2	73	14.6
3	2	0.4
4	52	10.4
5	2	0.4
1 and 2	90	18.0
1 and 3	2	0.4
1 and 4	13	2.6
1 and 5	0	0
2 and 3	1	0.2
2 and 4	10	2.0
2 and 5	9	1.8
3 and 4	23	4.6
3 and 5	2	0.4
4 and 5	19	3.8

KEY:1= Insufficient milk,2= increased requirement,3= sick child, 4= not accepting complementary feeds, 5= others

Reasons for complementary feeding and attitude towards complementary feeding were assessed in 500 mothers. Most of the mothers (307/500) (61.4%) started complementary feeding because of insufficient milk, 183/500 (36.6%) mothers started complementary feeding as they felt the child required more than milk, 30/500 (6%) mothers started complementary feeding as the child was sick and not drinking milk. Most common reason for delayed complementary feeding in 117/500 (23.4%) mothers, was the child not accepting complementary feeding and vomiting or spitting out and 32/500 (6.4%) mothers had other reasons for starting complementary feeding.

Most of the mothers gave more than one reason for starting complementary feeding. Some of the mothers believed that complementary feeding should be started when the child is able to feed by himself, curd helps in diarrhea and dal gruel in correcting dehydration. Honey to be given for proper growth and they consider biscuit as complementary food for better growth. Many mothers were unaware of the problems related to delayed complementary feeding. The mean age of complementary feeding in this study, conducted in 500 mothers was 8.00 months with standard deviation 2.507 and range 3 to 18 months. 30.8 % of mothers started complementary feeding at 6 months of age, 5.8 % by 4 - 5 months, 9.8 % by 7 months, 24.4 % by 8 - 9 months, 19.8 % by 10 - 12 months and 1.4 % by 13 - 24 months. 8 % had not started complementary feeding among which 3.8 % were between 6 - 7 months, 2.8 % between 8 - 9 months and 1.4 % between 10 - 12 months of age.

Relation between age of complementary feeding and malnutrition

Table 3: Practices of complementary feeding.

Age of complementary feeding started (months)	No: of mothers	Percentage
< 4	0	0
4 - 5	29	5.8
6	154	30.8
7	49	9.8
8 - 9	122	24.4
10 - 12	99	19.8
13 - 24	07	1.4
Not started complementary feeding		
6	16	3.2
7	3	0.6
8 - 9	14	2.8
10 - 12	7	1.4
Total	**500**	

Mean age of complementary feeding = 8.00 months
S. D. = 2.507 and Range = 3 - 18 months

Table 4: Comparison between age of complementary feeding and malnutrition.

Age of complementary feeding (months)	No. of children's	Weight for age	Length for age	Weight for length
		Underweight %	**Stunted %**	**Wasted %**
< 6	42	11.7	20.3	18.2
6	115	15.8	14.0	17.5
7 - 8	139	22.9	26.0	18.0
9 - 11	85	45.8	44.4	36.6
12 - 24	88	71.9	75.1	29.3
Not started	31	54.8	38.7	48.4
Total	**500**	**34.1**	**34.5**	**23.8**

The age of complementary feeding and its effect on nutrition of the child was assessed. 34.1% children were under weight, 34.5% children were stunted and 23.8% were wasted according to WHO classification. In children where complementary feeding was started at 6 months of age, 15.8% were under weight, 14.0% stunted and 17.5% wasted. When complementary feeding was started after 6 months of age, 48.85%, 46.05% and 33.10% were under weight, stunted and wasted respectively. Complementary feeding started after 12 months in children showed that 71.9%, 75.1% and 29.3% were under weight, stunted and wasted respectively.

DISCUSSION

Knowledge, attitude and practices of complementary feeding were assessed in 500 mothers with children aged between 6 to 24 months of age. The mean age of knowledge regarding starting complementary feeding in this study was 8.01 months which is more than the recommended 6 months. Only 34.2 % of mothers had the knowledge that complementary feeding should be started by 6 months, which is less than the study conducted in Delhi (46 %) by Aggarwal A et al.[5]

Hence, the knowledge regarding timely complementary feeding, feeding practices, recommendations and guidelines is lacking and inadequate. Mothers are not aware about the medical problems associated with late complementary feeding. Similar results were obtained by Frazeir et al study and Anju Aggarwal et al study.[16,5]

In the present study, most of the mothers started complementary feeding as they felt that their milk was not enough or insufficient and increased requirement by the child. There are many other studies, which have obtained similar results about complementary feeding.[6-9]

The main reasons for delayed complementary feeding were, not knowing the time when to start complementary feeding, misconceptions, customs and false beliefs prevalent in the community. Aggarwal A et al study in Delhi also states that, delayed complementary feeding practices are due to poor knowledge, customs and beliefs.[5]

Misconceptions hindering feeding practices can be overcome only by education. Hence correct information should be given to the target population, that is the mothers and care givers of the child about current guidelines of complementary feeding or complementary feeding practices. The most common reason for delayed complementary feeding was child not accepting or vomiting complementary foods. Similar reasons for delayed complementary feeding were obtained in Anju Aggarwal et al study and other studies also.[5,10] This is actually not vomiting, but the child tries to bring out the food put on the front of tongue. Hence, the mothers should be educated that the child has to develop the taste of foods and if they attempt and keep the food on child`s tongue, the child slowly will like it and start swallowing. It is important for the parents to know that feeding a child is a gradual process, which needs continuous trial and support.

The mean age of complementary feeding in the present study was 8.01 months, which is far beyond the recommended age of 6 months by WHO and there is a definite delay in starting complementary feeding. In Singh et al study, the mean age of complementary feeding was 8.7 months in semi-arid rural areas of Rajasthan which is comparable to the present study.[11]

According to Khan ME study, mean age of complementary feeding in Tamil Nadu was 9.0 months and in West Bengal was 7.7 months.[12] The Mean age of complementary feeding in Delhi by Agarwal A et al was 13.37 months and 13.5 months.[5] In Northern Bangladesh by Isherwood RJ et al which is much higher than the present study and current recommendation.[13] The variation in mean complementary feeding age may be due to difference in knowledge, customs, beliefs, practices and educational status of the mothers.

In our study, 34.1% children are under weight, 34.5% children are stunted and 23.8% are wasted of the total children, this is comparable to Karnataka - (41.4%, 38.0% and 17.9%) and Indian statistics - (45.9%, 38.4% and 19.4%) as per NFHS-3 data. In Medhi GK et al study, 64.6%, 41.7% and 39.6% are under weight, stunted and wasted respectively, which is more than the present study due to improper feeding practices.[14,15]

In the present study, around 70% of the children are malnourished when complementary feeding was started beyond 12 months, while only around 15% of children are malnourished when complementary feeding was started by 6 months. Hence, there is significant association between delayed complementary feeding and malnutrition of the child. Similar relation between delayed complementary feeding and malnutrition was obtained by Bhandari et al study, Khokhar et al study, Sabu S et al study.[16-18]

In the present study, 48.85%, 46.05% and 33.10% were under weight, stunted and wasted respectively in children, who had started complementary feeding after 6 months. It is comparable with the study done in Allahabad by Dinesh et al study, where 41.30%,56.40% and 26.10% were under weight, stunted and wasted respectively.[19] Poor breastfeeding and complementary feeding practices, coupled with high rates of infectious diseases, are the principal proximate causes of malnutrition during the first two years of life.[19]

CONCLUSION

Our study reveals that mother's knowledge regarding timing of complementary feeding is inadequate and practices are inappropriate. Majority of them are not aware of the current recommendations. Correct information and guidelines about complementary feeding is not reaching the target population. False beliefs, customs and attitude of the mother tend to wean the child late. Mean age of complementary feeding is delayed due to improper information and child not accepting complementary foods. There is significant association between delayed complementary feeding and malnutrition of the child. Poor breastfeeding and inappropriate complementary feeding practices are the principal proximate causes of malnutrition during the first two years of life.

Hence it is essential that accurate information, education and training should be given to mothers and caregivers about appropriate timing of initiating complementary feeding, complementary foods, preparation and practices to prevent malnutrition and improve the health status of children.

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