



Assessment of knowledge, attitude and practice of mother towards infant and young child feeding

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Abstract

Objectives: To assess mother's knowledge, attitude and practices towards infant and young child feeding using special indicators recommended by WHO for assessment of feeding practices.

Methods: It is a cross-sectional study, including, 200 mothers with children aged 6–24 months, attending Immunization clinic, Pediatric OPD of KVG MCH, Sullia from Nov 2017 to April 2019. Data was collected using a self-administered, semi-structured questionnaire.

Results: It was observed in the study that 85% mothers had knowledge of duration about the exclusive breast feeding. Though 85% of mothers had appropriate knowledge of starting complementary feeds, only 48 mothers (24%) started at 6 months, majority of them initiated below 6 months (70%) and 12 mothers (6%) delayed complementary feeding to more than 6 months.

Conclusion: Overall this study revealed that majority of the mothers had good knowledge and a favorable attitude towards infant and young child feeding but ideal practices being carried out by them were found to be very low. The present study indicates the need for health education through interventional programmes to reach not only the mothers but also the primary caregivers of the mother and the child.

Keywords: complementary feeding, knowledge, attitude, practices, education, socio-economic status

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 early stages of a child's life, when all parts of the infant are growing physically, mentally and socially, are very important, which requires an optimal supply of energy and nutrients to the body [5, 6]. Therefore, adequate and balanced supply of nutrients is highly required to prevent malnutrition, which can affect the health and development of the child, and impairs the intelligence, educability and productivity of the baby. It also leads to a heightened risk of chronic non-communicable diseases in the later life.

Weaning or complementary feeding after 6 months is extremely important due to high risk of micronutrient deficiencies and malnutrition. Weaning means 'to accustom to' or 'to free from a habit'. It is the process to accustom the baby to semisolids and solids in order to gradually free the baby from the habit of sucking at the breast. Weaning is defined as 'the systematic process of introduction of suitable food at the right time in addition to mother's milk in order to provide needed nutrients to the baby' (UNICEF, 1984). The term 'complementary feeding' is now preferred because weaning implies abrupt stoppage of breastfeeding, at least to some mothers [7].

According to the World Health Organization (WHO), complementary feeding should be timely, adequate, appropriate and given in sufficient quantity [8]. It is well recognized that the period of 6 to 24 months of age is one of the most critical time periods in the growth of the infant. The incidence of stunting is the highest in this period, as children have high demand for nutrients and there are limitations in the quality and quantity of available foods,

especially after exclusive breastfeeding.

Globally, severe acute malnutrition is the leading cause of death in under-five children. The greatest risk of undernutrition occurs during intrauterine life, infancy and early childhood which makes the first 1000 days a window of opportunity to address malnutrition [9].

The other contributing factors to malnutrition include inadequate dietary diversity together with limited meal frequency, inadequate infant and young child feeding practices (IYCF), early and frequent childbearing and limited access to health services.

Hence, good knowledge, and positive attitude of the mothers on proper infant, and young child feeding practice is very crucial to maintain, promote the health and nutritional status of the children [10, 11, 12, 13, 14].

Most of the studies conducted in India have focused on mainly the breastfeeding aspects and not the dietary diversity and diet frequency aspects, which are important in IYCF. So this study is conducted to assess mother's knowledge regarding infant feeding and to assess the attitude and practices towards the recommended feeding practices.

Methodology

Source of data

All mothers having children from 6 months to 24 months who attending pediatric outpatient department and immunization clinic at K.V.G Medical College and Hospital, Sullia, Dakshina Kannada, were included in this study.

Study design: cross sectional

Study area: Pediatric outpatient department and immunization clinic KVG MCH Sullia.

Study period: Nov 2017 to April 2019

Sample size: Sample size will be based on the number of mothers who are having children from 6 months to 24 months attending the immunization clinic, outpatient department at KVMCH Sullia during the study period. This study aims to have sample size (n=200) using formula $= Z^2_{1-\alpha} \times p(1-p)/d^2$ where $p=0.5(50\%)$.

Method of collection of data: KVMCH, a teaching hospital conducts a good number of deliveries and has a well-established postnatal ward, pediatrics opd and runs immunization clinic every day. Mothers will be selected randomly by a criteria of having a child from 6 months to 24 months of age.

Data collection: Data was collected using semi structured questionnaire. After obtaining consent, necessary information regarding infant and young child feeding will be collected by interviewing mothers in postnatal ward and in mothers having a child from 6 months to 24 months. If any mother is found to have problems, health education will be given to mother and problems will be rectified.

Statistical tests: The collected data was entered in Microsoft office excel and analyzed using SPSS statistics v 20. Descriptive statistics like frequencies and percentages are used. Chi square test and t-test are used to describe the associations and correlations. The p value of < 0.05 was considered significant.

Inclusion criteria

1. Mothers having children from 6 months to 24 months who attending immunization clinic and pediatric outpatient department of KVMCH.

Exclusion criteria

1. Mentally ill mothers, mothers with puerperal psychosis.
2. Mothers not giving consent.

Results and Observations

This was a cross sectional study in which 200 women visiting a tertiary care hospital were included and their knowledge, attitude and practice towards IYCF was assessed. After a detailed analysis of the various aspects, the

Knowledge regarding IYCF

Table 4: Knowledge of Mothers Regarding IYCF

Sl no.	Knowledge of mothers	No. of mothers with correct knowledge	Percentage
1.	Importance of Colostrum	190	95 %
2.	Time of initiation of Breast Feeding	180	90 %
3.	Duration of Exclusive Breast Feeding	170	85 %
4.	Time to start Complementary Feeds	170	85 %
5.	Total recommended duration of Breast Feeding	184	92 %
6.	The need for giving snacks to children	159	79.5 %

In the present study, the observation made was that most mothers had good knowledge regarding the feeding practices. Over 90% women were well aware of the importance of colostrum and knew the importance of early initiation of breast feeding and the duration of exclusive

following observations were arrived at.

1. Demographic variables

Table 1: Age Distribution of the Children

S No.	Age Distribution	No. of Children	Percentage
1	6 months to 12 months	86	43 %
2	13 months to 18 months	67	33.5 %
3	19 months to 24 months	47	23.5 %
	Total	200	100 %

When the age distribution of the children were considered, majority (43%) belonged to the age group of 6 months to 12 months followed by 33% belonged to 13-18months and 23.5% belonged to the 19-24 months group.

Table 2: Gender Distribution of the Children

S No.	Gender	No. of Children	Percentage
1	Male	95	47.5 %
2	Female	105	52.5 %

There was almost a similar distribution of male and female babies with a slight female preponderance of 52.5%. The percentage of male babies were 47.5%. This is significant because the gender bias in the various results analyzed can easily be eliminated.

Table 3: Source of Information Regarding IYCF

S No.	Source of Information	No. Of Mothers	Percentage
1	Advice from Health Personnel	119	59.5 %
2	Family or Friends	127	63.5 %
3	Media or Literature	51	25.5 %
4	Previous Experience	43	21.5 %

There are various sources from which women gather knowledge and information regarding child feeding practices. While analyzing the data related to it, over 63% of the women gathered the data from their family and friends and health care professionals and over 21% women gathered the knowledge from their previous experience and from the media sources.

breastfeeding being atleast 6 months.

The mothers had good knowledge regarding the start of complementary feeds after 6 months (85%) and they were also aware that snacks are to be given in between meals.

Attitude of the mothers towards IYCF

Table 5: Attitude of Mothers towards IYCF

SNO.	Attitude of mothers towards IYCF	Agree	Disagree	Neutral
1	Breast Feeding should start immediately after delivery	177 (88.5 %)	12 (6%)	11 (5.5%)
2	Babies should not be given anything except breast milk upto 6 months	133 (66.5%)	48 (24%)	19 (9.5%)
3	A child can be given butter, sugar, water and other from birth upto 6 months	110 (55%)	50 (25%)	40 (20%)
4	Complementary Feeding should be started after 6 months	121 (60.5%)	50 (25%)	29 (14.5%)
5	Breast Feeding should continue upto 2 years or more	171 (85.5%)	19 (9.5%)	10 (5%)
6	A child should be breast fed 8 times or more in 24 hours	180 (90%)	6 (3%)	14 (7%)
7	Food that a child eats at one time should include : Starch, Protein, Vegetable, Fruits, Sugar, Salt and Fat	141 (70.5%)	36 (18%)	23 (12.5%)
8	Snacks should be given to children in between meals	121 (60.5%)	31 (15.5%)	48 (24%)
9	A child should eat fruits and vegetables more than 3 times a week	160 (80%)	24 (12%)	16 (8%)
10	Serving balanced food prevents malnutrition	181 (90.5%)	8 (4%)	11 (5.5%)
11	Serving only starchy food prevents malnutrition	89 (44.5%)	60 (30%)	51 (25.5%)
12	Serving indigenous fruits / vegetables can keep children healthy	154 (77%)	16 (8%)	30 (15%)
13	Malnutrition can be caused by diseases like diarrhea and malaria	142 (71%)	20 (10%)	38 (19%)

Analyzing the attitude of the mothers towards feeding practices, over 85% of the women knew that breastfeeding has to be initiated soon after delivery, it should be continued till 2 years of age and were having a positive attitude towards following it. They had a good attitude towards feeding their children with balanced diet and the importance of giving fruits and vegetables as a part of their meal. Over 90% of the mothers were aware that the child should be

breast fed 8 times or more in 24 hours.

The attitude towards exclusive breastfeeding up to 6 months of age and initiation of complementary feeding after 6 months was good only in around 60% of the mothers. They were also not aware of the importance of feeding the children with indigenous fruits and vegetables and diseases like diarrhea and malaria can cause malnutrition (only 70% mothers agreed with this)

Table 6: Practices of Mother with Respect to IYCF

S No.	Practices According To IYCF	Frequency	Percentage
1	Time of Breast Feeding the child after birth		
	Within 1 hour	110	55 %
	After 1 hour	90	45 %
2	Frequency of breast feeding in 24 hours during the first month		
	< 8 times	77	38.5%
	8 times and above	123	61.5%
3	Started any additional food other than breast milk during the first 6 months		
	Yes	139	69.5%
	No	61	30.5%
4	Mothers hygiene practices		
	Practice as usual	103	51.5%
	Washing hands with soap before cooking	97	48.5%
5	Reason for stopping Breast milk before 24 months		
	Not stopped	161	80.5%
	Pregnancy	14	7 %
	Inadequate Breast milk	19	9.5%
	Mother sickness / Child refusal	6	3%
6	Time of starting complementary feeds		
	< 6 Months	140	70%
	At 6 Months	48	24%
	More than 6 Months	12	6%
7	What was the first weaning food		
	Not started	1	0.5%
	Mashed potato	2	1%
	Ganji (Rice)	95	47.5%
	Ragi	70	35%
	Mashed banana	1	0.5%
	Fruits	1	0.5%
	Nestum / Cerelac / Farex	26	13%
	Others	4	2%
8	Number of times the child is fed in a day		
	Once	6	3%
	Twice	14	7%
	Three or more times	180	90%
9	Snacks are given to child in between meals		
	Yes	164	82%
	No	36	18%

When the practices of the mothers were observed, significant changes were noticed. Even though mothers had a positive attitude and good knowledge regarding the breast feeding practices including the early initiation and feeding atleast 8 times a day and exclusive breastfeeding till 6 months of age, only 55% mothers initiated breastfeeding within 1 hour and 61% mothers fed the baby more than 8 times. Only 70% mothers practiced exclusive breastfeeding up to 6 months of age which is in contrast to the good knowledge they had.

80% mothers continued to breastfeed even after 1 yr of age which is appreciable and 70% mothers started complementary feeding before 6 months of age. Only around 50% mothers practiced hygienic practices while cooking for the children.

The food that was started for weaning was rice ganji in 50% cases. It is easy to cook and most commonly used food item to start. This was followed by ragi which is the other common crop grown in Karnataka and has been commonly used for weaning due to its nutritional qualities.

Around 90% of the women fed their child over 3 times in a day and practiced giving small snacks in between meals which is a good practice.

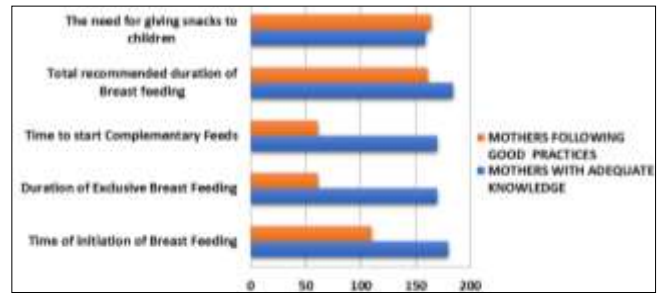


Fig 1: Comparison of Knowledge and Practices of Mothers with Regard to Certain Child Feeding Habits

Chi square test was applied to arrive at a statistical significance for the results obtained. Knowledge of the mothers towards IYCF was correlated with various demographic and other factors analyzed. There was a significant correlation between the place of delivery and the time of initiation of breast feeding. Women with institutional deliveries were better aware of the importance of timely initiation of breast feeding with a p value of <0.0001. No other component in the knowledge of mothers was statistically significant

Table 7: Comparison of Knowledge and Practices among the Mothers

S No.	Child Feeding Habits	Adequate Knowledge No. (%)	Followed Good Practices No. (%)
1	Time of initiation of Breast Feeding	180 (90%)	110 (55%)
2	Duration of Exclusive Breast Feeding	170 (85%)	61 (30.5%)
3	Time to start Complementary Feeds	170 (85%)	61 (30.5%)
4	Total recommended duration of Breast feeding	184 (92%)	161 (80.5%)
5	The need for giving snacks to children	159 (79.5%)	164 (82%)

When the knowledge of the mothers were compared with the practices they follow, it was noticed that in spite of having good knowledge on time of initiation, duration and the time to start complementary feeding (>85%) only around 55% mothers initiated breast feeding within an hour. Only 30.5% mothers did exclusive breastfeeding upto 6 months and started complementary feeding after 6 months.

Discussion

Infant and young child feeding (IYCF) practices include early initiation of breast feeding within one hour of life, timely introduction of solid/semi solid foods from the age of six months increasing in amount and frequency over time along with breast feeding as demanded by child.

The present study was a cross sectional study among the mothers having children between 6 – 24 months of age about their knowledge, attitude and practice towards infant and young child feeding.

The present study included 200 mothers visited the outpatient department of pediatrics or vaccination clinic of K.V.G Medical College and Hospital during the study period. About 85% of mothers had knowledge that complementary feeding should be started at 6 months of age which is comparable to WHO guidelines. This is in contrast to the study done by Aggarwal A *et al* in Delhi (46%).

The study revealed that most of the mothers knew the time of initiation of complementary feeding but ideal practices being carried out by them were found to be very low.

It was found in the study that 43% were at the age group of 6 months to 12 months, 33.5% were between 13 months to 18 months and 23.5% were at the age group of 18 months to 24 months. The age distribution seemed satisfactory as all

age groups were included in the study.

It was observed that female children were more than male (52.5% and 47.5%) in our study. The male female ratio of this study group of children was 100:110

Most of the participants in this study were of age group of 18 to 30 years (85.5%). This age group is the most common reproductive age in our country. But this result contradicts the findings in developed countries where most of the women get married and give births late. Dratva *et al.* described the feeding characters of the mothers and found that 68.0% were of age group 30-39 years and only 27.0% were of 20-29 years. This finding shows the difference between the developing and developed world in terms of marriage age and child bearing pattern.

Most of the participants of this study were Hindus followed by Muslims and Christian (70%, 28.5%, 1.5% respectively). This reflects the religion system in our country where Hindu are a big majority followed by Muslims and others.

Though literacy rate of our country is low (74%) and even lower in females (64.6%), most of the participants in our study had some forms of education with majority of them (63.5%) having education of some secondary level. This may be due to the fact that educated mothers seek medical help more often than the uneducated mothers.

It was observed in the study that 85% mothers had knowledge of duration about the exclusive breast feeding and 15% mothers did not have the knowledge about it. It is encouraging to note that the percentage of mothers who knew the duration of exclusive breast feeding was found to be high (85%). However, it seems that having knowledge alone is not enough to realize the knowledge into practices in the community. For instances, the percentage of mothers

practicing exclusive breastfeeding as per recommendation observed in this study was much lower (30.5%) than expected.

It shows the gap between knowledge and practice is high despite the fact that promotion of breastfeeding and regulation of the unauthorized or unsolicited sale and distribution of breast milk substitutes. (Ministry of Health and Family welfare). Our result is comparable with global situation. Worldwide, it is estimated that only 34.8% of infants are exclusively breastfed for the first 6 months of life and majority of them receive some other foods or fluids in the early months of life^[15].

The source of information regarding the appropriate age and the type of the complementary feeds to be started was obtained in majority (127, 63.5%) of the mothers from family and friends mostly the mother-in-law who were the primary caregivers for both mother and the child. This is comparable to the study done by Engle PL *et al* from UNICEF country office, New Delhi, in Andra Pradesh which emphasized the role of mothers-in-law in the decision making about the timing and the type of complementary feeds to be started. Similar results obtained in NFHS IV data 2015-2016 regarding the role of grandmothers in decision making. The information was obtained from health personnel including doctors, sisters, anganwadi workers in 119 mothers (59.5%). The role of literature and media in the knowledge of the mothers was minimal (25.5%). For the rest of the mothers the source of information was either through self/previous experience

Though 85% of mothers had appropriate knowledge of starting complementary feeds, only 48 mothers (24%) started complementary feeding at 6 months, majority of them initiated below 6 months (70%) and 12 mothers (6%) delayed complementary feeding to more than 6 months. This is in comparison to the results obtained in the study done by Mahmood SE and Srinivastava which showed majority (48%) of the mothers practicing early complementary feeding before 6 months^[17].

In this study 24% of the mothers started complementary feeding at 6 months which is more than the studies done by Monish Chaturvedi *et al* in Agra (20%) and Aggarwal A *et al* in Delhi (17.5%). This may be due to better knowledge, educational and socioeconomic status of the mothers included in this study^[18].

In the present study majority of the mothers (85%) started complementary feeding with homemade foods. In which majority "RICE GANJI" (47.5%), "RAGI" (35%), "MASHED POTATO" (1%), "MASHED BANANA" (1%) were used as initial complementary feeds. None of the mothers used egg, meat or other non-vegetarian foods as initial complementary feeds. This study showed that about 15% of the mothers used commercial readymade foods like "CERELAC", "NESTUM", "FAREX" as the initial complementary foods, which is less compared to that in the study conducted by Pant and Chothia in New Delhi but more compared to the study conducted by Banapurmath *et al* in the central village of Karnataka (5.3%)^[19].

In this study while analyzing the attitude of the mothers towards feeding practices, over 85% of the mothers knew that breastfeeding has to be initiated soon after delivery, it should be continued till 2 years of age and were having a positive attitude towards following it. They had a good attitude towards feeding their children with balanced diet and the importance of giving fruits and vegetables as a part

of their meal. Over 90% of the mothers were aware that the child should be breast fed 8 times or more in 24 hours.

The attitude towards exclusive breastfeeding upto 6 months of age and initiation of complementary feeding after 6 months was good only in around 60% of the mothers. They were also not aware of the importance of feeding the children with indigenous fruits and vegetables and diseases like diarrhea and malaria can cause malnutrition (only 70% mothers agreed with this), this is in contrast to the study done by Hussein^[20] *et al*, which showed that the mothers have efficient practices and attitudes toward breast, formula and complementary feeding.

In the present study, the parity of the mothers had no significant association with the time of starting complementary feeds ($p > 0.05$). This was in contrast to the study done by Betoko A and Charles MA in Eden showing significant association between the parity of the mothers and the complementary feeding practices.

In this study practice of the mothers towards IYCF was correlated with various demographic and other factors. Mothers who had institutional deliveries had better feeding practices and fed their babies more than 8 times a day and this was statistically significant with a p value of <0.0001 . And also in this study younger mothers had better hygienic practices when compared with older mothers and this was also statistically significant with a p value of <0.0001 . Parity too had a significant correlation with the hygienic practices with a p value of 0.007.

In the present study there was no significant association between the education and occupation status of the mother and the time of starting complementary feeds ($p > 0.05$).

Religion did not show any significant influence on the complementary feeding practices in our study ($p > 0.05$). This was in contrast to the study by Senerath U *et al*, comparison of the complementary feeding practices across five South-Asian countries which showed a higher prevalence of complementary feeding at 6 months in the Christian community compared to the other communities^[21].

Higher prevalence of malnutrition among older children may be related to faulty feeding practices. Breast milk alone is not sufficient to sufficient to satisfy the nutritional needs to sustain optimal growth beyond 6 months. Hence correct information should be given to the mothers and caregiver of the child about current guidelines of exclusive breastfeeding and complementary feeding practices.

Conclusion

Overall this study revealed that majority of the mothers had good knowledge and a favorable attitude towards infant and young child feeding but ideal practices being carried out by them were found to be very low. The present study indicates the need for health education through interventional programmes to reach not only the mothers but also the primary caregivers of the mother and the child.

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