

IMPACT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF MOTHERS REGARDING COMPLEMENTARY FEEDING ON NUTRITIONAL STATUS OF CHILDREN



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ABSTRACT

Improper young child and infant feeding practices are key to malnourishment, associated with high rates of mortality during childhood. The World Health Organization proposes the initiation of breastmilk within the first hour of birth, exclusive breastfeeding for six months and the commencement of complementary feeding after six months. Complementary feeding involves the introduction of highly nutritious food that will cover the gap created when breastmilk becomes insufficient to cater for the child's nutritional needs. Complementary feeding practices directly affect the nutritional status of the child; hence there is a need to explore the factors associated with complementary feeding practices. The main objective of this study was to assess the knowledge, attitude and practice of mothers regarding complementary feeding and its impact on the nutritional status of children. This study was a cross-sectional study which recruited 200 mothers and 200 children using a convenience sampling technique. Data was collected using a KAP questionnaire. Data analysis was done using Microsoft Excel for frequency and percentage. For statistical analysis, Spearman's rank correlation was used to find associations between variables. The results showed that the mothers had average knowledge and practice and a good attitude on complementary feeding. Statistical analysis showed a significant positive correlation between the mother's education status, monthly family income, mother's knowledge and the nutritional status of children. A positive non-significant association was also observed between the mother's attitude, practice and nutritional status of children. A high prevalence of malnutrition was observed in the study as a result of insufficient levels of knowledge, attitude and practice of mothers regarding complementary feeding. The low education status of the mother and low family monthly income also contributed to high levels of malnourishment in the study.

Keywords: Complementary feeding, malnutrition, nutritional status, knowledge, attitude, practice, feeding practices

INTRODUCTION

Proper child-feeding practices are a prerequisite to good nutrition, growth and development during childhood. Initiation of breastfeeding within the first hour of birth, exclusive breastfeeding for the first six months and initiation of complementary feeding are necessary child-feeding practices required by an infant for proper development into full potential. Breastmilk is the only food that has all the necessary nutrients required by a child for the first six months of life¹. The World health

organization encourages mothers to exclusively breastfeed without giving any type of food or water for six months to the child. The World Health Organization recommends the starting of complementary foods exactly six months after the birth of a child, along with breastfeeding. Improper child-feeding practices have been associated with high rates of malnutrition².

Malnutrition is a major public health concern affecting all parts of the world. It is estimated that undernutrition accounts for 45% of deaths in children less than five years old worldwide³. India has not been spared

when it comes to malnutrition; a recent survey conducted by the National Family Health Survey 2019-21 (NFHS-5) revealed that 35.5%, 19.3% and 32.1% of Indian children are stunted, wasted and underweight, respectively⁴. Studies have shown that the rate of malnutrition in India is high in rural areas as compared to urban areas⁵. Malnutrition is also associated with adulthood obesity, thereby posing a risk to non-communicable diseases such as hypertension and diabetes⁶. Malnourishment in children does not only affect individuals or families; it also affects society in a way that compromises the cognitive ability of the child, thereby hindering the child from progressing and leading a productive life that would benefit society. Malnutrition exposes children to different diet-related diseases, which, if not properly treated, the end result is fatal. Thus, proper child feeding practices are not only important for the growth and development of a child, but they are also vital in determining the good health status during childhood and beyond.

The transition between exclusive breastfeeding to complementary feeding poses a critical time during childhood because it is the time when malnutrition mostly affects children leading to high rates of undernourishment and infections in children below the age of five⁷. For this factor, the World Health Organization suggests that complementary food should be introduced at the right time, six months after childbirth. This is the time when breastmilk alone cannot supply all the energy requirements and nutrients needed for a growing infant. It also recommends that complementary food should be adequate enough to provide enough energy, protein and micronutrients needed by the child. Complementary food should also be safe and properly fed to the child, as suggested by the World Health Organization⁸. Safe preparation of food is of utmost importance because it helps in preventing infections such as diarrhoea. Early introduction of solid foods is unsafe for the growing infant because it displaces breast milk; late introduction also negatively impacts the child in a way that the child fails to get extra energy and nutrients provided by the food, thereby leading to growth faltering and creating room for malnutrition and other related diseases⁹.

Eight indicators have been developed by the WHO in order to help keep child feeding practices in check. The eight indicators are early initiation of breastfeeding, exclusive breastfeeding, continued breastfeeding for one year, the introduction of solid, semi-solid and soft foods, minimum dietary diversity, minimum meal

frequency, minimum acceptable diet and consumption of iron-rich or iron-fortified foods¹⁰. The concept of complementary feeding centres on minimum dietary diversity, minimum acceptable diet, minimum meal frequency and timely commencement of solid, semi-solid and soft foods. These activities have been associated with optimal health in infants. Some studies have revealed that proper feeding practices are dissatisfactory in some parts of the world, and many infants do not meet the minimum indicators for proper child-feeding practices¹⁰.

Several factors have been linked with the initiation of complementary feeding, including cultural practices and beliefs, the economic status of families and education status¹¹. Proper child-feeding practices go hand in hand with the mother's knowledge, attitude and practice towards it. Mothers play a crucial role during the early stages of development in a child by making sure that the child has good nutrition and optimal health. The mother's knowledge of child feeding practices determines the nutritional status of the child because whatever the child eats depends on the mother's choice¹². Studies have shown low child-feeding practices in some parts of the world, which can be attributed to the mother's knowledge and attitude. A recent survey conducted in India found that 41.8% of children below the age of three are breastfed within the first hour of birth, while 63.7% are exclusively breastfed for the first six months of life⁴. The results from the same survey revealed that 45.9% of children between the ages of 6-8 months receive complementary food along with breastfeeding, and 11.3% of children receive an adequate diet.

MATERIALS AND METHODS

This cross-sectional study was based on the descriptive quantitative approach in which quantifiable data was collected for statistical analysis. The study attempted to describe the knowledge, attitude and practices of lactating mothers and their impacts on the nutritional status of children. The study was conducted at Sharda Hospital, Greater Noida, Uttar Pradesh, and data was collected for a period of 6 months from January 2022 to June 2022.

Data collection

A well-structured questionnaire was used for data collection. The questionnaire consisted of four sections. The first section contained the socio-demographic data and socio-economic status of the mothers and children.

The second section contained 11 questions which assessed the mother's knowledge of complementary feeding. The second section contained 10 statements on a Likert scale which were used to assess the attitude of the mothers. The last section contained 10 questions aimed at assessing the mother's practice of complementary feeding.

Scoring was given for each right answer, and various levels were made on the basis of the score obtained. The total score given to the mother's knowledge was 16. Scores from 1-6 were graded as poor, scores from 7-10 were graded as average and scores from 11-16 were graded as good. The scoring of attitudes of mothers were made out of 50. Each score shows the frequency and percentage of mothers who responded. Scores from 10-24 were graded as poor, 25-31 were graded as average, 31-39 were graded as good as 40-50 were graded as excellent. The mother's practice regarding complementary feeding. The total score of this section was 10 points which was later translated to percentage.

Data analysis

Socio-demographic and socio-economic data was analyzed by frequency and percentage. Anthropometric measurements such as height and weight were analyzed using the WHO anthro software (Version 3.2.2). Nutritional status was assessed using Z scores for weight for age, length for age and weight for length using WHO anthro software. Data entry was done using Microsoft Excel, and data analysis was done using Statistical Package for Social Sciences (SPSS) version 22. The mean and standard deviation for all the variables were calculated. Spearman's correlation test was used to assess the correlation between the variables. A p-value of ≤ 0.05 and ≤ 0.01 was considered to be statistically significant.

Inclusion criteria

Mothers who visited Sharda Hospital Pediatrics OPD for immunization with children from 4 months- 24 months and mothers who were willing to participate were selected for the study.

Exclusion Criteria

Mothers who visited Sharda Hospital Pediatrics OPD for immunization with children less than 4 months old and mothers with children or infants having any congenital malformations, chronic diseases and any illness that affects the growth and development of their infant or child were excluded from the study. Ethical approval Permission to conduct this study was sought from Institutional Ethics Committee (IEC), Sharda University.

RESULTS

Social demographic characteristics of participants

Data was collected from 200 mothers with children aged between 4 to 24 months old. Table 1 shows the socio-demographic characteristics of mothers and children who participated in the study. The majority of mothers were between 25-29 years (47%). Out of 100 mothers, 38% had undergone secondary school, 32% tertiary, 21% primary school and 9% were illiterate. On family monthly income, the results revealed that the majority (30%) fell between 10001 Rs – 15001 Rs while 27% earned above 20000 Rs, the ranges between 5001-10000 Rs and 15000 - 20000 Rs had 17% of the mothers on each and 9% of the mothers came from families who earned between 0-5000 Rs. Data on children's age showed that 51% of the

Table 1: Socio-demographic characteristics of mothers and children

Variables	Frequency	%
Age		
20-24 years	48	24
25-29 years	94	47
30-34 years	38	19
35 years and above	20	10
Educational status		
Illiterate	18	9
Primary	42	21
Secondary	76	38
Tertiary	64	32
Family monthly income		
a. 0-5000 Rs	18	9
b. Rs 5001- Rs 10000	34	17
c. Rs 10001- Rs 15000	60	30
d. Rs 15001- Rs 20000	34	17
e. Above Rs. 20000	54	27
Children's age		
0-5 months	24	12
6 -11 months	40	20
12- 23 months	102	51
24 months	34	17
Gender		
Male	88	44
Female	112	56

Table 2: Knowledge of mothers on complementary feeding

Meaning of complementary feeding	Frequency	%
Continuation of breastmilk along with family food*	82	41
More breastfeeding with random family food	72	36
Giving family food only	34	17
Stopping breastfeeding and giving other food	12	6
Initiation of complementary feeding		
From 7 months	36	18
From 6 months*	94	47
From 4 months	68	34
Don't know	2	1
Importance of breastfeeding along with complementary feeding		
It prevents the baby from being hungry	78	39
It prevents the baby from being sick	68	34
It helps fill the energy gap due to insufficient intake of complementary food*	28	14
Don't know	26	13
An infant/child should be breastfed up till		
At least for 1 year	54	27
Minimum of 2 years*	126	63
As long as the child requires	18	9
Don't know	2	1
Why complementary food is important		
Growth and development	130	65
Boots immunity	38	19
Brain growth		
All of the above*	32	16
How faulty complementary feeding affects the child's health during his adulthood		
Increases the risk of severe infections*	96	48
Children grow into shorter adults*	42	21
As adults likely to suffer from chronic diseases like diabetes, heart disease, obesity and high blood pressure*	16	8
Don't know	46	23
Precautions when making food		
Food should be freshly cooked*	112	56
They should constitute mainly family foods	64	32
The texture and flavours of the food should be as per developmental requirements	14	7
Don't know	10	5

(Contd.....)

Table 2: Knowledge of mothers on complementary feeding (Contd.....)

How mothers should plan daily complementary food for the child/infant		
Based on advertisements		
Based on what is available at home	40	20
What the child likes?	124	62
Based on food groups*	36	18
Minimum number of food groups to be included on a daily basis		
One		
Two	72	36
Four*	52	26
Don't know	76	38
Frequency of complementary food given to a 6-8 months infant		
2-3 times*	68	34
3-4 times	114	57
3-4 times plus 1-2 snacks	6	3
Don't know	12	6
Frequency of complementary food given to a 9-24 months infant		
2-3 times	54	27
3-4 times	106	53
3-4 times plus 1-2 snacks	32	16
Don't know	8	4

children were aged between 12-23 months, 20% were aged between 6-11 months, 17% were 24 months old, and 12% were 4-6 months old. On gender, the study recruited 44% male and 56% female children.

Knowledge of complementary feeding

Table 2 depicts the knowledge of mothers on complementary feeding. 41% of respondents knew the meaning of complementary feeding, while 36% of respondents stated that complementary feeding meant more breastfeeding with random food. 17% of the mothers responded that complementary feeding meant giving family food only, while the remaining 6% responded that stopping breastfeeding and giving other food was complementary feeding. On knowledge regarding initiation of complementary feeding, 47% of the mothers correctly responded, whilst 18% and 34% reported 7 and 4 months, respectively, and 1% didn't know. The results also revealed that 14% knew the importance of breastfeeding along with breastfeeding, while 39% said it prevented the baby from getting hungry, 34% said it prevented the baby from getting sick, and 13% didn't know.

Table 2 also shows that 63% of the mothers responded that a child should be breastfed for a minimum of two years, while 27% said at least for a year, 9% said a child should be breastfed as long as the child requires and 1% didn't know. All the responses on the importance of complementary feeding were correct, but only 16% responded that while brain growth had no response. On the effects of faulty complementary feeding during adulthood, all the responses but one was correct. However, 48% of the mothers responded that faulty complementary feeding increases the child's risk of getting severe infections. 21% responded that children grow into shorter adults, while 8% of the mothers responded that faulty complementary feeding leads to chronic diseases in adulthood. 23% of the mothers did not know the impacts of faulty complementary feeding during adulthood. 56% of the mothers knew the right precautions to take when making food, 32% said food should constitute mainly family foods, and 7% responded that the texture and flavour of the food should be according to the developmental requirements of the child. 5% of the mothers did not know the precautions. The results

also reveal that 20% of the mothers responded that a mother should plan daily complementary food based on what is available at home, while 62% said based on what the child likes, and only 18% responded correctly by saying food should be planned according to food groups. On the minimum number of food groups to be added on a daily basis, 26% responded that a minimum of four food groups was correct; 36% responded that a minimum of two groups and 38% responded that they didn't know.

34% knew the correct frequency of giving complementary food to 6-8 months old infants, while 57% responded that 3-4 times, 35 responded that 3-4 times with 1-2 snacks, and 6% did not know. On the frequency of giving complementary food to a 9-24 months infant, 16% correctly responded, 4% didn't know, 27% responded that

2-3 times, and 53% responded that 3-4 times was the correct frequency. Scores were provided for the knowledge of mothers. The result reveals that the majority of mothers fall at a poor level of knowledge, but the mean knowledge score was 7.29+2.15, which is considered average.

Attitude on complementary feeding

On initiation of complementary feeding before 6 months, the majority of the participating mothers disagreed that complementary feeding could be initiated before 6 months while 34% (strongly agree and agree) of the mothers agreed with the statement, and 9% of the mothers had no idea. Table 4 shows that 57% of the mothers disagreed with the statement that the quantity and frequency of food should decrease during sickness, while 27% agreed that food should decrease, and 16% had no idea as to whether food quantity and frequency should decrease during sickness or not. The majority of mothers, i.e., 96%, disagreed (strongly disagree and disagree) that babies should be fed fast, while only 1% of the mothers agreed that babies should be fed fast, and 3% had no idea. On the mother's focus on their child's willingness to eat, 71% of the mothers agreed, 11% strongly agreed, 7% disagreed, and 11% had no idea.

Table 3 Level of Knowledge of mother regarding complementary feeding

Level of Knowledge	Frequency	%
Poor	94	47
Average	52	26
Good	54	27

Table 4: Attitude on complementary feeding

Statements	Strongly agree		Agree		No idea		Disagree		Strongly disagree	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Complementary feeding can be initiated before 6 months	12	6	56	28	18	9	82	41	32	16
During illness, the quantity and frequency of food should decrease	0	0	54	27	32	16	102	51	12	6
After initiating complementary feeding, it is good to continue breastfeeding	34	17	72	36	22	11	72	36	0	0
Children eating a variety of fruits and vegetables fall ill less frequently	16	8	96	48	54	27	34	17	0	0
Homemade foods are more nutritious than readymade foods	26	13	78	39	76	38	20	10	0	0
Serving balanced foods prevents malnutrition	36	18	126	63	38	19	0	0	0	0
Packet foods like noodles and chips are nutritious for children	2	1	26	13	98	49	48	24	26	13
Neighbours and grandparents are the best advisors related to children's nutrition	0	0	50	25	66	33	68	34	16	8

Table 5 Level of mother's attitude on complementary feeding

Level of Attitude	Frequency	%
Poor	58	29
Average	38	19
Good	60	30
Excellent	44	22

The mothers were also asked about their attitude towards continuing breastfeeding after complementary feeding initiation. 53% (strongly agree and agree) of the mothers agreed that it is good to continue breastfeeding, while 36% disagreed and 11% had no idea. The table also depicts that 56% of the mothers agreed that children eating a variety of fruits and vegetables fall ill less frequently, while 17% of the mothers disagreed and 27% had no idea. Of all the mothers, 52% agreed that homemade foods are more nutritious than readymade foods, 10% disagreed, and 38% had no idea. On serving balanced foods, the table highlights that the majority of the mothers, i.e., 81% agreed that serving balanced foods prevents malnutrition. None of the mothers disagreed, but 19% had no idea. Table 4 also depicts that the majority of the mothers, i.e. 49% had no idea whether packet foods like noodles and chips are nutritious for children, while 37% disagreed with the statement and 1% agreed. On the best advisor concerning children's nutrition, 25% of the mothers agreed, and 43% disagreed that neighbours and grandparents are the best advisors while 33% of the mothers had no idea. The scoring of attitudes of mothers was made out of 50. The mean score obtained for attitude was 30.59+5.8, and the majority fall in a good level of attitude towards on complementary feeding.

Mothers practice complementary feeding

Table 6 depicted that 16% of the mothers breastfed their children in the age range of 4-6 months, while 1% bottle-fed their children. It also showed that 11% of the mothers breastfed their children within the age range of 7-11 months, while 4% bottle-fed their children. For mothers with children within the age ranges of 12-24 months, the results revealed that 48% of the mothers still breastfed their children, while 20% did not breastfeed but rather opted for bottle-feeding.

78% of the mothers wash their child's hands before feeding, and 22% do not. When asked if the mothers wash their hands prior to food preparation and child feeding, 100% of the mothers responded positively.

The results from the table show that 18% of the mothers give solid food to their children, 69% of the mothers, which is the majority give semi-solid food to their children, and 13% give liquids.

On the frequency of feeding children per day 48% of the mothers responded that they feed their children twice or thrice a day, while 20% of the mothers responded that they feed their children once or twice a day. The results also revealed that out of 100 mothers interviewed, 11% of them feed their children 0-1 times a day, and 21% feed their children 3-4 times a day. The mothers were asked how much they feed their children at a given time, 8% responded that they give a full tablespoon to their child at a time. 9% said they feed their child 2 full tablespoons, 51% said they give their child half a cup, and 32 % said they give a full cup of food at a particular feeding time to the child.

Table 6 also shows that 63% of the mothers continue with complementary feeding even if the child is sick, while 37% responded do not. On whether the mother gives more fluids to their children when sick, 65% of the mothers said they give more fluids, while 35% said they do not. The results also revealed that 52% of the mothers responded that they prefer sitting their child on the lap when feeding, while 22% said they prefer making the child sit on a chair, and lastly, 26% of the mothers responded that they prefer leaving the child to roam around as they feed.

The mother's practice regarding complementary feeding

The total score of this section was 10 points which was later translated to percentage.

Table 7 Levels of Mother's practice on complementary feeding

Level of Attitude	Frequency	%
Poor	27	27
Average	51	51
Good	22	22

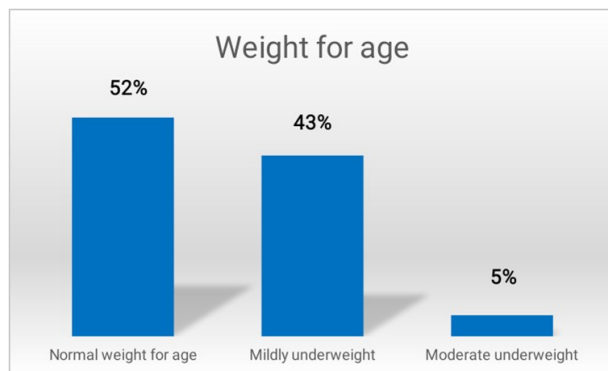
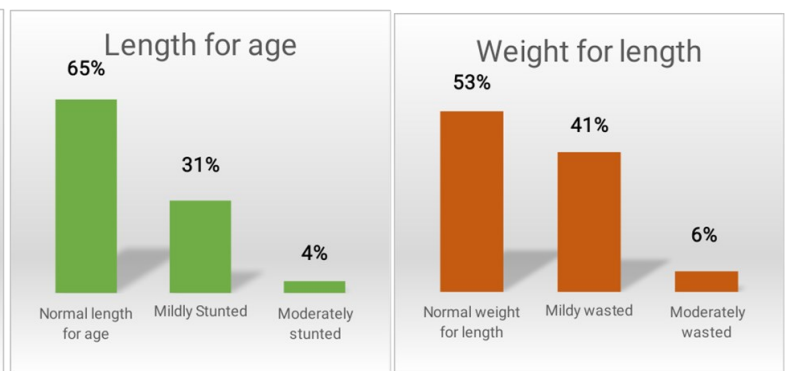
The majority of mothers practices fall in the average category (Table 7).

Nutritional status of children

Figure 1 shows the nutritional status of children based on their weight for age. It is noted that 52% of the children had a normal weight for their age which was between -1SD to +1SD according to WHO standards. 43% of the children were mildly underweight between -1SD

Table 6: Practice followed by mothers for complementary feeding

Breastfeeding	Frequency	%
4- 6 months	32	16
7-11 months	22	11
12-24 months	96	48
Bottle feeding		
4- 6 months	2	1
7-11 months	8	4
12-24 months	40	20
If the mother washes the child's hand before feeding		
Yes	156	78
No	44	22
If the mother washes her hand before feeding		
Yes	180	90
No	20	10
Food consistency		
Solid	36	18
Semi-solids	138	69
Liquids	26	13
Number of times which the mother feeds the child		
2-3 times	96	48
1-2 times	40	20
0-1 times	22	11
3-4 times	42	21
How much food does the mother give the child at one time		
1 tablespoon	16	8
2 tablespoons	18	9
Half cup	102	51
3/4 or 1 cup	64	32
Mothers practice when the child is sick		
Continues with complementary feeding	126	63
Does not continue with complementary feeding	74	37
If the mother gives more fluid to the child when sick		
Yes	130	65
No	70	35
Method used to feed the child		
Making the child sit on lap	104	52
Making the child sit on a chair	44	22
Leaving the child to roam around	52	26

Figure 1 Shows the nutritional status of children based on their weight for age.**Figure 2 Stunting and wasting among children**

and -2SD and 5% were moderately underweight between -2SD to -3SD. The results showed that no child was severely underweight or overweight. 65% of the children have a normal length for age, and 31% of the children were observed to have mild stunting. 4% were observed to be moderately stunted observed, as evidenced by falling in the category between -2SD to -3SD. The results did not register any case of severe stunting. As illustrated in Figure 2 53% of the children had a nor-

mal weight for length. Mild wasting was observed in 41% of the children who fell between -1SD to -2SD. 6% of the children fell between -2SD to -3SD and were classified as moderately stunted. The results did not register any case of severe stunting.

Correlation of nutritional status of children with various variables.

A Spearman's rank correlation was run to determine a relationship between the nutritional status of children

Correlations

Spearman's rho	Nutritional status of children	Correlation Coefficient	Nutritional status of children	Mothers knowledge	Income	Education	Attitude	Practice
		Sig.	1.000	.395**	.232**	.515**	.105	.063
		(2-tailed)		.000	.020	.000	.297	.536
		N	200	200	200	200	200	200

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed)

and the mother's level of education, family monthly income, knowledge, attitude and practice of mothers regarding complementary feeding. The association between the nutritional status of children and the mother's level of education showed a positive correlation which is statistically significant ($r_s(98) = .515, p < .001$). A significant positive correlation was also found between the nutritional status of children and the family's monthly income ($r_s(98) = .232, p > .005$). On the nutritional status of children and mothers' knowledge, a significant positive relationship was found ($r_s(98) = .395, p > .001$). The also results in a non-significant positive correlation between the nutritional status of children and the mother's attitude towards complementary feeding ($r_s(98) = .105, p > .005$). A weak positive non-significant correlation ($r_s(98) = .063, p > .005$) was found between the

mother's practice and the nutritional status of the children.

DISCUSSION

Nutritional status is the predictor of overall health in children¹³. Proper and adequate food which is rich in nutrients helps children in attaining proper growth and development. WHO recommends initiation of breastmilk soon after child delivery or within 1 hour after birth, exclusive breastfeeding for 6 months and starting complementary feeding six months after childbirth¹⁴. Complementary feeding involves the introduction of solid, semi-solid and liquid food to children after six months of exclusive breastfeeding. Inappropriate child-feeding practices fuel the malnutrition rate in children during the transition from breastfeeding to complementary feeding.

A high prevalence of undernourishment and growth faltering has been noted in India, to which improper child-feeding habits have sorely contributed¹⁴. Results from this study suggest that the overall knowledge of lactating mothers regarding complementary feeding was average. This study found that only 47% knew the correct time to start with complementary feeding, which was slightly higher than the findings of a study by Saleh et al., 2014¹¹. The majority of the mothers, 57%, had a positive attitude towards the initiation of complementary. The mothers disagreed that complementary feeding could start before the age of six months. Collaborating our findings with another study revealed that 62% of the mothers also had a positive attitude towards the timely commencement of complementary feeding⁹. On continuation of breastfeeding, the present study found that 63% of the mothers had the proper knowledge on continuing breastfeeding for a minimum of 2 years. Similar results were found in a study in which mothers in the study felt that continuation of breastfeeding should be till 2 years of age¹⁶. On the mother's attitude towards a continuation of breastfeeding, the present study found that 53% of the mothers had a positive attitude which was lower than the results of Bimpong et al., 2020¹⁰. The present study also showed that 59% of the mothers who had children aged 7-24 months still practised breastfeeding even after the initiation of complementary feeding. Collaborating our study findings with Neme & Olika, 2017 revealed that almost half of the mothers recruited in their study still practised breastfeeding till the age of two¹⁷.

The mother's knowledge of the frequency of giving a 6-8 month-old infant and 9-24 months old complementary food was assessed. The results revealed that only 34% of mothers knew the correct frequency of giving 6-8 months old food, and 16% knew the correct frequency of giving 9-24 months food. Collaborating our study findings with another study, the results from Abiyu & Belachew, 2020 revealed that 32% of mothers in the study knew recommended frequency of feeding a 6-8-month-old¹⁷; likewise, 22.6% of the mothers knew the correct frequency of feeding 9-23 months old per day. WHO recommends that a 6-8-month-old be fed twice or thrice a day, and the frequency should increase to 3-4 times a day from the ages of 9-24 months with 1-2 snacks a day¹⁹. Regarding the practice of the mothers on the frequency of giving food, the results from the present study revealed that 48% fed their children 2-3 times per day, 20% fed their children 1-2 times a day, 11% fed their children 0-1 times a day, and 21% fed their children 3-4 times a day. On the contrary, results by Al-mutairi &

Sulaiman, 2021²⁰ found out that 53.2% of the mothers in their study fed their children 4-5 times a day, and 45% fed their children 2-3 times which was higher than the present study.

Statistical analysis was done using Spearman's rank correlation, and a significant positive association was found between the nutritional status of children and the mother's knowledge ($r_s(98) = .395, p < .001$). Similar findings were found in a study by Alfiana et al., 2019²¹ in which a significant positive correlation was found between the mother's knowledge on complementary feeding and the nutritional status of 6-24 months old infants. The results of this study also revealed a non-significant positive correlation between the mother's attitude and the nutritional status of the children. On the association between the mother's practice and the nutritional status of the children, a weak positive non-significant correlation was found between the two ($r_s(98) = .063, p > .005$). A significant positive correlation was also found between the mother's education status and the nutritional status of a child ($p < .001$). Collaborating our findings with another study revealed a significant association between underweight and stunting and maternal education ($p < .005$). The study also elaborated that educated mothers had more nutritional information concerning their children, including exclusive breastfeeding, the benefits of colostrum and complementary feeding²². Mothers' education plays a major role in improving the health status of children because educated mothers are more likely to make sound decisions concerning complementary feeding, and educated mothers have a better understanding on policies concerning the child's nutrition. Family income also plays a role in determining the nutritional status of children in a way that when a family has enough money, their purchasing power increases. Families can buy diverse foods required by their children. Statistical analysis to find the association of family monthly income revealed a significant positive relationship between the two ($p < .005$).

CONCLUSION

The mothers in the study showed an average level of knowledge, good attitude and average practice towards complementary feeding, which negatively affected the nutritional status of the children. Several factors, such as the educational level of the mother and the monthly family income, also affected the nutritional status of the children. Well-nourished children were mostly noted in mothers who had higher educational status and in families with higher monthly income. More studies on

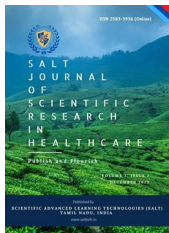
complementary feeding need to be done as much emphasis is put only on breastfeeding. It is of utmost importance that nutritional education focusing on complementary feeding and behavioural change is imparted in

mothers. Community awareness campaigns should be set up so that mothers should not only rely on the hospitals for nutrition information.

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