

Original Research Article

A study on feeding practices among mothers with children aged less than two years in rural area of Kancheepuram District, Tamil Nadu

Fasna Liaquath Ali*, Ravivarman Govindasamy, Suganthi Soubramanian

Department of Community Medicine, Chettinad Hospital and Research Institute, Kelambakkam, Tamil Nadu, India

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*Correspondence:

Dr. Fasna Liaquath Ali,

E-mail: fasnaliaqathali@gmail.com

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ABSTRACT

Background: Adequate nutrition in first 24 months through optimal Infant and Young Child feeding is fundamental for the development of the child. Hence assessment of Infant and Young child feeding practices rank among the most effective intervention is to meet the deficit improve the child health. Hence this study is conducted with the objective to assess the prevalence and factors influencing infant and young child feeding practices among the rural mothers of children aged less than two years.

Methods: A cross sectional study was undertaken in the rural area of Kancheepuram district, Tamil Nadu from January 2017 to August 2017. 247 children of age less than two years were selected by two stage random sampling method. Data was collected house to house using pretested questionnaire and WHO infant and young child feeding questionnaire. Proportions were calculated and Chi square was applied.

Results: The median age of the study participants were 9 ± 7.1 months. 226 (91.5 %) were given colostrum and 163 (66%) were initiated breastfeeding within one hour after birth. 58.6% of children were introduced on soft/solid/semi solid food at the end of 6 to 8 months. In multiple logistic regression education of the mother, working status of the mother, number of antenatal visits and place of delivery were associated with appropriate feeding practices.

Conclusions: Maternal decision determines how an infant to be fed but it reflects the atmosphere by how they are influenced and adopted the decision.

Keywords: Infants, Exclusive breastfeeding, Complementary feeding, Malnutrition, Maternal education, Behavioral

INTRODUCTION

The first 1000 days of life is considered as the critical window period for growth and development of children. WHO and UNICEF had put emphasis on this formative period i.e. 270 days in uterus and first two years after birth as an optimal period for adequate physical, mental and cognitive growth and development of the children.¹ Adequate nutrition during the infancy period is an early, appropriate and ideal intervention which helps the children to grow into full potential and reduces the risk of illness.² Though infant and young child feeding practices have been followed more than a decade, and globally it has failed to witness a remarkable progress except in exclusive breastfeeding. In 2015, only 45% of newborns

were put into breastfeeding within one hour of birth. 58% of children were initiated on complementary foods at the end of 6 months. Continued breastfeeding among 12 to 23 months has dropped from 74% to 46%. Only one in six children is receiving a minimum acceptable diet globally.³

In India, according to National Family Health Survey-4, 45% were initiated breastfeeding within one hour of birth. The trend of exclusive breastfeeding for six months has increased from 46% in 2005-06 to 55% in 2015-16. 52.6% of children were introduced on complementary feeding. Only 9.8% of children received minimum acceptable diet for 6 to 24 months.⁴ Despite several programmes and policies implemented by the

government in hands with WHO and UNICEF on Infant and Young child feeding, many factors still conquer the rural and remote areas which hinders India to achieve the millennium development goals in child health.

The aim of the study was assessing the prevalence and factors influencing Infant and Young Child feeding practices among rural mothers of children aged less than two years in Kancheepuram district, Tamil Nadu.

METHODS

Study design

This study was a cross sectional study conducted in rural areas of Kancheepuram district, Tamil Nadu.

Study duration

The study was conducted for a period of 8 months from January 2017 to August 2017.

Sample size

Based on National Family Health Survey 4 (NFHS), the prevalence of breastfeeding children age 6 to 23 months who received adequate diet is 17% in Kancheepuram district.⁵ Considering 17% as prevalence assuming 95% confidence with 5% allowable error, the sample size is calculated by the formula $N = 4pq/E^2$ where p is prevalence, q is 1-p, and E is allowable error of P, with 10% non-response rate, 247 participants were included in the study.

Sampling method and sampling frame

There were 13 blocks in Kancheepuram district, Tamil Nadu according census India 2011.⁶ Among this block, Thirukazhukundram block was selected by simple random sampling method. In Thirukazhukundram block, out of 54 villages- Kadambadi, Kunnapattu, Kuzhipanthandalam and Manamai villages were selected by simple random sampling method. A total of 756 under two children were enumerated from the above villages. Systemic random sampling was adopted to select every 5th child until required sample size was achieved.

The inclusion criteria were the children of age less than two years of age residing in the study area for more than one year. The study participants who were not able to contact even after 3 visits were excluded.

Study tool: The study tool comprises two parts:

Part 1: Pretested semi-structured questionnaire-comprises of two sections

Section 1: Sociodemographic data: Age of child, age of mother, occupation status in last 12 months, educational status of the mother, type of family, income of the family, socio economic status.

Section 2: Antenatal and postnatal details: birth order of child, birth interval, number of antenatal visits, place of delivery, mode of delivery and number of postnatal visits.

Part 2: WHO infant and young child feeding practice questionnaire⁷

Includes early initiation of breastfeeding, colostrum feeding, prelacteal feeding, exclusive breastfeeding, bottle feeding practices. Additionally introduction of complementary food were included for 7 to 24 months.

Statistical analysis

The collected data was checked for completeness before entering into the Microsoft excel spread sheet. The entered data was analysed using Statistical Package for Social Sciences (SPSS IBM) 21. The quantitative data was expressed in frequency and proportions. Chi square test was applied in which p value <0.05 was taken as significant. Multiple logistic regressions were used to assess the strength of association.

Ethical consideration

Institutional Ethical Committee approval of Chettinad Hospital and Research Institute was obtained before starting the study. Informed written consent was obtained from the mother before collecting the data. The confidentiality of the data collected from the enrolled participants was maintained in all the phases of the study.

RESULTS

The median age of the children was 9±7.1 months. Among 247 children, 104 (42.1%) children belong to 0 to 6 months of age and 143 (57.9%) children belong to 7 to 24 months of age. 126 (51%) were male and 121 (49%) were female child respectively.

Among the mothers, majority of them (44.5%) completed middle schooling and 12.6% were working. 61.1% of them belong to nuclear family and 51% belong to lower middle class according to modified BG Prasad classification 2018.

Majority of mother (62.8%) had 3 to 7 antenatal visits and 97.2% of mother preferred health institution delivery. 57.1% of mothers had atleast one postnatal visit (Table 1).

Table 2 represents among the study participants, 226 (91.5 %) were given colostrum and 163 (66%) were initiated breastfeeding within one hour after birth. In 0 to 6 months, 65 (26.3%) were predominantly breastfed and 25 (10.2%) were exclusively breastfed for 6 months. In 7 to 24 months, 84 (58.7%) participants were introduced on soft/semi-solid/solid food at 6 to 8 months and 58 (58.7%) were introduced before 6 months. 36.4% of study participants were given bottle feeding. The children

with appropriate feeding practice was given score 1 and inappropriate was given 0. In multiple logistic regression (after dichotomizing the factors), education of the

mother, working status of the mother, number of antenatal visits and place of delivery were associated with appropriate feeding practices (Table 3).

Table 1: Baseline characteristic of the mothers of the study participant.

S. No	Variables	Frequency (n=247)	(%)
1	Marital status		
	Currently married	247	100
	Formerly married (Divorced/Separated/widowed)	0	0
2.	Educational qualification		
	Postgraduate	0	0
	Graduate	0	0
	Higher secondary	2	0.8
	High school	37	15
	Middle school	110	44.5
	Primary school	41	16.6
3	Illiterate	57	23.1
	Working status of the mother		
	Yes	31	12.6
4	No	216	87.4
	Type of family		
	Nuclear	151	61.1
5	Joint	96	38.9
	Socio economic classification*		
	Upper class	7	2.8
6	Upper middle	2	0.8
	Middle class	29	11.7
	Lower middle class	126	51
7	Lower class	83	33.6
	Antenatal visits		
	No visits	1	0.4
8	Less than 3 visits	22	8.9
	3 to 7 visits	155	62.8
	More than 7 visits	69	27.9
9	Birth interval		
	No previous birth	130	52.6
	6 to 15 months	8	3.2
10	15-24 months	20	8.2
	>24 months	89	36.0
11	Place of delivery		
	Home	7	2.8
	Health institution	240	97.2
12	Postnatal visits		
	No visits	16	6.5
	1 visit	141	57.1
13	1 to 3 visit	75	30.4
	More than 3 visit	15	6.1

Table 2: Infant and young children feeding practices of children aged less than two years.

S.No	Variables	Frequency (n=247)	(%)
1.	Colostrum feeding		
	Yes	226	91.5
	No	20	8.1
	Don't know	1	0.4

Continued.

S.No	Variables	Frequency (n=247)	(%)
2.	Prelacteal feeding		
	Yes	77	31.2
	No	170	68.8
3.	Early initiation of breastfeeding		
	Immediately after birth	163	66
	Within one hour of birth	55	22.3
	After one hour of birth	29	11.7
4.	Exclusive breastfeeding 0 to 6 months (currently exclusive breastfeeding)		
	Yes	39	15.7
	No	65	26.3
	7 to 24 months		
	Yes	25	10.2
	No	118	47.8
5.	Bottle feeding		
	Yes	90	36.4
	No	156	63.2
	Don't know	1	0.4

*Modified BG Prasad classification 2019⁷

Table 3: Association between socio-demographic, antenatal and postnatal details and feeding practice among study participants.

S. No	Variables	Appropriate feeding practices		P value	OR(95% CI)
		Yes	No		
1	Education			0.001*	2.79 (1.52-5.11)
	Illiterate	27	31		
	Literate	134	55		
2	Working			0.036*	2.22 (1.04-4.75)
	Yes	15	16		
	No	146	70		
3	Antenatal visit			0.005*	3.117 (1.37-7.06)
	<3 visits	11	16		
	>3 visits	150	70		
4	Place of delivery			0.052*	0.934 (0.22-3.830)
	Home	6	3		
	Health Institution	155	83		
5	Mode of delivery			0.871	1.045 (0.616-1.772)
	Vaginal	90	49		
	C-Section	71	37		
6	Sex of child			0.147	1.612 (0.128-2.345)
	Male	86	56		
	Female	75	30		
7	Postnatal visit			0.129	1.563 (0.895-2.72)
	<3 visits	96	60		
	>3 visits	65	26		

Chi square test was applied. P=0.05.

DISCUSSION

In the current study, 8.1% not received colostrum in the first three days of life. Similar finding was found in the study conducted by Weldesamuel et al which reported 6.3% of newborns not received colostrum.⁸ Comparable report on discard of colostrum was revealed by Kamath et al.²⁴ Yet, the prevalence of colostrum avoidance is similar

in various region, the factors like antenatal care, home delivery, and locality of mother, wrong myth and religion influenced colostrum avoidance among mothers in different studies.⁸⁻¹⁰ In the current study 31.2% of the study participants received prelacteal feeding in the first three days of life which was higher compared to the studies of Dandekar et al (28%), Tarikul et al (26.8%).^{11,12}

Among 247 study participants, exclusive breastfeeding for six months was received by 10.2% of infants which was alike compared to other studies conducted by Sahithyaa J et al.¹³⁻¹⁶ Maternal perception that only breastfeeding is not sufficient to fulfill the need and growth of infant were found to be strong factor in early cessation of exclusive breastfeeding. Maternal factors like inadequate secretion of breastmilk, maternal illness and household responsibilities were found to influence exclusive breastfeeding. Effective antenatal and postnatal advice on breastfeeding practice have a positive impact on exclusive breastfeeding for six months.

58.7% of children were introduced on complementary feeding at six to eight months among the study participants. Comparable results were explored in West Bengal where the timely introduction of complementary feeding was introduced to 66.6% of children.¹⁷ Kavitha et al revealed, 40.6% children were introduced on complementary feeding before six months and associated maternal education with complementary feeding in the study.^{18,19} Nearly 36% of mother initiated complementary feeding at the end of six months by Dasgupta et al when compared to the present study.²⁰

The mothers with educational qualifications have better insight than illiterate mothers which influences infant and young child feeding practices which is supported by other studies.^{11,21-23} There were no significant association with the infant and young child feeding practices and socioeconomic status of the study participants and similar was reported by Radhakrishnan et al.²⁴

The suboptimal IYCF practice among mothers with multiple birth and birth interval less than 6 to 15 months were due to early cessation of breastfeeding to elder children and nutritional deprivation of mother which in turn effects the child feeding and nutrient which was explored in similar other studies.^{10,25} Similarly, antenatal and postnatal visits have a significant influence on the early infant feeding because antenatal and postnatal visits inculcate more knowledge on breastfeeding than complementary feeding which is found significant in the study. Weldesamuel et al reported similar association in their study.⁸

CONCLUSION

The study assessed four out of eight core indicators of infant and young children feeding practices as recommended by WHO. Though maternal education, antenatal and postnatal care has only diminutive effect on feeding practice at early infancy stages not on the later stages of childhood. Hence appropriate infant and young child feeding practice propagation should be imparted and assessed at regular intervals. Ultimately maternal decision determines how an infant to be fed but it reflects the atmosphere by how they are influenced and adopted the decision. Hence an appropriate behavioral change counselling on child feeding and rearing practices should

be given to the family members and community decision makers for the better outcome of feeding practices.

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