

Infant and Young Child Feeding (IYCF): A Gap Analysis between Policy and Practice

Research Article

Pujitha Sriram Padmanabhan^{1*} and Kanchan Mukherjee²

¹PhD Research Scholar, School of Health System Studies, Tata Institute of Social Sciences, Mumbai, India

²Professor, School of Health System Studies, Tata Institute of Social Sciences, Mumbai, India

***Corresponding author:** Pujitha Sriram Padmanabhan, PhD Research Scholar, School of Health System Studies, Tata Institute of Social Sciences, VN Purav Marg, Deonar, Mumbai-400088, India; Tel: 9820475654; E-mail: pujitha.sriram@gmail.com

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Abstract

Infant and Young Child Feeding (IYCF) practices are a set of recommendations to achieve appropriate feeding of children below two years of age in order to achieve optimal nutrition outcomes in the population. This study was conducted to identify gaps between feeding practices in the community (across different geographic settings) and what is advocated in the policy. This was a cross-sectional study conducted in Salem district, Tamil Nadu, India. Data on feeding practices was obtained from mothers having children aged 12-23 months. Purposive sampling was done and 332 respondents participated in the study (110 from rural and tribal areas each and 112 from urban slums). A semi-structured interview schedule was used for data collection. Feeding practices were assessed based on the eight core indicators given by UNICEF in the IYCF policy. Prevalence of exclusive breastfeeding was dismally lower in the mothers from the urban slum areas, whereas, complementary feeding practices were compromised in the mothers from the tribal areas. With respect to most feeding practices, the mothers in the rural areas were closest to following as per what is advocated in the policy. These gaps between practices advocated in the policy to those followed in the community need to be addressed soon.

Keywords: IYCF policy; Feeding practices; Nutrition; Mothers; Children

Introduction

The World Health Organization (WHO) defines 'Nutrition' as the intake of food considered in relation to the body's dietary needs. Malnutrition occurs in two forms- Undernutrition (deficiency of essential nutrients in the body) and Overnutrition (excess of nutrients in the body). Infants and young children grow rapidly and require relatively more nutrients (2-3 times) per kg body weight than adults [1]. A child's nutritional foundation is established in the first 36 months of life, where the first 1000 days are considered the most critical [2,3]. In poorer populations, growth faltering among infants usually occurs shortly after the transition to complementary feeding, because most poor households do not have access to the types of food that can meet the nutritional needs of children [4]. NFHS-3 data (2005-2006) reports that the prevalence of underweight in India increases during the phase from birth to 20-23 months. Infant and Young Child Feeding (IYCF) practices are a set of recommendations to achieve appropriate feeding of new-born and children under

two years of age in order to achieve optimal nutrition outcomes in populations. IYCF actions are implemented as part of the priority child survival and development programs of UNICEF and WHO, as well as in the plans of many nations [5]. The Lancet series on Maternal and Child Undernutrition-2008, talk of 'Changing Infant and Young Child Feeding (IYCF) behavior' as one of the five major recommended strategies to reduce stunting and child deaths. Early initiation of breastfeeding, exclusive breastfeeding upto 6 months and timely complementary feeding is very poor in India [6]. Survey analysis of NFHS- 2 data (1998-1999), NFHS-3 data (2005-2006) and DLHS-3 data (2007-2008) suggest that though there has been a slow and gradual increase in the practice of early initiation of breast feeding, there has been no improvement in the status of exclusive breast feeding and complementary feeding [5].

While there have been several studies conducted to assess the prevalence of feeding practices of mothers, most of them have concentrated on breastfeeding practices alone. Tamil Nadu is one of

India's more progressive states, ranking in top 3 on several economic and social indicators. The Government of Tamil Nadu has introduced several progressive policies and programmes for women and children that have together helped in drastically improving the nutritional status of the children. However, The UNICEF reports that within Tamil Nadu, several regional and social disparities exist, in addition to several caste and gender-related poverty issues posing a great problem for children belonging to some regions, especially those from socially excluded communities such as Scheduled Castes and Scheduled Tribes. A report published by the United Nations identified several issues like poor housing conditions, lack of clean water supply and sanitation facilities, over-crowding, etc. which predisposes slum-dwellers to several health problems and extreme nutrition risks [7]. Many women in urban slums are unable to follow appropriate infant feeding practices because they resume work in order to minimize lost wages [8]. There has been a study on the prevalence of exclusive breastfeeding in a rural area of Salem, but there is no evidence on the other feeding practices there [9]. Also, while there have been several studies done on the tribal's living in the Nilgiris in Tamil Nadu, there have been very limited studies on the developmental status of the other tribal groups [10]. Several socio-economic development projects have caused enormous uprooting of the tribal people from their natural habitats to surrounding rural areas or to cities, causing severe disintegration of their particular lifestyle, which in itself contributes to hunger and undernutrition [11]. Salem is a district where there are urban, rural as well as tribal areas. It would be useful to understand the feeding practices of the mothers across different (urban slum/rural/tribal) settings in Salem district, Tamil Nadu. This study was conducted with an objective to identify gaps that exist (if any) in feeding practices at community level to what is advocated at policy level.

Methods

Operational definitions

The feeding practices of mothers were analyzed based on the eight core indicators given by UNICEF namely- Early initiation of

breastfeeding, Exclusive breastfeeding for 6 months, Continued breastfeeding at 1 year, Introduction of solid, semi-solid or soft foods, Minimum dietary diversity (MDD), Minimum meal frequency (MMF), Minimum acceptable diet (MAD), Consumption of iron-rich or iron-fortified foods [12]. Data for this study was collected from respondents in urban slums, rural areas and tribal areas of Salem district, Tamil Nadu, India. Urban areas in this study are defined as areas that come under the purview of Salem city Municipal Corporation, tribal areas as those areas in Salem district that have been identified for the Integrated Tribal Development Project (ITDP) and other villages in Salem district (excluding those that are part of the ITDP) are considered as rural areas.

Study area

Respondents from the urban slums were collected from several Anganwadi centers of the Integrated Child Development Services (ICDS) programme across Salem city. Respondents from the rural area were chosen from villages in Panaimarathupatti block, namely Dasanaickenpatti, Gajalnaickenpatti, Kammalapatti, Thumbalpatti, Nilavarapatti and Kondalampatti. Respondents belonging to the tribal community were chosen from Manjakuttai, Nagalur, Semmanatham, Thalaisalai, Velur, Vellaikadai and Vazhavanthi which are all villages in the Yercaud block of Salem district. Figure 1 gives a block map of Salem district.

Research design

Keeping in mind the objectives of the study, a quantitative approach was applied to the methodology. This was an observational cross-sectional study. Data on feeding practices were to be collected from the mothers of children aged 12-23 months of age. This age-group of children twelve months of age onwards was considered because the likelihood of the child having been introduced to all the food groups is more than at six months of age onwards. Purposive sampling method was used throughout the study. A sample size of 330 was arrived at, and an equal number of respondents were chosen



Figure 1: Salem district block map.

from the urban, rural and tribal areas (110 from each respectively). The decided number of respondents from each of these areas was identified with the help of key informants and mothers were chosen on the basis of inclusion and exclusion criteria. Mothers were chosen for this study if they had a child in the age-group of 12-23 months, and if they were residing in the area where data collection was done (rural/urban/tribal). Respondents who were not residents in the area where data collection was being done and respondents who were unwilling to participate in the study were excluded from the study.

Data collection

Permission was obtained from the office of the Deputy Director of Health Services, Salem district, and the respective Block Medical Officers (BMOs) of the rural and tribal areas to conduct the study. The process of data collection in this study was then initiated by first identifying the key informants in each of the areas- Urban slums, Rural and Tribal areas respectively. In the urban slum areas, data collection happened at the Anganwadi centers across Salem city. The respondents from the urban slums were identified by the Anganwadi workers (AWWs) there, and the interviews were conducted by the researcher at the Anganwadi centers itself. Data collection in the rural areas happened at the Panaimarathupatti Block of Salem district. Contact was first established with the Community Health Nurse (CHN) in charge of the Panaimarathupattiblock, who helped identify the villages where data collection could be done.

The respondents from each of these villages within this block were then identified with the help of the Sector Health Nurses (SHNs), Village Health Nurses (VHNs) and a few Auxiliary Nurse and Midwives (ANMs). Data collection in the tribal areas happened similarly, by first establishing contact with an SHN in Yercaud block, who helped identify the villages. The respondents in these villages were then identified with the help of the Accredited Social Health Activists (ASHAs) and VHNs there. Once the respondents were identified and chosen by means of the inclusion and exclusion criteria, their consent was taken before proceeding with the interview. A one-on-one interview was conducted with each of the respondents with the help of a semi-structured interview schedule and data on the socio-demographic profile, medical history of the mothers and feeding practices was obtained. Data collection was done over duration of three months, from July 2015 to September 2015. All the data was collected after taking an informed consent from all the participants for voluntary participation in this study. The objectives of the study were explained to them and they were encouraged to ask the researcher for any clarifications. They were assured by the researcher that their privacy would be respected and confidentiality would be maintained. Participants were allowed to withdraw from the study at any stage.

Analysis

All the data was recorded in the software Statistical Package for Social Sciences (SPSS) Version 20. To describe about the data, descriptive statistics mainly frequency analysis, percentage analysis, mean and S.D were used.

Results

Socio-demographic profile of the respondents

Data for this study was collected from 332 mothers (110 from rural and tribal areas, and 112 from urban slums). Table 1 gives the socio-demographic profile of the respondents of the study.

Majority (67.5%) of the women belonged to the age-group of below or equal to 25 years. The mean age of the women who participated in the study was 24.69 ± 3.41 years. Majority of the mothers (51.2%) who participated in the study had completed education up to the primary school level, followed by 24.7% mothers who had secondary school level of education. Fifty one per cent of the women belonged to nuclear families and a majority (82%) of them had been unemployed in the last twelve months. Almost all of the mothers (99.4%) reported that they had more than three prenatal care visits to a healthcare facility during the course of their pregnancy and 98.2% of them reported to have had institutional deliveries.

Feeding practices

Table 2 demonstrates the prevalence of the various feeding practices in the community.

Table 1: Socio-demographic profile of the respondents.

		Number	Percentage
Age	≤25 years	224	67.5
	>25 years	108	32.5
Literacy	Illiterate	41	12.3
	Primary	170	51.2
	Secondary	82	24.7
	Graduation and above	39	11.7
Family type	Joint	162	49
	Nuclear	170	51
Employment status	Unemployed	274	82
	Employed	58	18
Prenatal care visits	> 3 visits	330	99.4
	< 3 visits	2	0.6
Type of delivery	Institutional	326	98.2
	Home	6	1.8

Table 2: Feeding practices of mothers.

	Rural areas	Tribal areas	Urban slums	Overall
Timely initiation of breastfeeding within 1 hour of birth	82 (74.5)	77 (70)	69 (61.6)	228 (68.9)
Exclusive breastfeeding from 0-5 months	37 (33.6)	30 (27.3)	17 (15.2)	84 (25.3)
Continued breastfeeding beyond 12 months	60 (54.5)	91 (82.7)	70 (62.5)	221 (67)
Introduction of complementary feeds in the 6 th month	38 (34.5)	28 (25.5)	30 (26.8)	96 (28.9)
Minimum Dietary Diversity	103 (93.6)	88 (80)	101 (90.2)	292 (88.2)
Minimum Meal Frequency	18 (16.4)	22 (20)	12 (10.7)	52 (16)
Minimum Acceptable Diet	17 (15.5)	19 (17.3)	11 (9.8)	47 (14.15)
Consumption of iron supplements/ iron-fortified food	17 (15.5)	27 (24.5)	13 (11.6)	57 (17.16)

The policy issues guidelines both with respect to breastfeeding and complementary feeding practices. The IYCF policy advocates that breastfeeding needs to be initiated as early as possible, avoiding delay beyond an hour, for all normal newborns (even for those born by Cesarean section). In this study, it was observed that, overall, 68.9% mothers had initiated breastfeeding within an hour of the child's birth. Maximum prevalence of timely initiation of breastfeeding was observed in rural areas (74.5%), whereas only 61.6% of the mothers in urban slums had initiated breastfeeding within an hour of the child's birth. The main reason given for delay in initiation of breastfeeding was Cesarean deliveries. The practice of prelacteal feeding was also fairly prevalent (26.5%), and the most common prelacteal feeds reported to having been given were sugar water and honey. With respect to exclusive breastfeeding, The IYCF guidelines recommend that it needs to be strictly followed from 0-5 months of the child's life and that no other fluids or food should be given to the child unless medically indicated. In this study, overall prevalence of exclusive breastfeeding from 0-5 months was only 25.3%. The mothers in the rural areas showed maximum prevalence of exclusive breastfeeding (33.6%), least being in the urban slums, 15.2% of the mothers reported following exclusive breastfeeding from 0-5 months. Overall, sixty seven per cent mothers reported to have continued breastfeeding the child even after the child completed one year of age.

One of the other optimal breastfeeding indicators is continued breastfeeding beyond twelve months of age where it is advocated that even with introduction of optimal complementary feeding, breastfeeding should be continued for at least two years and beyond, depending on the choice of both the mother and child. The IYCF guidelines suggest that even after twelve months of age, the frequency of breastfeeding, including night feeds, should be 4-6 times in twenty four hours. The mothers in the tribal areas showed maximum prevalence of continued breastfeeding beyond twelve months (82.7%).

In order to ensure that a growing infant is able to meet his/her nutritional requirements, the IYCF policy recommends that complementary feeds needs to be introduced to the child at six completed months of age. The guidelines further state that the feeds need to be appropriately thick and of homogenous consistency. In this study, all the 332 children (100%) had been started on complementary feeds; however, only 28.9% of the children had been introduced to complementary feeds at six months of age. Maximum number of children who had been initiated on complementary feeding at six months of age was from rural areas (34.5%) and least in tribal areas (25.5%).

As a measure to improve the quality of complementary feeds, the WHO-UNICEF Global Strategy for Infant and Young Child Feeding (GSIYCF) identified seven food groups based on research that showed the critical importance of each in the complementary feeding diet [12]. It is recommended that a child aged 6-23 months receives complementary feeds from a minimum of four groups or more. In this study, it was observed that the majority of the children who achieved minimum dietary diversity (MDD) were from rural areas (93.6%), as against in the tribal areas, where only eighty percent of the children achieved it. Overall, 88.2% of the children have achieved the MDD that is expected of their age.

The policy also issues guidelines with respect to the minimum number of times the child needs to be fed semi-solid/solid food in a day, called the Minimum Meal Frequency (MMF). It is recommended that children who are continued to be breastfed be given a minimum of 3-4 complementary feeds a day, with 1-2 snacks in between. Children who are not breastfed are expected to be given five complementary feeds a day, with 1-2 snacks in between. In this study, overall, only sixteen percent of the children are being fed at least the minimum number of times required for a child of that age. More children from tribal areas have achieved minimum meal frequency (20%), the least being in children from urban slums (10.7%).

The effectiveness of complementary feeds meeting both the macronutrient and micronutrient requirements of the child depend equally on the quality and the quantity of the complementary feeds. When a child has achieved both the MDD and MMF, it is said that the child has achieved the Minimum Acceptable Diet (MAD) that a child of his/her age is expected to receive. Overall, in this study, it was observed that only 14.15% of the children achieved MAD, maximum being achieved by children in the tribal areas (17.3%), as compared to children from rural areas (15.5%) and urban slums (9.8%). The ICMR Recommended Dietary Allowances of iron for a child who is 12-23 months is 9 mg/day. It is expected that this requirement of iron is met by the diet the child is consuming, or by consumption of suitable iron supplements/ iron-fortified food. In this study, it was observed that the overall prevalence of consumption of iron supplements by children was 17.16%. Consumption was maximum in tribal areas (24.5%), whereas in the urban areas, it was 11.6%. With respect to the iron from the diet, majority (38.9%) of the respondents reported that they fed their children iron-rich foods approximately twice a week.

Discussion

This study was conducted to identify the gaps that exist in the feeding practices followed by mothers in the community to what is advocated in the IYCF policy given by UNICEF. This study brought to light that the feeding practices followed by mothers varied with different geographic settings, and that there are several gaps that exist between what is advocated in the policy to what is followed in the community.

In a study conducted in the urban slums of Chandigarh, India, it was found that majority (60%) of the respondents initiated breastfeeding only within six hours of birth [13]. Swain found that among the Santal tribe in northern Orissa, immediately after the child's birth, honey or jaggery was given to the child as they believed that these substances could help the child resist hunger. Insufficient milk supply, problems with lactation and importance of solid food for the growing baby were some of the main reasons given for not following exclusive breastfeeding [14]. Even in this study, prelacteal feeding was fairly prevalent for several reasons mainly pertaining to family customs and tradition, problems with establishing lactation and so on. Hector et al. observed that insufficient milk supply was one of the most common reasons given for not continuing to breastfeed [15]. Banapurmath et al. in their study, observed that continued breastfeeding rate of the child at one year of age was 99.7% and 87.2% at two years of age [16]. Even in this study, especially in the tribal areas, continued breastfeeding beyond twelve months of age was common.

A study conducted by Sinhababu et al. in West Bengal showed that 55.8% of mothers initiated complementary feeding during the 6th-8th month [17]. Senarath et al. observed that in Sri Lanka, the proportion of infants aged 6-8 months who consumed eggs (7.5%), fruits and vegetables other than those rich in vitamin A (29.6%) and flesh foods (35.2%) was low, and in the children aged 6-23 months, the MDD was seventy one per cent, which is considerably lower than what was observed in this study [18]. The higher prevalence of MDD in this study could be because children from twelve months of age onwards were only included in the study, by which time they would developmentally be ready to include foods of a lot more variety and food groups than at six months of age. Both, Patel et al. and Senarath et al. in their analysis found a far greater proportion of children aged 6-23 months having achieved MMF (41.5% and 88% respectively) [18,19]. One possible explanation for this could be that they included children from six months of age onwards where the number of times complementary feeds to be given are lesser than at twelve months of age onwards. In their secondary data analysis of the NFHS-3 data, Patel et al. observed that only 9.2% of the children met the MAD requirement, while in this study it was slightly higher (14.15%) [19].

Conclusion

This study brings to light that there are differences in feeding practices across different geographic settings within the same district. While with respect to breastfeeding indicators, mothers from urban slums were least close to following practices as advocated in the policy, with respect to complementary feeding indicators, especially timely initiation of complementary feeding and achieving dietary diversity, the tribal areas fared low. Overall, the mothers from the rural areas were closest to following feeding practices as per advocated in the policy.

The skills of the healthcare staff need to be upgraded in order to bridge the gap between community and the policy. This could be done by engaging specialized lactation counselors who can address the lactation issues of the women, and also strengthening the skills of the existing staff which makes them more approachable and resourceful to the women in the community. These gaps that exist between feeding practices advocated in the IYCF policy and what is followed in the community need to be addressed soon in order to improve the nutritional status of the children in the country.

This study has a few limitations. The participants for this study were selected by means of purposive/judgment sampling based on the information given by the key-informants, and so generalizability of the results may be limited. As data collection was done in places like sub-health centers or Anganwadi centers where all these mothers were aggregated together, there may have been misreporting due to perceived lack of privacy or instances where some of the responses given may have been biased by the responses given by others. Further qualitative or exploratory studies can be conducted to obtain deeper insights on feeding practices.

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