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Student Research

Infant and young child feeding practices amongst children referred to the paediatric outpatient department

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ABSTRACT

Background: Worldwide, sub-optimal breastfeeding still accounts for deaths of 1.4 million children aged less than five years. Optimal infant and young child feeding (IYCF) practices have been recognised as the most important intervention for improving child survival and development. Causal association has been found between exclusive breastfeeding with infection-specific infant morbidity and mortality.

Methods: A cross sectional study was undertaken to assess the IYCF practices among 100 caregivers of children aged less than five years, using a semi-structured questionnaire, attending the Paediatric OPD.

Results: Children from higher income groups were not given colostrum at birth. 57% mothers started breastfeeding within an hour and 88% of the mothers admitted to have given prelacteal feed. Healthy complementary food was found to be given by most of the mothers. Prevalence of infections was found to be higher ($p < 0.05$) in children whose birth weight < 2.5 kg and in bottle fed children.

Conclusion: Traditional beliefs and practices, besides lack of knowledge regarding current feeding recommendations, were found to have played an important role in the feeding practices. Creating an enabling environment for comprehensive nutrition education of mothers by health care providers is required.

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Introduction

Though since 1990, the under-five mortality rate in India has dropped from more than 100 deaths per 1000 live births to 61 in

2011, but the rate of this reduction is still insufficient to reach the Millennium Development Goal – 4 target of a two-thirds reduction of 1990 mortality levels by the year 2015. 43% children less than five years were reported to be underweight, 48% stunted and 20% wasted.^{1,2} Faulty and sub-optimal infant

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and young child feeding (IYCF) practices, compounded by maternal undernutrition during pregnancy, low birth weight and repeated episodes of illnesses like diarrhoea and acute respiratory infections are considered to be the key reasons. The period of pregnancy and the first two years of life, is also known as the critical thousand days.^{3,4} On the other hand, early initiation and exclusive breastfeeding have been found to be preventing infant morbidity and mortality.¹ According to NFHS 3, practices of infant and young child feeding (IYCF) remain poor; with 23.4% children under 3 years breastfed within 1 h of birth, 46.3% children aged 0–5 months exclusively breastfed and 55.8% children aged 6–9 months receiving solid or semi-solid food and breast milk.²

The Indian Academy of Paediatrics in 2010, reviewed IYCF⁵ and observed inadequate knowledge of caregivers regarding correct infant and young child feeding, frequent infections, high population pressure, low social and nutritional status of girls and women and sub-optimal delivery of social services to be important preventable barriers. With this background in mind, the present study was undertaken to assess the determinants and barriers of infant feeding practices in under five children attending the Pediatrics OPD.

Material & Methods

A cross sectional study was carried out at the Paediatric OPD of a tertiary health care centre from July to Aug 2011 among mothers of children under five years of age, suffering from acute sickness, visiting the OPD for consultation and were willing to participate in the study. The children who came for routine check-ups, growth chart monitoring, immunization and non-infectious diseases were excluded. Written consent of the respondents was taken.

In absence of any previous study in the population, the IYCF indicator for early initiation of breastfeeding as reported in the NFHS 3 (i.e. 23.4%) was used for calculating the sample size. Considering 95% confidence level and 10% absolute precision, the sample size was calculated to be 73. A total of 100 subjects were studied by systematic sampling procedure using the OPD register. A semi - structured questionnaire was used to assess study subjects' socio-demographic and economic profile. Information regarding birth weight, immunization status, and illness in the past two weeks and on the day of

examination was obtained. Breastfeeding practices including bottle feeding and the child's eating habits were assessed. Data entry and statistical analysis were performed using the SPSS windows version 14.0 software.

Results

Most of the mothers were educated, 14% of them were working and rest were housewives. 62% of the children were girls. Most of the children (91%) had received complete immunisation. Out of 88 respondents who had given prelacteal feed, most of them were from a higher income group (Table 1). Almost all mothers agreed to strong family beliefs as the reason for giving prelacteal feed. 17% (CI 10.57–25.32) mothers started breastfeeding as late as 02 days. Mothers started complementary feeding late varying from 07 months to 13 months. Foods like mashed dal and rice, mashed seasonal fruits, vegetables and biscuit with milk were given to most of the children. 73% were given milk whereas rest could not be given milk either because of not being able to afford (15%) or because the child refused to drink (11%).

Out of 69 mothers who had a child more than 06 months of age, exclusive breastfeeding till 06 months was carried out by 33 (47.8%, CI 36.25–59.58). 08 out of 100 children were started with bottle feeding before six months and 06 out of these 08 children ($p < 0.05$) had an infection like pneumonia, diarrhoea and common cold (Table 2). Most common reason for starting bottle feed was insufficient breast milk. 51.68% of the children were in the low birth weight category (< 2.5 kg). There were 13 preterm babies mostly due to gestational hypertension or IUGR. The mean birth weight for the term babies was 2.48 kg and that for preterm was 1.68 kg ($p < 0.05$). The prevalence of the infections was also found to be significantly higher ($p < 0.05$) in children whose birth weight was < 2.5 kg.

Discussion

This study identified the determinants and barriers of sub-optimal breastfeeding and other infant feeding practices in children suffering from an acute illness. The study found that though there is almost universal breastfeeding, exclusive breastfeeding is less than satisfactory. Late initiation of

Table 1 – Distribution of the IYCF practices as per income of the respondents.

Income of the respondent's family/month (Rs)	Colostrum given ($n^* = 71$)	Initiated breastfeeding within 01 h ($n^* = 57$)	Given anything just after birth ($n^* = 88$)	Age of child (in month) when Complementary feeding started $n^* = 100$					Exclusive breast feeding (till 06 m) ($n^* = 33$)
				<06	06	>06	Not aware	Total	
<5000	22 (31)	18 (31.6)	25 (28.4)	1 (33.3)	12 (35.3)	4 (16)	14 (36.8)	31 (31)	13 (39.4)
5000–10,000	37 (52.1)	29 (50.9)	44 (50)	2 (66.7)	14 (41.2)	14 (56)	18 (47.4)	48 (48)	13 (39.4)
>10,000	12 (16.9)	10 (17.5)	19 (21.6)	0	8 (23.5)	7 (28)	6 (15.8)	21 (21)	07 (21.2)
Total	71 (100)	57 (100)	88 (100)	3 (100)	34 (100)	25 (100)	38 (100)	100 (100)	33 (100)

n^* denotes total positive response in each parameter.
Values in bracket indicates percentage.

Table 2 – Infections with respect to birth weight and bottle feed.

	Birth weight				P value (Chi square)	Bottle fed before 06 months			
	<2.5 kg n* = 46	>2.5 kg n* = 43	Not aware n* = 11	Total		Yes	No	Total	P value (Chi square)
No Infection	11 (23.91)	33 (76.74)	07 (63.63)	51 (51)	<0.05	02 (25)	49 (53.26)	51 (51)	<0.05
Common Cold	11 (23.9)	1 (2.3)	0	12 (12)		1 (12.5)	11 (12)	12 (12)	
Pneumonia	12 (26.1)	1 (2.3)	2 (18.2)	15 (15)		0	15 (16.3)	15 (15)	
Diarrhoea	9 (19.6)	3 (7)	2 (18.2)	14 (14)		1 (12.5)	13 (14.1)	14 (14)	
Diarrhoea and pneumonia	2 (4.3)	3 (7)	0	5 (5)		3 (37.5)	2 (2.2)	5 (5)	
Measles	1 (2.2)	2 (4.7)	0	3 (3)		1 (12.5)	2 (2.2)	3 (3)	
Total	46 (100)	43 (100)	11 (100)	100 (100)		08 (100)	92 (100)	100 (100)	

n* denotes total positive response in each parameter.
Values in bracket indicates percentage.

breastfeeding and use of prelacteal feed were other important findings. Use of appropriate complementary feed, however, was satisfactory. The study also revealed that children visiting the Paediatric OPD with any illnesses had certain antecedent causes like low birth weight, preterm, etc.

Initiation of breastfeeding within 1 h of birth was present in 57% cases which were higher than the corresponding national (23.4%) and Maharashtra (52%) figures of the NFHS 3² but less than that of a study⁹ from North India where most of the mothers had initiated breastfeeding (78.8%) within 24 h of delivery. However, the use of prelacteal feed was very high (88%) in our study compared to the corresponding NFHS 3 figures for India (57.2%). Giving prelacteal feed is a deep-rooted custom in India. Unfortunately, most of these studies have found that the mothers are not aware themselves, that prelacteal feeds could be a source of infection.⁶ In our study too, the mothers agreed to give the prelacteal feed because of the prevailing social custom.

Exclusive breastfeeding was followed by 47.8% of the mothers in our study compared to the national average of 46.3% (NFHS 3, 2) and 77.2% in a rural population.⁶ Also, it was observed that most of the mothers with higher education or from higher income group did not follow the proper breastfeeding practices. Families who can afford cow's milk or formula feed, often introduce bottle feeding before six months perceiving it to be better and healthier than breast milk.⁷ In our study, it was found that 8% mothers bottle fed their children before 06 months and out of them 75% had some kind of infection (Table 2). A metanalysis by Jackson S et al showed an OR of 2.34 (1.42–3.88) associated with lack of exclusive breastfeeding⁸ and contracting infection. The proportion of bottle feeding in the present study was however less than that reported by Pandey⁹ et al and Sinhababu³ et al, both from rural West Bengal.

Optimal breastfeeding and age appropriate complementary feeding practices, together, can prevent deaths in children under five years by significantly reducing mortality from infections like diarrhoea and pneumonia.⁵ Thick homogenous food, made from locally available preparations, should be introduced at six months while continuing breastfeeding for at least two years. Thus breastfeeding is not weaned but continued till two years. In our study, foods like mashed dal or rice, mashed fruits and vegetables, biscuit with milk were given to the children, implying fairly good knowledge of the types of food to be given. It was also observed that the feeding

practices as per IMNCI guidelines¹⁰ were being followed by most (60–77%) of the mothers in the study. 34% mothers in our study started complementary feeding at 06 months and 25% started later, and rest had started before 06 months of age. An important limitation of the study was that most of the data was captured based on recall of the respondent, hence recall bias cannot be ruled out.

Specific targeted health education by health care providers are needed to be carried out for the pregnant and lactating mothers to protect, promote, and sustain nutritional sustainability in the intergenerational cycle and thereby helping the nation in achieving the MDG 4 and 5 by 2015.

Conflicts of interest

All authors have none to declare.

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