

Name of Manuscript- Infant and Young Child Feeding Practices- A Comparative Study between Two Contrasting Socio-Economic Groups

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Abstract:

Objective: To assess the infant and young child feeding (IYCF) practices in Bhubaneswar in two different groups differing in their socio-economic- demographic parameters.

Study design: A cross sectional study.

Study setting: Well baby clinic and OPD of Hi Tech Medical College and Creches in Bhubaneswar city

Subjects and Methods: Mothers of 350 infants and young children (210 BPL and 140 APL) were interviewed individually as per pre-designed questionnaire. The data was analysed by SPSS 16.0 software

Observations: 35.2% of BPL and 45 % of APL mothers initiated breast feeding within 1 hour of birth. 35% of BPL and 45% of APL had discontinued breast feeding before 6 months. 43.4% of BPL infants and 55% of APL infants were started with solid foods at 9-11 months of age.

Conclusion: It is necessary to provide adequate information to the mothers as an immediate step to eradicate malnutrition during this period of early growth. The necessity to provide information regarding adequate infant feeding practices must be incorporated during routine immunization visits. Use of media in this aspect will help us reach the remotest corner of our country

Keywords: BPL, breast feeding, complementary feeding, IYCF.

I. Introduction

It is a well-known fact that suboptimal infant and young child feeding practices hamper the nutritional status, growth and development of the young children [1, 2]. Infant and young child feeding practices (IYCF) are responsible for malnutrition which includes both under nutrition and over nutrition. This period is the peak age for growth faltering, deficiencies of certain micronutrients and common childhood illness such as diarrhea and acute respiratory infections. After a child has reached 2 years of age, it is very difficult to reverse stunting that has occurred earlier [3]. As per data available in "National guidelines for IYCF" almost 60% of all deaths occurring in children under 5 years of age is attributed to malnutrition [4] and exclusive breastfeeding reduces overall infant mortality by 21% [5]. It has been stated that a stress on adequate complementary feeding alone can decrease the under five mortality rate (U5MR) by more than 6% [6].

Globally, World Health Assembly (resolution 45.34) stated at about six months, infant should begin with complimentary feeding [1992]. In 1995 WHO expert committee debated about whether the recommendation should state an explicit age range (4-6 months) [7]. As a global public health recommendation, infants should be exclusively breastfed for the first six months of life and should receive nutritionally adequate and safe complementary foods while breastfeeding continues for up to two years of age or beyond. (WHO, 2002) [8-10]. Ministry of Women and Child Development (Food and Nutrition Board) formulated the first national guidelines on Infant and Young Child Feeding (IYCF) in 2004.

The Third National Family Health Survey (NFHS-3) of India reported that overall 21.5% mothers breastfed within one hour of birth compared to 16% in NFHS-2 and 9.5 in NFHS-1. NFHS-3 also reported that 48.3% of the children aged zero to five months were exclusively breastfed and 53.8% of the children aged six to nine months received solid or semi-solid food and breast milk. The implication of breast feeding with respect to birth spacing, prevention of childhood infections and nutritional benefits have been widely documented [11-14]. The initiation of breast feeding in Indian scenario is often delayed and the discarding of colostrum is not uncommon [15]. The education of the mothers is also considered to have a great impact on infant's nutritional status. The more a mother is knowledgeable, the more she shall be able to help her child to grow nutritionally healthy as a young adult [16].

The current IYCF practices differ from district to district. A gross inter state variation has been depicted in the NFHS-3 [17].With the above fallacies and variations existing in our community, this study was undertaken in Bhubaneswar city of Odisha which is situated in the eastern part of India, to assess the current feeding practices in infant and young children in two contrasting socio-economic-demographic groups and factors influencing feeding practices.

II. Materials And Methods

This cross sectional study was conducted during a period of one year from October 2013 to October 2014, in well baby clinic and OPD of Hi-tech Medical College & Hospital, and affluent areas which included crèches of Bhubaneswar city. All mothers having children between 6 months to two years of age attending well baby clinic and creches of Bhubaneswar city were primarily included in the study. Those who did not give consent were excluded from the study.

A total of 350 mothers were interviewed for the study. From these, 210 were BPL (Below Poverty Line) category & 140 were from APL (Above Poverty Line) category. The APL and BPL were decided on the basis of possession of BPL cards issued by government. The sample size was determined by the formula $\frac{4pq}{L^2}$ (P= Prevalence, Q= 100-P, L= Allowable errors = 10% of P). All mothers were interviewed and the information about their practice of IYCF along with relevant details of the newborns were noted on a pretested proforma. The feeding practices were formulated using 24-hour dietary recall method. The questions were asked in local language and the response was recorded in English. Data was entered and analyzed using SPSS 16.0 software. The institutional Ethics Committee approved this study.

III. Results And Observations

Total 350 mothers were personally interviewed in Bhubaneswar city of which 210 belong to BPL categories and 140 to APL Category. Proportion of BPL and APL was 60% and 40% respectively. Male children comprised of 216 in number (61.7%) and females 134 (38.3%).

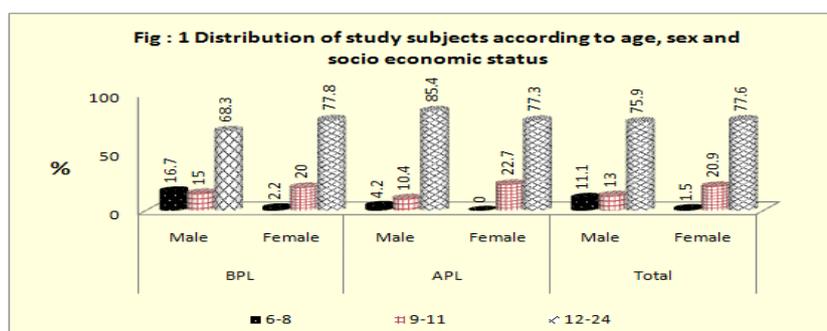


Fig : 1 Distribution of study subjects according to age, sex and socio economic status.

In fig-1, a detailed distribution of children according to age, gender and socio-economic status is displayed. The children have been classified into three age groups; i.e 6-8 months, 9-11 months and 12-24 months. The proportion of children in 12-24 month age group was 76.6% while 9-11 months constituted 16% and 6-8 months comprised of 7.4%. Similar pattern of age and sex distribution was seen individually in APL and BPL category.

Table – 1 Socio-demographic characteristic of study subjects

	BPL (210)		APL (140)	
	Mean	SD	Mean	SD
Age of Mothers in years	24.31	2.64	27.65	3.78
Mean parity	1.47±0.4		1.24±0.5	
Education of Mothers	Qualification	(%)	Qualification	(%)
	≤ 6 th standard	66%	<6 th standard	13%
	7-10 th standard	24%	7 th – 10 th standard	6%
	10 th – 12 th standard	6%	10 th -12 th standard	5%
Working	No.	%	No.	%
	42	20%	91	65%
Hospital Delivery	No.	%	No.	%
	118	56%	130	92%
Type of Delivery	No. (%)		No. (%)	
	LSCS	NVD	LSCS	NVD
	60 (29%)	150 (71%)	76 (54%)	64 (46%)

Mean age, education, number of working mothers, hospital delivery and operative delivery were more in APL than BPL. The mean parity in BPL was 1.47 ± 0.4 and for APL was 1.24 ± 0.5 . Among the BPL families 20% mothers were found to be working while that among APL it was 65%. Mother's education was very high among the APL families. Among the APL families 76% mothers were graduates while that among BPL was only 4%. The BPL mothers were mostly (66%) having education less than or equal to 6th class.

Table 2 - Distribution of Children according to introduction of exclusive breast feeding, semi- solid food and solid food

		BPL	APL
Initiation of breast feeding within 1 hour		35.2%	45%
Exclusive breast feeding (EBF)	<6 months	35%	45%
	6 months	62%	51%
	>6 months	3%	4%
Mean duration of exclusive breast feeding		5.68 months	4.6 months
Bottle feeding		21.9%	52.9%
Initiation of semi solid foods	< 6 months	8.6%	6.4%
	6-8 months	33.3%	65.0%
	9-11 months	55.1%	28.6%
	12-24 months	3%	0%
initiation of solid foods	< 6 months	0 %	0%
	6 – 8 months	8.3%	10.0%
	9-11 months	43.4%	55.0%
	12-24 months	48.2%	35.0%
Traditional family food		72.1%	45.6%

EBF is more common among BPL mothers (62%). Initiation of breast feeding is higher in APL. Mean duration of EBF is higher in BPL (5.68 months). The introduction of semisolid and solid foods was earlier in APL category. Mean average age of introduction of semisolid food was 6.7 months in BPL and 6.2 months in APL. Home based family food was more acceptable in BPL.

Table- 3

Table 3: Advice given for Breast feeding and complementary feeding			
Breast Feeding Advice	BPL	APL	Total
	%	%	%
Doctor/ paramedical	36	91.4	58.16
Health worker	39.2	1.7	24.2
Family members	21.8	2.3	14
Media	3	4.6	3.64
Total	100.0	100.0	100.0

Doctors were the main source of information regarding IYCF in APL category whereas majority of BPL category mothers followed the advice of health workers. Family members also played a pivotal role in influencing the BPL mothers. Media was less influential with respect to IYCF accounting just 3.64% of the entire population

IV. Discussion

In a developing country like India, a wide variation exists where the affluent and poor societies are exposed to different standards of social, cultural, educational and traditional practices. Hence their knowledge, attitude and feeding practices are not streamlined and differ from the ideal practices. Among the study subjects, male (61.7%) children outnumbered the female (38.3%) and majority of children whose mothers were interviewed were above one year (76.6%), followed by 9 to 11 months (16%) and 6 to 8 months of age (7.4%).

Most of the mothers from the APL families (76%) were graduates compared to BPL families in which 66% had education less than or equal to 6th class. As observed in our study, the economic status and working mother had a significant impact on the IYCF. This difference could be due to the low socio-economic status and social constraints among BPL category. In this study 65% of the APL mothers were working compared to 20% of the BPL mothers. This is attributed to their higher education.

Hence one of the important factors for success of adequate and proper feeding practices is percolation of knowledge from the health professional to grass root level. A proper knowledge in all sections of populations will be an important determinant for developing the attitude and practice towards feeding practices.

The incidence of home delivery was higher in the BPL category. The presence of a homely environment during and after delivery, faith in the local Dai as compared to an unknown male doctor, the fear of delivering in an unknown place and lack of transport facilities were responsible for this. Government has been running several programmes and involving paramedical health workers like ASHA to help increase the hospital deliveries. BPL mothers are not availing the various incentives offered to them by the current national programmes. LSCS is preferred among the APL mothers to avoid the pain during delivery apart from the necessary indications for LSCS.

Overall 64.3% of children were 1st birth order children. On comparison of birth order 1st birth order children was 75.4% among APL and 57% among BPL. 2nd birth order is 24.6 in APL and 38.45 in BPL. 4.7% of the BPL category were 3rd order or more but none of the APL families had more than two children. This might be due to awareness programmes like two-child norms in Odisha, withdrawal of benefits from public services like Indira Gandhi MatritvaSahyogYojana and BalikaSamridhiYojana for families having more than two children. Use of contraception, counseling following hospital delivery, family planning incentives, late mean age of pregnancy and busy work schedule also contribute to reducing parity in APL.

According to WHO, breast feeding should be initiated immediately after birth preferably within 30 minutes because the newborn is more active during this period. Early initiation of breast feeding results in early oxytocin reflex which further causes breast milk ejection [18]. In this study 39.7% of children were initiated breast feeding within 1 hour of birth, out of which 35.2% are BPL and 45% are APL. These results are higher than the NFHS-3 values which is 23.4% [17].

APL mothers were more educated, aware regarding the benefits of breast feeding and most of them had delivered in the hospital. Since 54% of them delivered by LSCS, the initiation of breast feeding within the first hour was delayed in majority of them. Other conditions like extreme preterm, neonatal encephalopathy, congenital defects and respiratory distress may also be responsible for this delay. In BPL category 71% of them delivered at home. The practice of pre-lacteal feeds, discarding of colostrum and the lack of awareness about benefits of colostrum resulted in the disparity among the two stratas

EBF for first six months was documented adequately in 51% APL and 62% BPL mothers. In a study by Aggarwal et al. (2008) 31.5% mothers had exclusively breast fed their infants [19] and in study by Subedi et al. in Nepal (2012) 81% of mothers exclusively breast fed their infants [20]. In another study conducted in urban slums of Kolkata only 28.33% of infants received exclusive breast feeding which is very low compared to our study. The values in our study are higher than NFHS-3 which is 46.3%. The most common cause for early weaning was wrong perception of insufficient milk secretion, work-related stress in APL mothers and the preference for formula feeding. BPL mothers, with just 20% of them working, spent maximum time at home with their babies. Also they were less affordable to various formula feeds available in the market

34.3% mothers were practicing top feeding. This was less prevalent among BPL (21.9%) than APL (52.9%). There was a significant association between top feeding and economic status. Children of APL mothers who spent time in crèches were more dependent on bottle feeding.

Maximum children from BPL category (55.1%) started with semi-solid foods between 9 to 11 months whereas majority of APL children (65%) initiated semi solid food between 6 to 8 months. Most of BPL children (48.2%) started solid foods between 12-24 months whereas in APL category (55%) it was between 9 to 11 months. This disparity is due to the predominant use of homemade dal water, rice water, and bovine milk in addition to mothers' milk in BPL category mothers. BPL mothers were giving low energy diet to their babies consisting of traditional home-based food whereas APL mothers were more inclined towards energy dense diet like cashews, almonds and marketed foods. The working population among APL mothers is higher because of which they switch to semi solid as well as solid foods earlier. Their knowledge about the increasing energy requirements and the proportion of diet is higher than the BPL category. According to the current recommendations 6 months is the best time to initiate semisolid foods

In a study by Kumar S Nath L M and Reddaiah (1992), 28% introduced solid food at 9 months of age and 42% at 9-12 months [21] whereas study by Gupta A and Gupta Y P (2003) showed 70% of mothers were giving solid and semisolid food to their children aged 6-9 months [22].

Certain factors influence infant and young child feeding. APL families were more dependent on doctors with 91% of them following the infant feeding practices as per doctors. The BPL families on the other hand have primary health workers [39.2%] as their major guide. Among the BPL, 22% of them rear their children as per their familial traditions taking the views of their elderly family members. The role of media had a minor role in both the groups.

V. Conclusion

Low rates of exclusive breast feeding remain a major problem in spite of a large number of awareness programmes run by the Government. The need to incorporate the benefits of breast feeding at every immunization visit will help escalate the above statistics. Door to door campaigns may help in optimizing breast

feeding as well as complementary feeding practices especially for every child less than 2 years of age. Enforcing educational activities among females will make them more susceptible to accept the benefits of appropriate IYCF practices and to refrain from pre-lacteal feeds and other prevailing traditional misconceptions. The role of media emphasizing on appropriate IYCF practices should be promoted.

Though government has issued BPL cards to the poor as per government norms, till date lots of poor have no BPL card. Segregating the two communities merely on basis of acquisition of BPL cards by the Government may be taken as the drawback of our study.

During the routine visit to the health care providers, every mother included in the study was personally explained the ideal IYCF practices. Their misconceptions and inappropriate techniques of feeding practices are highlighted in the study. Based on this study the respective authorities should take necessary steps to launch relevant awareness programmes and campaign so that malnutrition and underfive mortality among young children can be prevented.

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