



A STUDY OF FACTORS INFLUENCING INFANT FEEDING PRACTICES IN THE URBAN FIELD PRACTICE AREA OF MAHARANI LAXMIBAI MEDICAL COLLEGE JHANSI

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ABSTRACT

INTRODUCTION: Malnutrition is one among the commonest causes of infant mortality in a developing country like India. The factors that play a role of immense importance in decreasing infant mortality rate include exclusive breast feeding and proper weaning practices. The breast feeding trend is slowly trickling down in some disadvantaged urban segments of the population such as urban slum dwellers. Hence the need, to study the prevailing practices and find suitable interventions.

Aims and Objectives: 1. To study the factors influencing the pattern of breast feeding.
2. To study the knowledge, attitude and beliefs regarding infant feeding

Material and methods: A cross sectional study was conducted in the field practice area of Badagaon district Jhansi. Study population included 344 mothers residing in the area, with children who completed 1 year of age. Data was collected using pre-tested, semi structured questionnaire by house visit and personal interview method. Data regarding socio-demographic factors and infant feeding practices were collected. Ethical approval for the study was obtained from the ethical committee of the hospital.

Results: Among the 344 women studied, 48.26% of them belonged to 20 to 25 years of age, 46.22% of the women belonged to the lower middle class. 49% of the women had completed high school education. 95.64% of the women were home makers. Among the 344 children, 39.24% of the children belonged to 16 to 18 months of age. 59% of the children were males and 41% were females. 81% had completed primary immunization. 100% of the mothers had institutional delivery and 78.20% received advice on feeding. 60.47% had the correct knowledge on initiation of breast feeding and 81% had the correct knowledge about exclusive breast feeding (EBF). 72.97% had the correct knowledge on complementary feeding and timely weaning. 14.24% of the women had given prelacteal feeds to their children, the commonest being sugar water. 74.13% had fed colostrum. 80% of the mothers initiated breast feeding within 1 hour of birth. Exclusive breast feeding was practiced by 63.95%. Top feeding was practiced by 42.15%. Commercial formula feeds were given by 55.23% of the women. 81% of the women practiced proper hand washing practices. 40.41% of the mothers fed the children drinking water directly from the source.

Interpretation & Conclusion: The prevalence of exclusive breast feeding practice among mothers in the field practice area is 64%. The prevalence of appropriate weaning practice is 11.05%. More measures should be taken to impart knowledge to the mothers during and before the antenatal period.

KEYWORDS : infant feeding, mothers, urban field practice area, breast feeding, weaning

INTRODUCTION

Malnutrition is one among the commonest causes of infant mortality in a developing country like India. Nutritional deficiency is found mostly at the critical period of weaning. The factors though intangible but have a role of immense importance in decreasing infant mortality rate include exclusive breast feeding and proper weaning practices.

The new norms of infant and young child feeding are exclusive breast feeding for the first 6 months (replacing the 4-6 months age range of earlier guidelines) and introduction of complementary foods at 6 months while continuing breast feeding up to the age of 2 years or beyond. Weaning if not carried out properly, may lead to malnutrition and illness. 1

Complementary feeding starting at about six months old, feeding children energy - and nutrient-rich complementary foods while continuing to breast feed for at least two years could prevent more than 10 per cent of deaths from diarrhoea and acute respiratory infections, particularly pneumonia; and increase resistance to measles and other illnesses. 2

Breast-feeding: Infant has received any breast milk, expressed or from breast

Exclusive breast feeding: means that an infant receives only breast milk from his or her mother or a wet nurse, or expressed breast milk, and no other liquids or solids, not even water, with the exception of oral rehydration solution, drops or syrups consisting of vitamins, minerals supplements or medicines.

Complementary feeding: is defined as the process starting when breast milk is no longer sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids are needed, along with breast milk. The target range for complementary feeding is generally taken to be 6 to 23 months of age, even though breastfeeding may continue beyond two years 3

AIMS AND OBJECTIVES

1. To study the factors influencing the pattern of breast feeding.
2. To study the knowledge, practice and beliefs regarding infant feeding.

MATERIALS AND METHODS

Study Area: This study was conducted in the field practice area of community medicine MLB medical college Jhansi.

Study Design: Cross-sectional analytical study

Study Population: Mothers and care takers of children who has completed 1 year of age.

INCLUSION CRITERIA:

1. Mothers of infants who are between 1-2 years of age.
2. All those who have consented for the study.

EXCLUSION CRITERIA:

1. Those who are not willing to take part.

Study Period: The study was conducted during

Sampling method: Using the formula

$$n = 4 \times P \times Q$$

D2

Where:

P = estimated prevalence of exclusively breast fed infants, taken as 54%,

based on a NFHS III data, Uttar Pradesh.4

Q= (100- P) which is 46%

D= maximum allowable error, taken as 10%

The sample size is found to be 340.

Sampling method: Simple random sampling method was used. The major population in the Badagaon field practice area resides in the slums. The practice area is divided into 4 sectors. 2 sectors were chosen randomly from the 4. All mothers with infants who completed 1 year of age were chosen from these sectors till the sample size was reached. Direct interview method using a semi-structured questionnaire was employed to collect data.

Method of Collection of Data: Data collection was started after obtaining clearance from ethical committee. A pilot study was conducted in the field practice area of H. Siddhaiah road UHFWC with the objective of standardizing the questionnaire and the questionnaire was standardized. Informed consent was obtained from the mothers. Data was collected by visiting the houses and information was collected by personal interview method using semi-structured, pre-tested questionnaire. The questionnaire contained details regarding socio-demographic profile, type of delivery, place of delivery, time of initiation and other particulars regarding breast feeding and complementary feeds.

Statistical Analysis: Data was analyzed using statistical software Epi Info version 7 and presented in the form of tables, figures, graphs, wherever necessary. Statistical methods used include descriptive statistics, Chi Square test and Fisher's exact test.

Definitions

Socio-economic status: Modified Kuppuswamy's socioeconomic status scale (2011) was utilized to assess the socio-economic status of the patients.

RESULTS AND DISCUSSION

Socio- demographic profile:

Table 1: Age wise distribution of mothers:

Mother's Age	Frequency	Percentage
18- 20	55	15.99%
21- 25	166	48.26%
26- 30	109	31.69%
30 and above	14	4.07%
Total	344	100.00%

As shown in the table, the age of the mothers ranged from 18 years to 36 years, with maximum number of mothers (48.26 %) falling in the age group of 21 to 25 years of age. The mean age of the mothers was 24.70 years and the median was 24 years.

Among the 344 mothers, 234 (68.02 %) belonged to the Hindu religion, 97 (28.20 %) belonged to the Muslim religion and only 13 (3.78 %) belonged to the Christian religion. This is similar to

the study conducted by Madhu K, where majority of the mothers were between the ages of 21 to 25 years.5

Table 2: Socio – economic status distribution:

STATUS	Frequency	Percentage
Lower	2	0.58%
Upper Lower	145	42.15%
Lower Middle	159	46.22%
Upper Middle	23	6.69%
Upper	15	4.36%
Total	344	100.00%

The maximum number of families (46.22%) belonged to the lower middle class. The next common being the upper lower class (42.15 %). It was then followed by upper middle class (6.69 %) and then the upper class (4.36 %). The lowest number belonged to the lower class (0.58 %).

Education wise distribution of mothers: Among the 344 mothers studied, the maximum number of mothers have an education up to high school (48.55%). 24.13% of mothers have completed middle school. 2.33 % completed primary school education, 7.56% of mothers have completed pre university. Only a 2.03 % of mothers have obtained a degree. 15.41 % of the mothers are illiterate.

Table 3: Occupational status of mothers:

Mother's Occupation	Frequency	Percentage
Homemaker	329	95.64%
Flower business	12	3.49%
Coolie worker	3	0.87%
Total	344	100.00%

Table 3 shows that 95.64 % of the women interviewed are home makers. Only 3.49 % of the women were into flower business and a mere 0.87 % were coolie workers.

II. Profile of the children:

Table 4: Age wise distribution of the children:

AGE (months)	Frequency	Percentage
12 – 15	105	30.52%
16 – 18	135	39.24%
19 – 21	31	9.01%
22 – 24	73	21.22%
Total	344	100.00%

Most children (39.24%) belong to the age group of 16 to 18 months. 30.52 % of children belong to the age group of 12 to 15 months. 9.01 % children belong to the age group of 19 to 21 months and 21.22 % to the age group of 22 to 24 months.

59.01 % of the children were males and only 40.99% of the children were female.

Distribution of children based on the birth order: The majority of the children (172) were of the second order. 139 of them were of the first order. 29 of them the third and 4 of them of the fourth order.

Immunization status of children: 81% of the children had completed primary immunization. 19% of the children had not completed primary immunization. This is higher than the percentage of completely immunized children (77.5%) estimated in the district level household survey conducted in the year 2007-08 in Uttar Pradesh.6

Table 5: Number of episodes of illness in the past one year:

No. of episodes	Frequency	Percentage
< 5	143	41.58%
5 to 7 times	137	39.83%
7 to 10 times	21	6.10%
10 to 15 times	7	2.03%
> 15 times	1	0.29%
Never	35	10.17%
Total	344	100.00%

Majority of the children (41.58%) had less than 5 episodes of illness in the past one year. 39.83% of the children suffered from 5 to 7 episodes in the previous year.

III Knowledge regarding Infant Feeding:

Table 6: Knowledge regarding colostrum:

Knowledge	Frequency	Percentage
Yes I Know	246	71.51%
No, I Don't Know	98	28.49%
Total	344	100.00%

28.49% of the women did not know about colostrum, but 71.51% of the women knew about colostrum

Table 7: Knowledge on exclusive breast feeding:

Exclusive Breast-feeding (in months)	Frequency	Percentage
3	5	1.45%
4	15	4.36%
5	23	6.69%
6	136	39.53%
7	68	19.77%
8	3	0.87%
10	92	26.74%
12	2	0.58%
Total	344	100.00%

A majority of the women (136) of them knew that the child should be exclusively breastfed for 6 months. 26.74% of them believed the child should be exclusively breastfed for 10 months.

IV. Association between feeding colostrum (outcome variable) and other variables using Chi square test:

Table 8: Factors affecting feeding of colostrum to the child:

Socio-demographic variables		Giving Colostrum			P- Value
		Given	Not Given	Total	
Knowledge on Colostrum	Yes	230	16	246	0.0001
	No	25	73	98	
Socio-economic status	Low	233	73	306	0.0192
	High	22	16	38	
Sex of the Child	Male	145	58	203	0.2106
	Female	110	31	141	
Age of the mother	< 25 years	167	54	221	0.4421
	> 25 years	88	35	123	

Maternal Education	years				0.8729
	Primary school or illiterate	46	15	61	
	Middle school or higher	209	74	283	

This study has shown that there is a significant association between possessing knowledge regarding feeding colostrum and the practice of giving the same (p < 0.05). This is similar to the study conducted by MajesworiUlak who found mothers who possessed the right knowledge tend to practice it.19

This tells us there has been a translation of knowledge to practice. The study also shows colostrum was given more to the children born to women belonging to low socio-economic status rather than the higher strata (p < 0.05). No significant association was found between the age of the mother, the sex of the child or maternal education and feeding colostrum to the child (p > 0.05).

V. Association between Exclusive breast feeding (outcome variable) for more than 6 months and other variables:

Table 9: Factors affecting exclusive breast-feeding:

Socio-demographic variables		Exclusive Breast Feeding			P- Value
		< 6 months	> 6 months	Total	
Knowledge on EBF	Yes	126	153	279	0.0703
	No	21	44	65	
Socio-economic status	Low	71	76	147	0.0785
	High	76	121	197	
Sex of the Child	Male	86	117	203	0.9119
	Female	61	80	141	
Age of the mother	< 25 years	83	138	221	0.0122
	> 25 years	64	59	123	
Maternal Education	Primary school or illiterate	28	33	61	0.6689
	Middle school or higher	119	164	283	
Birth Order	First Born	56	83	139	0.5054
	Second or higher	91	114	205	

Table 9 shows factors associated with exclusive breast feeding. A significant association was found between age of the mother and exclusive breast feeding (p < 0.05); indicating that younger mothers tend to exclusively breast feed their children more often. No significant association was found between socio-economic status, sex of the child, the birth order, maternal education or knowledge regarding EBF with the practice of EBF (p > 0.05).

VI. Association of giving Commercial Formula Feeds (outcome variable) to the child and other variables:

Table 10: Factors associated with use of commercial formula feeds:

Socio-demographic variables		Commercial Formula Feeds			P- Value
		Given	Not given	Total	
Socio-economic status	Low	63	84	147	0.0001
	High	127	70	197	
Sex of the Child	Male	103	100	203	0.0478
	Female	87	54	141	

Age of the mother	< 25 years	113	108	221	0.0425
	> 25 years	77	46	123	
Maternal Education	Primary school or illiterate	39	22	61	0.1561
	Middle school or higher	151	132	283	
Birth Order	First Born	91	48	139	0.0020
	Second or higher	99	106	205	

Table 10 shows the association of usage of commercially available formula feeds with other variables in the study. The present study shows that there is a significant association between socio-economic status and usage of formula feeds. It is observed that higher the socio economic status, higher is the usage of formula feeds. Significant association was also found between sex of the child and formula feeding. It was found to be more among male children than female. Younger mothers were found to be feeding the children the commercial preparation rather than the older mothers (p<0.05). Significant association was found between birth order and formula feeds (p<0.05). More chances of the child not being fed the commercial preparation if the child had a birth order of more than one. This might be because of lactation failure or incorrect during the first child No significant association was found between maternal education and formula feeding (p > 0.05).

VII. Association between correct practice of initiation of complementary feeding (outcome variable) and other variables:

Table 11: Factors associated with initiation of complementary feeding:

Socio-demographic & other variables		Correct practice of initiation of complementary feeding			P- Value
		Correct	Incorrect	Total	
Sex of the Child	Male	29	174	203	0.0231
	Female	9	132	141	
Socioeconomic Status	Low	28	119	147	0.0001
	High	10	187	197	
Maternal Education	Primary school or Illiterate	8	53	61	0.6513
	Middle school or higher	30	253	283	
Birth Order	First Born	15	124	139	1.000
	Second or higher	23	182	205	
Frequency of illness in the past one year	Less than 5 episodes	35	230	265	0.0227
	More than 5 episodes	3	76	79	

Table 11 shows the association of various parameters with initiation of complementary feeding. Significant association was found between sex of the child, socio-economic status and frequency of illness with complementary feeding (p<0.05). Correct weaning practices were followed more for male children and among mothers with lower socio-economic status. It was also found that children who were weaned appropriately, suffered from fewer number of episodes of illness (p<0.05). Maternal education or birth order was not significantly associated with appropriate weaning (p > 0.05).

VIII. Association between giving pre-lacteal feeds and weaning practices:

Table 12: Pre-lacteal feeds and weaning practices:

Variable		Correct practice of initiation of complementary feeding			P value
		Correct	Incorrect	Total	
Pre-lacteal feeds	Given	0	49	49	0.0156
	Not Given	38	257	295	

Table 12 shows a significant association between pre-lacteal feeding and weaning practices (p< 0.05). The women who haven't given any pre-lacteal feeds tend to practice weaning correctly, that is after the first 6 months.

CONCLUSIONS

The following variables were found to be predictors of children being fed colostrum:

- Knowledge regarding colostrum
- Low socio-economic status

The following variables were found to be predictors of EBF:

- Younger age of the mother

The following variables were found to be predictors of feeding commercial formula feeds:

- Higher socio-economic status
- Male children
- Younger age of the mother
- First born children

The following variables were found to be predictors of frequency of episodes of illness:

- Male children
- Exclusive breast feeding more than 6 months
- Incomplete primary immunization

The following variables were found to be predictors of correct practice of weaning:

- Male children
- Low socio-economic status
- Fewer episodes of illness

Women who did not practice pre-lacteal feeding practiced appropriate weaning practices.

RECOMMENDATIONS

The modifiable risk factors thus identified can be used as a starting point for community based interventions. Mothers can be taught correct breast feeding practices during the antenatal visits. They should also be taught the nutritional and immunological importance of colostrum and should be encouraged to be fed to the new-borns.

The mothers should be imparted with the knowledge of the harmful effects of prelacteal feeding and should be reminded of this during the time of safe confinement.

Correct breast feeding and weaning practices should be taught to the women while they register their pregnancy. Mothers should be imparted the knowledge of the need of completing primary immunization.

Mothers should be discouraged from feeding the children with any kind of commercial formula feeds. They should also be taught the need for water purification before drinking.

The mothers should also be discouraged from top feeding the child during the first 6 months.

Post natal visits by the health workers to the houses should be encouraged, regular visits and imparting knowledge on breast feeding and complementary feeding goes a long way in improving the infant's health and decreasing infant mortality rate.

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