

Original Research Article

Breastfeeding and complementary feeding practices and nutritional status of children under 5 years in a tribal community of Nandurbar district, Maharashtra

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ABSTRACT

Background: Breastfeeding is the single most effective preventive intervention for improving the survival of children. Hence, the purpose of this research study to capture the firsthand breastfeeding perceptions and practices and nutritional status of children in tribal community of Nandurbar district (Maharashtra, India).

Methods: This was community based cross-sectional study carried out on parents of 100 children. A house to house survey was conducted and either one or both the parents were interviewed regarding 'Early initiation of breastfeeding, exclusive breastfeeding and complementary feeding' using a pretested, predesigned questionnaire after obtaining written informed consent. Every child below 5 years went through anthropometric measurements like mid upper arm circumference (MUAC), length/height and weight and was categorized as normal/MAM/SAM. The data was analyzed using Microsoft Excel and ENA (Emergency Nutrition Assessment) for SMART software.

Results: 85% mothers were aware of right breastfeeding practices but only 30% babies received breastfeeding within first hour of birth and 72% children were exclusively breastfed till 6 months. Practice of healthy breast feeding was significantly associated with education of mother and awareness of breast feeding. It was found that prevalence of malnourishment was more among children not receiving exclusive breast feeding.

Conclusions: The importance of breastfeeding is not well recognized by the people living in tribal area as there was a gap between knowledge and practice. There were various medical, social and psychological barriers for breastfeeding. Doctors, family members, television and ASHA have majorly contributed in spreading awareness.

Keywords: Early initiation of breastfeeding, Exclusive breastfeeding, Complementary feeding, Tribal community

INTRODUCTION

Breastfeeding is today the single most effective preventive intervention for improving the survival and health of children.¹ It is universally acknowledged as providing health benefits for mothers and infants, decreasing infant mortality and morbidity, particularly in developing countries. Ideally, infants should be breastfed within one hour of birth, breastfed exclusively for the

first six months of life and continue to be breastfed up to 2 years of age and beyond. It has been reported that if breastfeeding can be initiated within one hour after birth then 22.3% neonatal deaths can be prevented.² In India, it will account to saving 2,50,000 new born babies annually. Early initiation of breastfeeding is also a contributing factor towards the achievement of the Millennium Development Goal of increased levels of child survival. World Health Organization (WHO) not

only highlights the importance of increasing early initiation of breastfeeding but also questions why it has not received more attention.³ Despite strong recommendations from WHO, breastfeeding rates, and in particular exclusive breastfeeding rates at six months, remain lower than recommended.⁴ Currently, only 50% of infants in the world are breastfed during the first hour of life.⁵ In India, according to statistics from International Baby Food Action Network (IBFAN), 24.5% mothers initiated breastfeeding within one hour.⁶ Initiation of breastfeeding after birth is considerably delayed in India, and in most cases the valuable colostrum is discarded before putting to breast.⁷ Undernutrition contributes to nearly half of all deaths in children under 5 and is widespread in Asia and Africa

According to the National Family Health Survey-4 (2015-16) of Nandurbar district, only 68% of children under the age of 6 months were exclusively breastfed.⁸ The World Health Organization reported that inappropriate feeding in children is responsible for one-third of the cases of malnutrition.⁹ A study have shown that inappropriate breastfeeding practices are associated with severe malnutrition in the under five children, lack any advantage in terms of weight gain and are associated with growth faltering.¹⁰ Malnutrition has significant health and economic consequences, which includes increased risk of death, illness and lower cognitive development. The percentage of underweight children below the age of five years was 57% while 49.7% children under five years were stunted.⁹ It is important to find the prevalence of stunting and wasting among the children to assess their nutritional status. As per WHO's definitions, stunting is 'below minus two standard deviations from median height for age of reference population' and wasting is 'below minus two standard deviations from median weight for height of reference population'.¹²

As early initiation of breastfeeding, exclusive breastfeeding and complementary feeding are vital for the health of the child, understanding barriers and reasons for not implementing proper breastfeeding practices are important to increase our knowledge of these barriers and hence improve conditions and strategies to overcome them. Hence, the purpose of this research project is to capture the firsthand breastfeeding perceptions and practices and its association with the nutritional status in under five children in tribal community of Nandurbar district of Maharashtra, India.

METHODS

This was a community based cross sectional study conducted in a tribal community of Shahada block, Nandurbar district of Maharashtra state among children under 5 years of age by house to house survey. A house in the tribal community of Shahada block was selected by random sampling. The data collection procedure was carried out for a period of 2 months (May-June 2016). A

house to house survey was conducted and either one or both the parents were interviewed regarding 'Early initiation of breastfeeding, exclusive breastfeeding and complementary feeding' using a pretested, predesigned questionnaire after obtaining written informed consent by principal investigator and co-investigators. Every child below 5 years went through anthropometric measurements like weight, length/height and mid upper arm circumference (MUAC) and was categorized as healthy/ acutely malnourished/ chronically malnourished as per WHO criteria.⁹ Total 100 houses were covered.

Inclusion criteria

Inclusion criteria were parents having a child under the age of 5 years, willing to participate in the study, child available for examination at the time of interview.

Exclusion criteria

Exclusion criteria were parents with children more than the age limit of 5 years and not willing to participate in the study.

The study was carried out after obtaining permission from Institutional Ethical Committee.

Statistical analysis

Appropriate statistical tests like percentage, mean, standard deviation, Chi square test and t test were used to analyse the data using statistical software. WHO standards (2006) were used to classify nutritional status. Microsoft Excel and ENA (Emergency Nutrition Assessment) for SMART software were used for data entry, analysis and graphical representation.

RESULTS

Total 100 children were enrolled in the study. Out of these, mothers of 86 (86%) children were below 30 years of age. Majority 82 (82%) were Hindus and 27 (27%) mothers were illiterate or educated upto primary level education and 8 (8%) mothers were graduates. Only 34 (34%) mothers were working and majority 31 (31%) were in unorganized sector. More than half family's income was less than Rs. 5000/- per month.

In this study, 36 (36%) children were less than 6 months of age while 21 (21%) were between 6 months to 1 year and 43 (43%) were above 1 year of age.

When the knowledge of initiation of breast feeding was assessed, 85 (85%) were aware of the time within which breast feeding have to be started i.e. within half an hour and about exclusive breast feeding i.e. only breast feeding for first 6 months but only 30 (30%) started breast feeding within this stipulated time. The median time of initiation of breast feeding was 5.5 hrs. The mothers of 72

(72%) children practiced exclusive breast feeding in this study. Regarding awareness of complementary feeding, 77 (77%) of these mothers were aware of this. Out of 100 study subjects, 72 (72%) had started complementary feeding as per the guidelines at 6 months of age.

It was found that doctors (36% in early initiation and exclusive breast feeding and 32% in complementary feeding) and family members (22% in early initiation and exclusive breast feeding and 26% in complementary feeding) were the major sources of information regarding breastfeeding practices (Figure 1).

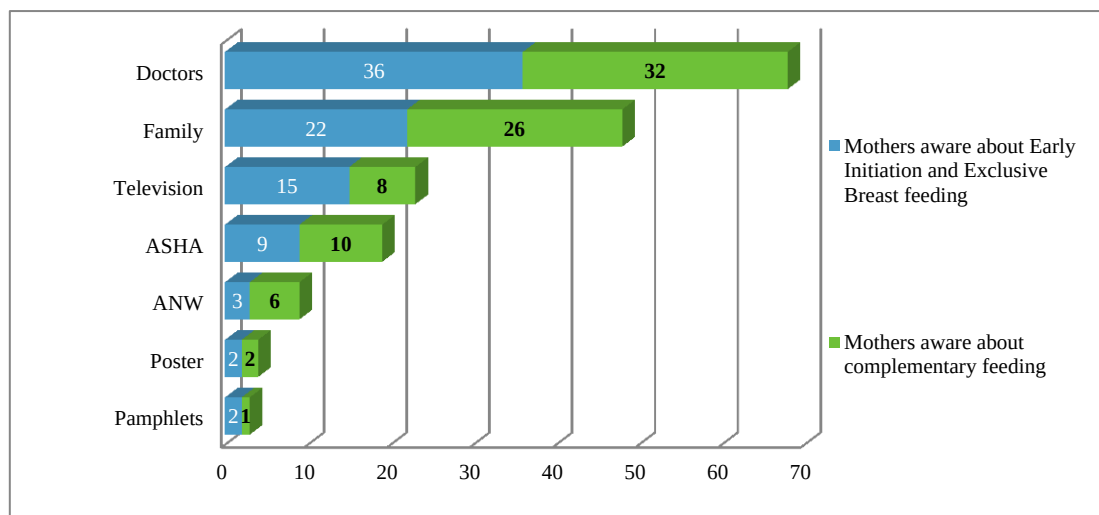


Figure 1: Source of information regarding early initiation and exclusive breast feeding and complementary feeding.

Table 1: Association between socio-demographic and other factors and practice of early initiation and exclusive breast feeding and complementary feeding.

Socio-demographic and other factors		Practice of early initiation and exclusive breast feeding		Practice of complementary feeding	
		No n=28	Yes n=72	No n=28	Yes n=72
Age of mother	<30 years	25	61	25	61
	≥30 years	3	11	3	11
	P value	0.752		0.752	
Religion	Hindu	20	64	20	64
	Muslim and others	8	8	8	8
	P value	0.07		0.07	
Education of mother	Primary and illiterate	4	23	3	24
	≥secondary level	24	49	25	48
	P value	0.03		0.02	
Occupation	Housewife	20	46	20	46
	Working	8	26	8	26
	P value	0.639		0.639	
Income	<5000/month	15	36	14	40
	5000-20,000/month	6	23	7	28
	>20,000/month	7	13	7	12
	P value	0.521		0.702	
Awareness	No	12	3	10	13
	Yes	16	69	18	59
	P value	<0.0001		0.02	

Various socio-demographic and other factors affecting the practice of breast feeding and complementary feeding were presented in Table 1. Practice of early initiation and exclusive breast feeding was significantly associated with education of mother ($p=0.03$) and awareness of breast

feeding ($p<0.0001$). Practice of complementary feeding was also significantly associated with education of mother ($p=0.02$) and awareness of breast feeding ($p=0.02$).

Table 2: Association between breast feeding practices and nutritional status of children.

Nutritional status	Children receiving exclusive BF No.(%)	Children receiving BF+BMS No.(%)
Normal	67 (93.0)	19 (67.8)
MAM	4 (5.5)	5 (17.9)
SAM	1 (1.5)	4 (14.3)
Total	72 (100)	28 (100)

P=0.003; (BF= Breastfeeding, BMS= Breast milk substitutes)

When the nutritional status of children were studied with respect to breastfeeding, it was found that prevalence of malnourishment was more among children receiving breast feeding and breast milk substitutes (BMS) as compared to the group which had received exclusive breast feeding (p=0.003) (Table 2).

Table 3: Association between breast feeding practices and diarrheal attacks.

Diarrheal attack	Children receiving exclusive BF No (%)	Children receiving BF+BMS No (%)
Present	24 (33.3)	15 (53.6)
Absent	48 (66.7)	13 (46.4)
Total	72 (100)	28 (100)

P=0.03; (BF= Breastfeeding, BMS= Breast milk substitutes).

Similarly, diarrheal attacks were found to be significantly more common among children receiving breast feeding and BMS as compared to the group which had received exclusive breast feeding (p=0.03) (Table 3).

A significant association was found between mother's education and underweight (p<0.0001) and malnutrition of child (p<0.017). In addition to this, Mother's BMI is also significantly associated with underweight.

Various misconceptions regarding breastfeeding practices also exist in the community leading to pre-lacteal feeds and late initiation and faulty breastfeeding practices. It was observed that traditional practices (30%), lack of knowledge (27%), lack of social support for breastfeeding (23%) were the major reasons. Other barriers in this tribal community for healthy breast feeding practices were lack of medical facilities, mother's illiteracy and low socio-economic status etc.

DISCUSSION

This study was focused on study of knowledge and practices of early initiation of breastfeeding, exclusive breastfeeding and complementary feeding in the tribal community. Only 30% started breast feeding within the stipulated time and the median time of initiation of breast

feeding was 5.5 hrs which was quiet more than the stipulated time i.e. within half an hour. The mothers of 72% children practiced exclusive breast feeding in this study and 72% had started complementary feeding as per the guidelines at 6 months of age.

It was found that addressable factors like education level of mother, awareness of mother regarding breast feeding, source of information regarding breastfeeding, family support, nutritional status of mother etc. have an impact on the breastfeeding practices. The study also showed the association between breastfeeding practices and growth of children.

This study established the relation between mother's education and child's nutritional status. A study done by Aidam and Perez-Escamilla has also indicated that educational level of the mother has an important influence on breastfeeding.¹³ Mother's nutritional status plays an important role in growth of infants. In this research, it was found that Mother's BMI is also significantly associated with underweight.

Doctors and family had a positive effect on healthy breastfeeding practices. Doctor and family were mentioned as a major source of information by the parents. This demonstrates compliance with the ten steps of successful breastfeeding where it is stated that hospital staff should support mothers to follow standard breastfeeding practices.¹⁴ From this research data, it came to notice that apart from the physicians, all other health care staff in India must be instructed to advice their expecting parents on benefits of breastfeeding.

The study focused on higher risk of diarrhea in the infants who were either not breastfed or who received, in addition to breast milk, other energy containing foods before 6 months of age. Contaminated complementary food is primary source of gastro-intestinal pathogen.¹⁵

Previous study by Yoon and Black have also reported a protective effect of breastfeeding on diarrhea morbidity and mortality.¹⁶ Early breastfeeding initiation reduces the use of pre lacteal feeds that carry a high risk of contamination, while breastfeeding appears to both protect and have positive regulatory effects over the intestinal mucosa.¹⁷ Thus, both early initiation and exclusive breastfeeding are important and should be promoted by program and policy makers in the rural India.

CONCLUSION

The importance of breastfeeding is not well recognized by the people living in tribal area as there was a significant gap between knowledge and practice. There are various medical, social and psychological barriers for healthy breastfeeding. Doctors, family members, television and ASHA have majorly contributed in spreading awareness.

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