



Determinants of Breast Feeding And Complimentary Feeding Practices In Rural Children Population of Central India

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ABSTRACT

Background: Appropriate Infant and Young Child Feeding in early age of life are widely identified as important factor for ideal child growth and development. Malnutrition has been responsible, directly or indirectly, for 60% of all deaths among children less than 5 years of age in India annually. **Objective:** To assess determinants of breastfeeding and complimentary feeding practices among children aged (0-23 months) in rural area of Nagpur. **Methods:** A descriptive cross-sectional study conducted from December 2014 to March 2015 in three villages of a sub centre Patansavangi in rural area of Nagpur district. A total of 363 children of 0-23 month of age were studied for breastfeeding and complimentary feeding practices using a standard pretested & pre-validated questionnaire. **Result:** Of 363 studied subjects, mothers of 213 (58.7%) initiated breastfeeding within one hour. Of 270 study subjects in age group of 6-23 months exclusive breastfeeding up to 6 months was done in 115(42.6 %) subjects and 160 (59.2%) of the mothers initiated complementary feeding at the age of 6 months. On Bivariate analysis early initiation of breast feeding, exclusive breast feeding and timely introduction of complimentary feeding was higher in literate mothers, Pregnancy at the age of > 19 years, mothers having > 3 ANC visits, multiparity and those who had institutional delivery. **Conclusion:** The findings clearly highlight the importance of imparting health education, support and encouragement to mother about correct IYCF practices

KEYWORDS

breast feeding practices, complimentary feeding, determinants, IYCF

INTRODUCTION

Appropriate Infant and Young Child Feeding in early age of life are widely identified as an important factor for ideal child growth and development. Malnutrition has been responsible, directly or indirectly, for 60% of all deaths among children less than 5 years of age in India annually¹. Many of these deaths are associated with inappropriate feeding practices during early years of life. As per World Health Organization (WHO)² recommendation all infants should be initiated with breastfeeding within one hour of birth and exclusively breastfed from birth until 6 months of life. Thereafter, infants should be introduced to nutritionally adequate and safe complementary foods with continued breastfeeding up to two years or beyond. Exclusively breastfed children are less susceptible to diarrhea and pneumonia and are 14 times more likely to survive than non-breastfed children.³ Exclusive breast-feeding up to 6 month can prevent up to 13% of the estimated under five deaths and appropriate complementary feeding can prevent almost 6% of under-five mortality⁴. Yet despite all the potential benefits, only about two fifths of infants worldwide are exclusively breastfed for the first six months of life, and only around two thirds are introduced to solid foods in a timely manner⁵ NFHS III (2005-06)⁶ findings in Maharashtra showed that proportion of initiation of breastfeeding within the first hour of life was 53.0%, exclusive breastfeeding in 0 - 5 months was 55.1%, children receiving solid/semisolid/soft food at 6-8 months was 40.7%. Infant and child feeding in a community is influenced by variety of factors operating at the individual, family, and community level. It is important to study these factors so as to build appropriate strategies to improve these practices. Hence the present study was conducted.

Material & Methods: Present observational descriptive cross-sectional study was conducted from December 2014 to

March 2015. For sample size estimation Comprehensive Nutritional survey of Maharashtra (CNSM)⁷ conducted by IIPS, Mumbai in 2012, was taken as reference. As per this survey assuming the proportion of introduction of solid/semisolid/soft foods at 6-8 months as 51.50%, with 10% relative precision and 95% confidence interval, estimated sample size was 362. Patansavangi sub centre was selected by multi stage random sampling method, from Nagpur district. This sub centre had three villages with overall population of 10854 and had 363 (0-23 months) children. It was decided to include all 363 children. House to house survey was done in the selected villages. Informed consent was obtained from eligible mothers after explaining the nature and purpose of the study. A pretested questionnaire mainly based on the standard questionnaire on IYCF practices given by WHO was used for data collection⁸. Data was analysed using statistical software Epi Info 7.

Results: The study group comprised of 363 under two years children, out of which 93 were of age group 0-5 months and 270 were in age group of 6-23 months. Majority of study subjects 70.8% were Hindu by religion and 49.3% belonged to upper lower class (IV) by socioeconomic status and 57.8% were homemaker by occupation

Table: 1 Characteristics of mother

Characteristics of Mother	No	Percent
Age(Years)	≥ 19	341 93.9
	< 19	22 6.1
	Total	363 100.0
Educational status	Literate	173 47.7
	Illiterate	190 52.3
	Total	363 100.0

No of ANC visits	< 3	194	53.4
	≥ 3	169	46.6
	Total	363	100.0
Parity	Primipara	173	47.7
	Multipara	190	52.3
	Total	363	100.0
Place of Delivery	Institutional	350	96.4
	Home	13	3.6
	Total	363	100.0

Table 2: Bivariate analyses of factors associated with initiation of breast feeding

Variable	Study subjects (0-23 months) (n=363)				Total		Odds (95 % CI)	P value	
	Early initiation		Late initiation		No.	%			
	No.	%	No.	%	No.	%			
Education of mother	Literate	123	71.1	50	28.9	173	47.7	2.73 (1.76-4.22)	< 0.01
	Illiterate	90	47.4	100	52.6	190	52.3		

Table No: 3 bivariate analysis of factors related with exclusive breastfeeding

Variable	Study subjects (6-23 months)(n = 270)						Total	Odds (95 % CI)	P value
	EBF		Non EBF						
	No.	%	No.	%	No.	%			
Education of mother	Literate	64	49.6	65	50.4	129	47.8	1.73 (1.06-2.82)	0.02
	Illiterate	51	36.2	90	63.8	141	52.2		
Age of mother	≥ 19	112	44.1	142	55.9	254	94.1	3.41 (0.95-12.28)	0.04
	<19	3	18.7	13	81.3	16	5.9		
ANC visits	≥ 3	56	45.5	67	54.5	123	45.6	1.24 (0.76-2.02)	0.79
	< 3	59	40.2	88	59.8	147	54.4		
Parity	Multipara	77	50.9	74	49.1	151	55.9	2.21 (1.34-3.65)	< 0.01
	Primipara	38	31.9	81	68.1	119	44.1		
Place of delivery	Institute	114	44.1	144	55.9	258	95.6	8.70 (1.10 – 68.45)	0.01
	Home	01	8.4	11	91.6	12	04.4		

Table No: 4 bivariate analysis of factors related with introduction of complimentary feeding

Variable	Study subjects (6-23 months)(n = 270)				Total		Odds (95 % CI)	P value	
	Timely CF		Late CF		No.	%			
	No.	%	No.	%	No.	%			
Education of mother	Literate	85	65.8	44	34.2	129	47.8	1.70 (1.03-2.78)	0.03
	Illiterate	75	53.1	66	46.9	141	52.2		
Age of mother	≥19	156	61.4	98	38.6	254	94.1	4.77 (1.49-15.22)	< 0.01
	< 19	4	25.0	12	75.0	16	5.9		
ANC Visits	≥ 3	92	74.8	31	25.2	123	45.6	3.44 (2.04-5.80)	< 0.01
	< 3	68	46.2	79	53.8	147	54.4		
Parity	Multipara	101	66.8	50	33.2	151	55.9	2.05 (1.25-3.36)	< 0.01
	Primipara	59	49.5	60	50.5	119	44.1		
Place of delivery	Institute	154	59.7	104	40.3	258	95.6	1.49 (0.46-4.72)	0.44
	Home	6	50.0	6	50.0	12	04.4		

Of 270 study subjects in age group of 6-23 months exclu-

Age of mother	≥ 19	206	60.4	135	39.6	341	93.9	3.27 (1.29-8.23)	0.008
	< 19	7	31.8	15	68.2	22	6.1		
ANC visits	≥ 3	105	62.1	64	37.9	169	46.5	3.26 (1.29-8.23)	< 0.01
	< 3	108	55.7	86	44.3	194	53.5		
Parity	Multi	122	64.2	68	35.8	190	52.4	1.61 (1.06-2.46)	0.02
	Primi	91	52.6	82	47.4	173	47.6		
Place of delivery	Institute	209	59.7	141	40.3	350	96.6	3.33 (1.00 – 11.04)	0.03
	Home	4	30.8	9	69.2	13	03.4		

Of 363 studied subjects, mothers of 213 (58.7 %) initiated breastfeeding within one hour. Literate mothers are 2.73 times more likely to initiate breastfeeding within one hour as compared to illiterate mothers. Pregnancy at the age of ≥19 years, mothers having ≥ 3 ANC visits and multi parity were also found to be significantly associated with early initiation of breastfeeding. The odds of mothers who delivered at institute to early initiation of breast feeding were 3.33 compared to those who delivered at home. (Table:2)

sive breastfeeding up to 6 months was done in 115(42.6 %) subjects. Results of bivariate analysis in table 3, showed that exclusive breast feeding was significantly higher among literate mothers, the odds of mothers aged 19 years and above to exclusively breast feed their babies were 3.41 compared to mothers below 19 years of age. Multipara mothers are 2.21 times more likely to exclusively breastfeed their children as compared to primi mothers. The odds of institutional delivered mothers to breast feed exclusively were 8.70 compared to those delivered at home. Exclusive breast feeding although found more in mothers having ≥ 3 antenatal visits but the difference was not statistically significant. (Table: 3)

Regarding complimentary feeding 160 (59.2 %) of 270 mothers initiated complementary feeding at the age of 6 months. As seen in Table 4, timely introduction of complimentary feeding was more in literate mothers compared to the illiterate mothers (p<0.05). Mothers having age more than 19 years are 4.77 times more likely to introduce complimentary feeding in timely manners as compared to those having age less than 19 years. The odds of mothers having three or more ANC visits to introduction of complimentary feeding were 3.44 compared to mothers having less than three ANC visits.

Statistically significant difference was also found in relation to parity of mother, place of delivery and timely introduction of

complimentary feeding. (Table: 3)

Discussion:

Of the total studied 363 children, 58.67% were put on breast-feeding within 1 hour of birth. This finding was similar with studies done by Satija M et al⁹ (56.7%), Sapra D et al¹⁰ (57%). Higher proportion was observed in CNSM⁷ (67.6%), DLHS 4 Maharashtra¹¹ (72.8%), DLHS 4 Nagpur¹² (73.2%). Lower proportion was found in studies done by

Dorgham L et al¹³ (22.0%), Dasgupta et al¹⁴ (31.4%), Subedi N et al¹⁵ (36.70%), NFHS III⁶ (46.1%). Out of 270 subjects 6-23 months exclusive breastfeeding was found in 115(42.59%). This showed that 155 (57.41%) were still not receiving exclusive breastfeeding. Lower proportion of exclusive breastfeeding was found in studies done by Dorgham L et al¹³ (19.0%), DLHS 4 in Nagpur¹² (42.9%), higher proportion was observed in NFHS III⁶ (55.1%), Dasgupta A et al¹⁴ (66.7%), DLHS 4 Maharashtra¹¹ (70.0%), Subedi N et al¹⁵ (81.6%). In present study 160 (59.25 %) of the mothers initiated complementary feeding at the age of 6 months. Lower proportion was found by Dasgupta A et al¹⁴ (36%), NFHS III⁶ (40.7%), DLHS 4 Maharashtra¹¹ (48.1%), DLHS 4 Nagpur¹² (50.0%) whereas higher proportion was found by Subedi N et al¹⁵ (90%) and CNSM⁷ (73.53%). In this study it was found that literate mothers, mothers having age ≥ 19 years, mothers with three or more antenatal visits, multiparity and mothers delivered in health facility were more likely to initiate breast-feeding within one hour of birth with statistically significant difference. Subedi N et al¹⁵ reported significant association of maternal literacy status, antenatal care services and mothers delivered in health facility with early initiation of breast feeding. Dorgham L et al¹³ reported that time of initiation breast-feeding had highly

Significant associations with education of mothers, also antenatal care visits, place of delivery were significantly associated with time of initiation of breast-feeding. Present study revealed that exclusive breast feeding was significantly higher among literate mothers, Pregnancy at the age of > 19 years and multi parity it was 8 times higher among women whose delivery was institutional. Subedi N et al¹⁵ reported that literate status, multiparity were significantly related with exclusive breastfeeding. Dorgham L et al¹³ reported higher exclusive breast feeding practices in literate mothers, mothers delivered in health facility with statistically significant difference. Mothers with higher level of education have greater exposure to various sources of information and hence better knowledge about appropriate infant and young child feeding compared to uneducated mothers. Young and primigravida mothers may have inadequate knowledge or experience about appropriate breastfeeding practices. Health facility delivery favors early initiation and exclusive breastfeeding due to the fact that delivering mothers had contact with health workers who give information on appropriate breastfeeding practices. In this study it was found that literate mothers, mothers having ≥ 3 ANC visits, multipara, mothers having age ≥ 19 years

were more likely to introduce complimentary foods at 6-8 months with statistically significant difference. Subedi N et al¹⁵ reported that literate mothers, mothers having ≥ 3 ANC visits, multipara mothers, mothers having age ≥ 19 years were more likely to introduce complimentary foods at 6-8 months with statistically significant difference. Abera K et al¹⁶ reported that literate mothers, mothers having ≥ 3 ANC visits were more likely to introduce complimentary foods at 6-8 months with statistically significant difference. Singhal P et al¹⁷ reported that literate mothers, mothers having ≥ 3 ANC visits, multipara mothers, mothers having age ≥ 19 years more likely to introduce complimentary foods at 6-8 months with statistical significant difference.

Conclusion and Recommendation

Appropriate breast feeding and complimentary feeding prac-

tices were higher in literate mothers, mothers having age more than 19 years, utilising antenatal care services and delivered in institution. This study clearly highlights the importance of imparting health education, encouragement and adequate support by health care workers and traditional birth attendants to mothers regarding appropriate IYCF practices.

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