

Original Article

WOMEN LITERACY AND INFANT FEEDING PRACTICES IN RURAL INTEGRATED CHILD DEVELOPMENT SCHEME (ICDS) BLOCK OF DELHI

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ABSTRACT

Background: Infant feeding practices have significant effect on the child nutrition, which largely dependent upon the mothers correct knowledge and awareness for the same. **Objective:** To find out effect of rural women empowerment through literacy on infant feeding practices in an ICDS block. **Material and Methodology:** Interview of the mothers of registered children up to 6 years in the rural ICDS block for the feeding practices and recording of the weight of those registered children by the salter weighing scale for their nutritional status.**Results:** Three fourth of the children had received ceremonial feed in the form of honey or gutti and 40 percent of the mothers in our study has discarded colostrums, considering it as 'bad milk'. Exclusive breast feeding was received by 34.6% children. As literacy level of mothers increased the nutritional status of children was better. This could be because most of the women who are middle school passed or above are non working, so are able to give more time for care and feeding practices. The Severe malnutrition (grade III and IV) was evident only in illiterate category of mothers, where 58.7% women were working in unskilled or semiskilled job outside home.**Conclusion:** Women living in chronic hunger are forced to unskilled jobs for income generation for the family, thereby influencing the feeding practices of their children. In such scenario AWCs and AWWs can be a unique opportunity with their focused approach to take care of severe and moderate malnutrition.**Keywords:** Anganwadi centre (AWC), Mother's literacy and working status, Child Malnutrition.

INTRODUCTION

The children are the invaluable human assets and they are real wealth of the societies. Nutritional indicator is one of the indicators of

the overall well being of population and human resource development¹. NFHS-2 data on nutrition of the children reveal that India has some of the highest level of the malnutrition among children in the world. More than half of

the all children under age four are malnourished², which is not much changed even in NFHS-3.

Infant feeding practices has significant effect on children nutritional state. To prevent malnutrition infant should be given exclusive breast milk for the six months of age. An early introduction of the breast milk substitute and late introduction of semisolid complementary items are responsible for rapid increase in the prevalence of under nutrition during 6 -24 months of age³. Mothers at home bears the prime responsibility for correct infant feeding practices, which largely dependent upon their correct knowledge and awareness for the same. Therefore, the present study seeks to find out effect of rural women empowerment through literacy on infant feeding practices in an ICDS block.

MATERIALS AND METHODS

The study design is cross sectional descriptive. Study period was from May 2004- April 2005. Out of total 28 Integrated Child development scheme (ICDS) projects running in 9 districts of Delhi, 5 are running in the rural blocks. One of the rural ICDS projects from Narela block was selected randomly. In the selected block, one bad performing anganwadi centre (AWC-A) and one good performing Anganwadi Centre (AWC-

B) was selected on the basis of their malnourishment status among under 6 children in the past 3 years. For the feeding practices primary data was collected from all the mothers of the registered children on pre-designed and pre-tested interview schedule. All the registered children in both AWCs were weighed on salter weighing scale at the time of data collection for their nutritional status by weight for age criteria. The study was ethically approved by the Institutional review board of National Institute of Health and Family welfare. All interviews were conducted after taking the prior permission of the respondents.

RESULTS

Nutritional profile of the children

There were 228 children under 6 years of age in the anganwadi centre A and 234 children in AWC B. The majority of children (48.2% in A, 44.4% in B) were in 3-6 years age group. The infants were 15.8% in AWC A and 27.8% in AWC B. Overall 42.1% children were normal. In both the AWC A and B, the most common grade was grade I PEM and the least common grade was grade 4 PEM. The proportion of malnourished children in all the grades of PEM was higher in AWC A than in AWC B except in grade II PEM [Table 1].

Table 1: Distribution of children by age, nutritional status and feeding practices

Variables	Anganwadi A (n=228) (%)	Anganwadi B (n=234) (%)	Total (N=462) (%)
Age			
0-6 mths	19 (8.3)	26 (11.1)	45 (9.7)
6mths-1 yr	17 (7.5)	39 (16.7)	56 (12.1)
1-3 yrs	82 (36.0)	65 (27.8)	147 (31.8)
3-6 yrs	110 (48.2)	104 (44.4)	214 (46.4)
Nutritional Status			
Normal	80 (35.1)	110 (47.1)	190 (41.2)
Grade 1 PEM	92 (40.4)	68 (29.1)	160 (34.6)
Grade 2 PEM	43 (18.9)	50 (21.3)	93 (20.1)
Grade 3 PEM	9 (3.9)	4 (1.7)	13 (2.8)
Grade 4 PEM	4 (1.7)	2 (0.8)	6 (1.3)
Ceremonial feed received	175 (76.7)	169 (72.2)	344 (74.4)
Colostrums feeding received	130 (57.0)	147 (62.8)	277 (60.0)
Exclusive Breast feeding for 6 months	76 (33.3)	84 (35.9)	160 (34.6)
Age of starting semi- solid feeding			
Before 6 mth	40 (17.6)	35 (14.9)	75 (16.3)
Just after 6 mth	76 (33.3)	84 (35.9)	160 (34.6)
B/w 8- 10 mths	60 (26.3)	61 (26.1)	121 (26.2)
B/w 11-12 mths	52 (22.8)	54 (23.1)	106 (22.9)

Feeding Practices

Ceremonial (Pre lacteal) feeding were received by three fourth of the children and were almost equal in both the AWC. The most common pre lacteal feed was honey followed by gutti, in belief that it will provide strength to fight against the infection. However 60% of the children received the colostrums and rest had discarded the colostrums thinking it as 'bad milk'. Exclusive breast feeding for 6 months was received by 34.6% of the children and they were given semi solid feeding just after 6 months. Majority of the mothers have started the complementary feeding either before 6 months (16.3%) or after 8 months (49.1%).[Table 1].

Literacy and working Status of mothers

The female literacy was fairly high with only 30.7% and 29.1% of the mothers being illiterate in AWC A and B respectively [Table 2]. Overall

nearly quarter of the mothers (27.8%) had completed high school.

The total non working mothers were 60.2%, which were more in AWC B (63.2%) as compared to AWC A (57%) [Table 2]. Among the non-working mothers majority were in completed middle school and above category, and majority of their children have either normal nutritional status or grade I malnutrition [Table 3]. Among working category majority were either illiterate (58.7%) or primary school passed (67.4%); among most of them were in semi skilled jobs outside their home. Also children with severe malnutrition, grade III & IV (13.7%) were associated with women who are illiterate; and grade II malnutrition was more prevalent in children whose mothers were either just literate or primary school passed women [Table 3].

Table 2: Distribution of mothers by their literacy status

Variables	Anganwadi A (n=228) (%)	Anganwadi B (n=234) (%)	Total (N=462) (%)
Literacy			
Illiterate	70 (30.7)	68 (29.1)	138 (29.9)
Just literate	17 (7.5)	3 (1.3)	20 (4.3)
Completed Primary School	48 (21.1)	41 (17.5)	89 (19.3)
Completed Middle School	42 (18.4)	44 (18.8)	86 (18.7)
Completed High School	27 (11.8)	34 (14.5)	61 (13.2)
Completed Sr. Sec School	24 (10.5)	44 (18.8)	68 (14.6)
Working status of mothers			
Working	98 (43.0)	86 (36.8)	184 (39.8)
Non-Working	130 (57.0)	148 (63.2)	278 (60.2)

Table 3: Distribution of Mothers according to their literacy and working status

	Illiterate	Just Literate	Primary school	Middle School	High school	Senior Secondary	Total
Working Status							
Yes	81 (58.7)	4 (20)	60 (67.4)	25 (29.1)	11 (18.0)	3 (4.4)	184 (39.8)
No	57 (41.3)	16 (80)	29 (32.6)	61 (70.9)	50 (82.0)	65 (95.6)	278 (60.2)
Total	138 (100)	20 (100)	89 (100)	86 (100)	61 (100)	68 (100)	462 (100)
Nutritional grades of children							
Normal	3 (2.2)	2 (10)	18 (20.2)	46 (53.5)	53 (86.9)	68 (100)	190 (41.2)
Grade I PEM	70 (50.7)	7 (35)	46 (51.7)	30 (34.9)	7 (11.5)	0	160 (34.6)
Grade II PEM	46 (33.3)	11 (55)	25 (28.1)	10 (11.6)	1(1.6)	0	93 (20.1)
Grade III PEM	13 (9.4)	0	0	0	0	0	13 (2.8)
Grade IV PEM	6 (4.3)	0	0	0	0	0	6 (1.3)
Total	138	20	89	86	61	68	462(100)

DISCUSSION

Malnutrition is the major public health problem in the developing countries. In any form, malnutrition contributes for more than 50% of

deaths among children under 5 years in the developing countries.⁴ The current challenge is the proper use of the available scientific

knowledge on child nutrition to further reduce the figures for all types of child malnutrition.

India is facing child malnutrition despite progress in food production, disease control and socio economic development. Although India

accounts for less than 20% children in the world but 40% of the undernourished children in the world reside in India, which contribute to high morbidity and mortality in the country.⁵

Table 4: Distribution of the nutritional status of the children against their feeding practices

Variable	AWW A			AWW B		
	Yes	No	P value	Yes	No	P value
Received Ceremonial feeding						
Normal	27(15.4)	53(100)	$\chi^2=118.56$	45(26.6)	65(100)	$\chi^2= 100.62$
Malnourished	148 (84.6)	0 (0)	P<0.001	124(73.4)	0(0)	P<0.001
Total	175 (100)	53 (100)		169(100)	65(100)	
Received Colostrum feeding						
Normal	73 (56.2)	7(7.1)	$\chi^2= 54.72$	102(69.4)	8(9.2)	$\chi^2= 77.22$
Malnourished	57(43.8)	91(92.9)	P<0.001	45(30.6)	79(90.8)	P<0.001
Total	130(100)	98(100)		147(100)	87 (100)	
Received Exclusive Breast Feeding for 6 months						
Normal	61(80.3)	19(12.5)	$\chi^2= 100.32$	64(76.2)	46(30.7)	$\chi^2= 100.32$
Malnourished	15(19.7)	133(87.5)	P<0.001	20(23.8)	104(69.3)	P<0.001
Total	76(100)	152(100)		84(100)	(100)	
Initiated semisolid feeding just after 6 months						
Normal	61(80.3)	19 (12.5)	$\chi^2= 102.1$	64(76.2)	46 (30.7)	$\chi^2= 44.8$
Malnourished	15(19.7)	133(87.5)	P<0.001	20(23.8)	104(69.3)	P<0.001
Total	76(100)	152(100)		84(80.3)	150(100)	

In India breast feeding practices in rural areas appears to be shaped by the health beliefs of a community which are further influenced by the socio cultural and economic factors. One of such tradition is ceremonial feeding (also called as Pre lacteal feeding), which is widely prevalent since the ancient times.⁶ In our study three fourth of the children had received ceremonial feed in the form of honey or gutti in the belief that it will help the child to fight against the infections. All the children who had not received the ceremonial feeding were normal in nutritional status in both the AWCs. 84.6 % of children in AWC A and 73.4% in AWC B were malnourished in all grades among those who had received ceremonial feeding. The ceremonial feeding received was significantly associated with the poor nutritional status of children in both the AWCs (Table No.:4). Ceremonial feeding is also prevalent worldwide in most of the countries. Marques N M et al in North East Brazil⁷ had interviewed 364 mothers in the first week of their delivery. He found that 80% of the mothers gave tea/ water and 56% gave pacifier to their new borne child. Similarly in rural area of the Malawi most babies were given water or other supplement soon after birth

as reported in a cohort study conducted by Mvaahtera M et al⁸ on 720 new borne.

Regarding colostrums feeding 40 percent of the mothers in our study has discarded colostrums, considering it as 'bad milk'. Among the children who did not receive colostrums feeding after birth majority were malnourished in both the AWCs (92.9% in A and 90.8% in AWC B) [Table No. 4]. The colostrums feeding were significantly associated with the normal nutritional status of children ($p < 0.01$). In another study conducted in East Delhi by Grover⁹ had also revealed that though majority of mothers had good knowledge and positive attitude towards breast feeding but colostrums was thought to be harmful for the babies by 52%. Agnarsson I et al¹⁰ had also reported that in women in rural part of the Tanzania have practice to discard colostrums.

Recommendation for the exclusive breast feeding is not followed everywhere; and where it is given is due to the efforts of the hospital staff which receive special training on exclusive breast feeding.¹¹ In our study exclusive breast feeding in both the AWCs was 34.6% [Table No.:1]. The majority of children (80.3% in AWC A and 76.2% in AWC B) who had received

exclusive breast feeding for 6 months were in normal nutritional status. The exclusive breast feeding for 6 months was significantly associated with the normal nutritional status of children ($p < 0.001$). [Table No.:4]

Weaning practices play a critical role in determining the nutritional status of the infants. Timely complementary feeding rate in Delhi is only 37 percent². In the present study, majority of the mothers have started the complementary feeding either before 6 months (16.3%) or after 8 months (49.1%) [Table No.:1]. The majority of children, in whom semi solid feeding was initiated at just after 6 months, were normal (80.3% in AWC A and 76.2% in AWC B). But those children who received semi solid feed either before 6 month or 8 months onward were malnourished. The age of initiation of semi-solid feeding just after 6 month was significantly associated with normal nutritional status of children in both the AWCs ($p < 0.01$). [Table No.: 4].

Literacy of the mothers raises their awareness for the correct feeding practices and also enhances their curiosity to learn feeding practices that would help in the better health of their children. In both the AWCs all the children were normal in nutritional status with their mothers with completed senior secondary school. Majority of children whose mothers were either middle school or High school were in normal nutritional status (53.5% and 86.9% respectively) [Table No.:3].

In illiterate category of mothers all 4 grades of PEM were evident. From just literate to completed high school category only mild to moderate malnourished children were found, severe malnutrition was evident only in illiterate category of mothers only. In present study, literacy of the mothers was also significantly associated with the normal nutritional status (<0.001) [Table No.3]. It shows that as literacy level of mothers increased the nutritional status of children was better as depicted in graph 1. Froozani MD et al¹² and Radhakrishna, R & Ravi, C¹³ also found that the mothers education had significant impact on malnutrition. It could be because of the fact that in our study most of the women who were middle school passed and above were non working; and severe malnutrition was noticed in children whose mother were illiterate and were involved in semi skilled or unskilled job. It seems to be a vicious cycle of poverty in which poor mothers are

forced to work for earning and giving less time to their children for their nutritional care. Working status of women plays significant role in care of the children in the crucial stage of their development. In one hand it empowers women for their purchasing power but on other hand takes majority of time to work outside home for earning. The fact is also strengthened by the fact that non working women were higher in AWC B(63.2%) than AWC A(57%), which could be the one of the reason of good performance of AWC B in its past 3 years record. The Radhakrishna, R & Ravi, C¹³ also found that the mother's employment status had significant impact on child malnutrition. The NFHS-2² data also shows that, under nutrition is lower in children whose mothers have not worked in past 12 months than for children of mothers who work for someone else.

CONCLUSION

Under nutrition is a major public health problem in India and should no longer be looked upon as a problem of health sector alone. Child malnutrition is generally caused by combination of inadequate and inappropriate food intake, gastro intestinal parasites, and other childhood illness and improper care during illness. It must be seen both as a cause and consequence of poverty and social inequality hindering the nation's development.

Traditionally, women bear primary responsibility for the well-being of their families. Unequal access to education restricts the women's ability to learn the skills that require even functional level of literacy. Women living in chronic hunger are forced to unskilled jobs for income generation for the family.

Thus, malnutrition problem has depth and have links to many issues such as basic child care, women's health, unemployment and livelihood problems, women's illiteracy, failure of agriculture, water and sanitation and social attitudes in communities towards child care. It needs multi pronged strategy involving various sectors like education, agricultural water and sanitation, employment opportunities, but amidst of all, AWCs and AWWs can be proved as an unique opportunities to take care of severe and moderate malnutrition with their focused approach.

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