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THE INFLUENCE OF MATERNAL LITERACY IN DETERMINING NUTRITIONAL STATUS OF THEIR CHILDREN

Home Science

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ABSTRACT

Education is considered as a key factor for the empowerment of women. Education improves their chances of employment, facilitates their participation in outer world and also helps in developing better understanding regarding health and hygiene. Thus mothers' education is quite important in the context of child care also. The present research work on total 518 mother-child pair aimed to study the influence of maternal literacy in determining their children's nutritional status. Our data analysis reveals that maternal literacy exerts a significant influence on the two selected anthropometric indices (i.e., Weight for Age and Height for Age) in case of <5 years aged children. But in case of older children (i.e., >5 years age) a definite but non-significant association was found between maternal literacy and their children's nutritional status (as indicated by Height for Age and Body Mass Index). This implies that achieving 100% female literacy will help in promoting the nutritional status of children.

Introduction:

Women make up a significant proportion of the human resources in India and so the government of India has been trying constantly to improve the scenario of women's education in India. The 2011 census report indicates that, the enhancement of "Crude Literacy Rate" among females has been increased by 11%.[1] It was also reported that every state has witnessed an improvement in female literacy rates and the growth ranges from 3 to 16%.[1] Such an upliftment of educational status of women is not only necessary for women by empowerment, but is also important for strengthening their motherhood.

Evidences gathered from previous studies already proved maternal education as an important determinant of infant and child mortality.[2,3] Educated mothers also believed to be sounder in taking family health decisions.[4,5] Since mothers are the primary and principal care giver of their children, thus it is quite expected that the type of care she provides will definitely depends on her knowledge and educational background. Thus the present research work aimed at to study the influence of maternal literacy in determining their children's nutritional status.

Methods:

The present study was carried out in some selected rural and urban regions of West Bengal, India. Consenting mothers from different educational background and their children (within 0-12 years age) either healthy or with any mild acute health problems were included in the study. Total 518 mother-child pair was included in the study through stratified random sampling. General information including mothers' education level was collected by interviewing mothers with a pre-tested, structured interview schedule. Age of the children was verified by checking their birth records. Height (up to nearest 1 mm) and weight (up to nearest 100g) of the children were measured using standard anthropometric equipment and procedures. The nutritional status of children was assessed according to SD classification using WHO growth standards.[6]

Standard Deviation Classification

Anthropometric indices used for assessing nutritional status for children below 5 years age were Weight for Age (WFA) and Height for Age (HFA); whereas children above 5 years age Height for Age and Body Mass Index (BMI) were used. Standard Deviation classification as recommended by WHO was used in the study and cut-off levels is given below:

Cut-off level	Nutritional Grade		Cut-off level	Nutritional Grade
	Weight for Age	Height for Age		BMI
< Median-3 SD	Severe Underweight	Severe Stunting	< Median-3 SD	Severe Thinness
<Median-2 SD to >Median -3 SD	Moderate Underweight	Moderate Stunting	< Median-2 SD	Thinness
≥ Median-2 SD	Normal	Normal	> +1 SD	Overweight
			> +2 SD	Obesity

Results:

Out of total 518 mothers included in the study it was found that 11.38% mothers were illiterate. As it is depicted in Table 1 the rate of Higher education was very low among the mothers (11.96% Graduate and 1.54% Post Graduate). Most of the mothers were educated up to school level.

Table 1: Distribution of mothers according to their literacy status

Maternal Literacy Status	Mothers having child <5yrs age (N=349)	Mothers having child >5yrs age (N=169)	Total (N=518)
Illiterate	51 (14.61)	8 (4.73)	59 (11.38)
Primary Level	50 (14.32)	44 (26.03)	94 (18.14)
Secondary level	154 (44.12)	82 (48.52)	236 (45.55)
Higher Secondary Level	50 (14.32)	9 (5.32)	59 (11.38)
Graduation	36 (10.31)	26 (15.38)	62 (11.96)
Post Graduation	8 (2.29)	**0 (0)**	8 (1.54)

*Figures within parentheses indicate percentage

Chi Square analysis was done to determine whether the nutritional status of the children was depended on the mothers' literacy level. Table 2 shows a strong association between the literacy status of mothers (having child below 5 years) and the nutritional status of their children as indicated by Weight for Age (X^2=18.8324, P<0.05).

Table 2: Relation between maternal literacy status and their children's (< 5 years age group) nutritional status as indicated by Weight for Age.

Maternal Literacy	Child's Nutritional status			TOTAL
	Severe Underweight	Moderate Underweight	Normal	
Illiterate	6	10	35	51
Primary Level	8	12	30	50
Secondary level	11	26	117	154
Higher Secondary Level	3	3	44	50
Graduation	3	2	31	36
Post Graduation	0	0	8	8
TOTAL	31	53	265	349

X^2=18.8324, P value =0.0424

Table 3 also shows a significant association between the maternal literacy status and the nutritional status of their children as indicated by Height for Age (X^2=29.9632, P<0.05). Hence in case of <5 yrs age group a positive relationship appears to exist between maternal literacy and for each of the two indicators (viz. Weight for Age , Height for Age).

Table 3: Relation between maternal literacy status and their children's' (< 5 years age group) nutritional status as indicated by Height for Age.

Maternal Literacy	Child's Nutritional status			TOTAL
	Severe Stunting	Moderate Stunting	Normal	
Illiterate	4	18	29	51
Primary Level	8	8	34	50
Secondary level	6	39	109	154
Higher Secondary Level	0	7	43	50
Graduation	0	10	26	36
Post Graduation	0	0	8	8
TOTAL	18	82	249	349

X^2=29.9632, P value =0.0009

Table 4 depicts that for above 5 years children, the effect of maternal literacy on their children's nutritional status (as indicated by Height for Age) was not at all strong as it is indicated by chi square calculation (X^2=13.66, P value =0.0911).

Table 4: Relation between maternal literacy status and their children's (> 5 years age group) nutritional status as indicated by Height for Age.

Maternal Literacy	Child's Nutritional status			TOTAL
	Severe Stunting	Moderate Stunting	Normal	
Illiterate	1	1	6	8
Primary Level	0	8	36	44
Secondary level	2	10	70	82
Higher Secondary Level	0	0	9	9
Graduation	0	0	26	26
TOTAL	3	19	147	169

X^2=13.66, P value =0.0911

Statistical analysis also showed (Table 5) that the association between the maternal literacy level and the Body Mass Index of their children (above 5 years age) was insignificant at all.

Table 5: Relation between maternal literacy status and their children's (> 5 years age group) nutritional status as indicated by Body Mass Index (BMI).

Maternal Literacy	Child's Nutritional status				TOTAL
	Severe Thinness	Thinness	Normal	Overweight / Obese	
Illiterate	1	0	6	1	8
Primary Level	7	13	21	3	44
Secondary level	6	15	53	8	82
Higher Secondary Level	1	1	7	0	9
Graduation	4	4	17	1	26
TOTAL	19	33	104	13	169

X^2=10.933, P value =0.5347

Discussion:

Our data analysis reveals a significant association between maternal literacy level and the nutritional status of their children aged below 5 years. The findings were supported by the previous research works. Jyothi Lakshmi,A. Et.al (2003) worked on the nutritional status of rural preschool children near Mysore and found that the linear growth of children of literate mothers was better compared to their illiterate counterparts.[7] Saima Ali et.al (2011) also found a strong and consistent correlation between maternal education and child health.[8] But for children aged above 5 years, a definite but non-significant association was found between the literacy of the mothers and the nutritional status of their children. Thus it is obvious that maternal literacy is a definite determinant of child's nutritional status. But the influence of mothers' education on their children's nutritional status was somehow reduced in case of older children (i.e., >5 years age) as compared with the younger ones (i.e, <5years age).

Conclusion:

The present study shows that maternal literacy exerts a significant influence on the two selected anthropometric indices (i.e., WFA and HFA) in case of <5 years aged children. On the other hand, in case of older children (i.e., >5 years age) a definite but non-significant association was found between maternal literacy and their children's nutritional status. This implies that females' right to have education and achieving 100% literacy will help in promoting the nutritional status of children.

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