

Original Research Article

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Impact of Mother Nutritional Knowledge on their Child Nutritional Health Status

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ABSTRACT

A Mother is the prime provider of the primary care to her children during the early years and this care was mostly influenced by her knowledge and understanding of basic nutrition and child health. It was apparent that her education plays an important role in her upbringing of child. The educated mothers tend to avoid having their first child at undesirable early age which slow down risk of Infant Mortality Rate. Literate mothers play assertively a greater part in intra family a decision affecting the child's needs and also provide early and effective use of health services to their children. Thus, mother's education and child development were highly associated. This induces better food habits by eating quality food which was nutritious and conducive a good health. The healthy dietary pattern established in childhood keeps various diseases away and this habit builds up throughout till adolescence and adulthood. Thus healthy childhood promises healthy adulthood. Literate mothers play important role for child development and wellbeing. The finding of the study showed that knowledge of mother regarding vitamins (63.33%), minerals knowledge (75%), importance of mother milk (78.33%) and (65%) mothers knowledge about nutritional deficiency diseases and (78.34%) have medium knowledge regarding general health. socio-economic variables had effect on the nutritional knowledge of mother, only education and occupation are highly significant at 1per cent level of significance. 35 per cent cases of malnutrition among children with the maximum per cent (23.33%) under Grade 1 malnutrition, followed by 10 per cent in Grade 2 malnutrition and 1.67 per cent in Grade 3 malnutrition percentage of children under Grade 1 malnutrition was more (23.33%) in male subject as compared to female subject (20.0 %). correlation relation of nutritional status of children with nutrition knowledge of mother ($r = 0.316^*$) was positive and significant at 5 per cent with education level of mother was (0.266^*) positively.

Keywords

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Introduction

A mother who has the knowledge of nutrition is well versed with nutritional demands

during pregnancy or during lactation, supplementary foods, immunization, growth monitoring, formation of healthy food habits, personal cleanliness like brushing teeth,

washing hands, daily bathing etc. as dirt is responsible for spreading infectious diseases. She can inculcate the importance of good hygiene in children. Educational level and influence of home maker's knowledge not only influence the food choices and meal patterns but also methods of cooking so that corrective steps for conserving nutritive value of foods may be taken. The above facts indicate that many nutritional and health problems of children can be decreased if the mothers of the children are well trained and educated. The ignorance and lack of adequate knowledge and information of mothers can be attributed as one of several causes for prevalence of malnutrition among children.

According to National Family Health survey (NFHS-4 2015-16) in Bihar, women who are literate in urban area is 70.6 % and in rural area is 46.3% and at the same time under five child mortality rate (Per 1000live births) for urban area is 40/ live births and for rural area is 60 /live births. Education has been found positively influencing the child nutritional status. For example, in Kerala the high percentage of educated women (UG & PG, 67% and 78%) results in low child mortality rate i.e. 7 (per 1000 live births). But in Bihar, the low education among mothers (only17 % graduates) child mortality rate that is 58(per 1000 live births) which is very high in comparison to Kerala. Hence it can be presumed that child caring practices and quality depends on mother's education which may indirectly be related to nutritional knowledge of mothers. The educational level of mothers and the nutritional knowledge indirectly may have impact on the nutritional status of under five years kid. It was earlier proved that education provides more knowledge to mother to help their children to succeed academically. Indirectly maternal education influenced child's educational achievement through its impact on parent's belief and values surrounding achievement

and free form disease. The maternal awareness regarding breast feeding helped in providing adequate nutritional requirements of the baby, and to reduce neonatal mortality. Those mothers who were literate and had basic knowledge about the significance of breastfeeding allow their children to have colostrums as first milk which is yellow colour fluid. This milk after 3rd to 5th day after birth just contain the right amount of fat, sugar, water, protein, to take care of the proper growth of baby. The mother must know that the breast milk is yellow liquid gold and it also contains antibodies which protect babies from illness. The ear infection and diarrhea are more common among formula fed babies. A child needs a balanced and correct diet to supply the nutrients and energy needed for the proper growth and development. Although the children's food consumption is highly variable from plate to meal, their daily energy consumption is relatively constant. Young children rely on their parents for nutrition; mothers in particular can have a potentially strong influence on children's nutrition outcomes because in most families, mothers spend more time taking care of children than fathers. This suggests that mothers' education would likely matter more than fathers' education. Hence, it is reasonable to assume that more educated mothers should have healthier, better nourished children. Children are the future of society and thus constant health status monitoring is necessary to ensure a healthy future of the society.

The main objectives of this study include Impact of mother nutritional knowledge on their child nutritional health status.

Materials and Methods

The research methodology is one of the important pillars of the research work. This study was conducted in Samastipur districts

of Bihar Altogether 82 questions related to nutrition impacting health were asked through developed interview schedule. The answer to questions was quantified by giving one score to the correct answer and zero score to the incorrect. The total knowledge score for individual respondent was calculated by summing up the number of questions correctly answered and categorized into three levels as follows:

Level of knowledge score of the respondent =

$$\frac{\text{obtained score}}{\text{Maximum possible score}} \times 100$$

The score thus obtained were put into the Mean ±SD procedure to obtain low, medium and high categories of level of knowledge as given below.

Knowledge level	Score
Low	Less than (Mean- SD)
Medium	In between (Mean ± SD)
High	More than (Mean +SD)

Results and Discussion

The knowledge of mothers regarding vitamins has been presented in above table around 63.33 per cent mothers have medium level of knowledge about vitamin followed by 20 per cent having low level of knowledge and 16.67 percent mother high level of knowledge regarding vitamins. Around 75 per cent mothers have medium level of knowledge about minerals followed by 15 per cent having low level of knowledge and 10 percent mothers having high level of knowledge regarding minerals. Knowledge of mothers about importance of mother’s milk showed that 78.33 per cent mothers have medium level of knowledge about importance of mother milk followed by 11.67 per cent having low level of knowledge and 10 per cent mothers having high level of knowledge

regarding importance of mother milk. 65 per cent mothers have medium level of knowledge about nutritional deficiency disease followed by 18.33 per cent having low level of knowledge, and 16.67 per cent of mothers having high level of knowledge regarding nutritional deficiency disease and 78.34 per cent mothers have medium level of knowledge about general health followed by 13.33 per cent who had high level of knowledge whereas 8.33 per cent mothers had low level of knowledge regarding general health.

Table 2 showed that all the socio-economic variables had effect on the nutritional knowledge of mother. In all the variables, only education and occupation are highly significant at 1per cent level of significance.

Nutritional status indicator of preschool children

After recording the data on anthropometric indices (weight, height and MUAC) of preschool children, a detailed calculation has been made to elicit information on state of malnutrition among preschool children which has been presented through Table and illustrated in figure.

When, the state of malnutrition was observed as per Gomez classification on the basis of per weight for age, the percentage of normal children was only 65. There were 35 per cent cases of malnutrition among children with the maximum per cent (23.33%) under Grade 1 malnutrition, followed by 10 per cent in Grade 2 malnutrition and 1.67 per cent in Grade 3 malnutrition.

The comparative study of the state of malnutrition as per Gomez classification has been presented in Table 4.The percentage of normal children was 60 in case of female subject as compared to male subject. But, the

percentage of children under Grade 1 malnutrition was more (23.33%) in male subject as compared to female subject (20.0 %). There was no case of Grade 3 (severe malnutrition) among male subject. The

percentage of female subject under Grade 3 malnutrition was 6.67. In case of Grade 2 malnutrition also, the percentage was more (13.33 %) in female subjects than that of male subject (3.33 %).

Table.1 Knowledge of mother on health and nutrition in different fields

Knowledge level about vitamins	Respondents (n=60)	
	Frequency	Percentage (%)
Low (up to 17.91)	12	20
Medium (17.91 to 70.27)	38	63.33
High (above 70.27)	10	16.67
Total	60	100
Knowledge level about minerals		
Low (up to 40.04)	9	15
Medium (40.04 to 71.96)	45	75
High (above 71.96)	6	10
Total	60	100
Knowledge level about importance of mother milk		
Low (up to 47.98)	7	11.67
Medium (47.98to 75.5)	47	78.33
High (above 75.5)	6	10
Total	60	100
knowledge level about nutritional deficiency disease		
Low (up to 42.47)	11	18.33
Medium (42.47 to 79.19)	39	65
High (above 79.19)	10	16.67
Total	60	100
knowledge level about general health		
Low (up to 52.16)	5	8.33
Medium (52.16 to 75.34)	47	78.34
High (above 75.34)	8	13.33
Total	60	100

Table.2 Regression coefficient of socio economic profile with nutritional knowledge of mother

Constants	Regression coefficient	Standard Error	Significance	
Age	-0.003	0.005	0.564	R ² =0.542
Education	0.081	0.019	0.000**	
Occupation	0.049	0.013	0.000**	
Type of family	0.023	0.077	0.763	
Size of family	0.002	0.053	0.969	
Religion	0.101	0.065	0.128	
Family_income	-0.018	0.016	0.268	
Food habit	-0.120	0.069	0.089	

* Significant at 5 % level of probability, **Significant at 1 % level of probability

Table.3 State of malnutrition among preschool children (as per Gomez classification)

Classification weight for age	Weight by age % of expected	Frequency	Percentage (N=60)
Grade 3 rd malnutrition	60	1	1.67
Grade 2 nd malnutrition	61-75	6	10
Grade 1 st malnutrition	76-90	14	23.33
Normal	>90	39	65

Table.4 A comparative study of state of malnutrition among male and female (as per Gomez classification)

Classification weight for age	Weight by age % of expected	Male (N=30)		Female (N=30)	
		Frequency	Percentage	Frequency	Percentage
Grade 3 rd malnutrition	60	0	0	2	6.67
Grade 2 nd malnutrition	61-75	1	3.33	4	13.33
Grade 1 st malnutrition	76-90	7	23.33	6	20
Normal	>90	22	73.34	18	60

Table.5 Correlation relation of nutritional status of preschool children with different parameters

	Nutritional status of preschool children
Nutritional knowledge of mother	0.3165*
Education level of mother	0.266*
Socio economic Age	-0.257*
Qualification	0.660**
Occupation	0.0235
Family type	-0.0254
Family size	0.0248
Religion	-0.2046
Family income	-0.0197
Food habits	-0.15640

* Significant at 5 % level of probability. **Significant at 1 % level of probability

Table5 revealed that the correlation relation of nutritional status of children with nutrition knowledge of mother ($r=0.316^*$) was positive and significant at 5 per cent with education level of mother was (0.266^*) positively, Emina *et al.*, (2009) observed that children whose mothers are educated tend to live in more hygienic environments and are more

likely to be vaccinated and have better nutritional outcomes. Nutritional status of child with age ($r= -0.257^*$) negative and qualification ($r=0.660^{**}$) positive significant at 5and1 per cent respectively.

Rajaram *et al.*, (2003) assessed the nutritional status of preschool children in Kerala and

goa found a significant relationship between socioeconomic variables and degree of malnutrition.

In conclusion the maternal education plays important role for child development and wellbeing. A well educated mother gives our child a healthy diet habits like vitamins, proteins and minerals rich foods and specially calcium and phosphorus rich food items are essential for the overall development. A healthy or balance diet can be overcome a protein and energy nutritional deficiency as like a malnutrition. Under nutrition and malnutrition disease are common in developing country like India.

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