



ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2023; 12(3): 2555-2558
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www.thepharmajournal.com

Received: 18-01-2023

Accepted: 25-02-2023

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Effects of mother's nutrition knowledge on her children health

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Abstract

In the early years, a mother is the primary carer for her children, and this care is largely influenced by her knowledge and comprehension of fundamental nutrition and child health. It was clear that her education was vital to how she raised her children. The first child of educated moms is less likely to be born at an early age that would decrease the risk of infant mortality. Literate mothers engage in more intra-family decision-making that affects the requirements of the child and engage their children for the better health services. The development of the child and the mother's education are closely related. By consuming high-quality food that was nourishing and conducive to good health, this encourages better eating habits. Healthy eating habits that are formed in childhood keep a variety of diseases at bay, and they continue to develop into adolescence and adulthood. Healthy infancy therefore guarantees healthy adulthood. Mothers play a vital role in the growth and welfare of their children.

The results of the survey revealed that mothers' knowledge of vitamins (63.33%), minerals (75%), the value of breast milk (78.33%), nutritional deficiency disorders (65%), and general health (78.34%) is of a medium level. Only education and work are highly significant at the 1% level of significance for socio-economic variables that affected the mother's nutritional awareness. Malnutrition affects 35% of children, with the highest percentage (23.33%) in Grade 1 malnutrition, then 10% in Grade 2 malnutrition, and 1.67% in Grade 3 malnutrition. Male subjects had a higher rate of underweight children in Grade 1 (23.33%) than female subjects (20.0%). The relationship between children's nutritional status and their mother's nutrition knowledge was positive and significant at 5% ($r = 0.316^*$), and it was favourably correlated ($r = 0.266^*$) with their mother's educational level.

Keywords: Nutrition, children, education, health

Introduction

A mother with nutrition knowledge is more aware about the nutritional requirements during pregnancy or lactation, supplemental foods, immunisation, growth monitoring, development of healthy eating habits, and personal hygiene such as brushing teeth, washing hands, daily bathing, etc. as dirt is the main cause of infectious disease transmission. She can help kids understand the value of cleanliness. Education level and the knowledge of the cooking have an impact on not only the meals chosen and meal patterns, but also the cooking techniques, allowing for the preservation of the nutritional value of foods. According to the aforementioned statistics, if moms of the children are well-educated and trained, many nutritional and health issues in children can be reduced. One of the many reasons why malnutrition in infants is so common is that moms often lack the necessary expertise and information related to nutrition.

According to the National Family Health Survey (NFHS-4 2015–16) in Bihar, the percentage of literate women in urban areas is 70.6%, compared to 46.3% in rural areas, while the death rate (per 1000 live births) for children under five is 40 for urban areas and 60 for rural areas. The nutritional status of children has been proven to be positively impacted by education. For instance, Kerala has a low child mortality rate of 7 due to the high percentage of educated women (UG & PG, 67% and 78%). (per 1000 live births). Nonetheless, the child death rate in Bihar is 58 (per 1000 live births), which is significantly high when compared to Kerala due to the poor level of education among mothers (only 17% are graduates). So, it may be assumed that mother's education, which may be indirectly related to mothers' understanding of nutrition, determines the practises and quality of child-care.

The nutritional condition of children under five years may be impacted indirectly by the education level of mothers and their knowledge of nutrition. It has been demonstrated in the past that education gives mothers greater knowledge to aid in their children's academic success.

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With its effect on parents' beliefs and values regarding achievement and health, maternal education indirectly influenced children's academic success. The mother's knowledge of the benefits of breastfeeding aided in meeting the infant's nutritional needs and lowered the neonatal mortality rate. Colostrums, a fluid of yellow colour, are given to infants by women who were literate and had a rudimentary understanding of the need of breastfeeding. This milk from the third to the fifth day after baby delivery only has the optimum amount of fat, sugar, water, and protein to ensure the baby's healthy development. The mother must be aware that breast milk is a golden-yellow liquid, and that it also includes antibodies that shield infants from disease.

For babies who are fed formula, ear infections and diarrhoea are more prevalent. To provide the nutrients and energy required for healthy growth and development, a child requires a balanced and appropriate diet. Even though the children's food intake varies greatly from

primary source of nourishment for young children, and mothers in particular can potentially have a significant impact on the nutrition outcomes of children because they often spend more time caring their infants than fathers do. This implies that mothers' educational attainment would probably be more important than fathers'. So, it makes sense to expect that moms with greater education will raise children healthier. In order to secure a healthy future for society, it is crucial to constantly examine the health of children which is highly dependent on mother's education. Thus following objective was taken.

Result and Discussion

Table 1: Awareness of mother on health and nutrition in different fields

Awareness level about vitamins	Respondents (n=121)	
	Frequency	Percentage (%)
Low Awareness (up to 17.91)	24	19.83
Average Awareness (17.92 to 70.27)	76	62.81
High Awareness (above 70.27)	21	17.36
Total	121	100
Awareness level about minerals		
Low awareness (up to 40.04)	18	14.88
Average Awareness (40.05 to 71.96)	90	74.38
High Awareness (above 71.96)	13	10.74
Total	121	100
Awareness level about importance of mother milk		
Low Awareness (up to 47.98)	14	11.57
Average Awareness (47.99 to 75.5)	94	77.69
High Awareness (above 75.5)	13	10.74
Total	121	100
Awareness level about nutritional deficiency disease		
Low Awareness (up to 42.47)	22	18.18
Average Awareness (42.48 to 79.19)	78	64.46
High Awareness (above 79.19)	21	17.36
Total	121	100
Awareness level about general health		
Low Awareness (up to 52.16)	10	8.26
Average Awareness (52.17 to 75.34)	94	77.69
High Awareness (above 75.34)	17	14.05
Total	121	100

According to the information in the Table 1 above, 62.81 percent of mothers have a average level of awareness about vitamins, followed by 19.83% of mothers who have a low level of awareness and 17.36 percent of mothers who have a high level of awareness. 74.38 percent of mothers have a

Objective

The effect of a mother's nutritional education on the nutritional health of her children.

Methodology

One of the key foundational elements of any research project is the research methodology. This study was carried out in the Bihar district of Samastipur. A designed interview schedule was used to ask a total of 82 questions about how nutrition affects health. Upon answering a question, the correct response received a score of one, while the incorrect response received a score of zero. The amount of questions each respondent correctly answered was added together to provide a total awareness score, which was then divided into three levels as follows:

$$\text{Level of Awareness score of the respondent} = \frac{\text{obtained score}}{\text{Maximum possible score}} \times 100$$

The resulting score was placed through the Mean \pm SD technique to get the low, average, and high categories of awareness level that are shown below.

Awareness level	Score
Low Awareness	Below than (Mean- SD)
Average Awareness	In between (Mean \pm SD)
High Awareness	More than (Mean +SD)

medium degree of understanding of minerals, compared to 14.88 percent who have a low level and ten percent who have a high level. Mothers' awareness of the value of breast milk revealed that 77.69 percent of them had a medium level of understanding, followed by 11.57 percent who have a low

level of understanding and 10.74% who have a high level of understanding. 77.69 percent of mothers have medium level knowledge about general health, followed by 14.05 percent who had high level knowledge, while 8.26 percent of mothers had low level knowledge about general health. Of the mothers surveyed, 64.46% have medium level knowledge about nutritional deficiency disease, followed by 18.18 percent who have low level knowledge and 17.36 percent who have high level knowledge.

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

Constants	Regression coefficient	Standard Error	Significance	R2=0.542
Age	-0.002	0.006	0.565	
Education	0.082	0.02	0.000**	
Occupation	0.05	0.014	0.000**	
Type of family	0.024	0.078	0.764	
Size of family	0.003	0.054	0.97	
Religion	0.102	0.066	0.129	
Family_income	-0.017	0.017	0.269	
Food habit	-0.119	0.07	0.09	

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

All of the socio-economic factors had an impact on the mother's nutritional awareness, as shown in Table 2. Only education and occupation are highly significant across all factors at the 1% level of significance.

Nutritional status indicator of preschool children

After gathering information on pre-schoolers' anthropometric measurements (weight, height, and MUAC), a thorough calculation was conducted to determine the severity of their malnutrition, which is shown in the Table 3 and represented below.

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

Classification weight for age	Weight by age % of expected	Frequency	Percentage (N=121)
Grade 3 rd malnutrition	60	2	1.65
Grade 2 nd malnutrition	61-75	12	9.92
Grade 1 st malnutrition	76-90	28	23.14
Normal	>90	79	65.29

When the Gomez classification of malnutrition was used based on weight for age, only 65.29 percent of the children were considered to be normal. Malnutrition affected 35% of children, with the highest percentage (23.14%) falling under Grade 1 malnutrition, then 9.92% falling under Grade 2 malnutrition, and 1.65% falling under Grade 3.

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=70)		Female (N=41)	
Grade 3 rd malnutrition	60	0	0.00	2	4.88
Grade 2 nd Malnutrition	61-75	5	7.14	7	17.07
Grade 1 st Malnutrition	76-90	14	20.00	9	21.95
Normal	>90	51	72.86	23	56.10

In comparison to the male subject, the percentage of normal children was 56.10 for the female subject. Nonetheless, there

were more malnourished children in the male subjects (20%) than the female subjects (21.95%). The male participants showed no signs of Grade 3 (severe malnutrition). 4.88 percent of the participants who were female in Grade 3 were malnourished. Moreover, the percentage of female participants with Grade 2 malnutrition was higher (17.07%) than that of male participants (7.14%).

Table 5: Correlation of nutritional status of preschool children with different parameters

Nutritional status of preschool children	
Nutritional knowledge of mother	0.3175*
Education level of mother	0.276*
Socio economic	
Age	-0.267*
Qualification	0.670**
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

Table 5 showed that there was a positive and significant association between the children's nutritional status and the mother's nutrition knowledge ($r = 0.317^*$), which was 5%, and between the mother's education level ($r = 0.276^*$). Emina *et al.* (2009) [81] found that children with educated moms typically live in cleaner environments, are more likely to receive vaccinations, and have better nutritional results. Child's nutritional status is negatively correlated with age ($r = -0.267^*$) and positively correlated with qualification ($r = 0.670^{**}$) at 5% and 1%, respectively. While evaluating the nutritional condition of pre-schoolers in Kerala and Goa, Rajaram *et al.* (2003) [61] discovered a substantial correlation between socio-economic factors and the severity of malnutrition.

Conclusion

Mother education is crucial for the growth and welfare of children. A well-educated mother instills in her child healthy eating habits, emphasising the importance of calcium and phosphorus-rich meals in particular for overall growth. A protein and energy nutritional shortage, which is similar to malnutrition, can be addressed by a healthy or balanced diet. Malnutrition and undernutrition-related illnesses are widespread in developing nations like India. Mother's awareness related to nutrition has vital impact on children health and contribute for healthy India.

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