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# Influence of Mother's Education on Health Status of Preschool Children

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**ABSTRACT***:* The early childhood and preschool years, spanning ages 3 to 6, are pivotal for a child's development, with nutrition playing a crucial role in shaping their physical, cognitive, and emotional well-being. During this phase, marked by growing independence and social interactions, maternal knowledge of nutrition significantly influences a child's health outcomes and academic success. Research underscores the importance of adequate nutrient intake despite diminished appetites, as Grade I malnutrition remains prevalent. A positive correlation exists between maternal nutritional awareness and the nutritional status of preschoolers, emphasizing the need for targeted interventions to ensure optimal growth and development during these critical formative years. The user can be a student, a teacher or a parent. Any individual can take the test. The test takes less than 5 minutes to complete but is efficient in testing the user. This can be a potential and time-saving way to diagnose dyslexia rather than the conventional method of diagnosing dyslexia by scans and medical procedures.

**Keywords:** Total Assessment, IDOL, Medical Procedures, Learning Disabilities

## Introduction

Literate mothers play a more assertive role in interfamily decisions influencing their children's requirements and utilize health services for their children earlier and more effectively. Thus, maternal education and child development had a strong correlation. This induces healthier dietary habits by promoting the consumption of nutrient-dense, high-quality food (Haveman and Wolfe, 1995). The healthful dietary pattern established in infancy protects against a variety of diseases, and this pattern persists through adolescence and maturity. Consequently, a healthy infancy ensures a healthy maturity. Literate mothers play a crucial role in the development and well-being of their children. Academically, the offspring of educated mothers perform better than those of less educated mothers 2001, Haveman and Wolfe, 1995). Through its effect on parental beliefs and values regarding achievement, maternal education indirectly influenced the academic achievement of their children.

A mother with nutrition knowledge is well-versed in nutritional needs during pregnancy or lactation, supplementary foods, immunization, growth monitoring, formation of healthy food habits, and a

study conducted in India revealed that children of mothers with high levels of health literacy had approximately half the risk of severe stunting or severe underweight compared to those with low levels of health literacy. In addition, it was discovered that the positive impact of maternal education on severe stunting was greater in rural areas. For severe underweight and severe atrophy, there was no difference in the effects of high health literacy between rural and urban settings. A rise in nutritional knowledge of mothers is associated with a statistically significant decrease in the intake of cholesterol and an increase in the intake of dietary fiber in children aged six and older (Johri *et al.*, 2016). The main objectives of this study includes the impact of mother's nutritional awareness regarding various nutrients, to assess the anthropometric, and dietary status of preschool children, to make mothers aware of different dietary nutrients and their effects on overall development of their child.

**Methodology**

A survey was conducted where the participants were the mothers of children residing in the urban and rural areas of Ambala district in the Haryana region. The criteria for the study was to exclude the subjects who had completed the questionnaire but whose child is not between the ages of 3 and 6 years, and mothers who have not indicated the child's weight and height. The survey was administered to a convenience sample of mothers of preschool-aged children (ages 3 to 6).

The survey was divided into five sections and contained a set of questions and a 24-hour dietary record sheet in total. The sections include general information, child's upbringing and current livelihood, mother's nutritional knowledge, qualitative (anthropometric index) section, and 24-hour dietary recall method. A total of 57 queries pertaining to the impact of nutrition on health were addressed via an interview schedule. The answers to queries were quantified by assigning a score of one to the correct response and zero to the incorrect response. In order to extricate pertinent information, an interview schedule was devised and pretested prior to beginning the actual research. The interview schedule included several queries pertinent to the current investigation, and collecting information such as age, class, gender, religion, family type, family size, family income, and occupation. The cumulative knowledge score for each respondent was determined by aggregating the number of questions answered correctly and is categorized as follows:

Level of knowledge score of the respondent = $\frac{Obtained\ Score}{Maximum\ Possible\ Score} \times 100$

**Results**

The majority of preschool children (32%) were between the ages of 3-4 years, followed by 28% of children between the age group of 4-5 years and 12% of children between the ages of 5-6 years. The percentage of preschool-aged boys and girls was equal at 50 percent each. The table 1 also suggests that the vast majority (84.5%) of preschool-aged children were Hindus followed by 13.5% Sikhs, 1% Muslim and 1% Christians. Regarding the eating habits of preschool children, 52.5% were vegetarian, and 47.5% were non-vegetarian.

The majority (51%) of mothers were between the ages of 30 and 35, followed by 27% of mothers having the age more than 35 and around 16% of mothers within the age group 16-30. It also reveals that the majority of mothers (40%) have studied up to matriculation, followed by 29% graduates, and only 11% are having a post-graduate degree. Regarding mothers' dietary preferences, 33.5% are

vegetarian, followed by 66.5% non-vegetarian. The data also revealed that a significant proportion of women fell in the age group 22-26. Even today, approximately 20 percent of women are illiterate, making the spread of nutritional knowledge as one of the most significant obstacles.

Table 2: Family Profile of Preschool Children

| **Occupation** | Housewife | Government | Agriculture | Private | Business |
|---|---|---|---|---|---|
| Frequency | 161 | 24 | 4 | 5 | 6 |
| Percentage | 80.5 | 12 | 2 | 2.5 | 3 |
| **Annual parental income (lakhs)** | 1 – 5 | 5 – 7 | 7 – 9 | 9 – 12 | >12 |
| Frequency | 25 | 90 | 23 | 48 | 14 |
| Percentage | 12.5 | 45 | 11.5 | 24 | 7 |
| **Type of Family** | Joint | | Nuclear | | |
| Frequency | 102 | | 98 | | |
| Percentage | 51 | | 49 | | |
| **Size of Family (members)** | <5 | 5 – 8 | > 8 | | |
| Frequency | 68 | 104 | 28 | | |
| Percentage | 34 | 52 | 14 | | |

The children's weight, height, and MUAC are listed in Table 3. It was determined that 62.5% of preschoolers weighed between 15-20 kg, while 31% weighed between 10-15 kg, followed by 6.5% who weighed between 20-30 kg. The percentage of children with height between 95 and 100 cm was 51.5%, followed by 39% of children between 100 and 105 cm and 9.5% of children between 105 and 110 cm. 68% of children had MUACs greater than 13.5 cm, 19% had MUACs less than 12.5 and 13% between 12.5-13.5 cm.

Around 47.5% of mothers were found to have a weight range of 50-60 kg, followed by 26.5% with a weight range of 60-70 kg, 13.5% with a weight range of 40-50kg, and 10.5% with a weight range of 70-80 kg. The fact that only 2% of mothers weighed over 80 kg is indicative of their excellent health. About 48.5% of mothers have a height between 145-155 cm, 39.5% of mothers have a height between 155-165 cm, and only 12% of mothers have a height between 165-175 cm.

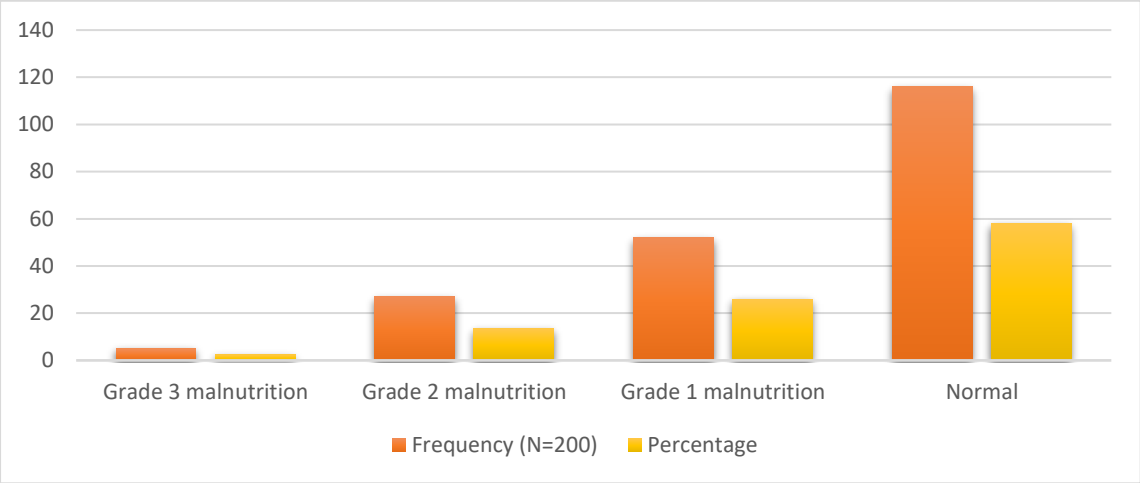


Figure 2: State of Malnutrition Among Preschool Children (Gomez)

***Discussion***

The numerical study of the collected information on various parameters is depicted in Table 6. The correlation between maternal nutritional status and nutrient intake with energy (r=0.326**), minerals (r=0.313*), and iron (r=0.264*) is found to be significant at 5% and 1%, respectively.

The vitamin (r=0.287*) and minerals (r=0.994**) correlation between nutrient intake and nutritional awareness of the subjects are found to be significant at 5% and 1%, respectively. The correlation between all other nutrients and calcium, protein, carbohydrates, and lipids is positive but not statistically significant. The correlation between level of education and energy (r=0.247*), protein (r = 0.688**), and vitamin (r=0.176*) is positive and statistically significant at 5% and 1%, respectively. The remaining nutrients indicated that the correlation between education level, fat, and minerals is positive but not statistically significant. The correlation between energy and parental income (r=0.219*) is statistically significant at 1%. The correlation between protein, vitamin, and mineral intake and family income is negative and nonsignificant, whereas the correlation between fat intake and parental income (r=0.263) is positive but nonsignificant.

All socioeconomic factors influenced the nutritional status of the mother. Only age, family type, family size, and parental income are significant at the 5% and 1% levels of significance across all variables respectively (Table 10).

Table 10: Regression Co-efficient of Socio-Economic Variables with Nutritional Status of Mother

| Constant | Regression co-efficient | Standard error | Significance | |
|---|---|---|---|---|
| Age | 0.056 | 0.025 | 0.038* | |
| Education | -0.005 | 0.137 | 0.871 | |
| Occupation | 0.142 | 0.078 | 0.177 | |
| Type of family | 0.104 | 0.390 | 0.028* | $R^2 = 0.574$ |
| Size of family | -0.639 | 0.277 | 0.028* | |
| Religion | -0.380 | 0.474 | 0.415 | |
| Parental income | 0.358 | 0.274 | 0.00** | |
| Food habit | -0.036 | 0.864 | 0.887 | |

*significant at 5% level of probability
**significant at 1% level of probability
Table 11: Regression Co-efficient of Socio-Economic Variables with Nutritional Status of Preschooler

| Constant | Regression co-efficient | Standard error | Significance | |
|---|---|---|---|---|
| Age | 0.427 | 0.138 | 0.004** | |
| Education | -0.171 | 0.171 | 0.432 | |
| Occupation | -0.339 | 0.142 | 0.008** | $R^2 = 0.662$ |
| Type of family | -0.114 | 0.583 | 0.187 | |
| Size of family | 0.989 | 0.387 | 0.095* | |
| Religion | -0.226 | 0.792 | 0.643 | |
| Parental income | -0.255 | 0.237 | 0.02* | |
| Food habit | -0.119 | 0.523 | 0.759 | |

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

***Conclusion***

Mothers should be educated on the nutritional requirements of pre-school children, the significance of their complete immunization, the significance of exclusive breast feeding, and the timing of secondary food introduction. The general level of nutrition knowledge among women is marginally below average. A slight population had a limited understanding of food, food categories, food functions, a balanced diet, nutrient deficiency disorders and their prevention, and nutritional practices. The findings of the present study indicated that nutrition education is effective in increasing the level of nutrition knowledge among mothers, in addition to their interest in learning new things and caring practices.

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**Declarations:** The manuscript has not been submitted/presented for consideration to any other journal or conference.

**Data Availability:** The author holds all the data employed in this study and is open to sharing it upon reasonable request.

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