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A Cross-Sectional Study on Relationship between Maternal Socioeconomic Status, Mother's Knowledge about Nutrition and Health, Nutritional Status of Their under Five Children

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Abstract

Nutrition is a fundamental pillar of human life, health and development across the entire life span. From the earliest stages of fetal development, at birth, and through infancy, childhood, adolescence and on into adulthood, proper food and good nutrition are essential for survival, physical growth, mental development, performance, productivity, health and well-being. More than half of all child deaths are associated with malnutrition, which weakens the body's resistance to illness. Adequate nutrition is essential in early childhood to ensure healthy growth, proper organ formation and function, a strong immune system and neurological and cognitive development.

Child malnutrition impacts cognitive function and contributes to poverty through impeding individuals' ability to lead productive lives. In addition, it is estimated that more than one-third of under-five deaths are attributable to under nutrition. Thus, achieving optimal child health is dependent upon optimizing the health and well-being of a child's mother. The purpose of this research is to identify the relationship among maternal socioeconomic status and nutritional knowledge and nutritional status of fewer than five children in selected area of Dhaka City. Structured questionnaire was used for this descriptive cross sectional study and sampling technique was random non-provable sampling. Collected 300 data was analyzed by SPSS and Microsoft Excel Software.

This research found that according to Water low classification greater part of the children was stunted 54%. Only 17.7% of the children were found here to be normal. 16% of the children were both stunted and wasted, 12.3% children were wasted In this study there was significant association between maternal age and weight for age of the children p-value 0.04; mother's education and knowledge about complementary feeding for the children p-value 0.018; feeding practices after six months and weight for age of the children. It also found positive correlation between birth weight and weight for age of the children; total family income and nutritional status of the participated children.

Keywords:

Nutrition; Children; Age; Socioeconomic

Introduction

Children's health is one of the most paramount concerns around the world. Not only are they our rising future, but they simply don't know enough on their own to pursue a proper path to health and wellness. But we can make great strides in ensure better health for our children with some additional support and education. Since a child's mental and physical growth and development is directly linked to their health, children's wellness should start as soon as possible. It's all about providing them with a very solid foundation early on which they can build upon for the rest of their lives. Unfortunately, the Standard American Diet (SAD) is very worrisome. All too many children are allowed to over indulge in fast food foods and junk food snacks. There's a dire need to reinstall basic values, and the very simple to understand food pyramid still provides an excellent place to begin educating children about healthy foods and quantities[1-4]. Fortunately, it doesn't have to be difficult for children to start recognizing foods that are good for them. It's always a good idea to start with very simple example that they can remember. A child's diet should always be supplemented with plenty of exercise and outdoor activities. By combining all of these elements in the life of the child, they will stand an excellent chance of preventing any serious heart issues and will set them up for a long and fulfilling life [5]. These early health efforts will help your child develop strong mental and physical characteristics.

Nutrition is very important for everyone, but it is especially important for children because it is directly linked to all aspects of their growth and development; factors which will have direct ties to their level of health as adults. For example, a child with the right balance of omega fatty acids in their daily diet has a much better chance at creating a more solid foundation for their brain activity and capabilities later on. Likewise, a child who practices a low fat and cholesterol diet on a daily basis

significantly improves their chances of preventing a heart attack; even if heart disease tends to be hereditary within his family. Child nutrition is absolutely one of the most important issues today and will continue to be so [6]. Everything about a child's nutrition has a direct effect on every function of their body. It seems that all too often parents neglect to not only provide their children with the right amount of fruits and vegetables on a daily basis, but also fail to educate their children as to the grand importance of a proper diet. And, of course, this properly balanced diet should most certainly be paired with a good amount of exercise and outdoor activities.

It is a reliable test to determine whether there is response to fluid in patients who are hypovolemic in PLRT. ECHO is an important tool to identify hypovolemia and monitor fluid resuscitation, especially in critically ill patients, as it is a non-invasive test; it can be performed bedside and frequently repeated [7-9]. Relative hypovolemia induced by midazolam can change the axis of fluid therapy that is regulated through PLRT, and may cause normovolemic and unresponsive appearance in fluid treatment in patients who have fluid deficit identified with PLRT and normally respond to fluid treatment. In this study, we aimed to investigate the effects of midazolam sedation on PLRT using ECHO parameters in intubated ICU patients diagnosed with sepsis and proved to have fluid deficit with VCI-CI and PLRT and shown to respond to fluid treatment with PLRT, whose respiration is provided through invasive mechanical ventilation in Continuous Positive Airway Pressure (CPAP) mode at a Positive End Expiratory Pressure (PEEP) of 5cm H2O [10-14].

Materials and Methods

Type of the study

The study was a descriptive cross sectional study.

Sampling techniques

Simple random and non-probable sampling technique was applied to avoid respondent bias.

Study population

The mothers and their under-five year's children were the primary targets. The mothers were the main respondents because they spent more time with the infants and were more involved in the childcare practices.

Study period

Study was conducted from November 2013 to November 2014 of the time scheduled and following this period was utilized for questionnaire development, data entry, analysis and final presentation of the study.

Data collection period

Data was collected from December 2013 to May 2014 in the different areas of Dhaka City.

Data analysis

All the statistical analysis and all other data processing were done by using SPSS version 17.0 and Microsoft Excel 2010 windows program. Data was analyzed in term of frequency distribution and percentage. To reveal the association and correlation among different parameters Pearson Chi-square and Pearson correlation tests were used [15]. For tabular, charts and graphical representation Microsoft word and Microsoft excel 2010 were used.

Limitation of the study

- Limited study area was selected.
- Size of the subjects could be large.
- No fund was available for the research.
- Respondents were shy to provide real information.

Results

A descriptive cross sectional study was carried out among the 300 mothers-under 5 children pairs selected randomly from different parts of the Dhaka City. The salient features of this study are presented in the following sections:

Maternal Socioeconomic Information

Distribution of participated mother's age

In the study participated mother's age limit was sixteen years to forty five years. The mothers were categorized into four age groups. In this study, 300 mothers were assessed in the selected areas of Dhaka city where 22.3% mothers were found in the age of less or equal 20 years, 37% mothers were found in the age between 21-25 years, 29.7% mothers were found in the age of 26-30 years and 11% mothers were found in the age of above 30 years (**Figure 1**).

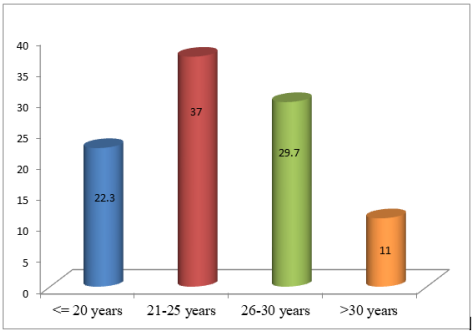

Figure 1: Age of the participated mother in the study.

Distribution of maternal socio economic status

Socioeconomic Status (SES) is an economic and sociological combined total measure of a person's work experience and of an individual's or family's economic and social position in relation to others, based on income, education, and occupation (**Table 1**).

Occupation	Frequency	%
Part time Worker	20	6.7
Full time Worker	10	3.3
Business Entrepreneur	1	0.3
House Wife	269	89.7
Education		

Less than SSC	143	47.7
SSC	110	36.7
HSC	15	5
Graduate or Higher	32	10.7
Income		
Having Monetary Income	30	10
No Monetary Income	270	90

Table 1: Socio-economic status of mother.

Distribution of maternal socioeconomic class

Socioeconomic class is an important source of **health inequity**, as there is a very robust positive correlation between socioeconomic class and health. This correlation suggests that it is not only the poor who tend to be sick when everyone else is healthy, but that there is a continual gradient, from the top to the bottom of the socio-economic ladder, relating status to health [6].

SEC	Score	Frequency	%
Upper Class	15	0	0
Upper middle Class	12-15	1	0.33
Middle Class	9-12	29	9.67
Lower Middle Class	6-9	87	29
Lower Class	Less than 6	183	61
Total		300	100

Table 2: Socioeconomic classes of participated mothers.

In this study 89.7% of the mother was housewife, 6.7% was part time worker, 3.3% was full time worker and only 0.3% was business woman. Their educational qualification was 47.7% less than SSC, 36.7% SSC, 10.7% graduate or higher and 5% HSC. The table also shows that 90% of the mother having no income and only 10% of the mother having income. **Table1** and **2** show the maternal Socioeconomic Class according to SES Score. Large number of mother was found in lower class 61%. In remaining 29% belongs to lower middle class, 9.67% was from middle class. Only 0.33% mother belongs to upper middle class. None of the mother was in upper class [8].

Distribution of maternal nutritional knowledge

A mother is the principal provider of the primary care that her child needs during the first six years of its life. The type of care she provides depends to a large extent on her knowledge and understanding of some aspects of basic nutrition and health care.

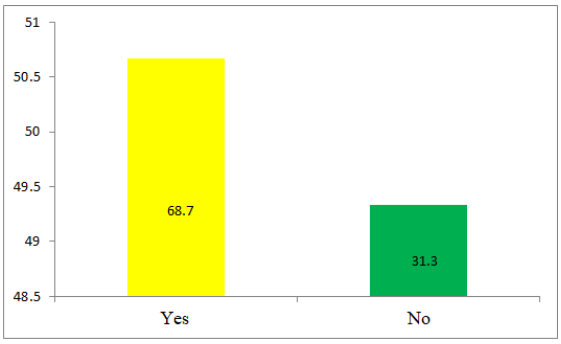

Figure 2: Mothers knowledge about nutritional foods.

Discussion

Maternal socioeconomic status, education and Nutritional knowledge profoundly impact the health and well-being of a child. Thus, achieving optimal child health is dependent upon optimizing the health and well-being of a child's mother. Child health is foundational to adult health and well-being. When children's health is nurtured and supported and there is an absence of physical and mental abuse, or other intentional childhood trauma; and there exists opportunities to gain habits that support good health during childhood, the stage is set for a healthy adulthood less likely to include chronic health problems such as overweight/obesity, poor oral health, diabetes and other chronic physical and mental health problems. The last few decades have brought significant improvements in child health in Bangladesh. The mortality rate in children under-five declined from 152 deaths per 1,000 live births to 94 deaths per 1,000 live births, but these rates are still high, and have remained constant for several years. Pneumonia, diarrhea, measles, malaria, malnutrition, injuries and the high number of neonatal deaths, and poor care-seeking behavior, all contribute to the high levels of child mortality. Because of this reason the study has been conducted in the selected areas of Dhaka City to identify present situation of maternal and child health. A descriptive cross sectional study was carried out among the 300 mothers-under 5 children pairs selected randomly from different parts of the Dhaka City [2-7].

In this study, 300 mothers were assessed in the selected areas of Dhaka city where 22.3% mothers were found in the age of less or equal 20 years, 37% mothers were found in the age between 21-25 years, 29.7% mothers were found in the age of 26-30 years and 11% mothers were found in the age of above 30 years (**Figure 1**). In this study 89.7% of the mother was housewife, 6.7% was part time worker, 3.3% was full time worker and only 0.3% was business woman. Their educational qualification was 47.7% less than SSC, 36.7% SSC, 10.7% graduate or higher and 5% HSC. The table also shows that 90% of the mother having no income and only 10% of the mother having income. **Table 1** and **2** show the maternal Socioeconomic Class according to SES Score. Large number of mother was found in lower class 61%. In remaining 29% belongs to lower middle class, 9.67% was from middle class. Only 0.33% mother belongs to upper middle class. None of the mother was in upper class. **Figure 2** revealed that 68.7% of the mother has knowledge

about nutritional foods and 31.3% of the mother has not this knowledge.

Conclusion

The nutrition situation of Bangladesh has not improved satisfactory as an educational environment, social environment and need more attention and a community based strategy for the improvement of maternal nutritional status. Malnutrition, underweight, wasting and stunting are more common nutritional problem in Bangladesh. An individual human can easily overcome these problems without excess money wasting by acquiring nutritional knowledge, nutritional value of food and dietary habits. This research found that according to Water low classification greater part of the children was stunted 54%. Only 17.7% of the children were found here to be normal. 16% of the children were both stunted and wasted, 12.3% children were wasted and also found that about two third of the mothers were normal BMI whereas only 11.67% were underweight. On the other hand, 22% and 2.33% mothers were found overweight and obese respectively. In this study, there was significant association between maternal anthropometric status and total family income p-value 0.001; maternal anthropometric status and birth weight of the children p-value 0.025; maternal age and weight for age of the children p-value 0.041; mother's education and knowledge about complementary feeding for the children p-value 0.018; feeding practices after six months and weight for age of the children. It also found positive correlation between birth weight and weight for age of the children; total family income and nutritional status of the participated children. Some of the factors are found negative correlation such as maternal education and knowledge about colostrum; feeding practices after six months and nutritional status of the children.

This study was a cross sectional study but its incorporated variables are constantly changeable so it should be longitudinal study and is necessary to uphold new information. In this study sample size was too small to compare with the population of sixteen crore of Bangladesh. The study was conducted with 300 mothers and paired children only and the sample were collected from some specific areas of Dhaka City not all over the country. This is the reason of these information do not represent the overall situation of Bangladesh. Finally it can be concluded that the nutritional status of fewer than five children does not reach the expected level in many aspects. Further studies with larger populations are needed in the field to cross-validate the results.

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