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**Research Article**

# "Under Five Children Regarding Protein-Energy Malnutrition at Rajshahi City Corporation"

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**Abstract:** The aim of this cross-sectional study was to determine the under five children regarding protein energy malnutrition. Protein-energy malnutrition (PEM) is a public health problem and is associated with high morbidity and mortality. The study was conducted at Rajshahi Metropolitan city of Bangladesh; a 1356 Mother's which is located in Rajshahi, Bangladesh. The study was carried out from January 2020 to December 2020 in Rajshahi Metropolitan city of Bangladesh. It is likely that mothers who are in admitted their children in hospital for treatment in pediatrics words under 1356 mother's 14% are10-19years, 58%are 20-29years, 20% are 30-39years, and 8% are 40-49 years. Mother's educational status 10% are illiterate 54% are up to class v, 30% are up to class vi-xii, 6% are Graduate and above. Among them 86% are house wife, 8% are govt. service, and 6% are teacher.46% are lower class, and 42% lower middle class, 10% are upper middle class, and 2% are higher class. Among them 86% are Muslim, 10% are Hindu and 4% are Christian. According to the data collection the respondent's home location 32% comes from urban and 68% comes from rural. Finally the study might be held to carry out further in-depth study in this regard.

**Keywords:** Protein-Energy, Malnutrition, Children, Rajshahi.



## 1. INTRODUCTION

The primary causes of morbidity and mortality among children aged less than 5 years are pneumonia, diarrhea diseases, low birth weight, asphyxia and in some parts of the world, human immunodeficiency virus (HIV) infection and malaria. One out of every two such deaths has malnutrition as the underlying cause [1]. However malnutrition is rarely cited as being among the leading cause of death even through it is prevalent in developing countries [2].

Malnutrition is currently the leading cause of global burden of disease [3] and has identified as the underlying factor in about 50% of deaths of children fewer than 5 years of age in developing countries [4]. The condition may result from lack of food or from infections that cause loss of appetite while increasing the body's nutrient requirements and losses. Children between 12 and 36 months old are especially at risk since they are the most vulnerable to infections such as gastroenteritis and measles [1]. It is estimated that, in developing countries, more than one-quarter of all children younger than 5 years of age are malnourished [5].

A nationwide survey in Côte d"Ivoire indicated that chronic malnutrition affects an estimated 34% of children under five years, while an estimated 20.2% are underweight. In many countries in the Sahel region, notably Burkina Faso, Mali and Niger, the prevalence of acute malnutrition is between 10.6% and 18.6% [6].

### 1.1. Background of the study

Globally, PEM continues to be a major health burden in developing countries and the most important risk factor for illnesses and death especially among young children [7]. The World Health Organization estimates that about 60% of all deaths, occurring among children aged less than five years in developing countries, could be attributed to malnutrition [8]. The improvement of nutrition therefore, is the main prerequisite for the reduction of high infant and under five mortality rates, the assurance of physical growth, social and mental development of children as well as academic achievement [9]. Sub-Saharan Africa bears the brunt of PEM in the world. On the average, the PEM associated mortality in sub-Saharan Africa is between 25 and 35% [10]. In Nigeria, 22 to 40% of under-five mortality has been attributed to PEM (Ibekwe VE and Ashworth 1994). PEM is also associated with a number of co morbidities such as lower respiratory tract infections including tuberculosis, diarrhoea diseases, malaria and anaemia [11].These co-

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morbidities may prolong the duration of hospital stay and death among affected children.

### 1.2. Objectives

General objectives: The study will be carried out with a view to assess knowledge of mothers of under five children regarding Protein-Energy Malnutrition,

**Specific objectives**

1. To assess knowledge of mothers regarding Protein-Energy Malnutrition.
2. To assess knowledge of mothers regarding cause of Protein-Energy Malnutrition.
3. To assess knowledge of mothers regarding type of Protein-Energy Malnutrition.
4. To assess knowledge of mothers regarding symptoms of Protein-Energy Malnutrition.
5. To assess knowledge regarding treatment of Protein-Energy Malnutrition.
6. To assess knowledge of mothers regarding prevention of Protein-Energy Malnutrition.
7. To assess knowledge regarding complication of Protein-Energy Malnutrition.
8. To find out socio demographic characteristics of the respondents.

## 2. MATERIALS AND METHODS

The samples were 1356 mothers at Rajshahi Metropolitan city of Bangladesh were admitted their children in Rajshahi medical college hospital age group of 18-49 years. The samples technique chosen was purposive sampling technique because it was easy to apply and time saving.

### 2.1. Research Instrument for data collection

The research instrument for data collection was a structured questionnaire designed by the researcher under the supervision of advisor. This structured questionnaire was used as measurement tool. The data was collected by using pre-tested partially structured questionnaire. Before collecting data for pretest, the questionnaire was submitted to thesis advisor in order to check content validity. Then, the questionnaire were adopted according to the suggestions and comments from thesis advisor and proceed to pretest them using devised questionnaire for five respondent. The questionnaire was translated to Bengali for interview. The question item is close and multiple choice questionnaires. Participants were asked to question with various aspects of Protein-Energy Malnutrition.

### 1.2. DATA ANALYSIS

The data was planned to analyze Results were analyzed manually written by Master sheet on the basis of objective. The data was analyzed by using descriptive and inferential statistics and interpreted in terms of objectives. Results were analyzed manually written by Master sheet.

## 3. RESULTS

The findings of the study are the presentation of the results in the form of empirical data or facts. Reporting of the data is an objective process. Findings include the description of data analysis. Descriptive statistics are used to present the findings of the research studies and inferential statistics are used to test the hypothesis (Neieswiadomy Rose Marie. ‘‘Foundations of nursing research, 2nd edn. Texas: simon and Schuster Business and professional group of publishers.) This chapter deals with analysis and interpretation of the data. The purpose of the study was to determine the knowledge of Mothers of fewer than five children regarding protein energy malnutrition. The findings of the study were organized and presented in the following sections.

Section–i : Frequency and percentage distribution of socio demographic characteristics of sample.
Section–ii : Frequency and percentage distribution of knowledge level of Mother’s on protein energy malnutrition.
Section–ii : Association between the level of knowledge regard in Protein energy malnutrition with selected socio-Demographic variables.

### 3.1. Sampling Distribution

The sample characteristics selected for analysis in the study were age, educational status, occupation, family monthly income and number of members of the family. The information on sample characteristics was gained from verbal responses of mother’s under-five children. The sample characteristics were categorize d as follows

**Table-1: Percentage Distribution of the mothers of under-five children by their age**

| Age in years | Number | Percentage |
|---|---|---|
| <20 years | 244 | 18 |
| 20 – 29 years | 786 | 58 |
| 30 – 39 years | 272 | 20 |
| >40years | 54 | 4 |

Table 1 shows that more than half of mothers were fallen in the age group20-29years(58%), followed by age 30-39 years(20%), ageless than20 years(18%), and negligible percentage of the sample were fallen in the age group more than40 years(4%)

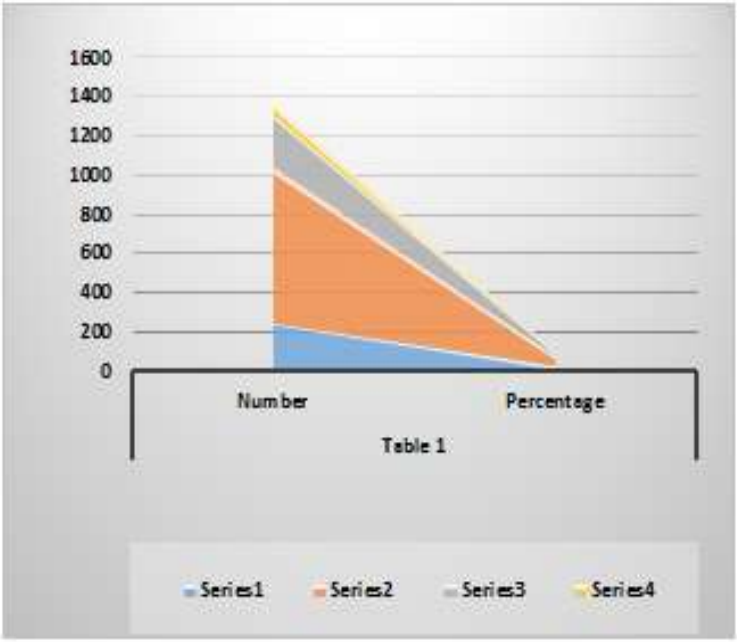


**Fig-1: Children by their age**

**Table-2**: **Percentage Distribution of the mothers 'of under-five children by their educational status**

| Educational status | Frequency | percentage |
|---|---|---|
| **Illiterate** | **135** | **10** |
| **Up to class v** | **732** | **54** |
| **Up to class vi** | **407** | **30** |
| **Graduate and above** | **82** | **6** |

From the table 2, it is evident that more than half of the mothers were up to class v (54%), followed by up to class vi-xii (30%), followed by illiterate(10%), and only(6%) mothers studied Graduate and above.

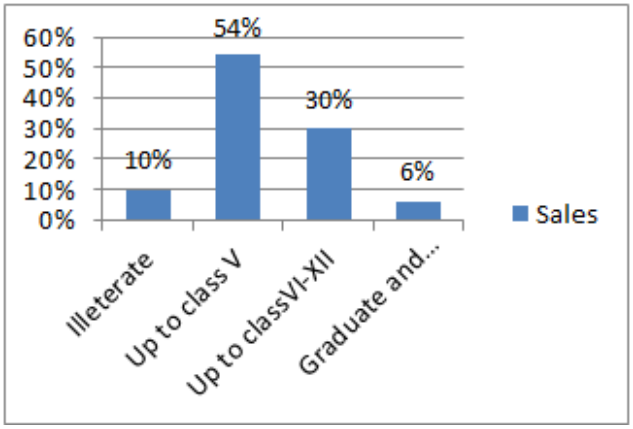


**Fig-2: Educational status of mother**

**Table-3: Percentage Distribution of the mothers'of under-five children by their occupation.**

| Occupation | Frequency | Percentage |
|---|---|---|
| House Wife | 1166 | 86 |
| Govt. service | 108 | 8 |
| Teacher | 82 | 6 |
| Business | 0 | 0 |
| Others | 0 | 0 |

From the table 3, it is evident that more than (86%) mothers were house wife, followed by (8%) Govt service, and only (6%) of mothers were Teacher.

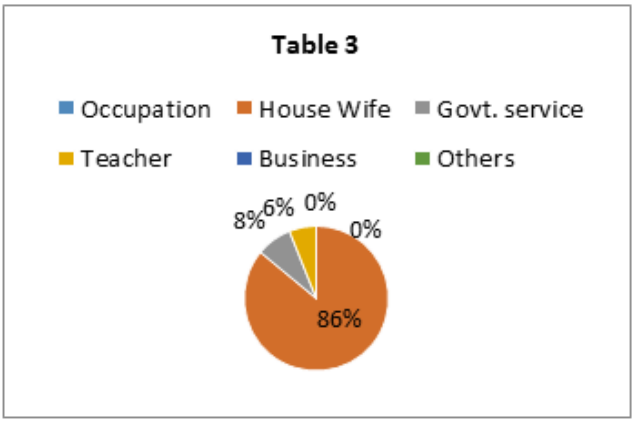


**Fig-1: Mothers occupation**

**Table-4: Percentage Distribution of the mothers' of under-five children by their monthly family income**

| Monthly income | Frequency | Percentage |
|---|---|---|
| Lower class(1000-9000) | 623 | 46 |
| Lower Middle class(10000 19000) | 569 | 42 |
| Upper Middle Class(20000-29000) | 136 | 10 |
| Upper Class(30000-Above) | 28 | 2 |

Table 4 clearly describes that more than half of the sample had monthly family income between taka. 1000-9000/-(46%), followed by family had monthly income taka. 10000-19000/-(42%), followed by family had monthly income taka. 20000-29000/-(10%), followed by family had monthly income taka. 30000 and above/-(2%)

**Table-5: Percentage Distribution of the mothers' of under-five children by their religion.**

| Religion | Frequency | Percentage |
|---|---|---|
| Muslim | 1166 | 86 |
| Hindu | 135 | 10 |
| Christian | 55 | 4 |
| Others | 0 | 0 |

From the above table 5 it was evident that nearly (86%) were Muslims, followed by (10%) were Hindus, and (4%) were Christians.

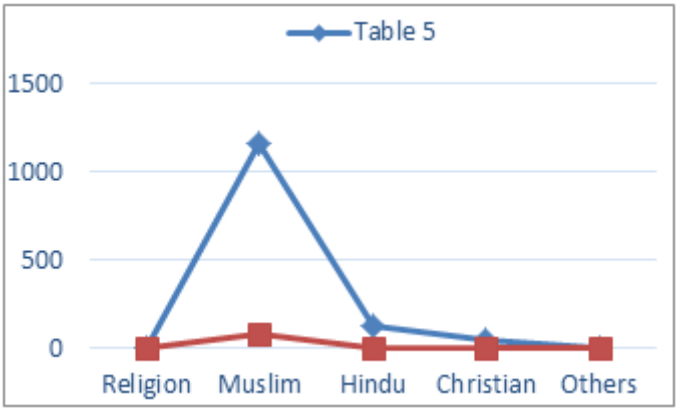


**Fig-2**

**Table-6: Percentage Distribution of the mothers' of under-five children by their housing condition**

| Housing Condition | Frequency | Percentage |
|---|---|---|
| Mud made House | 732 | 54 |
| Tin shade House | 461 | 34 |
| Brick build House | 163 | 12 |
| Others | 0 | 0 |

From the table 6, it is evident that more than (54%) Mud made house, followed by (34%) Tin shade House, and only (12%) of Brick build House

**Table-7: Percentage Distribution of the mothers' of under-five children by their Home location**

| Home location | Frequency | Percentage |
|---|---|---|
| Urban | 434 | 32 |
| Rural | 922 | 68 |
| Urban slum | 0 | 0 |

From the table 7, it is evident that more than (68%) rural, followed by (32%) urban.

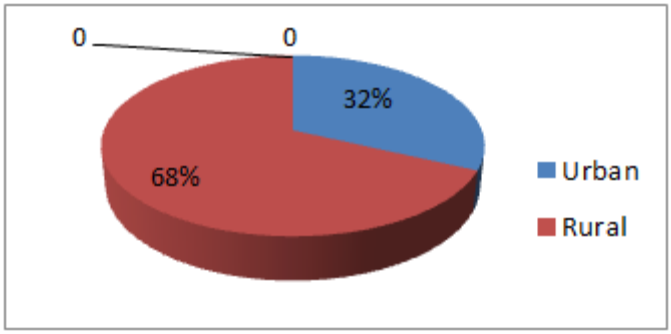


**Fig-3: Home location of mothers**

## 4. CONCLUSIONS

The following conclusions were drawn on the basis of the present study i.e. Under five children regarding Protein-Energy Malnutrition.

More than half of mothers were fallen in the age group20-29 years (58%), followed by age 30-39 years (20%), ageless than 20 years(18%), and negligible percentage of the sample were fallen in the age group more than40 years(4%). More than half of the mothers were up to class v (54%), followed by up to class vi-xii (30%), followed by illiterate (10%), and only (6%) mothers studied Graduate and above. More than (86%) mothers were house wife, followed by (8%) Govt service, and only (6%) of mothers were Teacher. More than half of the sample had monthly family income between tk. 1000-9000/-(48%), followed by family had monthly income tk. 10000-19000/-(42%), followed by family had monthly income tk. 20000-29000/-(10%), followed by family had monthly income tk. 30000 and above/-(2%). Nearly (86%) were Muslims, followed by (10%) were Hindus, and (4%) were Christians. More than (54%) Mud made house, followed by (34%) Tin shade House, and only (12%) of Brick build House. More than (68%) rural, followed by (32%) urban. Nearly 1-5 number of family members (84%), followed by 6-7 number of family members (16%) were Hindus, An insignificant relationship was found between the age and occupation.

## 5. RECOMMENDATIONS

Based on findings, the following recommendations are proposed for future research.

1. A similar study can be conducted to the effectiveness of teaching program.
2. A similar study can be conducted on larger sample for the purpose of generalization.
3. The study related to assessment of knowledge, attitude and practices of mothers on Protein-Energy Malnutrition

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