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A study to assess the knowledge of mothers of under-five children regarding protein-energy malnutrition in selected area of Gwalior with a view to develop health education module

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ABSTRACT

A descriptive survey was carried out to assess the knowledge of mothers of under-five children regarding Protein-Energy Malnutrition in selected urban areas of Gwalior. The study was conducted by Mr. Midhun Ashok, II year M.Sc. (N) the student in Gwalior Nursing College, Gwalior in partial fulfillment of the requirement for the Master of Science in Nursing of Jiwaji University of Health Sciences, Gwalior. The Objectives of the study to access the knowledge of mothers of under-five children on Protein-Energy Malnutrition. To identify the relationship between the knowledge of mothers of under-five children with selected Socio-demographic variables. To develop the Health education module. Methodology The study was based on Rosenstock's and Becker's health behaviour model. The data was collected by a descriptive method, 150 mothers were selected from the urban slum area by a simple random sampling technique. Data was collected using a structured interview schedule for a period of 4 weeks. Both descriptive and inferential statistics were used for data analysis. Major findings of the study the majority of the mothers (38%) were belonging to the age group of 26-30 years. Eighty-four percent of mothers were illiterates. Eighty-four percent of mothers were coolies. The majority of the mothers were House-wives (35.33%) The majority of the mothers had a monthly family income of Rs. 3001-5000/- (37.33%). Nearly half of the mothers (42%) had the family size as six and above. The mean overall knowledge score of mothers regarding Protein Energy Malnutrition was 12.91 and S.D. =3.11. Hundred and two mothers (68%) had a low knowledge score and 48 mothers (32%) had average knowledge. The X² value showed that there was a significant relationship between the knowledge of mothers with their education and family monthly income, and hence the research hypothesis H₂ and H₄ were accepted. The insignificant relationship was found between the knowledge of mothers with their age, occupation, and size of the family. The related research hypothesis H₁, H₃ and H₅ were rejected. The study findings revealed that the majority of mothers were illiterates. Hence there is a need to educate the mothers regarding correct feeding practices and that helps in preventing Protein Energy Malnutrition. Background of the study India's children still languish in malnutrition in spite of a lot of progress in terms of food production, procurement, and food security. One of the most dominant problems declining the quality of life of most Indian citizens is malnutrition. Protein-Energy Malnutrition has been identified as major public health and nutritional problem in India. It not only leads to childhood morbidity and mortality but also leads to impairment of physical and possibly of mental growth of those who survive. Protein-Energy Malnutrition is a global problem. Nearly 150 million children under 5 years in the world and 70 - 80 million in India suffer from protein-energy malnutrition, nearly 20 million in the world and 4 million suffer from severe forms of Protein-Energy Malnutrition like Kwashiorkor and marasmus. Malnutrition begets infection and infection begets malnutrition, both are common among poor children, Protein-Energy Malnutrition is found to account for about four million deaths in children. It is still the first killer disease 54 percent, followed by acute respiratory infection 20 percent and diarrhea 18 percent from the global perspective. Studies have pointed out the significant role of women's education in infant and child mortality, widespread women's education is an important determinant factor in unusually low mortality and yet low-income regions and it has been noted that similar set of relationship has been noted with regard to women's education and child's nutritional status. Special efforts have to be made to reach mothers since they are the most unreached at present.

Keywords— Malnutrition, Protein energy malnutrition, Under five

1. NEED FOR THE STUDY

Malnutrition means more than feeling hungry or having enough food to eat, inadequate intake of protein, carbohydrate, and other nutrients make up different types of malnutrition, poor nutrition occurs in developing countries and in prosperous areas of the world. As many as 800 million children worldwide are affected by malnutrition. More than half of the childhood deaths in developing countries are related to malnutrition. Protein-Energy Malnutrition is a major public health problem in India, affecting the growth and development of young children, findings are reported from a study investigating that the impact of housing, hygiene, socio-economic and demographic variables act upon acute malnutrition in children aged 1 – 5 years. Family and social welfare center survey report suggested that there are about 24,319 of malnutrition cases out of 1, 78,111 of under-five children in Gwalior. It has been found that 445 children are the victims of malnutrition at Barai among 3042 under-five children in a particular area.

It has been said that the role of the mother as a provider of health and nutritional care seemed undervalued, for this reason, and particularly in malnourished communities, there is an urgent need to step up nutritional education to mothers. Gwalior is a backward area with poor socio-economic status and the majority of mothers were labourers, illiterates and ignorant upon feeding practices which may lead to Protein-Energy Malnutrition in children. Since no systematic study was done in the study area. The Investigator felt the need to conduct the study and develop health education module, which can be kept at sub centers and other health centers which acts as a guide to enrich the knowledge of primary health care, especially to mothers. Health professionals can utilize health education module in their awareness campaign to enrich the knowledge of the public in general and specific focus to mothers.

2. OBJECTIVES OF THE STUDY

- To assess the knowledge of mothers' of under-five children on Protein-Energy Malnutrition
- To identify the relationship between the knowledge of mothers' of under-five children with selected socio-demographic variables.
- To develop health education module.

3. HYPOTHESES

On the basis of the objective following hypotheses were formulated.

- **H1:** There will be a significant relationship between knowledge of the mothers' of under-five children with regard to Protein - Energy Malnutrition with their age.
- **H2:** There will be a significant relationship between knowledge of the mothers' of under-five children with regard to Protein - Energy Malnutrition and their educational status.
- **H3:** There will be a significant relationship between knowledge of the mothers' of under-five children with regard to Protein - Energy Malnutrition with their occupation.
- **H4:** There will be a significant relationship between knowledge of the mothers' of under-five children with regard to Protein - Energy Malnutrition and their monthly family income.
- **H5:** There will be a significant relationship between knowledge of the mothers' of under-five children with regard to Protein - Energy Malnutrition and their family size.

4. REVIEW OF LITERATURE

A descriptive study was conducted to assess the effectiveness of nutritional education for improving the feeding patterns of malnourished children in a university hospital, Nigeria. They had selected 115 mothers by simple random sampling and used a questionnaire to collect the data significant difference was indicated in pretest mean score ($t = 11.79$) and posttest mean score ($t = 20.50$). This indicated that nutritional education was effective to improve the feeding patterns of mothers.

A longitudinal study was conducted to assess the community based nutritional intervention for reducing Protein-Energy Malnutrition among under-five children in rural areas of Iran. They selected mothers by simple random sampling technique and instruction was given on feeding method, deworming, environment sanitation and growth monitoring program as a route of intervention. Indices were assessed after one year. Results indicated that nutritional awareness had grown among mothers and the incidence of malnutrition had dropped to 6.5% to 1.8%.

A descriptive study was conducted to assess the knowledge and perception of mothers towards Marasmus in selected areas of Karachi, Pakistan. They selected 105 mothers of under-five children, by simple random sampling and used interview method. Results showed that the majority of the mothers had inadequate knowledge about Marasmus (85%) and they were perceiving that diarrhea was the common cause of Marasmus

A descriptive study was conducted to assess the mothers' knowledge about malnutrition in some regions of Guinea, 41 mothers of well-nourished children were selected by purposive sampling and used open-ended questionnaire to collect the data. They study result revealed that all mothers recognized a malnourished child as being sick. More percentage of mothers believed that general or specific lack of food to be the cause for malnutrition (80%).

5. METHODOLOGY

The research approach used was a descriptive survey. The research design adopted for the present study was nonexperimental design. Setting for the study is Gwalior city. The target population was the mothers of under-five children whose age falls between 20 - 35 years. Cluster random sampling technique was used. 150 mothers of under-five children were selected for the present study by lottery method. The technique used for collecting the information was an interview technique.

5.1 Description of the Tool

The format of the structured interview schedule comprises of two sections or parts.

- **Part - I:** It consists of items describing sample characteristics such as age, education, occupation, family monthly income, and family size.
- **Part - II:** It consists of items related to knowledge of mothers' regarding Protein-Energy Malnutrition. The contents included were: meaning, types, causes, signs and symptoms, diagnosis, management and prevention of protein-energy malnutrition. Each item had one correct response and each correct response is coded with one mark. The total number of possible correct responses were; twenty-seven. For the purpose of the study the knowledge score was categorized as:

Low Knowledge - < 50%

Average Knowledge - 50 - 75%

High Knowledge - > 75%

Reliability of the tool is determined by the test-retest method by the use of Karl Pearson co-efficient correlation method, r - value was obtained as r = 0.83. It shows that the tool was found to be highly reliable. The findings of the study were organized and presented in the following sections.

(a) **Section-I:** Frequency and percentage distribution of socio demographic characteristics of the sample.

(b) **Section-II:** Frequency and percentage distribution mean score, the standard deviation of the knowledge level of mothers' on Protein-Energy Malnutrition.

(c) **Section-III:** Association between the levels of knowledge regarding Protein-Energy Malnutrition with selected socio demographic variables.

5.1.1 Section – I Sampling Distribution: The sample characteristics selected for analysis in the study were age, educational status, occupation, family monthly income and size of the family. The information on sample characteristics was gained from the verbal responses of mothers of under-five children. The sample characteristics were categorized as follows.

Table 1: Percentage distribution of mothers' of under-five children by their age.

Age in years	Frequency	Percentage
<20	9	6
21-25	16	10.66
26-30	57	38
31-25	28	18.66
>35	40	26.66

Table 1 Shows that more than one- third of mothers were fallen in the age group of 26 - 30 years (38%), followed by more than 35 years (26.66%), 31 - 35 years (18.66%), 21 - 25 years (10.66%) and negligible percentage of the sample were fallen in the age group of fewer than 20 years (6%).

5.1.2 Section 2

Table 2: Percentage distribution of knowledge of mothers of under-five children regarding Protein-Energy Malnutrition

Knowledge Levels	Frequency	Percentage
Low Knowledge	102	68
Average Knowledge	48	32
High Knowledge	--	--

(Mean = 12.91, S.D = 3.11)

Section II represents over all knowledge score levels, the tool consists of 27 items and the total knowledge score of the mothers was 27. If the mother's knowledge falls between 1 - 14 (< 50%), they were categorized as mothers with low knowledge, if they scored 15 – 23 (50 - 75%) they were considered as having average knowledge and if above 23 they were considered as having High knowledge (>75%). More than two-third of the sample were having low knowledge (68%). Nearly one-third of the sample had average knowledge (32%). No one had high knowledge related to Protein-Energy Malnutrition. The mean knowledge score was 12.91 and S.D. 3.11. This shows that there is a need for enhancement of knowledge of mothers regarding Protein-Energy Malnutrition.

5.1.3 Section 3

Table 3: Association between the knowledge of the mothers’ about Protein-Energy Malnutrition by their education status

Area of Mothers	Low Knowledge		Average Knowledge		High Knowledge		x ² value (df)
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	
Illiterates	55	36.66	29	19.33	--	--	
Primary school	29	19.33	3	2	--	--	
Middle school	19	12	5	3.33	--	--	
High school	-		11	7.33	--	--	32.21 (3)

Table 3 describes 102 mothers had low knowledge regarding Protein-Energy Malnutrition among them 55 mothers were illiterates, 29 mothers studied up to Primary school and 19 mothers studied middle school. 48 mothers had average knowledge among them 29 mothers’ were illiterates, 11 mothers’ studied high school followed by 5 mothers’ studied middle school and 3 mothers were from primary school.

6. CONCLUSION

- The following conclusions were drawn on the basis of the present study i.e., to assess the knowledge of mothers of under-five children regarding Protein-Energy Malnutrition.
- The present study revealed that more than one-third of the mothers' were fallen in the age group of 26 to 30 years (38%) and only 6 percent of mothers' were fallen in the age group of fewer than 20 years.
- Among 150 mothers more than half of the mothers were illiterates (56%), and it was interesting to note that 84 mothers too were coolies (56%).
- More than one-third of families had the family monthly income of Rs.3001 - 5000/- (37.33%).
- Sixty-three mothers were having family size as six and above (42%).
- Among 150 mothers more than half (102) of the mothers had low knowledge (68%) and average knowledge (32%), No one had high knowledge score. The mean and standard deviation values of knowledge score were 12.91 and 3.11 respectively.
- By means of chi-square test, it was proved that there was a significant relationship between the knowledge of mothers and selected socio demographic variables such as education and family monthly income.
- An insignificant relationship was found between the age, occupation, and size of the family.

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