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A study to assess the effectiveness of planned teaching programme regarding knowledge of protein energy malnutrition among mothers of under five year children in selected rural areas in Moradabad

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Abstract
Background: Malnutrition is identified as a major health and nutritional problem in India which includes the various range of sever conditions they are marasmus, kwashiorkor and marasmic kwashiorkor.

Objectives
1. To assess the pre-test and post-test knowledge score on Protein Energy Malnutrition among mothers of under five children.
2. To find out effectiveness of planned teaching program on Protein Energy Malnutrition among mothers of under five children.
3. To find out association between post-test knowledge among mothers of under five children on Protein Energy Malnutrition with their selected demographic variables.

Methodology: The aim of the study was to assess the knowledge and effectiveness of PTP on PEM among mothers of under five year children in selected rural area of Moradabad. It also determines the association of the knowledge of PEM among mothers of under five year children with selected demographic variables. For this purpose a pre experimental study was conducted among mothers of under five year children in selected rural area of Moradabad. The sample consisted of 60 mothers of under five year children. A purposive method was used to collect the data. Data was collected using a self structured questioner. After collection of data, the data was analyzed by using inferential statistics such as chi-square and paired 't'test to determine association between post test knowledge on PEM with the selected demographic variables and effectiveness of PTP on PEM among mothers of under five year children.

Results: In this study the majority pre-test knowledge score was, 70% of the mother had inadequate knowledge as 28.33% mother had moderate knowledge and 66% mother had adequate knowledge. After PTP the post-test knowledge score obtained by majority of (50%) of mother had moderate knowledge and 45% mother had adequate knowledge and 05% of mother had inadequate knowledge regarding Protein Energy Malnutrition.
The overall effectiveness of PTP reveals that the mean post test knowledge scores 22.43 mothers of under five year children was higher than the pre test knowledge scores of 11.58. while, the calculated "t" value was 15.58. This indicated that there is significant difference between pre test and post test knowledge score because the calculated 't' value (15.58) is more than table value (0.05; 1.96) at df(59). Knowledge with age, Type of family, Occupation among mothers of under five year children regarding Protein Energy Malnutrition were found significant. Whereas number of children, qualification, Family Monthly income non-significant.

Conclusion: The result of this study indicate that total post test knowledge score was higher than the pre test knowledge score and the total mean difference of pre test and post test knowledge is 10.85. So there was also significant difference between pre test and post test knowledge score because the calculated't' value (15.58) is more than table value (0.05; 1.96) at df(59).After analyses the pre-test and post-test knowledge score it is necessary to educate the mothers of under five year children about Protein Energy Malnutrition in order to promote the health of under five year children reduce the malnutrition and mortality rate among the children.

Keywords: Protein energy malnutrition, effectiveness, self-structured questioner, purposive metho

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Introduction
Malnutrition is a global burden. More than 800 million people are undernourished. In the developing countries 181 million children are malnourished.

In India the major contributing factors are poverty and low socio-economic status with low level of education, poor sanitation and limited access to health services and high levels of infectious disease. In addition, infant feeding and caring practice also affect the young children's nutritional status.

Malnutrition is identified as a major health and nutritional problem in India. Malnutrition is includes the range of conditions the most sever forms of which are Marasmus, Kwashiorkor and Marasmic –Kwashiorkor combined. It is a multi- deficiency state and not just a deficiency of protein and energy but also the deficiency of other nutrients and vitamins. Insufficiency of food- so-called "food-gap" appears to be the chief cause of PEM, which is a major health problem particularly in the 1st year of life, characterized by low birth weight if the mother is malnourished, poor growth in children.

There are also significant differences among different parts of the same country. In India, for example, the prevalence of PEM varies from 32% in Nagaland and Kerala to 70% in Bihar.

Table 1: Prevalence of PEM in Some States in India

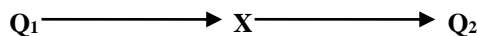| State	prevalence of PEM(%)
Bihar	70
Uttar Pradesh	66
Madhya Pradesh	63
Maharashtra	61
West Bengal	61
Manipur	34
Kerala	32
Nagaland	32

Material and Methods
Research Approach
The research approach adopted for this study is Quantitative approach to assess the knowledge regarding PEM among protein energy malnutrition.

Research Design
Quasi-experimental study design is chosen for this study to assess the knowledge regarding protein energy malnutrition among mothers of under five year children (one group pre test post-test).

$$Q_1 \longrightarrow X \longrightarrow Q_2$$

Keys:

Q_1 - Knowledge regarding protein energy malnutrition before administration of Planned teaching program
X- Planned teaching program
Q_2 - Knowledge regarding protein energy malnutrition after administration of Planned teaching program

Setting of the Study
The study will conducted in the rural area of Moradabad. That is the Anganwadi of the Pakbara at Moradabad. The researcher has chosen the center because the convenience, availability of the sample and feasibility.

Target population: Mothers of under five year children at Moradabad.

Accessible population: Mothers of under five year children at Pakbara, Moradabad.

Sample: Mothers of under five year children.

Sample size: Sample size is 60.

Sample technique: The sample selected for the study by Non-probability, Purposive sampling.

Criteria for Selection of Sample
Inclusion criteria
- Mother who have under 5 years children.
- Mothers who are present at the time of data collection.

Exclusion criteria
- Mother who is not belongs to rural area.
- Mother who are not willing to participate.

Variables
Independent variable
The planned teaching program on protein energy malnutrition among Mothers of under five years children in selected rural area at Moradabad.

Dependent variable
The knowledge of the mothers of under five year children regarding protein energy malnutrition in selected rural area at Moradabad.

Extraneous variables
The influencing variables refers to Age, No. of children, Qualification, Type of family, Occupation, Family monthly income.

Development of tool
The research instrument is develop in English after extensive review of literature and expert opinion. It is translated into Hindi by language expert. The structured knowledge questionnaire was prepared to measure the knowledge regarding protein energy malnutrition among mothers of under five children in selected rural area at Moradabad.

Description of tool
The developed tool was organized in two part. These are as followed-

Part I: Demographic variables of mothers under five years children like Age, No. of children, Qualification, Type of family, Occupation, Family monthly income.

Part II: Self structured questioner to assess the knowledge of the mothers under five years children regarding Protein Energy Malnutrition.

This part is further divided into following section
Section A: Questions related to Protein Energy Malnutrition

Section B: Questions related to types and sings & symptom of Protein Energy Malnutrition.

Section C: Questions related to causes and risk factor of Protein Energy Malnutrition.

Section D: Questions related to prevention and treatment of Protein Energy Malnutrition.

Scoring procedure
Part I: Demographic data

Part II: The questioner consists 30 multiple choice questions where total score is 30. For right answer score '1' (one) and for wrong answer score '0'(zero).

Score interpretation
The knowledge level has been arbitrarily three category based on semi structured knowledge questioner.
- 1-15 (0-50%) Inadequate knowledge level
- 16-22 (51-75%) Moderate knowledge level
- 23-30 (76-100%) Adequate knowledge level

Ethical clearance: A written formal permission was obtained from research committee of Teerthanker Mahaveer College of Nursing and from the chief Medical Officer/ Anganwadi centre of Pakbara at Moradabad to conduct the study. The data collected as per inclusion and exclusion criteria.

Reliability
The reliability was calculated by using kuder Richardson 20 formula.
Kr 20 = (k/k-1)(1-Σp.q/sigma2)
Correlation score was 0.83 so the tool was found highly reliable.

Method of data collection
A written formal permission was obtained from the chief Medical Officer/ Anganwadi centre of Pakbara at Moradabad to conduct the study. the data will be collected as per inclusion and exclusion criteria.

Plan for data analysis
The demographic variables were analyzed using descriptive measures (frequency and percentage). The knowledge on protein energy malnutrition among less than five year children will be assesses using descriptive measures (mean, standard deviation). In order to determine the knowledge score regarding effectiveness of planned teaching programme is by using paired 't' test. Mean while, the association between knowledge scores on protein energy malnutrition with their selected demographical variables were assessed using Chi- Square test.

Findings
The findings of the study were organized and presented in the following sections.

Section I: Frequency and percentage distribution of sample with their selected demographic variables.

Section II: Assessing the pre-test post-test knowledge score on Protein Energy Malnutrition among mothers of under five children.

Section III: Assessing the effectiveness of planned teaching program on Protein Energy Malnutrition among mothers of under five children

Section IV: Association between the level of post-test knowledge regarding Protein Energy Malnutrition with selected socio demographic variables.

Section V: Testing of hypothesis-

H$_1$: There will be significant difference between pre-test and post-test knowledge among mothers of under five children on protein energy malnutrition.

H$_2$: There will be significant association between post-test knowledge among mothers of under five children on protein energy malnutrition with selected demographic variables.

Section I: Frequency and percentage distribution of sample with their selected demographic variables.

S.N.	Demographic data		Frequency	Percentage %
1.	Age	20 – 25 years	21	35%
		26-30 years	32	53.3%
		31-35 years	06	10%
		Above 36 years	01	1.66%
2.	Number of children	One	09	15%
		Two	39	65%
		Three or more	12	20%
3.	Qualification	primary	17	28%
		10th -12th	35	58%
		Graduate or P.G.	07	11.66%
		Illiterate	01	1.66%
4.	Type of family	Nuclear	23	8.33%
		Joint	37	61.66%
5.	Occupation	Agriculture	01	1.66%
		Job	05	8.33%
		business	05	8.33%
		Housewife	49	81.66%
6.	Family Monthly income	>Rs.5000/-	11	18.33%
		Rs.5001-10,000/-	15	25%
		>Rs.10,001/-	34	56.66%

Section II: Assessing the pre-test post-test knowledge score on Protein Energy Malnutrition among mothers of under five children.

n=60

Knowledge level	Pre-test		Post-test	
	Knowledge score	%	Knowledge score	%
Adequate knowledge	01	1.66	27	45
Moderate knowledge	17	28.33	30	50
Inadequate knowledge	42	70	03	05

Section- III: Assessing the effectiveness of planned teaching program on Protein Energy Malnutrition among mothers of under five children.

n=60

	No. of sample	Mean ± SD	Mothers paired 't' test
Pre test	60	11.58 ± 5.31	t =15.58*
Post test	60	22.43 ± 3.79	

T59; 0.05; 1.9

Section IV: Association between the level of post-test knowledge regarding Protein Energy Malnutrition with selected socio demographic variables.

Demographic variables		Frequency	Frequency (%)	X^2
Age	20 – 25 years	21	35%	51.93*
	26-30 years	32	53.3%	
	31-35 years	06	10%	
	Above 36 years	01	1.66%	
Number of children	One	09	15%	1.42
	Two	39	65%	
	Three or more	12	20%	
Qualification	primary	17	28%	6.55
	10th -12th	35	58%	
	Graduate or P.G.	07	11.66%	
	Illiterate	01	1.66%	
Type of family	Nuclear	23	38.33%	7.26*
	Joint	37	61.66%	
Occupation	Agriculture	01	1.66%	27.49*
	Job	05	8.33%	
	business	05	8.33%	
	Housewife	49	81.66%	
Family Monthly income	>Rs.5000/-	11	18.33%	6.815
	Rs.5001-10,000/-	15	25%	
	>Rs.10,000/-	34	56.66%	

Section V:

H₁: There is significant difference between pre-test and post-test knowledge on protein energy malnutrition among mothers of under five children.

The analysis of the data revealed that the mean post test knowledge scores on PEM among Mothers of under five children was 22.43 which is greater than the pre-test knowledge score that is 11.58. The obtained mean difference is 10.85, while, the "t" value is 15.58 for df (59) so it was found to be significant at 0.05 level. This indicated that there is significant difference between pre test and post test knowledge. Hence H₁ is accepted.

H₂: There will be significant association between knowledge on protein energy malnutrition among mothers of under five children with their selected demographic variables.

The statistical data depicted that some of the variables like age, type of family and occupation have significant association with the knowledge of protein energy malnutrition. So the hypothesis H₂ is accepted.

Conclusion

The following conclusions were drawn on the basis of the present study i.e, to assess the effectiveness of planned teaching program regarding knowledge of protein energy malnutrition among mothers of under five year children.

It is proved that in rural areas there is still lack of knowledge regarding protein energy malnutrition among mothers of under five children as evidence by in the present study the pre-test knowledge was less than the post-test knowledge score.

Also there was association between knowledge with certain demographic variable. The conclusion of the study is that knowledge must be imparted to the mothers regarding the protein energy malnutrition in order to promote health, prevent malnutrition and reduce the mortality rate of the children.

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