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A Pre - Experimental Study to Assess the Effectiveness of Community based Education Program on Knowledge Regarding Prevention and Management of Protein Energy Malnutrition among the Mothers of Under Five Children in Selected Rural Areas

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Abstract: ***Aim of the study: This study aims to find the effectiveness of community - based education programme on knowledge regarding prevention and management of protein energy malnutrition among the mothers of under five children in selected rural areas. Objectives of study: Primary objective - To assess the effectiveness of community - based education program on knowledge regarding prevention and management of protein energy malnutrition among the mothers of under five children in selected rural areas. Secondary objective: 1) To assess the existing level of knowledge score regarding prevention and management of Protein Energy Malnutrition among the mothers of under five children. 2) To assess the effectiveness of community - based education programme on knowledge regarding prevention and management of Protein Energy Malnutrition among the mothers of under five children. 3) To associate the posttest knowledge score regarding prevention and management of Protein Energy Malnutrition among the mothers of under five children with their selected demographic variable. Method: Pre - experimental one group pretest posttest design and quantitative approach was carried out on 60 Mothers of under five children selected by Non - Probability Purposive Sampling Technique to test effect of community based education programme on Knowledge Regarding Prevention And Management of Protein Energy Malnutrition among Mothers of Under Five Children. The data was collected by using structured interview questionnaire consists of 24 items. Results: The presents study evaluates and found that demographic variables, Majority of mothers belongs to 43.33% of the mothers from the age group 26 - 30 years,, 33.33% of the mothers from the Muslim of them were females, majority of mothers belongs to 36.67% of the mothers were educated upto primary, majority of mothers belongs to 41.67% of the mothers were homemakers, of them had majority of mothers belongs to 51.67% of the mothers had income Less than 5000 Rs, 45% of the mothers from the nuclear families, majority of mothers belongs to 55% of the mothers had one child, Previous knowledge regarding protein energy malnutrition is 68.33% Majority of mothers 42.11% of the mothers got the knowledge. Interpretation and conclusion: The data were analysed by applying descriptive and inferential statistics. The result of the study indicated that after intervention there was an improvement in the knowledge and they gained good knowledge about prevention& management of PEM among mothers of under five children. Analysis data shows that highly significance difference found between the pre - test and post - test knowledge scores at the level of (P<0.05). The hypothesis is proved and accepted.***

Keywords: PEM (Protein energy malnutrition), HIV (Human Immunodeficiency virus), UNICEF (United nations international children's emergency fund), IUGR (Intra uterine growth retardation), UPTH (University of port Harcourt teaching hospital), BMH (Braithwaite memorial hospital), SHTC (School of health technology clinic), TFC (Therapeutic food centre), OR (operations research), PHC (Primary health care), NT (Nutritional therapy), ONS (Oral nutritional supplement), WHO (World health organization)

1. Introduction

According to World Health Organization, protein energy malnutrition refers to " an imbalance between the supply of protein and energy and the body's demand for them to insure optimal growth and function". Children are the most important segment for a nation for the optimal physical, mental and emotional development of its future worthy citizen. A nation's health depends on the healthy citizens. A healthy adult emerges from a healthy child.

Nutrition of under five children is of paramount importance because the foundation of our lifetime health, strength and intelligence, vitality is laid during this period Good nutrition is the fundamental basic right for the maintenance of positive health. A proper diet is essential from early stage of life of children of below age of 5 yr constitute over 20 % of our population and also form a most vulnerable group. the foundation of good health and sound mind are laid during this period of life.

Food is an important and basic biological need of man. It is essential for life, growth and repair of the human body, regulation of body mechanisms and production of energy for work. The nutrition of people on a global level is of great concern today particularly in developing nations. A fair section of the population do not get enough food to eat and their diets are deficient in enough food to eat and there are deficient in calories also; The children in the developing countries suffer from malnutrition.

2. Need of Study

Malnutrition is a major health and social problem from which many people are suffering, particularly children. Malnutrition results from imbalance between the body's needs and the intake of nutrients, which can lead to syndromes of deficiency, dependency, toxicity or obesity. Malnutrition includes under nutrition in which nutrients are undersupplied. The risk of under nutrition is also greater at certain times in a person's life, i. e., infancy early childhood, adolescence, pregnancy and lactation, and old age.

Proper nutrition is a powerful god: people who are well nourished are more likely to be healthy, productive and able to learn. Good nutrition benefits families, their communities and the world as a whole. Under nutrition is, by the same logic, devastating. It blunts the intellect, saps the productivity of everyone it touches and perpetuates poverty. As UNICEF documented in its 2011 report, 'Improving Child Nutrition: The achievable imperative for global progresses. Over the past 20 years alone, the number of stunted children under the age of five in the world has fallen by 88 million – from 40 to 26 per cent, or a one - third reduction. However, a new Lancet article on nutrition from 6 June 2013 shows that progress is not fast enough, so what is needed now is strong, global commitment and leadership to accelerate efforts. There are many compelling reasons to increase efforts. A group of leading economists, the Copenhagen Consensus, has consistently confirmed that taking action on under nutrition is the single most important, cost - effective means of advancing human well - being. Thus would accelerate the achievement of the Millennium Development Goals, save lives and should be a top global priority. Proper nutrition helps give every child the best start in life.

The World Bank estimates that India is a rank in second in the world of the number of the children suffering from PEM, after Bangladesh in 1998 where 47% of child exhibit a degree of PEM. The prevalence of underweight in among the highest in the world. Protein energy malnutrition marasmus most commonly occurs in children under 5 years. This period is characterized by increased energy requirement and increased susceptibility to viral and bacterial infections. Weaning is not sudden withdrawal of child from the breast it is gradual process starting around the age of end of the fourth months because the mother milk alone is not sufficient to sustain growth beyond six months. It should be supplemented by suitable foods rich in protein and other nutrients. It continues till the child is completely of the feed breast. Weaning is often complicated by geography, economy, hygienic public health culture and dietetics. It can be ineffective when the food introduced provide inadequate nutrients when the food and water are contaminated when the access to health care is in adequate, and/or when the patient cannot assess or purchase proper Nourishment. The basic etiological factors are inadequate diet both in quantity and quality.

This is primarily due to poverty, ignorance, infection and parasitic diseases, notably diarrhea, respiratory infections and parasitic disease. Infection contributing to malnutrition and malnutrition contributing to infection by weakening the child other factors are poor environmental condition, large family size, poor maternal health failure of lactation, premature termination of breast feeding, cultural practices, immature immune systems; dependence on others, ineffective weaning child who is physically weak will be mentally weak and cannot be expected to take full advantage of schooling studies in India, nutrition also involves an inadequate intake of many essential nutrients low serum levels of zinc have been implicated as the cause of skin ulceration in many patients. In 1979 study of 42 children with Marasmus investigations found that only those children with low serum levels of zinc developed skin ulceration. Serum levels of zinc correlated closely with the presence of edema stunting of growth and severe wasting.

3. Review of Literature

Review of literature was caried out on recent and ongoing research relevant to the present study.

After thorough review, investigator has classified the literature based on variables which support aims and objectives of study. The literature done for this study is arranged under the following headings:

1) Review of literature related to protein energy malnutrition in preschooler.
2) Review of literature related to causes of protein energy malnutrition.
3) Review of literature related to mortality of protein energy malnutrition.
4) Review of literature related to the management of protein energy malnutrition.
5) Review of literature related to the prevention of protein energy malnutrition

4. Assumptions

The study assumes that -

- Mothers may have the knowledge regarding prevention and management for protein energy malnutrition to the some extent.
- Community based education programme is considered as a accepted strategy for enhancing the level of knowledge.
- Mothers may have the desire to learn about prevention and management for protein energy malnutrition.
- Demographic variable may have some influence on knowledge regarding prevention and management for protein energy malnutrition.

5. Limitations

The study was limited to -

1) Mothers may have the knowledge regarding prevention and management for protein energy malnutrition.
2) Demographic variable may have some influence on knowledge regarding prevention and management for protein energy to PEM
3) Mothers may have the who are undergoing under five and willing to participate in the study.

Hypothesis

H_1: There will be significant difference between the pre and post test knowledge score regarding prevention and

management of Protein Energy Malnutrition among the mothers of under five children.

H_2: There will be significant association between the post test knowledge score regarding prevention and management of Protein Energy Malnutrition with their selected demographic variable.

6. Methodology

Research approach - An evaluative research approach was used for the study.
Research design - Quantitative, Pre - experimental one group pretest posttest design.

Variables under study –

- Dependent variable: The dependent variables in this study are knowledge.
- Independent variable: The independent variable in this study is community based education programme on knowledge regarding prevention and management of protein energy malnutrition

Accessible population - In this study accessible population were the mothers in selected rural area who are available at the time of data collection.

Sample and sampling technique

Sample - In this study sample is mothers in selected rural area who full - fill the inclusion criteria.

Sample size - Samples size was 60 calculated based on sample size determination formula.

Sampling technique - A non probability purposive sampling technique was used for the selection of samples

Inclusion criteria
The study includes mothers, who are
1) Mothers who are having under five years of age child.
2) Mothers who are willing to participate in study.
3) Mothers who are able to read write and understand, Marathi language

Exclusive criteria:
The study excludes mothers , who are
1) Mothers who are health team member or anganwadi sevika.
2) Mothers who are mentally challenged.
3) Mothers who are blind and deaf.

Tool Preparation
Tool used for the research study was structured questionnaire which was prepared to assess the mothers knowledge regarding prevention and management of protein energy malnutrition among the mothers of under five children in selected rural area.

Development of the Tool:
According to compact oxford reference dictionary (2003), it is a device used to carry out a particular function based on the objectives of the study. After designing an experiment the stastical treatment of the problem begins. Collection of data is the first step in the stastistical treatment of the problem. The tool acts as a best instrument to assess and collect the data from the respondants of the study.

Steps involved in the development of the tool were:
1) Preparation of the demographic data.
2) Development of a knowledge questionnaire.
3) Content validation of the tool.
4) Reliability of the tool.
5) Description of the final tool.
6) Content and construct validity of the material.

Description of the Tool
A structured knowledge questionnaire in English for assessing knowledge regarding prevention and management of protein energy malnutrition in future for treatment of childhood disorders, it was prepared by investigator based on extensive review of related literature.

It consists of two parts:

Part I: This section consists of 9 items seeking information about demographic variable about mothers such as age of mothers, religion, education, occupation, family income per month, type of family, number of children, previous knowledge regarding prevention and management of protein energy malnutrition, source of knowledge and information.

Part II: Questionnaire on knowledge regarding prevention and management of protein energy malnutrition, consists of 24 questions.

Scoring Key: All the items were scored; each item has only one answer. Correct answer was given a score of one and wrong answer zero. Each item carries one mark, totals at 24 marks. The same will be converted into percentage and arbitrarily graded as follows.

Table 1: Scoring Key

S. N	Criteria	Score	%
1	Good	16 - 24	>75%
2	Average	9 - 16	50 - 75%
3	Poor	1 - 8	<50%

Validity:
Validity of the tool was established after consultation with 10 child health nursing experts who are experts in their respective fields. Minor modifications were made on the basis of recommendations and suggestions of experts.

Reliability:
The structured knowledge questionnaire, was tried on 60 mothers selected in rural area. Reliability was found out by split half method using karl pearson correlation coefficient formula. The reliability of the knowledge tool was found to be 0.88, by split half method of reliability.

Feasibility of the Study
The investigator did not find difficulty in getting the subject because of properly planning and selected Accessible population as well as sample size was 60 which followed to inclusion and exclusion criteria.

Pilot Study:
Pilot study is small preliminary investigation of the same general characters as the major study, which is designed to acquaint the investigator with the problem that can be corrected in preparation for a larger project.

After having obtained formal approval from Head of Grampanchayat, pilot study was conducted in selected Rural area during January 2021.

The objectives of the pilot study:
- To know whether proper place available for the study.
- To find out how much is needed for respondents to take the questionnaire.
- To identify whether the respondents understood the wordings of questionnaire.
- To refine the instruments.

The respondants selected for the pilot study was excluded from the main study. The purpose of the study was explained to the respondants. Confidentiality was assured and a written consent was obtained from them.

Six mothers in rural area who fulfil the inclusion criteria were selected for pilot study. The sample included in the pilot study were excluded in the main study.20 - 25 minutes time is needed for respondents to take the questionnaire. The respondents clearly understood the wordings of the questionnaire. The data was collected and analyzed by applying descriptive and inferential statistics. The study was found to be feasible and practicable except for the reason of getting the sample. No further change was made in the tool. After the pilot study presentation the investigator proceeded for the main study.

7. Method of Data Collection

Prior to data collection permission was obtained to conduct the study from the Authorities of the selected rural area. Investigator utilized the non probability purposive sampling to select the 60 sample. Investigator personally visited each subject, introduced himself to the subjects and explained the purpose of the study and ascertained the willingeness of the participants, the subjects were assured anonymity and confidentiality of the information provided by them. Written consent was obtained from the subjects under study.

Plan for data analysis:
The collected data were organized, tabulated and analyzed by using descriptive statistics i. e. percentage, mean and standard deviation and inferential statistics i. e. Chi - square test and paired t test.
The investigator planned to analyze the data in the following manner.
- Description of demographic characteristics of the samples by using frequency and percentage.
- Assessment of knowledge of mothers in selected rural area by using frequency and percentage of knowledge scores.
- T - test was used for the knowledge.
- Data analyzed in relation to find out the association of knowledge score with selected demographic variables by using chi - square test of association.

8. Results

Section I
Deals with analysis of demographic data of the mothers of under five children in selected rural areas in terms of frequency and percentage.

This section deals with percentage wise distribution of subjects according to their demographic variables. Non - probability purposive sampling 60 subjects were drawn from the study population, who were the mothers of under five children in selected rural areas. The data obtained to describe the sample characteristics including age of mother, religion, education, occupation, family income, type of family, previous knowledge, source of knowledge.

Table 2: Frequency & percentage distribution of mothers of under five children in selected rural areas in terms of frequency and percentage

Sr. No.	Variable	Groups	Frequency	Percentage
1	Age of mother	21 - 25	23	38.33
		26 - 30	26	43.33
		31 - 35	11	18.33
		above 35 years	0	0.00
2	Religion	Hindu	17	28.33
		Muslim	20	33.33
		Buddhist	15	25.00
		Others	8	13.33
3	Education	Illiterate	5	8.33
		Primary education	22	36.67
		Secondary Education	19	31.67
		Higher Secondary	8	13.33
		Graduate & Postgraduate	6	10.00
4	Occupation	House maker	25	41.67
		Government employee	7	11.67
		Private employee	15	25.00
		Self - employee/ business	13	21.67
5	Family Income per month	Less than 5000 Rs.	31	51.67
		5001 to 10000 Rs.	16	26.67
		10001 to 20000 Rs	7	11.67
		More than 20000 Rs	6	10.00

6	Type of family	Nuclear family	27	45.00
		Joint family	24	40.00
		Extended family	9	15.00
7	Number of children	1	33	55.00
		2	27	45.00
		more than 2	0	0.00
8	Previous Knowledge	Yes	19	31.67
		No	41	68.33
9	Source of knowledge	Mass Media	5	26.32
		Health Workers	8	42.11
		Peer Groups	4	21.05
		Family & relatives	2	10.53

According to age of the mothers of under 5 children in selected rural area, in the study the majority of mothers belongs to 43.33% of the mothers from the age group 26 - 30 years, 38.33% from the age group 21 - 25, 18.33% from the 31 - 35 years and no one of the mothers from the age group above 35 years.

Table 3: Frequency and percentages distribution of mothers of under five children according to Age

Sr. No.	Variable	Groups	Frequency	Percentage
1	Age of mother	21 - 25	23	38.33
		26 - 30	26	43.33
		31 - 35	11	18.33
		above 35 years	0	0.00

According to religion of the mothers of under 5 children in selected rural area, in the study the majority of mothers belongs to 33.33% of the mothers from the Muslim religion, 28.33% from the Hindu religion, 25% from the Buddhist religion and 13.33% of the mothers from others religion.

Table 4: Frequency and percentages distribution of mothers of under five children according to religion

Sr. No.	Variable	Groups	Frequency	Percentage
2	Religion	Hindu	17	28.33
		Muslim	20	33.33
		Buddhist	15	25.00
		Others	8	13.33

According to education of the of the mothers of under 5 children in selected rural area, in the study the majority of mothers belongs to 36.67% of the mothers were educated uptoprimary, 31.67% educated up to secondary, 13.33% educated up to higher secondary, 10% of the mothers from Graduate & Postgraduateand 8.33% of them are illiterate

Table 5: Frequency and percentages distribution of mothers of under five children according to education

S. No.	Variable	Groups	Frequency	Percentage
3	Education	Illiterate	5	8.33
		Primary education	22	36.67
		Secondary Education	19	31.67
		Higher Secondary	8	13.33
		Graduate & Postgraduate	6	10.00

.According to occupation of the of the mothers of under 5 children in selected rural area, in the study the majority of mothers belongs to 41.67% of the mothers were homemakers, 25% of them were private employee, 21.67% were private employee and 11.67% were from government employee.

Table 6: Frequency and percentages distribution of mothers of under five children according to occupation

S. No.	Variable	Groups	Frequency	Percentage
4	Occupation	House maker	25	41.67
		Government employee	7	11.67
		Private employee	15	25.00
		Self - employee/ business	13	21.67

According to family income of the of the mothers of under 5 children in selected rural area, in the study the majority of mothers belongs to 51.67% of the mothers had income Less than 5000 Rs, 26.67% in the 5001 to 10000 Rs, 11.67% in the 10001 to 20000 Rs and 10% of the mothers had income more than 20000 Rs.

Table 7: Frequency and percentages distribution of mothers of under five children according to family income

Sr. No.	Variable	Groups	Frequency	Percentage
5	Family Income per month	Less than 5000 Rs.	31	51.67
		5001 to 10000 Rs.	16	26.67
		10001 to 20000 Rs	7	11.67
		More than 20000 Rs	6	10.00

According to type of family of the mothers of under 5 children in selected rural area, in the study the majority of mothers belongs to 45% of the mothers from the nuclear families, 40% from the joint families and 15% mothers from the extended families.

Table 8: Frequency and percentages distribution of mothers of under five children according to type of family

Sr. No.	Variable	Groups	Frequency	Percentage
6	Type of family	Nuclear family	27	45.00
		Joint family	24	40.00
		Extended family	9	15.00

According to Number of children to the of mothers of under 5 children in selected rural area, in the study the majority of mothers belongs to 55% of the mothers had one child, 45% from them had two children and no one mothers had more than 2children.

Table 9: Frequency and percentages distribution of mothers of under five children according to number of children

Sr. No.	Variable	Groups	Frequency	Percentage
7	Number of children	1	33	55.00
		2	27	45.00
		more than 2	0	0.00

Above table and the question do you have Previous knowledge regarding protein energy malnutrition, 68.33% of

the majority of mothers of under 5 children in selected rural area answered yes and 31.67% answered no.

Table 10: Frequency and percentages distribution of mothers of under five children according to previous knowledge

Sr. No.	Variable	Groups	Frequency	Percentage
8	Previous Knowledge	Yes	19	31.67
		No	41	68.33

Among the mothers who had previous knowledge regarding protein energy malnutrition, the majority of mothers belongs to 42.11% of the mothers got the knowledge from Health Workers, 26.32% from the Mass Media, 21.05% from the Peer Groups and 10.53% mothers from the Family & relatives.

Table 11: Frequency and percentages distribution of mothers of under five children according to source of knowledge

Sr. No.	Variable	Groups	Frequency	Percentage
9	Source of knowledge	Mass Media	5	26.32
		Health Workers	8	42.11
		Peer Groups	4	21.05
		Family & relatives	2	10.53

Section II

Deals with analysis of data related to assessment of the knowledge regarding Prevention and Management of Protein Energy Malnutrition among the mothers of under five children in selected rural areas in terms of frequency and percentage.

Table 12: General assessments of Knowledge – Pre Test

	Groups		Frequency	Percentage
Pre Test	Poor	1 - 8.	8	13.33
	Average	9 - 16.	52	86.67
	Good	17 - 24.	0	0.00
Knowledge	Minimum		6	
	Maximum		14	
	Average (SD)		10.70 (1.87)	

For the assessment purpose the total score of knowledge was divided in to three groups like poor (0 - 8 score), average (9 - 16 score) and good (17 - 24 score).

At the time of pretest, 13.33% of mothers of under five children had poor knowledge regarding Prevention and Management of Protein Energy Malnutrition, 86.67% parents had average knowledge and no one had good knowledge. Average knowledge score of pretest was 10.70 with standard deviation of 1.87.

Table 13: General assessments of Knowledge – Post Test

	Groups		Frequency	Percentage
Post Test	Poor	1 - 8.	0	0.00
	Average	9 - 16.	42	70.00
	Good	17 - 24.	18	30.00
Knowledge	Minimum		13	
	Maximum		20	
	Average (SD)		15.76 (1.67)	

For the assessment purpose the total score of knowledge was divided in to three groups like poor (0 - 8 score), average (9 - 16 score) and good (17 - 24 score).

At the time of posttest, no one of mothers of under five children had poor knowledge regarding Prevention and Management of Protein Energy Malnutrition, 70% parents had average knowledge and 13% had good knowledge. Average knowledge score of post test was 15.76 with standard deviation of 1.67. Deals with analysis of data related to assessment of the knowledge regarding Prevention and Management of Protein Energy Malnutrition among the mothers of under five children in selected rural areas in terms of frequency and percentage.

Table 14: General assessments of Knowledge - Pre Vs Post Test

	Groups		Pre Test		Post Test	
			Frequency	Percentage	Frequency	Percentage
Knowledge	Poor	1 - 8.	8	13.33	0	0.00
	Average	9 - 16.	52	86.67	42	70.00
	Good	17 - 24.	0	0.00	18	30.00
Knowledge	Minimum		6		13	
	Maximum		14		20	
	Average (SD)		10.70 (1.87)		15.76 (1.67)	

For the assessment purpose the total score of knowledge was divided in to three groups like poor (0 - 8 score), average (9 - 16 score) and good (17 - 24 score).

Pre Test:

At the time of pretest, 13.33% of mothers of under five children had poor knowledge regarding Prevention and Management of Protein Energy Malnutrition, 86.67% parents had average knowledge and no one had good knowledge.

Average knowledge score of pretest was 10.70 with standard deviation of 1.87. The minimum score of knowledge was 6 with maximum score of 14.

Post Test:

At the time of posttest, no one of mothers of under five children had poor knowledge regarding Prevention and Management of Protein Energy Malnutrition, 70% parents had average knowledge and 13% had good knowledge.

Average knowledge score of posttest was 15.76 with standard deviation of 1.67. The minimum score of

knowledge was 13 with maximum score of 20. Hence it proves that H_1 is accepted.

Section III

Deals with analysis of data related to the effectiveness of community Based education program on knowledge regarding Prevention and Management of Protein Energy Malnutrition among the mothers of under five children in selected rural areas in terms of average pre and posttest.

Table 15: Comparison of the pre and posttest Knowledge among the mothers of under five children in selected rural areas

Test	N	Mean	S. D.	t value	P value
Pre Test	60	10.70	1.87	16.26	0.000
Post Test	60	15.76	1.67		

The comparisons of the pretest and posttest means of the knowledge were done by the paired t test. The pretest average score was 10.70 with standard deviation of 1.87. The posttest average score was 15.76 with standard deviation of 1.67. The test statistics value of the paired t test was 16.26 with p value 0.00. The p value less than 0.05, hence reject the null hypothesis and accept the alternative hypothesis.

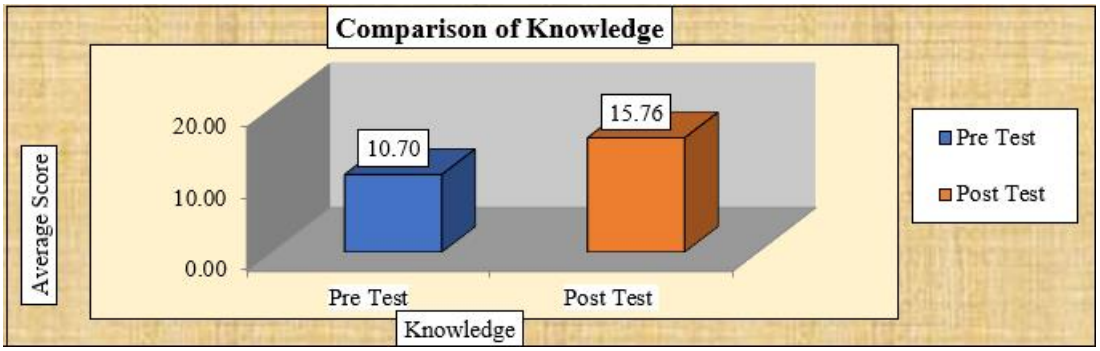

Figure 1: Comparison of the pre and posttest Knowledge among the mothers of under five children in selected rural areas

Shows that, community Based education program on knowledge regarding Prevention and Management of Protein Energy Malnutrition among the mothers of under five children in selected rural areas was effective.

Section IV

Deals with analysis of data related to the association of post - test knowledge score regarding prevention and management of Protein Energy Malnutrition among the mothers of under five children with their selected demographic variable.

Variable	Groups	Pre Test - Knowledge		Chi - Square	d. f.	p value	Significance
		Poor	Average				
Age of mother	21 - 25	3	20	0.26	2	0.87	Not Significant
	26 - 30	4	22				
	31 - 35	1	10				
	above 35 years	0	0				
Religion	Hindu	2	15	8.31	3	0.04	**Significant**
	Muslim	0	20				
	Buddhist	5	10				
	Others	1	7				
Education	Illiterate	0	5	2.15	4	0.71	Not Significant
	Primary education	2	20				
	Secondary Education	4	15				
	Higher Secondary	1	7				
	Graduate & Postgraduate	1	5				
Occupation	House maker	5	20	3.32	3	0.34	Not Significant
	Government employee	1	6				
	Private employee	0	15				
	Self - employee/ business	2	11				
Family Income per month	Less than 5000 Rs.	6	25	3.49	3	0.32	Not Significant
	5001 to 10000 Rs.	0	16				
	10001 to 20000 Rs	1	6				
	More than 20000 Rs	1	5				
Type of family	Nuclear family	3	24	0.74	2	0.68	Not Significant
	Joint family	3	21				
	Extended family	2	7				
Number of children	1	6	27	1.49	1	0.22	Not Significant
	2	2	25				
	more than 2	0	0				

Previous Knowledge	Yes	4	15	1.43	1	0.23	Not Significant
	No	4	37				
Source of knowledge	Mass Media	1	4	0.64	3	0.89	Not Significant

The chi - square test was conducted to see the association of post - test knowledge score regarding prevention and management of Protein Energy Malnutrition among the mothers of under five children with their selected demographic variable.

The chi - square test was conducted at 5% level of significance.

9. Summary

The purpose of the present study was to assess the knowledge regarding prevention and management of protein energy malnutrition among mothers of under five children in future for treatment of childhood disorders in selected rural areas. The present study can be justified on the fact that most of the mothers have average knowledge regarding prevention and management of protein energy malnutrition among mothers of under five children. The one group pretest posttest research design was use for the study, which consists of 60 mothers of under five children in rural areas that are selected of Non probability purposive sampling technique. The structured knowledge questionnaire was given to assess knowledge score of mothers of under five children. Based on the objective and hypothesis the data was collected and analysis by using descriptive and inferential statistics. The findings of the study were showed that mothers have average knowledge (70%) regarding prevention and management of protein energy malnutrition among mothers of under five children. It is beneficial for mothers to know the importance of prevention and management of protein energy malnutrition.

10. Conclusion

The present study assessed the effectiveness of community based education programme on knowledge regarding prevention and management of protein energy malnutrition among mothers of under five children. The results revealed that is community based education programme is effective in increasing the level of knowledge. From the findings of the study, the investigator concluded that community based education programme has an important role in increasing level of knowledge regarding prevention and management of protein energy malnutrition among mothers of under five children in future for treatment of childhood disorders.

11. Recommendations

Nursing research is a widely expanding area with need for validating conservative, interventions and development of new knowledge. This study recommends the following for achieving this end.

- A comparative study can be carried out to assess the factors leading to the development of prevention and management of protein energy malnutrition between rural and urban population.
- A video teaching program on prevention and management of protein energy malnutrition can be conducted in larger samples for better generalization.
- A comparative study can be conducted to compare the effect of structured teaching programme among experimental group and control group without intervention.

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