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Effectiveness of planned teaching programme on knowledge regarding prevention of protein energy malnutrition among mothers of under five children at selected rural community

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Abstract

A Quasi Experimental Design was used for the present study & 50 mothers of under five children were selected using purposive sampling technique. A semi-structured questionnaire was used to assess the knowledge. Descriptive and inferential statistics were used to analyze the data. The analysis and the data were based on the objective and hypothesis. Both descriptive and inferential statistics were used for data analysis. The assessment of overall post test knowledge level of the mothers of under five children regarding prevention of protein energy malnutrition shows that, the majority of 50 (100 %) mothers had average knowledge, 0(0 %) had poor knowledge and 0(0 %) were had good knowledge. The levels of knowledge during the pretest and post test are compared to prove the effectiveness of planned teaching programme. The study concluded that there is significant increase in the knowledge level among mothers of under five children after planned teaching programme.

Keywords: Mother of under five children, protein energy malnutrition

Introduction

"Diseases can rarely be eliminated through early diagnosis or good treatment, but prevention can eliminate disease."

- Denis Persons Burkitt

Good nutrition is very important to promote health of children. Inadequate and improper nourishment of children leads to Protein energy malnutrition. Protein energy malnutrition (PEM) is a major public health problem in India. This affects the child at the most crucial period of time of development, which can lead to permanent impairment in later life. PEM is measured in terms of underweight (low weight for age), stunting (low height for age) and wasting (low weight for height). The prevalence of stunting among under five is 48% and wasting is 19.8% and with an underweight prevalence of 42.5%, it is the highest in the world. Under nutrition predisposes the child to infection and complements its effect in contributing to child mortality.

Protein energy malnutrition (PEM) is a global problem. Nearly 150 million children under 5 years in the world and 70-80 million in India suffer from PEM, nearly 20 million in the world and 4 million in India suffer from severe forms of PEM, viz., marasmus, kwashiorkor and marasmic kwashiorkor.

India in the past few decades, has witness rapid progress in terms of industrialization and agricultural production. Yet malnutrition especially under nutrition continues to be a major problem of public health significance in the country. It is a major contributor to high rates of childhood mortality maternal mortality and morbidities in the community. Though poverty is a major underlying cause, scores of other factors such as socio-demographic, socio-economic socio-cultural and lifestyle practices contribute significantly to the problem of malnutrition.

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

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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
Manipal	34
Kerala	32
Negaland	32

A cross-sectional study was undertaken by house to house visit covering 400 children (1-6 years) from the six villages around the Rural Health Training Centre (RHTC),under department of Community medicine of Carrier Institute of Medical Science, Lucknow, U.P., The results showed that, According to Indian Academy of Pediatrics (IAP), the prevalence of PEM was 54.8% with the proportion of grade I, II and III being 33%, 18.3% and 3.5%, respectively and none of the children was in grade IV under nutrition. The prevalence of underweight was significantly (p<0.001) higher in 1-3 years children (71.2%) as compared to 3-6 years children (46.6%). Girls (61.8%) were significantly (p=0.008) more malnourished than boys (48.6%) in all grade of underweight. PEM was significantly (p=<0.05) higher in children belonging to Hindu religion, schedule caste, nuclear family, among ≥3 siblings, illiterate father, lower socioeconomic status, poor housing & environmental sanitation.

A study was conducted about to determine the effectiveness of planned nutritional programme on protein energy malnutrition among mothers of under five children at selected rural areas in tuticorin district. Quasi experimental design was adopted & 60 under five mothers were selected using convenient sampling technique. A structured questionnaire was used to assess the knowledge. Descriptive and inferential statistics were used to analyze the data. The study concluded that there is significant increase in the knowledge level among under five mothers after planned nutritional programme.

Mother's education can generate different types of intra household effects and thereby reducing the risk of nutritional deficiency like Protein Energy Malnutrition. The effects which bring through mothers education were:
Improved health and nutrition knowledge.
- Psychological changes and improved nutritional behaviour.
- Shift of power relations within the household in favour of better nutrition which includes breast feeding, weaning practices and child feeding and pregnancy diets may lead to more effective dietary behaviour on the part of mothers who manage food resources within the household.

Nearly one in five children under age five in the developing world is underweight (MDG report, 2012) and it continues to be a primary cause of ill health and mortality among children. The World Health Organization (WHO) has reported hunger and related malnutrition as the greatest single threat to the world's public health. One in every three malnourished children of the world lives in India and under-nutrition is a major cause in more than half of under-five deaths. In India, around 43% of under five children were underweight according to the report of third national family health survey (NFHS- 3) conducted during 2005-06 whereas in rural Uttar Pradesh, it was 44.1%. Malnutrition has shown to be an important concern in children because of rapid growth and development. Pre-school children are most vulnerable to the effect of protein energy malnutrition (PEM) and their nutritional status is considered to be a sensitive indicator of community health.

Protein Energy Malnutrition is a big public health problem in India as it can be attributed for more than half (54 %) of all under five mortality in India. PEM among under –five children is an important concern for the health authorities in India. PEM prevents children from reaching their full physical and mental potential.

Protein energy malnutrition is one of the leading cause of childhood morbidity. Since mothers are the primary caretaker of children. Their knowledge regarding the care of children with this condition is very vital in reducing the mortality and preventing complication. It is the responsibility of nursing personnel to update the knowledge that can be used in community to educate people to improve the knowledge of mothers about protein energy malnutrition. Planned teaching programme is one of the most important methods that can be used in community to educate people to improve the knowledge of mothers of under five children regarding protein energy malnutrition.

Objectives of the study
1. To assess the knowledge regarding prevention of protein energy malnutrition among mothers of under five children.
2. To evaluate the effectiveness of planned teaching programme regarding prevention of protein-energy malnutrition among mothers of under five children.
3. To find out the association between pre-test knowledge score of mothers of under five children regarding protein energy malnutrition and selected demographic variables.

Operational definitions
Effectiveness: It refers to the extent to which the planned teaching programme has achieved the desired effect in improving the knowledge of mothers of under-five children regarding Prevention of protein energy malnutrition.

Planned teaching programme: It refers to a systematically organized teaching plan to provide information to mothers of under five children regarding prevention of protein energy malnutrition.

Knowledge: In this study, knowledge to awareness of mothers of under five children regarding prevention of protein energy malnutrition.

Under five children: In this study it refers to the children who were below the age group of five years.

Mothers of under-five children: Refer to those biological mothers of the under-five children (0-5 years of age) who are fulfilling their nutritional requirement such as feeding, preparing food, selecting food and taking care of them.

Protein energy malnutrition: Refers to a nutritional problem characterized by low height for age or low weight for height, protein deficiency and energy (caloric) inadequacy seen in children.

Prevention of protein energy malnutrition: In this study Refers to provision of adequate nutrition i.e. 4 to 5g of protein/kg/b/wt/day and calorie intake 200 kcal energy/kg/b/wt. for maintaining optimum health according to the WHO chart recommendation year by educating the mothers of under-five children regarding prevention of protein energy malnutrition.

Assumptions
1. Mothers of under-five children have less knowledge regarding protein energy malnutrition.
2. Literate mothers of under-five children have high knowledge than the illiterate mothers.

Hypothesis
H0: There will be no significant difference between pre test and post test knowledge scores of mothers of under five children regarding prevention of protein energy malnutrition.
H1: There will be significant difference between pre test and post test knowledge scores of mothers of under five children regarding prevention of protein energy malnutrition. Other Hypothesis:
H2: There will be significant association between pretest knowledge scores with selected demographic variables among mothers of under-five children regarding prevention of protein energy malnutrition.

Methodology
Research approach: An evaluative research approach was adopted in this study.

Research design: Pre experimental one group pretest posttest design.

Research setting: Selected rural areas in Ahmednagar District.

Population: The population of the study were mothers of under five children.

Sample: the mothers of under five children of rural areas in Ahmednagar District.

Sample size: 50 mothers of under five children in rural areas of Ahmednagar district.

Sampling technique: Purposive sampling technique was used in this study.

Variables
- **Independent Variable:** Planned teaching programme
- **Dependent Variables:** Knowledge questionnaire on protein energy malnutrition

Criteria for sample selection
Inclusion criteria
1. Mothers of under five children who are willing to participate in the study.
2. Mothers having under five children.
3. Mothers of under five children who can speak and understand Marathi or English.
4. Mothers whose age between 19-35 years.

Exclusion criteria
1. Mothers of children more than five years.
2. Mothers of under five children having hearing problem.
3. Mothers of under five children who are unable to understand Marathi or English.
4. Mothers of under five children who are not willing to participate.
5. Mothers of under five children who are having mental problem.

Major findings of the study
The analysis of the demographic data of the study samples gave an idea about the general characteristics of the mothers of under- five children at selected rural community.
The following are the major findings of the study.

Section 1: Deals with analysis of demographic data of the mothers of under five children at selected rural community in terms of frequency and percentage
- Majority of 29(58%) of mothers of under-five children were in the age group of 21-25 years, 15(30%) of them were below 20 years of age, 6 (12%) of them were in the age group of 26-30 years, and0 (0 %) of them were in the age group of 31 & above.
- Majority of 29 (58%) of the mothers of under-five children were belongs to Muslim religion, 17(34%) of them were belongs to Hindu and 4(8%) of them were belongs to Christian.
- Majority of 26(52%) mothers of under-five children were taking mixed diet, 13(26%) of them were taking non-vegetarian and11 (22%) of them were taking vegetarian diet.
- Majority of38 (76%) mothers were from the nuclear family, 12 (24%) mothers were from the joint families and 0(0 %) mothers were from the extended families.
- Majority of 31(62%) of the mothers had a family income of 1000-3000 per month, 19(38%) had an income of 3001-5000 per month and 0 (0 %) had an income of 50001 and above
- Majority of 25 (50%) mothers were primary, 17(34%) were educated up to higher secondary, and8 (16%) were educated up to degree and above and 0 (0 %) were in the group of illiterate.
- Majority of46 (92%) mothers had one child in the family, 4 (8%) mothers had the two children and 0(0 %) Mothers had three and more.
- Majority of 44(88%) children were partially immunized and 6(12%) children had completely immunized and 0 (0%) was not immunized.
- Majority of 15(30%) mother got the knowledge from the media and 15(30%) from the family members, 14 (28%) mother got the knowledge from the newspapers and 6(12%) from the health personnel.

Section 2: Deals with analysis of data related to assessment

of the knowledge regarding prevention of protein energy malnutrition among mothers of under five children.

Assessment of Knowledge related to meaning of malnutrition & PEM.

In pre test knowledge level of the mothers of under five children regarding meaning of malnutrition & PEM, importance of nutrients and sources of nutrients & major types of PEM, shows that the majority of 21(42%) mothers had average knowledge, 29(58%) had poor knowledge and 0(0 %) were had good knowledge.

In post test knowledge level of the mothers of under five children regarding meaning of malnutrition & PEM, importance of nutrients and sources of nutrients & major types of PEM, revealed that the majority of 36 (72%) mothers had average post test knowledge, 14(28%) had poor knowledge and 0 (0 %) had good knowledge.

Assessment of Knowledge related to causes, risk factors, signs and symptoms of protein energy malnutrition
The pre test knowledge level of the mothers of under five children regarding causes, risk factors, signs and symptoms of protein energy malnutrition, shows that the majority of 9(18 %) mothers had average knowledge, 40(80%) had poor knowledge and 1(2 %) were had good knowledge.

The post test knowledge level of the mothers of under five children regarding causes, risk factors, signs and symptoms of protein energy malnutrition revealed that, the majority of 31(62%) mothers had average post test knowledge, 19(38%) had poor knowledge and 0(0 %) had good knowledge.

Assessment of knowledge related to prevention, management and complication of protein energy malnutrition
In pre test knowledge level of the mothers of under five children regarding prevention, management and complication of protein energy malnutrition shows that, the majority of 6(12 %) mothers had average knowledge, 44(88 %) had poor knowledge and 0(0 %) were had good knowledge.

In post test knowledge level of the mothers of under five children regarding prevention, management and complication of protein energy malnutrition revealed that, the majority of 37(74 %) mothers had average post test knowledge, 12(24 %) had poor knowledge and 1(2 %) had good knowledge.

Assessment of overall pre test & post test knowledge score of mothers of under five children regarding prevention of protein energy malnutrition
The Assessment of Overall pre test knowledge level of the mothers of under five children regarding prevention of protein energy malnutrition shows that, the majority of 7(14 %) mothers had average knowledge, 43(86 %) had poor knowledge and 0(0 %) were had good knowledge.

The Assessment of Overall post test knowledge level of the mothers of under five children regarding prevention of protein energy malnutrition shows that, the majority of 50(100 %) mothers had average knowledge, 0(0 %) had poor knowledge and 0(0 %) were had good knowledge.

Section 3: Deals with analysis of data related to the effectiveness of planned teaching programme knowledge regarding prevention of protein energy malnutrition among mothers of under five children at selected rural community
The researcher applied paired t-test for assessment of

effectiveness of planned teaching programme and for comparison of pretest and posttest knowledge score of mothers of under five children. Average knowledge score in pretest were 8.96 with standard deviation of 1.32 which increased to 13.38 with standard deviation of 1.81 in posttest. t- Value for this comparison was 15.95 and p value for this comparison was 0.00, which was less than 0.05, concludes that H0 is rejected. Planned teaching programme proved significantly effective in improving the knowledge of mothers of under five children regarding prevention of protein energy malnutrition.

Section 4: Deals with analysis of data related to the association between pre test knowledge levels among mothers of under five children at selected rural community with the demographic variables.
The chi square test was used to see the association between the demographic variables with the pre test knowledge.

For all the demographic variables the p value of the association test with knowledge was more than 0.05. That means, the knowledge regarding prevention of protein energy malnutrition among mothers of under five children is independent of these demographic variables. Concludes that, there was no significant association of these demographic variables with the knowledge.

Conclusion
Finding of the study showed that, majority of subjects 50 (100 %) of the mothers of under five children had average knowledge, 0 (0 %) of them had poor knowledge and 0 (0%) had good knowledge regarding prevention of protein energy malnutrition. Planned teaching programme is proved to be significantly effective in improving the knowledge of mothers of under five children regarding prevention of protein energy malnutrition. Study concluded that H0 was rejected.

Recommendations
On the basis of the finding of the study following recommendations have been made:
- An experimental study can be conducted with the control group for effective comparison.
- A similar study can be replicated on a large sample to generalize the findings.
- A study can be conducted by including additional socio-demographic variables.
- A comparative study can be conducted between rural and urban settings.
- A similar type of studies can be conducted for other types of nutritional disorders.
- A similar study can be conducted by using other educational methods like demonstration, role play, self-instructional module, information booklet etc.

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