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# A Study to Assess the Effectiveness of Planned Teaching Programme on Knowledge Regarding Protein Energy Malnutrition among Mothers of Under-Five Children in a Selected Rural Community in Kodoli

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**Abstract:** ***Background: Better nutrition is a prime entry point to ending the malnutrition maelstrom. Better health means stronger immune systems which mean less illness. Healthy people feel stronger, can work better and may have more earning opportunities to gradually lift them out of both poverty and malnutrition. Healthier, more productive societies are a potential outcome. Protein energy malnutrition has been identified as one of the major nutritional problem among children in India. Since mothers were the primary care takers of children, if they possess adequate knowledge on food and nutrition of children, they can be prevented from protein energy malnutrition. The aim of the study is to assess the effectiveness of planned teaching programme on knowledge regarding Protein energy malnutrition among mothers of under-five children in a selected rural community in Kodoli. Objectives: 1) To determine the pre-test level of knowledge of mothers of under-five children regarding protein energy malnutrition. 2) To evaluate the effectiveness of planned teaching programme on knowledge regarding protein energy malnutrition among mothers of under-five children. 3) To find the association between mean pre-test knowledge score and selected demographic variables. Methodology: A pre-experimental one group pre-test – post-test design was used for the study. The sample consisted of 30 subjects. Mothers of under-five children were selected by purposive sampling technique. The study was conducted in a rural area at Kodoli from 1-08-2018 to 30-08-2019. The investigator obtained written permission from concerned authority prior to the study and written consent was obtained from mothers and assured confidentiality of information. Data was collected by structured interview schedule. After the pre-test a PTP was administered to the subjects and on the seventh day post-test was conducted with the same questionnaire. The collected data was analyzed by using descriptive and inferential statistics. Result: In the pre-test none of the mothers had good knowledge 60% had poor knowledge and 40% had average knowledge whereas in the post-test 33.3% had good knowledge and 66.7% had average knowledge. The mean post test knowledge scores obtained by subjects (13.86) was higher than the mean pre-test knowledge score (9.1). Paired 't' test was done to find out the difference between the mean pre-test and post test knowledge score and statistically it was highly significant ($t=9.69$, $p<0.05$). There was no significant association between the mean pre-test knowledge score and the selected variables like age of mother in years ($\chi2=0.008$) educational status of mother ($\chi2=0.027$) family income/month ($\chi2=0.165$) number of children ($\chi2=0.128$) religion ($\chi2=0.212$) type of family ($\chi2 = 0.0382$). Conclusion: PTP was an effective strategy for providing information and to improve knowledge of mothers which was well appreciated and accepted by mothers.***

**Keywords:** Effectiveness; knowledge; protein energy malnutrition; mothers of under-five children; planned teaching programme; structured interview

## 1. Introduction

Malnutrition means "badly nourished" but it is more than a measure of what we eat or fail to eat. Nutritional status is the result of the complex interaction between the food we eat, our overall state of health, and the environment in which we live- in short, food, health and caring, the three "pillars of well-being". Child malnutrition is the biggest challenge our country is facing today, even when the economy is said to be surging ahead. Every second child under three in the country is malnourished.[2]

Malnutrition is a "man-made disease" which often starts in the womb and ends in the tomb. Malnutrition is defined as any nutritional disorder caused by an insufficient, unbalanced, or excessive diet or impaired absorption or assimilation of nutrients by the body. It is a state wherein adequate nutrients are not delivered to the cells to provide the substrate for optimal functioning. The term malnutrition includes both under-nutrition as well as over-nutrition.[6] Protein energy malnutrition is manifested commonly among under-five children (0-5 years). The investigator, during her community experience, found that mothers of under-five children have inadequate knowledge regarding protein energy malnutrition. The investigator's own experience, discussion with the colleagues and experts helped her realize that protein energy malnutrition among under-five children is a major problem in communities. If mothers are educated, protein energy malnutrition can be controlled to some extent. Health education has become the most important tool in community health which informs, motivates and helps people to adopt and maintain the healthy practices and life style. Therefore, the investigator decided to undertake the study to assess the effectiveness of planned teaching programme for mothers in a selected community at Kodoli.

## 2. Materials & Methods

The study was conducted in a selected rural community at Kodoli is the selected rural area which comes under kodoli RH.

**Dependent variable:** In the present study, Knowledge of mothers of under-five children regarding protein energy malnutrition is dependent variable.

**Independent variable:** In this study it refers to the planned teaching programme on protein energy malnutrition.

**Extraneous variable:** In this study Age of child, age of mother, education, family income, religion, type of family, number of children, duration of breastfeeding.

**Population:** In this study population consisted of mothers of under-five children residing in selected area. Approximately 5000 people are residing in the area and around 100 mothers have under-five children.

**Sample:** The sample for the present study consists of 30 mothers of under-five children.

**Sampling technique:** Purposive sampling technique was used in selecting the sample. Sample consists of 30 mothers of under-five children.

**Inclusion criteria for sampling:**
- Mothers who have under-five children.
- Mothers of under-five children who are willing to participate in the study.
- Mothers who can speak and understand Kannada/English.
- Mothers who are available at the time of data collection.

**Exclusion Criteria for sampling:**
- Mothers who are not willing to participate in the study.

## 3. Organization of Study Findings

**Part I: Demographic proforma**
Initial tool had 7 items and all the items retained after validation with modifications of some items and one more item also added. All the items had 100% agreement.

**Part II: Structured knowledge questionnaire**
Initial tool had 30 items. Among those, 17 items had 100% agreement, 8 items had 80% agreement and 5 had 70% agreement. Since there were suggestions to reduce the number of items, all the items of 70% agreement were discarded. The remaining 25 items after making necessary modifications were retained as such.

**The knowledge scores obtained are arbitrarily graded as follows:**

| *Range* | *Scoring* | *Percentage* |
|---|---|---|
| 0-8 | Poor | 0-32 |
| 9-16 | Average | 33-67 |
| 17-15 | Good | 68-100 |

**Section I:** Description of demographic variables

**Table 1:** Frequency and percentage distribution of the sample characteristics, N= 30

| *Variable* | *Frequency* | *Percentage* |
|---|---|---|
| **1. Age of the mother** | | |
| a. Below 20yrs | 2 | 6.7 |
| b. 20-30 yrs | 21 | 70.0 |
| c. ≥30 yrs | 7 | 23.3 |
| **2. Educational status of mother** | | |
| a. No formal education | 5 | 16.7 |
| b. Primary education | 14 | 46.6 |
| c. Secondary education | 7 | 23.3 |
| d. Higher secondary | 2 | 6.7 |
| e. Graduate and above | 2 | 6.7 |
| **3. Family income per month (Rs)** | | |
| a. <2000 | 3 | 10.0 |
| b. 2001-5000 | 14 | 46.7 |
| c. 5001-10000 | 10 | 33.3 |
| d. >10001 | 3 | 10.0 |
| **4. Number of children** | | |
| a. One | 12 | 40.0 |
| b. Two | 10 | 33.3 |
| c. Three | 7 | 23.3 |
| d. More than three | 1 | 3.4 |
| **5. Religion** | | |
| a. Hindu | 12 | 40.0 |
| b. Muslim | 8 | 26.7 |
| c. Christian | 10 | 33.3 |
| **6. Type of family** | | |
| a. Joint | 14 | 46.6 |
| b. Nuclear | 14 | 46.6 |
| c. Extended | 2 | 6.7 |

**Section II:** Knowledge of mothers regarding protein energy malnutrition

**Table 2:** Frequency and percentage distribution of pre-test and post-test knowledge scores, N = 30

| | Pre-test | | Post-test | |
|---|---|---|---|---|
| Knowledge score | F | % | F | % |
| Good(17-25) | 0 | 0 | 10 | 33.33 |
| Average(9-16) | 12 | 40.00 | 20 | 66.67 |
| Poor(0-8) | 18 | 60.00 | 0 | 0.00 |

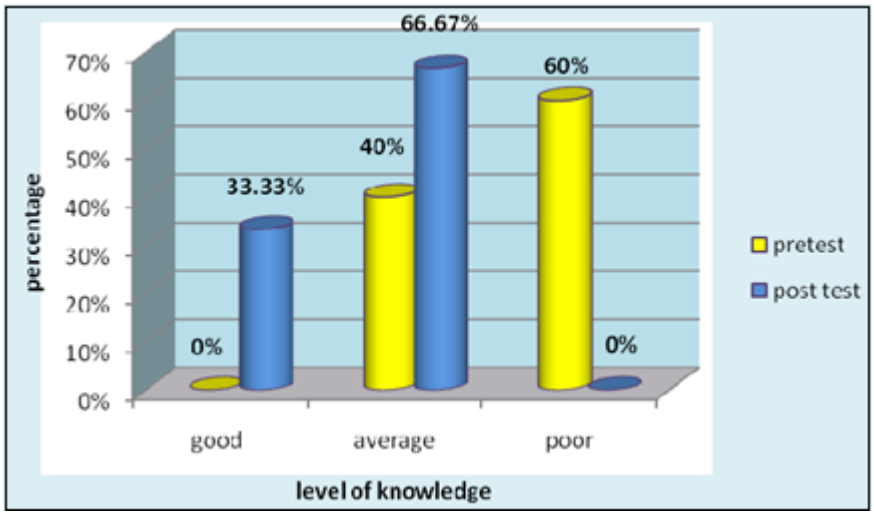


**Table 3:** Range, Mean, Mean percentage scores of pre-test and post-test knowledge scores, N=30

| Area | Range | Mean | SD | Mean % |
|---|---|---|---|---|
| Pre-test | 4-12 | 9-10 | 2.160 | 30.21 |
| Post-test | 9-19 | 13.86 | 1.007 | 46.20 |

Data presented in the Table-3 shows that post-test knowledge scores ranged between 9-19, which is higher than their pre-test knowledge scores 4-12. The mean post-test knowledge scores (13.86 ± 1.007) was apparently higher than the mean pre- test knowledge scores (9.1±2.16).

**Section III: Effectiveness of planned teaching programme on protein energy malnutrition**

In order to find out the significant difference between mean pre-test and post- test knowledge scores, paired "t" test was computed. To test the statistical difference following null hypothesis was formulated. There will be no significant difference between the mean pre-test and post-test knowledge scores of the subjects regarding protein energy malnutrition at 0.05 level of significance.

**Table 4:** Significant difference between the mean pre-test and post test knowledge score, N=30

| | Mean score | Mean Difference | SD of Difference | T Value |
|---|---|---|---|---|
| Pre test | 9.10 | 4.76 | 3.115 | 9.69* |
| Post Test | 3.86 | | | |

**Maximum score=25, $t_{29}$=2.045, p< 0.05* Significant**

Data presented in Table 4 shows that the mean post-test knowledge score (13.86)was higher than the mean pre-test knowledge score (9.1). The computed 't' value ($t_=$9.69), was higher than the table value ($t_{29}$ =2.045) at 0.05 level of significance. Hence the null hypothesis is rejected and research hypothesis is accepted. It can be inferred that the planned teaching programme was highly effective in improving the knowledge score of mothers of under-five children on protein energy malnutrition.

**Table 5:** Chi-square showing the association between mean pre-test knowledge score and selected demographic variables

| Sr. no | Variable | Knowledge score | | $\chi^2$ | Significance |
|---|---|---|---|---|---|
| | | ≤ mean | ≥mean | | |
| 1. | Age of the mother in year<br>≤ 30 years<br>≥30 years | <br>16<br>6 | <br>5<br>3 | 0.008 | No significance |
| 2. | Education status of mother<br>≤ Primary education<br>≥Secondary education | <br>14<br>7 | <br>5<br>4 | 0.027 | No significance |
| 3. | Family Income Monthly<br>≤ 5000<br>≥5000 | <br>13<br>10 | <br>4<br>3 | 0.165 | No significance |
| 4. | No. of child<br>≤ 2<br>≥3 | <br>16<br>7 | <br>6<br>1 | | No significance |
| | Religion | | | 0.212 | No significance |

| | | | | | |
|---|---|---|---|---|---|
| 5. | Hindu and Muslim<br>Christian | 17<br>7 | 3<br>3 | | |
| 6. | Type of Family<br>Joint<br>Nuclear | <br>12<br>11 | <br>2<br>5 | 0.383 | No significance |

The data in table 6 shows that there was no association between pre-test knowledge score and demographic variables. Hence the null hypothesis ($H_{02}$) was accepted.

## 4. Discussion

The aim of the study was to assess the effectiveness of planned teaching programme on knowledge regarding protein energy malnutrition among mothers of under-five children in selected rural community in Mangalore using knowledge questionnaires. Data collection and analysis were carried out based on the objectives of the study.

Major finding of the study sample characteristics

The study revealed majority of the mothers (70%) were in the age group of 20-30 yrs and 23.30% mothers were in the age group of 30-40 years 6.70% of mothers belongs to below 20 years. Nearly half of mothers (46.60%) had primary education, 23.30% had secondary education, 16.70% had no formal education and 6.70% were graduate. Nearly half of the families (46.70%) had a monthly income of Rs. 2001-5000, 33.30% had a monthly income of Rs. 5001-10000, 10% of the families had an income of less than Rs. 2000 and 10% had monthly income of more than Rs. 10001 per month. Nearly half of the mothers (40%) had 1 child while 33.30% had 2 children and 23.30% had three children and very few 3.40% had more than three children. With regard to religion 40% were Hindu and 33.3% were Christian and 26.7% were Muslim. Equal number of the sample (46.60%) was from nuclear and joint families and 6.70% were from extended family.

**Association between the pre-test knowledge scores of mothers of under-five children and selected variables:** There was no association between the mean pre-test knowledge score of mothers of under-five children on protein energy malnutrition and selected demographic variables. This study contradicts the findings of the previous studies where in it was found that there is significant association between the knowledge and educational status of mother ($\chi 2=3.92$).[3]

## 5. Conclusion

This chapter deals with the conclusion drawn based on the findings of the present study. Protein energy malnutrition is one of the leading causes of childhood morbidity. Since mothers are the primary caretakers of children, their knowledge regarding the care of children with these conditions is very vital in reducing the mortality and preventing complications. It is the responsibility of nursing personnel to update the knowledge of mothers about protein energy malnutrition. PTP is one of the most important method that can be used in community to educate people to improve the knowledge of mothers of under-five children regarding protein energy malnutrition.

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