

A Pilot Study to Determine the Prevalence of Protein Energy Malnutrition and Assess the Effectiveness of Structured Nursing Intervention on Knowledge and Practice of Mothers in Managing PEM among Under Five Children in Selected Rural Areas of Kutch-Gujarat

Ambica .C¹, Dr. Viruben H Bhudia², Dr. Shashikala J Maheshwari³, Dr. Kiran A Raval⁴

¹Ph.D Scholar, MAHER University, Chennai

²Research Guide, Professor of Nursing, Visiting Faculty, BMCB College of Nursing, Lakhond, Bhuj-Kutch, Gujarat.

³Research Co-Guide, HOD cum Associate professor of food and nutrition department, Tolani Institute of Arts and Science, Adipur, Kutch.

⁴Research Co-Guide, Associate professor of food and nutrition department, Tolani Institute of Arts and Science, Adipur, Kutch

Abstract: ***Background:** 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. A fair section of the population does not get enough food to eat and their diets are deficient calories also. The children in the developing countries suffer from malnutrition. **Objectives:** To find out the difference between the pre and post test level of Knowledge and Practice regarding Managing Protein Energy Malnutrition among mothers of under five children at selected villages in Kutch-Gujarat. **Methods:** An evaluative approach with a one group pre-test and posttest re experimental design was adopted for the study which was conducted in rural anganwadies of Bhuj-Kutch Gujarat. The population selected for the study was under five children and mothers of PEM children. Under five children were assessed with nutritional assessment parameters such as Height, weight, Midarm circumference and Chest circumference to identify the PEM and Mothers of PEM identified children were selected as a sample. **Results:** Majority of PEM children mothers are (80%) were 19 to 30 year of age, (55%) were primary school, (85%) were house wife, (50%) were less than 5000, (80%) belongs to a joint family, (75%) were vegetarian, 40% were 2 year of age, (20%) were getting knowledge from television and health workers, anganwadi workers, ASHA worker.*

Keywords: Prevalence, Protein Energy Malnutrition, Under five children, rural area

1. Introduction

Minister of state for Women and Child Development (2008) Children are human resources of the future. Their development is in the interest of the total national development. Under five children aged (1-5 yrs) represent about 12% of the general population in children. A large majority of these children are in rural and tribal areas and in urban slums, they need special attention but unfortunately these children are comparatively less attended. The mortality rate in India is as high as 11.2% of all deaths of Under than fives. The high mortality rate is largely due to infection and malnutrition. Hence malnutrition was shown to be an underlying cause in 3.4% of all deaths in all young children.¹

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 does not get enough food to eat and their diets are deficient calories also. The children in the developing countries suffer from malnutrition.²

Objectives

- 1) To assess the prevalence of Protein Energy Malnutrition among under five children in selected villages of Kutch-Gujarat.
- 2) To find out the difference between the pre and post test level of knowledge regarding Managing Protein Energy Malnutrition among mothers of under five children at selected villages in Kutch-Gujarat.
- 3) To find out the difference between the pre and post test level of Practice regarding Managing Protein Energy Malnutrition among mothers of under five children at selected villages in Kutch-Gujarat.
- 4) To find out the association between the post test level of knowledge and demographic variables such as mother's age, mother's education, mother's occupation, family income, family type, religion, area of residence, dietary habit of the family and number of under five children in the family.
- 5) To find out the association between the post test level of Practice and demographic variables such as mother's age, mother's education, mother's occupation, family income, family type, religion, area of residence, dietary habit of the family and number of under five children in the family.

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Hypothesis:

Research Hypothesis:

- 1) There will be a significant difference between the pre and post test level of knowledge regarding Managing protein energy malnutrition among mothers of under five children at selected villages in Kutch-Gujarat.
- 2) There will be a significant difference between the pre and post test level of Practice regarding Managing protein energy malnutrition among mothers of under five children at selected villages in Kutch-Gujarat.
- 3) There will be a significant association between the post test level of knowledge and demographic variables such as mother's age, mother's education, mother's occupation, family income, family type, religion, area of residence, dietary habit of the family and number of under five children in the family.
- 4) There will be a significant association between the post test level of Practice and demographic variables such as mother's age, mother's education, mother's occupation, family income, family type, religion, area of residence, dietary habit of the family and number of under five children in the family.

2. Review of Literature

A review of the existing literature relevant to the study helps the researcher to design the theoretical frame work of the study and assess the nature and quantum of studies already undertaken in the particular area of research. The researcher reviews the research literature to develop research ideas to determine knowledge on a topic of interest to provide a context for the study, and to justify the need for the study, consumers review and synthesize evidence base information to gain knowledge and improve nursing practice.³

Ayaya SO,et.al;(2004) conducted a study to identify the socio economic factors as predisposing factors to under five to severe protein energy malnutrition at referral hospital in Kenya they found that a total of 66 children aged between three months to 36 months with severe protein energy malnutrition attending out patient clinic and those admitted in pediatric ward were included in the study. They used a standard pre tested questionnaire used to interview the caretaker and the researchers finally concluded that poverty, social conditions under which child was living, sex of the child and incomplete immunizations were risk factors for severe protein energy malnutrition.⁴

Nuha Mamoun, Et:al (2005), conducted a study was done with 327 under-five children living in Mayoo displacement camp, Khartoum, Sudan, was assessed during May- August 2004. Risk factors for protein-energy malnutrition (PEM) were also studied. According to WHO criteria, a total of 186 (56.1%) children had malnutrition, of these 101(30.1%), 43 (13.1%) and 42 (12.8%) were mildly, moderately and severely malnourished respectively. According to Welcome classification, the commonest type of malnutrition was found to be underweight (38.2%), marasmus, kwashiorkor were detected in (6.4%) and (0.9%) respectively, there was no case of marasmic kwashiorkor in the studied population. Prevalence of vitamin "A" was 9.2% of which 0.9% had night blindness. Age, sex, lack of immunization, lack of

breast -feeding, history of fever and history of diarrhea were tested and were not found be risk factors for malnutrition in this group of children.⁵

Saito,k,et.al: (2011),the study undertaken to assess the impact of drought on the nutritional status of children aged 0-5 years from a rural population in a desert area facing drought areas of western Rajasthan. The results revealed growth retardation. Stunting was observed in 53% of children and underweight in 60%. Due to inadequate consumption of daily food the children were suffering from wasting and protein energy malnutrition. Efforts should be made to incorporate measures, such as ensuring the supply of adequate energy and protein to all age groups children, into ongoing nutrition programmes in order to improve the food security of local inhabitants in this area.⁶

Bhatt IA, Shah GN & Dhar (2005) carried out a study to "determine whether maternal knowledge and practice were associated with the nutritional status of the infants". A study conducted on 28 well nourished children and 95 children, were at various degrees of malnutrition. The result concluded mothers whose infants were moderate to severely malnourished (score, 27,13 vs 16.01-18.75: p0.0001). None of the mothers of malnourished infants had an excellent score on breastfeeding practices. Differences in the mean score values for breast feeding practices between all consecutive grades of nutrition were significant(20.22 for excellent score, 16.85,15.33 and 14.18 for grades I,II and III, respectively; p0.001). The only mothers who had an excellent nutritional status. A significant difference in mean score value for knowledge of infant weaning between mothers of well nourished infants and grade-I malnourished infants (26 vs 17.19;p0.001) as well as between those of grade-II malnourished infants and grade – III malnourished infants (17.06 vs 13.64; p.0.01) were significant. There was little difference in infant nutritional status between mothers who scored fair, were more likely to be have infants of good nutritional status than those who did not score well (47.05% vs 19.56% and 18.33%; p0.001). This study findings shows a decreasing trend between awareness and practice of breast feeding/ infants weaning, suggesting that further improvement of health education is needed to reduce the lag between breast feeding awareness and practice.⁷

3. Methodology

An evaluative approach with a one group pre-test and posttest re experimental design was adopted for the study which was conducted in rural anganwadies of Bhuj-Kutch Gujarat. The population selected for the study was under five children and mothers of PEM children. Under five children were assessed with nutritional assessment parameters such as Height, weight, Midarm circumference and Chest circumference to identify the PEM and Mothers of PEM identified children were selected as a sample. The data were collected using demographic variable Performa and knowledge and practice questionnaire regarding management of PEM among under five children. The reliability was determined using split half technique (0.86).⁸ After explaining procedure under five children were assessed and identified PEM children. The demographic variable Performa and knowledge a, practice questionnaire

were administered to mothers of PEM children. Thereafter health talk given regarding Meaning and Definitions of Malnutrition and PEM, Causes, Signs and symptoms of PEM, Identification of PEM and Dietary Management of PEM, and home remedies for other health problems like Acute Respiratory Tract Infection, Diarrhea and Indigestion.

The post test level of knowledge and practice were assessed after one week. The obtained data were analyzed using descriptive statistics like frequency and percentage, inferential statistics like t-test and chi-square test.

4. Result and Discussion

Demographic variables of the mothers of Under five PEM children.

Majority of PEM children mothers are (80%) were 19 to 30 year of age, (55%) were primary school, (85%) were house wife, (50%) were less than 5000, (80%) belongs to a joint family, (75%) were vegetarian, 40% were 2 year of age, (20%) were getting knowledge from television and health workers, anganwadi workers, ASHA worker.

Prevalence of Protein Energy Malnutrition among under five children.

Table 1: Frequency distribution and percentage of prevalence of Protein Energy Malnutrition among under five children

Area	No. of child as per register	No. of children assessed	Prevalence	Frequency	Percentage
LAKHOND	116	48	Healthy	22	46%
			Malnourished	26	54%
KUKMA	75	15	Healthy	5	34%
			Malnourished	10	66%

About prevalence of PEM among under five children is table I shows that frequency percentage of sample according to prevalence of Protein Energy Malnutrition under five children, 22(46%) were healthy and 26(54%) were malnourished. Regarding Kukma, 75 children registered, 15 were attended and assessed in that 5(34%) were healthy and 10(66%) malnourished.

Table 2: Distribution of samples according to Pre-test and Post-test level of knowledge regarding Protein Energy Malnutrition

Knowledge	Inadequate		Moderately adequate		Adequate		t- value
	F	P	F	P	F	P	
Pre test	18	90%	2	10%	0	0%	t=11.20
Post test	2	10%	11	55%	7	35%	p=0.05

Table 2 shown, Comparison of pretest and post test level of knowledge of mother of under five PEM children regarding Managing Protein Energy Malnutrition most of the mothers of PEM under five children were (90%) had inadequate knowledge, 2(10%) mothers were had moderately adequate and no one had having adequate knowledge in the pretest, whereas in the post test majority of mother gained moderately adequate knowledge 11(55%), 7(35%) mothers were gained adequate knowledge and only 2(10%) mothers had inadequate knowledge.

The value (t= 11.20) is significant at 0.05 level so the researcher found that there was a significant difference between pre test knowledge level and post test knowledge level. Hence the researcher accepted research hypothesis and rejected Null hypothesis.

Table 3: Distribution of samples according to Pre-test and Post-test level of Practice regarding managing Protein Energy Malnutrition

Practice	Inadequate		Moderately adequate		Adequate		t- value
	F	P	F	P	F	P	
Pre test	15	75%	5	25%	0	0%	t=6.70
Post test	2	10%	4	20%	14	70%	p=0.05

Table.3 shows, comparison of pretest and post test level of practice of mother of under five PEM children regarding Managing Protein Energy Malnutrition most of the mothers of PEM under five children majority of mothers had inadequate Practice 15(75%), 5(25%) mothers were had moderately adequate and no one had having adequate Practice. Whereas Post test majority of mother 14(70%) practicing good practice, 4(20%) mothers are practicing moderately and 2(10%) mothers were inadequate practice level.

The value (t= 6.70) is significant at 0.05 level so the researcher found that there was a significant difference between pre test practice level and post test practice level. Hence the researcher accepted research hypothesis and rejected Null hypothesis. Association between Post-test knowledge level of mothers regarding managing Protein Energy Malnutrition and demographic variables.

The result shows that there was no significant association between post test level of knowledge of mothers regarding managing Protein Energy Malnutrition and demographic variable such as age, education, occupation, monthly income, type of family, food habit, child below five year of age and source of information.

Association between Post-test practice level of mothers regarding managing Protein Energy Malnutrition and demographic variables.

There was no significant association between post test level of practice of mother regarding managing protein energy malnutrition and demographic variables such as age, education, occupation, monthly income, food habit and source of information and there was a significant association at 0.05 level, between post test level of practice of mother regarding protein energy malnutrition and demographic variables such as type of family and child below five year of age.

5. Conclusion

It was concluded from the findings of the pilot study that majority of mothers of PEM under five children were had inadequate knowledge in the pretest, whereas in the post test majority of mother gained moderately adequate knowledge. Regarding Practice majority of mothers had inadequate Practice in pre test. Whereas Post test majority of mother practicing good practice.

The values are significant at 0.05 level. So the researcher found that there was a significant difference between pre test knowledge and practice level and post test knowledge and practice level. Hence the researcher accepted research hypothesis and rejected Null hypothesis.

6. Recommendation

- 1) A study can be conducted with large samples to generalize the findings.
- 2) A comparative study can be done between urban and rural mothers.
- 3) A study can be done in different settings.

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