A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge Regarding Prevention of Protein Energy Malnutrition among the Mothers of Preschooler Children at Selected Community Area Gandhi Nagar Bhopal (M.P)

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ABSTRACT

Background: Children are an embodiment of our dreams and hopes for the future. They are wet clay in potter's hands. Good nutrition allows children to survive, grow, develop, learn, play, participate and contribute, while malnutrition robs children of their futures and leaves young lives hanging in the balance. **Objectives:** The aim of this study was to assess the knowledge regarding prevention of protein energy malnutrition among the mothers of preschooler children. **Methods:** The research approach adopted for this study is a **Quantitative research approach**. The research design was pre-test and post-test design. The pilot study was conducted at Rural Area **Gandhi Nagar Bhopal**. A Convenient sampling technique was used. Structured knowledge questionnaire was used to assessing the environmental Health. The final study was conducted with 60 sample in schools was given followed by post-test after 7 days using the same pre-test tools. The data collected was analyzed using inferential statistics. **Results:** In pre- test (66.66%) mother have Poor knowledge, (26.66%) mother have Average and (6.66%) mothers have good knowledge. The Pre-test knowledge score of mothers of under-five children mean and SD was (10.83 $\pm$4.67.) In post-test (66.66%) of the mothers have good knowledge, (30%) of the mothers have average knowledge. (3.33%) of the mothers of preschooler children has poor knowledge. The Post-test knowledge score of mothers of preschooler children mean and SD was (21.47$\pm$3.56). It reveals that most of mothers have good knowledge despite that STP is effective. The computed 't' value (t =22.5) was higher than the table value (t=2.04) at 0.05 level of significance. Hence, the research hypothesis (H_1) was accepted. **Conclusion:** The study concluded that the structured teaching program was effective in increasing the knowledge level of mothers of preschooler children on prevention of protein energy malnutrition.

INTRODUCTION

According to UNICEF report (2019), Malnutrition caused 69% of deaths among children below the age of five in India. It also mentioned that every second child in under five age group is affected by some form of malnutrition. Over the decades, despite growing incomes, protein-based calories remain low and unchanged and the caloric share of fruits and vegetables has declined. Children of today are citizens of tomorrow, and hence improving nutritional status of children becomes extremely important. Protein energy malnutrition condition is the preventable one. Mothers are playing vital role in the care of under five children. The researcher believed that educating mothers of under five children regarding prevention of protein energy malnutrition will reduce the prevalence of PEM among children.

In rural areas, most number of the mothers have disbeliefs, taboos and doubts regarding nutritional needs of the children. If we educate them properly, we will improve the nutritional status of the children.

Every child develops and grows at her/his own time through reaching the various development& milestone. Children growth and development do not occur in a linear fashion. But are influenced by each child's environment nutrition and mothers care, these factors play and critical role in a child reaching her/ his full potential. Recent evidence indicates that good nutrition particularly in early childhood is critical to the positive health outcomes of children. In fact, children's nutritional status can be viewed as a good proxy indicator of a community's status of health

Food is the prime necessary of life cannot be sustained without an adequate nourishment child need's adequate food for growth and development. Acc. To the WHO, breast milk has the complete nutritional requirement that a baby need for healthy growth and development in the first six months of life.

Acc. To the united nation child emergency fund (UNICEF), children who are breastfeed in the first six months of life have a six times greater chance of survival as opposed to non-breastfeed children.

Children are malnourished if their diet does not provide adequate nutrients for growth and maintenance or they are unable to fully utilize the food eat due to illness (under nutrition).

Malnutrition among under-five children is a major public health problem in India. This is reflected by the fact that the prevalence of under-weight children in India is among the highest in the world, and is nearly doubles that of Sub-India. Each year approximately 2.3 million deaths among 6-60 months aged children in developing countries are associated with malnutrition, which is about 41% of the total deaths in this age group. A recent study, among children aged between 3 months and 3 years of age conducted in 130 districts through Demographic and Health Surveys in 53 countries over a period from 1986 to 2006 found that variance in mild under-weight has a larger and more robust correlation with child mortality than the variance in severe under-weight. The study concluded that the prevalence of mild under-weight deserves greater attention as a useful signal of changing public health conditions among preschool children in developing countries. Therefore, it is important for the health system to detect malnutrition at an early stage for planning and implementing timely interventions at the community level.

Millennium Development Goal 1 (Target 2) aims to halve, between 1990 and 2015, the proportion of people who offer from hunger as measured by the prevalence of under-nutrition among under five children has not changed much even though-various intervention programs are in operation in India. Current changing dietary patterns are also affecting the nutrition status of under five children resulting in increased prevalence of adult. The need of the hour is to examine the burden of under-nutrition and obesity, study it's determining factors and assess the effectiveness of the various approaches to combat.

Need of the study:
Malnutrition refers to the situation where there is an unbalanced diet in which same nutrition are excess (l-6)1h or wrong proportion; simply, put we can categories it to be under nutrition and over nutrition Despite Indies 50% increase GDP since 1991 more than one third of the worlds among these halves of them under 3 are underweight and third of wealthiest children are over nutrimental.

The word bank estimates that India is one of the height ranking countries in the world the number of children suffering from malnutrition the prevalence of underweight children in India is among the highest in the world and is nearly double that of Sahara Africa With and dire consequences for mobility , productivity and economic growth.

The 2017 global hunger index (GHI) report ranked India 97th out of 118 countries with a serious hunger situation, amongst SOUTH ASIAN NATION, it ranks third behind only at GANSTAN AND PAKISTAN with a GHI score of 29.

India is one of the fastest growing countries in terms of population and economic, sitting at a population of 1.342 billion and growing at 1.5% 1.7% annually (Iron 2001 -2007) India's gross domestic product growth was 9.0% from 2007 to 2008, since independence in 1947 its economic status has been classified as a low-income country with majority of the population at or below the poverty line.

Incidentally save for BIHAR, six of the seven statuses with the highest incidence of stunting are ruled by the BJP and its allies UTTAR PRADESH, JHARKHAND, MEGHALYA. Malnutrition among under five children. The present review article discusses the issues and strategies to under five malnourished children in India.

Lastly, we need to understand level of knowledge of the mother regarding the malnutrition and management of malnutrition. The study should that knowledge of malnutrition will help to prevent the malnutrition.

PROBLEM STATEMENT:

"A study to assess the effectiveness of structured teaching program on knowledge regarding prevention of protein energy malnutrition among the mothers of preschooler children at selected community area Gandhi Nagar Bhopal (M.P)."

OBJECTIVES:

1. To assess the pre-test knowledge regarding prevention of protein energy malnutrition among mothers of pre-schooler children.

2. To find out the impact of structured teaching program on knowledge regarding prevention of protein energy malnutrition among mothers of pre-schooler children.

3. To find out the association between pre-test knowledge score of mothers of preschooler children with their selected demographic variables.

HYPOTHESIS:

H_1: There is a significant difference between pre-test &post-test knowledge score of mothers of pre-schooler children.

H_2: There is an association between pre-test knowledge score of mothers of pre-schooler children with their selected demographic variables at the level of 0.05 significant

OPERATIONAL DEFINITIONS:

Impact: In this study the impact gain by the mothers after giving knowledge through structured teaching program regarding prevention protein energy malnutrition.

Structured teaching program: in this study it refers to develop a teaching aid for providing knowledge of mothers of pre-schooler children regarding prevention protein energy malnutrition.

Malnutrition: In this study it refers to the lesser intake of food for preschooler children in terms of quality and quantity to maintain optimum health.

Mother of preschooler Children: In this study it refers to those who have child of age group (0- 3 years).

MATERIAL AND METHODS:

Research approach: Quantitative research approach was used.

Research design: *Pre-experimental one group pre-test post-test design.*

Variables:
Independent variables: structured teaching program (STP) regarding prevention of protein energy malnutrition among mothers of pre-schooler children

Dependent variables: knowledge of mothers of pre-schooler children regarding prevention of protein energy malnutrition.

Demographic variable: Such as age, religion, education, occupation, monthly income, dietary pattern, no. of children, type of family, source of information.

Research setting:

The study was conducted *in* community area Gandhi Nagar Bhopal (M.P)

Population: *In this study population consisted of* mothers of pre-schooler children.

Sample:

Mothers of pre-schooler children's

Sample size: 60 mothers of pre-schooler children.

Sample techniques:

Non-probability convenient sampling technique

Criteria for sample selection:
Inclusion criteria:

➢ Subjects of selected community area Gandhi Nagar Bhopal (M.P).

➢ Subjects of selected Mothers who have pre-schooler children residing only at selected community area.

➢ Subjects of selected Mothers who have pre-schooler children were available during the period of data collection.

➢ Subjects of selected Mothers who have pre-schooler children willing to participate in the study.

➢ Subjects of selected Mothers able to understand Hindi/English.

Exclusion criteria:

➢ Mothers who do not have pre-schooler child.

➢ Mothers of pre-schooler children who were not available at the time of data collection in community Gandhi Nagar Bhopal (M.P).

➢ Mothers of pre-schooler children who were not willing to participate in the study.

Tool and method of data collection:
DEVELOPMENT OF TOOL

The structured teaching program for mother's pre-schooler children regarding prevention of protein energy malnutrition in children was developed after reviewing the literature, seeking opinion of the experts and experiences of many persons.

DESCRIPTION OF THE TOOL

Structured interview schedule – It has two parts section A and B.

Section A - Socio - Demographic variables- the first part consisted of 8 items related to baseline characteristics (Age, Religion, education, occupation, monthly income, dietary pattern, no. of children, type of family, source of information.)

Section B – Structured knowledge questionnaire regarding protein energy malnutrition. Questionnaire is prepared for assess the knowledge of subjects regarding protein energy malnutrition. Which consist of 30 items with multiple choice questions. Where total score is 30. The tool was prepared in Hindi to facilitate better comprehension for the mothers of pre-schooler children of slum area.

SCORING PATTERN

The structure knowledge questionnaire consists of 30 multiple choice questions. Every correct answer a score on one (1) and zero (0) for wrong answer. The maxima score of structured knowledge questionnaire is 30. The different level of knowledge is categorized as follows.

Level of Knowledge	Knowledge Score
Poor	0 – 10
Average	11-20
Good	21-30

Reliability of tool: The reliability of the tool is computed by using Karl Pearson's correlation formula was used to find out the reliability of the structured interview schedule the correlation value was r = 0.84 which showed that the tool was highly reliable and valid.

Data collection procedure-:
➢ The investigator obtained prior permission from the Medical Officer In- charge of Gandhi Nagar Bhopal (M.P).
➢ The data collection period extended as per the convenience of the authority.

➢ The period of data collection was in the month of July from 01/06/2021 to 30/06/2021. The purpose of the study was explained to them and confidentiality was assured to all the respondents.
➢ The pre-test was conducted on a total of 60 respondents following the administration of STP and an instruction to attend for the post-test on the seventh day to find out the impact of STP in increasing their knowledge.
➢ Post-test was conducted after 10 days respondents cooperated well with the investigator.
➢ Data collection process was preceded on mothers of pre-schooler children regarding prevention of protein energy malnutrition and lastly thanking all the respondents for their cooperation and patience.

Ethical consideration:

The researcher had taken prior written permission from the Medical Officer In-charge of Gandhi Nagar Bhopal (M. P).to conduct the research study. Informed consent was taken from the mother's pre-schooler children before data collection**.**

Plan for data analysis:

The plan for data analysis includes-
➢ Demographic data was planned to analyze in terms of frequency and percentage.
➢ Paired 't' test was used to find the significant difference in the pre test and post test knowledge scores.
➢ Chi – square test was used to find the association between the level of knowledge and socio-demographic characteristics. The level of significant would be set at $p \leq 0.05$ levels to test the significant of difference. This level is often used as a standard for testing the difference.

RESULTS:

Table 1: Frequency & percentage distribution of mothers of Preschooler children based on demographic viable. N=60

Demographic Variables		Frequency	Percentage
AGE	18-22	24	40%
	23-27	20	33.33%
	28-32	10	16.66%
	Above 33	6	10%
RELIGION	Hindu	58	96.66%
	Muslim	2	3.33%
	Christian	0	0%
	Others	0	0%
EDUCATION	Illiterate	10	16.66%
	Primary	20	33.33%
	High school	22	36.66%
	Above higher	8	13.33%

OCCUPATION	Housewife	32	53.33%
	Labour	22	36.66%
	Business	6	10%
	Other	0	0%
MONTHLY INCOME	<2000	12	20%
	2001-4000	18	30%
	4000-6000	14	23.33%
	Above 6000	16	26.66%
DIETRY PATTERN	Veg	32	53.33%
	Non –Veg	28	46.66%
NO. OF CHILDREN	1	30	50%
	2	14	23.33%
	3	17	28.33%
	More than 3	2	3.33%
TYPE OF FAMILY	Nuclear	26	43.33%
	Joint	24	40%
	Extended	8	13.33%
	Step	2	3.33%

Table No: 1 shows that highest (40%) of mothers belongs to 18- 22 years, and (33.33%) belongs to 23-27 years, (16.66%) belongs to 28-32, whereas only (10%) of mothers of pre-schooler children were above 33 years. Highest (96.66%) of mothers of pre-schooler children were belonging to Hindu, and (3.33%) belonging to Muslim, however only (0%) and (0%) of them belongs to others religion and Christian respectively. Highest (36.66%) of the mothers have primary education, (33.33%) mothers have high school education, (16.66%) mothers are illiterate and (13.33%) of the mothers have high school education. Highest (53.33%) of mother's occupation is house-wife, (36.66%) mothers' occupation is Labour, however only (10%) mothers' occupation is business. Highest (30%) family monthly incomes belong to 2001-4000, (26.66%) family monthly income belongs to above >6000 RS., (23.33%) family monthly income belongs to 4000-6000, however only (20%) belongs to<2000 RS. Highest (53.33%) of the mothers Non–veg, (46.66%) of them Veg of the mothers. Were non-vegetarian (46.66%) mothers being vegetarian. Highest (50%) belongs to mother of 1children, (23.33%) belongs to 2children, (28.33%) belongs to 3 children & (3.33%) belongs to more than 3 children. Highest (43.33%) of mothers belongs to nuclear family, (40%) belong to joint family, (13.33%) belongs to extended family, (3.33%) belongs to step family.

Table No: 2 Frequency and percentage distribution post- test level of knowledge mother of pre-schooler children mothers selected community of Gandhi Nagar Bhopal (M.P).
PRE-TEST (MEAN, STANDARD DEVIATION) N = 60

Level of Knowledge	Knowledge Score	Frequency	Percentage	Mean	SD
Poor	1-10	40	66.66%		
Average	11-20	16	26.66%	10.83	4.67
Good	21-30	4	6.66%		
Total		60	100%		

Table no 2. Shows the frequency and percentage distribution of pre- test level of knowledge of mother's pre-schooler children. The level of knowledge was seen into 3 categories, such as poor, average and good level of knowledge. In pre- test (66.66%) mother have Poor knowledge, (26.66%) mother have Average and (6.66%) mothers have good knowledge. The Pre-test knowledge score of mothers of under-five children mean and SD was (10.83 ±4.67.)

Table- 4.3- shows the frequency and percentage distribution of post- test level of knowledge pre-schooler children's mothers regarding prevention of protein energy malnutrition.
POST – TEST (MEAN, STANDARD DEVIATION) N = 60

Level of knowledge	Knowledge Score	Frequency	Percentage	Mean	SD
Poor	1-10	2	3.33%		
Average	11-20	18	30%	21.47	3.56
Good	21-30	40	66.66%		
Total		60	100%		

Table- 3- shows the frequency and percentage distribution of post- test level of knowledge of mothers regarding malnutrition regarding prevention of protein energy malnutrition. The level of knowledge was seen into 3 categories, such as poor, average and good. In post-test (66.66%) of the mothers have good knowledge, (30%) of the mothers have average knowledge. (3.33%) of the mothers of pre-schooler children has poor knowledge. The Post-test knowledge score of mothers of pre-schooler children mean and SD was (21.47$\pm$3.56). It reveals that most of mothers have good knowledge despite that STP is effective.

Table No .4 Analyses the difference between mean pre and post-test knowledge scores on mothers regarding prevention of protein energy malnutrition.

Test	Mean Knowledge Score	S. D	Mean difference	't' Value
Pre-Test	10.83	4.67	10.64	22.5
Post –Test	21.47	3.56		

"t" = 22.5 $p < 0.05$ * significant

The computed 't' value (t =22.5) was higher than the table value (t=2.04) at 0.05 level of significance. Hence, the research hypothesis (H_1) was accepted. This indicates that the structured teaching program as effective in increasing the knowledge level of mothers of pre-schooler children on prevention of protein energy malnutrition.

Table No 4.5: Chi-square Test Showing the Association between Pre-Test Knowledge Score of mothers of pre-schooler children and selected demographic variables.   N=60

S. No.	Demographic Variable	Knowledge Frequency			df	Table	x^2	Significance
		Poor	Average	Good				
	Age in Years							
1	18- 22 Yrs	20	4	0	6	12.59	13.68	S
	23-27 Yrs	16	2	2				
	28-32 Yrs.	4	4	2				
	Above 32Yr	0	6	0				
	Religion							
2	Hindu	38	16	4	6	12.59	0.52	NS
	Muslim	2	0	0				
	Christian	0	0	0				
	Others	0	0	0				
	Education							
3	Illiterate	8	2	0	6	12.59	13.52	S
	Primary	14	8	0				
	High	18	0	2				
	Higher secondary	0	6	2				
	Occupation							
4	Housewife	24	6	2	6	12.59	8.34	NS
	Labour	16	6	0				
	Business	0	4	2				
	Other	0	0	0				
	<2000	10	2	0				
	Monthly income							
5	2001-4000	12	6	0	6	12.59	3.97	NS
	4000-6000	6	6	2				
	Above 6000	12	2	2				
	Dietary pattern							
6	Veg	18	12	2	2	5.99	2.08	NS
	Non- veg	22	4	2				
	No of children							
7	1 children	18	12	0	6	12.59	18.38	S
	2 children	10	2	2				
	3 children	12	2	0				
	More than 3	0	0	2				

8	Type of family							
	Nuclear	18	8	0	6	12.59	15.33	S
	Joint	16	6	2				
	Extended	6	2	0				
	Step	0	0	2				

N- 60 P < 0.05 Significant: P> 12.59 NS= Not significant S= Significant

Table no.45 shows that there was significant association between pre-test knowledge score and age, Education, no. of children, Type of family of mothers of pre-schooler children at level of 0.05.

There was non-significant association between pre-test knowledge score are Religion, Occupation, Monthly income and Dietary pattern of mothers of pre-schooler children at level of 0.05.

DISCUSSION:

Analysis the effectiveness of structured teaching program regarding prevention of protein energy malnutrition among mothers of preschooler children.

The computed 't' value (t =22.5) was higher than the table value (t=2.04) at 0.05 level of significance. Hence, the research hypothesis (H₁) was accepted. This indicates that the structured teaching program was effective in increasing the knowledge level of mothers of preschooler children on prevention of protein energy malnutrition. Show Post-test mean score 21.47% is greater than pre-test mean score 10.83% and difference is 10.64 Research hypothesis was accepted. There is a significant difference between pre-test & post-test knowledge score of mothers of preschooler children regarding prevention of protein energy malnutrition at selected community area Gandhi Nagar Bhopal (M.P).

Conclusion: STP was beneficial for mother of preschooler children can utilize the Information in the day-to-day life practice.

Recommendations:

1. The study can be a replicated on a large sample with a control group.

2. Similar study can be under taken using other teaching strategies.

3. Similar study can be conducted using larger number of samples.

4. A study can be conducted to find the knowledge regarding malnutrition mother preschooler children.

Conflict of interest: No

Financial support: Self

REFERENCE:

[1] Radhakrishna, R. (2008, Jan. 27). Child Malnutrition: people and their problem. File retrieved Oct 8, 2008 from http://sarkaritel.com/indianews

[2] Staff reporters. (2008, April 26). Malnourished children in India. Files retrieved Oct. 18, 2008 chennaionline.com/health/kids/malnutrition.asp

[3] Thakur, S. (2008). Comparative study to assess malnutrition on urban and rural school going children. (Masters dissertation, CCON, 2008).

[4] Japan Pediatric Society. (2007), Risk factors or PEM in children under five years. Pediatric International, 49(2), 260-265

[5] Ergin, F. (2007), Nutritional status and risk factors of chronic malnutrition in children under five years of age in Turkey. Public health magazine, 49(3), 283-289