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A Study to Assess the Effectiveness of Health Education Program on Knowledge Regarding Control And Prevention of Protein Energy Malnutrition Among Mothers of Under Five

A Child is precious to his parents, to his family, community, and nation and to the world at large. A child is a citizen of the world and thus it becomes the responsibility of the wide population of the whole universe to look after the interests of the children all over. The young children needs love for growth but also adequate nutrition and health facilities, so that he can growth up to complete at his optimum level.[2]

Otgonjargal D, Woodruff B A, Batjargal J.,Gereljargal B and Davaalkham D in 2010. This study describes the nutritional status of children under-five years of age in Mongolia. This cross-sectional survey was conducted in all 21 provinces of the 4 economic regions of the country and capital Ulaanbaatar city. In total, 400 households were randomly selected based on local administrative and district/family hospital registry. A total of 706 children aged 0-59 months were selected from sampled households, which

was consistent with the survey plan to sample 670 children from 2,000 households were assessed via questionnaire and anthropometric measurements. The prevalence of stunting, wasting and underweight were 15.6%, 1.7% and 4.7% respectively. Stunting was highest among the 24-35 months age group (20.8%). Findings suggest the need to implement evidence-based child health policy and strategies, prioritizing the poor and socially disadvantaged population. Intervention efforts should especially focus on the Western Region to improve protein energy malnutrition measures.[11]

A cross sectional, descriptive study was conducted in 2009 by Mishra S K, Bastola S P, Jha B in Kanti Children Hospital, Kathmandu, Nepal. The objectives of the study are to determine biochemical nutritional indicators among children suffering from PEM and to compare all biochemical parameters with well nourished children and also to determine the factors affecting PEM among children under five years and the result of the study was the educational status of parents of children with PEM was found to be significantly less ($p<0.05$) as compared to their non-PEM counterparts. The conclusion was that significant proportion of children with protein energy malnutrition had altered biochemical parameters which were related to food intake and biochemical metabolism mandatory during growth and development of children less than five years of age. There was significantly higher proportion of hypoglycaemia, hypoproteinemia, hypoalbuminaemia, anaemia, hypocholesterolemia and hypocalcaemia in children with PEM when compared to normally nourished children. [13]

3. Materials and Methods

The study was conducted on 60 mothers of underfive children in selected Anganvadies of Karad Taluka. The tool used for data collection was a structured knowledge questionnaire. An evaluative approach was used. Non probability purposive sampling technique was used. Pre-experimental one group pretest post design was used. The study adopted Ludwig bertalanffy general system theary.

3.1 Results: Analysis and interpretation of the data was based on the projected objectives of the study viz.

- To assess the knowledge of mothers of under five children regarding control and prevention of Protein Energy Malnutrition before health education.
- To assess the knowledge of mothers of under five children regarding control and prevention of Protein Energy Malnutrition after health education.
- To find out the association between the pre test score with selected demographic variables

3.2 Organization of study findings

- **Section I:**
  It deals with the analysis of socio demographic variables of the samples.
- **Section II:**
  It deals with the analysis of data related to knowledge on control and prevention on protein energy malnutrition among mothers of underfive children before and after health education.
- **Section III:**
  It deals with the analysis of data to find out the association between pretest knowledge scores with selected socio-demographic variables.

Section I

It deals with the analysis of socio demographic variables of the samples.

Table 1: Demographic description of samples by frequency and percentage , **N= 60**

Sr. No.	Variables	Freq. (f)	Percentage
1	**Age of Mothers**		
a)	Below 20 yrs	2	33.30%
b)	21 - 25 yrs	26	43.33%
c)	26 - 30 yrs	26	43.33%
d)	31 and above	6	10.00%
2	**Religion**		
a)	Hindu	48	80%
b)	Muslim	12	80%
3	**Diet**		
a)	Vegetarian	32	53.33%
b)	Mixed diet	28	46.66%
4	**Type of family**		
a)	Joint	47	78.33%
b)	Nuclear	13	21.66%
5	**Occupation status**		
a)	Housewife	42	70%
b)	Daily wages	16	26.66%
c)	Government employee	2	3.33%
6	**Family income**		
a)	1000-3000	6	10%
b)	3001 – 5000	12	20%
c)	5000 and above	42	70%
7	**Educational status**		
a)	Primary school education (1st - 4th)	13	21.66%
b)	Higher primary school Education (5th-7th)	14	23.33%
c)	High school education (8th-10th)	29	48.33%
d)	PUC and above	4	6.66%
8	**Number of children in the family**		
a)	One	29	48.66%
b)	Two	12	20.00%
c)	Three	17	28.33%
d)	Four and Above	2	3.33%
9	**Number of under five children in the family**		
a)	One	42	70%
b)	Two	16	26.66%
c)	Three	2	3.33%
d)	Four and Above	0	0.00%
10	**Immunization status of the child**		
a)	Completely	54	90%
b)	Partially	6	10%
c)	Not immunized	0	0
11	**Source of health education**		
a)	News paper	2	3.33%
b)	Radio	0	0
c)	Television	3	5%
d)	Word of mouth	0	0
e)	Health personal	55	91.66%

The data presented in table 1 shows that in the study Maximum number 26(43.33%) mothers belong to the age

group of 21-25, Majority 48(80%) mothers were Hindus, 12(20%) mothers were Muslims, Majority of mothers 32(53.33%) were taking vegetarian diet, Majority of mothers 47(78.33%) belongs to nuclear family, Majority of mother's occupation were 42(70%) house wife, maximum of mothers 42(70%) monthly family income were Rs.5001 and above, Majority of mothers 29(48.33%) education status was High school education, Majority of children in family were 29(48.66%) one Majority of children in family were 29(48.66%) one, Majority of under five children are 42(70%), Majority of children immunization status was completed 54(90%), Majority of source of health education is from health personnel 55(91.60%).

Section II: It deals with the analysis of data related to knowledge on control and prevention on protein energy malnutrition among mothers of underfive children before and after health education.

Table 2: Distribution of frequency and percentage of knowledge scores of mothers of under five children regarding control and prevention of protein energy malnutrition, n=60

	Pretest		*Posttest*	
Knowledge Score	*Frequency*	*Percentage*	*Frequency*	*Percentage*
Good(Mean+SD)	15	25%	33	55%
Good(Mean+SD to Mean-SD)	20	33.33%	18	30%
Poor (Mean-SD)	25	41.66%	9	15%

Table 2 reveals that in pre test majority 25(41.66%) mothers had poor knowledge, 20(3.33%) had average knowledge and 15(25%) had good knowledge; where as in post test 33(55%) had good knowledge, 18(30%) had average knowledge and 9(15%) had poor knowledge in total knowledge score of the study.

Table 3: Mean , Median, and Standard deviation of total knowledge score of mothers of under five children regarding control and prevention off protein energy malnutrition, n=100

Area of analysis	*Mean*	*Median*	*Standard deviation*
Pre-test	9.183	9	3.347
Post-test	21.766	26	5.08
Difference	12.583		1.733

Paired 't' test value is 15.761; p<0.0001

The above table no:3 shows that knowledge score regarding protein energy malnutrition before and after health education programme of 60 observations with difference mean of 12.583 and standard deviation of 1.733. The computed't' test statistic value is 15.761. Since the p value for the test is less than 0.05, the null hypothesis is rejected at the 95 % confidence level. It shows that the health education programme is effective method for improving the knowledge of mothers regarding control and prevention of protein energy malnutrition.

Table 4: Association between knowledge score and selected demographic variables., N=60

	Socio demographic	*Pretest knowledge Score*			*Chi-square*	*P value*	*Df*
		Good	*Average*	*Poor*			
1	**Age of mothers**						
a)	Below 20 years	1	0	1	6.544(NS)	0.3651	6
b)	21-25 years	6	12	8			
c)	26-30 years	7	5	14			
d)	31 and above	1	3	2			
2	**Relegion**						
a)	Hindu	9	18	21	5.250(NS)	0.0754	2
b)	Muslim	6	2	4			
3	**Diet**						
a)	Vegetarian	8	17	7	14.504 (S)	0.0007	2
b)	Mixed diet	7	3	18			
4	**Type of family**						
a)	Nuclear	6	17	24	18.108 (S)	0.0001	2
b)	Joint	9	3	1			
5	**Occupation**						
a)	House wife	4	16	22	22.704 (S)	0.0001	4
b)	Daily wages	11	3	2			
c)	Government employee	0	1	1			
6	**Monthly family income**						
a)	Rs.1000-3000	1	1	4	2.743 (NS)	0.6017	4
b)	Rs.3001-5000	2	4	6			
c)	Rs.5001 and above	12	15	15			
7	**Educational status**						
a)	Primary school education (1st -4th)	2	3	8			
b)	Higher primary school Education (5th-7th)	3	4	7			
c)	High school education (8th-10th)	9	11	9			
d)	PUC and above	1	2	1			
8	**Number of children in the family**						
a)	One	6	9	14	5.825(NS)	0.443	
b)	Two	2	3	7			
c)	Three	6	7	4			
d)	Four and Above	1	1	0			

9	**Number of under five children in the family**						
a)	One	9	14	19	2.48(NS)	0.6482	4
b)	Two	6	5	5			
c)	Three	0	1	1			
10	**Immunization status of the child**						
a)	Completely	15	18	19	6.309 (S)	0.0427	2
b)	Partially	0	0	6			
11	**Source of health education**						
a)	News paper	0	1	1	4.43 (NS)	0.6187	6
b)	Television	0	2	1			
c)	Health personal	15	17	23			

The findings in the table:4 reveal that there was a significant association found between knowledge of mothers of under five children and diet(14.504), with occupation(22.704), type of family(18.108),and with immunization status of the child(6.309). There was no any significant association found between the knowledge of the mothers and age (6.544), Religion (5.250), Monthly family income (2.743), Educational status (4.743), Number of children in the family (5.825), Number of under five children (2.480) and Source of health education (4.430).

Above table shows that due to health education, there was an increase in knowledge score of mothers of under five children regarding control and prevention of protein energy malnutrition

4. Discussion

In the present study Mean, Standard deviation of total knowledge score of mothers was 9.183 + 3.347 , which was increased in post-test to 21.733 + 5.080 with a mean difference of 12.533. Paired t value is 15.761 showing that health education was effective.

The above findings was supported by a similar study conducted by Sanjana Gupta, Dinesh Kumar[45] in Jammu Kashmir where revealed that nutrition education in mothers had a positive effect on the nutritional status of their children.

A study was conducted among mothers of under-five children admitted to the paediatric wards of Rajah Muthiah Medical College and Hospital at Chidambaram to assess the knowledge regarding protein energy malnutrition. The data were collected from thirty mothers of under-five using descriptive design. The result showed that 26.67% of mothers had inadequate knowledge, 53.33% of mothers had moderately adequate knowledge, and 20% of mothers had adequate knowledge regarding protein energy malnutrition.[7]

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5. Conclusion

Based on the findings the result of the study shows that the total pre test mean knowledge score of the mothers was 9.183, which indicates that the mothers had inadequate knowledge regarding control and prevention of protein energy malnutrition. In the post test the mean knowledge score of the mothers was 21.766 in which there is a significant difference of 12.583 which is a net benefit to the mothers due to the effectiveness of health education program. There was a significant association between knowledge of mothers of under five children regard to diet (14.504), with occupation (22.704), type of family (18.108), and with immunization status of the child (6.309).Thus it was inferred that the health education programme was effective to improve mother's knowledge regarding control and prevention of protein energy malnutrition.

6. Future Scope

a) **Implication**

Communicating the findings of research to others is a usual link in the research process. The accumulation of new scientific knowledge is essential to guide nursing practice, nursing education, and nursing administration. The findings of the study have the following implications in the area of nursing practice, nursing education, nursing research and nursing administration.

b) **Implication for nursing Practice**

- Nurses can adopt the health education program to educate the mothers about Protein-Energy Malnutrition.
- They can impart the knowledge to the care givers regarding do's and don'ts of feeding practices which leads to the occurrence of Protein-Energy Malnutrition and can educate the mothers regarding control and prevention of Protein-Energy Malnutrition.

c) **Implication for Nursing Education**

- The findings of the study indicated that more emphasis should be placed in the nursing curriculum about control and prevention of Protein-Energy Malnutrition.
- Health education program can be used to reinforce learning needs of the mothers on Protein-Energy Malnutrition.
- Students can be motivated to teach the mothers about the control and prevention of Protein-Energy Malnutrition in the wards and community settings.
- Varied type of audio-visual aids regarding Protein-Energy Malnutrition should be prepared for teaching purpose.
- In-service and continuing education programs may be conducted for the staff to enhance the knowledge on Protein-Energy Malnutrition.

d) **Implication for nursing administration**

- Nurse as an administrator can plan and organize educational program.
- Administrators of rural health services should supervise and guide the health workers to work effectively and efficiently for the control and prevention of Protein-Energy Malnutrition.
- Nurse administrator can organize in-service education program for the nurses to abreast their knowledge on Protein-Energy Malnutrition.

e) **Implication on nursing research**

- Research studies may be conducted continuously on prevalence of Protein-Energy Malnutrition which adds to the nursing body of knowledge.
- Based on the study results the mothers' can be educated based on their learning needs.

f) Dissemination of research knowledge helps to improve the general health status of the children thereby reduces mortality and morbidity among them in turn enhances the generatively of Nation.

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