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A Study to Assess the Effectiveness of Health Education Programme on Knowledge Regarding Prevention and Control of Malnutrition among Mothers of Under-Five Year's Children Residing in a Selected Rural Area at Udaipur (Rajasthan)

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ABSTRACT

Malnutrition is a health problem resulting from food containing insufficient or excessive calories, carbohydrates, vitamins, proteins, or minerals. The present study aims to assess the effectiveness of health education programs on knowledge regarding the prevention and control of malnutrition among mothers of under-five children residing in a selected rural area at Udaipur (Rajasthan). The study was evaluative. The study used a convenient sampling technique. A total of 65 mothers were selected from rural areas. The data collection was done by interview using a structured questionnaire. The data collected was analyzed using Descriptive and Inferential Statistics. The results revealed that the knowledge scores of the mothers of under-five years children regarding malnutrition were in the pre-test majority of the mothers 47 (72.31%) had average knowledge whereas, in the post-test 51(78.46%) of mothers had good knowledge and 14(21.54%) had average knowledge. Health education program administration enhanced subjects' knowledge of prevention and control of malnutrition. There is no significant association with demographic variables. The gain in knowledge score was statistically significant at $p>0.05$ and calculated paired t-value = 44.54. The need for improving mothers' knowledge was widely recognized. In rural areas, there is a need to educate mothers about malnutrition among under-five-year-old children.

KEYWORDS Effectiveness; Health Education Programme; Knowledge; Malnutrition; Under-five year's children

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INTRODUCTION

Children are often considered the world's most valuable resources and assets. However, their rights throughout the world are largely ignored often resulting in tragic outcomes. This is because of children's vulnerability from infancy through childhood, as they depend on adults for safety and ongoing nurturing. This puts them at risk in many different ways[1]. A healthy and productive workforce in the future requires a population of well-nourished children. A child's nutritional status today is indicative of a healthy and productive generation to come. For optimal growth, nutrition is essential and should not be insufficient or excessive. Children's ability to learn is enhanced by better nutrition and health. In the long run, it needs to increase labor strength and contribute positively to economic growth. Thus good nutritious food is essential for healthy living and thriving individuals, families, and nations[2]. The study of food and its connection to health is one definition of nutrition. It focuses primarily on the function that nutrients play in the growth, development, and maintenance of the body[3].

Malnutrition continues to be a significant problem worldwide, especially among children. Conditions, including epidemics of malnutrition and starvation, are influenced by war, poverty, natural disasters, political issues, and other factors outside of developing nations. Symptoms vary and depend on what causes malnutrition. However, some general symptoms include fatigue, dizziness, and weight loss. Signs and tests depend on the specific disorder. Most work-ups include nutritional assessments and blood work. Typically, treatment consists of treating any underlying medical condition, treating symptoms as needed and replacing nutrients that are missing[4].

NEED FOR STUDY

Malnutrition is a health problem occurring due to a relative or absolute deficiency or excess of nutrients in the human body and causing pathological changes. It is also due to the absence, deficiency, or excess of one or more essential nutrients[5]. Nutrition is the cornerstone for survival, health, and development for current and succeeding Children who lack infection resistance are more likely to die from common childhood illnesses like respiratory infections and diarrhea. A vicious cycle of recurrent illness and stunted growth is locked in for those who survive, as frequent illness reduces their nutritional status. Because children who die from malnutrition were only mildly or moderately malnourished and displayed no outward signs of vulnerability, their plight is largely ignored[6].

Around the world, the World Health Organization cites malnutrition as the gravest threat to public health. There were 925 million malnourished people in the world in 2010, an increase of 80 million since 1990. Malnutrition is directly or indirectly responsible for the deaths of 600 children every hour, 16,000 every day, and 6 million every year—60% of all child deaths[7]. In India, 55 million children are under five years old, out of which 35% are malnourished and 40% are underweight babies. One of the major causes of low birth weight babies is high anemia incidence among women. Recent research review shows that damage is done by two. The critical age group is 0-2 and it is this group that needs maximum attention[8]. In Rajasthan the severity of the hunger situation is considered alarming. In this state 37.6% of children are underweight, 28.1% of the population is undernourished and 5.5% of children who die under the age of 5 die from hunger[9].

Looking at the above facts and figures and personal experience in the community the researcher significantly feels the study should be conducted to assess the mother's knowledge regarding child nutrition. In addition, the investigator wants to increase their knowledge of the health education program.

PROBLEM STATEMENT

"A study to assess the effectiveness of health education programme on knowledge regarding prevention and control of malnutrition among mothers of under-five year's children residing in a selected rural area at Udaipur (Rajasthan)"

OBJECTIVES

- To assess the knowledge of prevention and control of malnutrition among mothers of under five children.
- To assess the effectiveness of health education programme on knowledge regarding prevention and control of malnutrition among mothers of under-five year's children.
- To find out the association between pre-test knowledge scores of mothers with selected demographic variables.

HYPOTHESIS

H_1 – The mean post-test knowledge scores will be higher than the mean pre-test knowledge scores at the 0.05 level of significance.

H_2 - There will be a significant association between knowledge and selected demographic variables regarding prevention and control of malnutrition among mother of under-five year's children at the 0.05 level of significance.

MATERIALS AND METHODS

Research Approach: An evaluative research approach was used in the study.

Research Design: Pre-experimental, one-group pre-test post-test research design was used.

Sample: In the present study, 65 mothers of children under the age of five were included in the sample.

Sampling Technique: In the present study, samples were selected through a convenient sampling technique.

Setting: This study was conducted in selected rural areas of Udaipur: Bhoiyo Ki Pancholi, Manwakhera, Girwa.

Population: The present study targeted mothers of under-five-year-old children in the selected rural area of Udaipur.

Description of tool: A structured knowledge questionnaire is used to assess the level of knowledge. It consists of two parts:

Section-A: It consists of 6 demographic variables, including age, educational status, type of family, monthly family income, diet, and history of malnutrition.

Section-B: It consists of 40 structured knowledge questionnaires, which were considered appropriate for assessing knowledge scores. The selected aspects are definition, causes, clinical manifestations, complications, prevention, and control of malnutrition. The maximum total score of the knowledge questionnaire was 40 (for each correct response 1 mark will be given and 0 mark for an incorrect answer).

Ethical consideration

- Approval from the ethical committee of Venkteshwar College of Nursing Udaipur.
- Before data collection, written permission was obtained from Sarpanch Manwakherda, Girwa in Udaipur.
- Anonymity and confidentiality of subjects were maintained.
- Informed consent was obtained from the subjects.

Plan for data analysis

The data analysis will be done according to the study objectives using descriptive and inferential statistics. The plan for data analysis would be as follows:

- Frequency, percentage, mean, and standard deviation will be calculated.
- A paired t-test will be used to test the hypothesis.
- The chi-square test will be used for association with demographic variables.

RESULTS AND DISCUSSION

The data obtained are divided into sections for easy and accurate interpretation of data. The data finding has organized under the following section:

Section-A: Description of demographic variables.

Section-B: Description of pre-test & post-test knowledge scores of mothers of under-five children:

Section-C: Evaluating the effectiveness of health education programme regarding prevention and control of malnutrition among mothers of under-five children.

Section-D: Association between pre-test knowledge score level and selected demographic variables.

Section-A: Description of demographic variables:

The demographic data consists of 6 items seeking information about age, educational status, type of family, monthly family income, diet, and history of malnutrition. **N = 65**

Table 1 Frequency and percentage distribution of the demographic variables

S. N.	Demographic variable	Frequency (n)	Percentage (%)
1	**Age**		
a)	21-25 years	35	53.85
b)	26-30 years	30	46.15
	Total	**65**	**100.00**
2	**Educational Status**		
a)	Illiterate	19	29.23
b)	Primary education	23	35.38
c)	Secondary and above	23	35.38
	Total	**65**	**100.00**
3	**Type of family**		
a)	Nuclear family	23	35.38
b)	Joint family	22	33.85
c)	Extended family	20	30.77
	Total	**65**	**100.00**
4	**Monthly family income**		
a)	<1000 /- Rs.	16	24.62
b)	1001-2000 /- Rs.	17	26.15
c)	2001-3000/- Rs.	22	33.85
d)	3001-6500/- Rs.	10	15.38
	Total	**65**	**100.00**

5	**Diet**		
a)	Vegetarian	37	56.92
b)	Non-Vegetarian	0	0.00
c)	Mixed	28	43.08
	Total	**65**	**100.00**
6	**History of Malnutrition**		
a)	Yes	14	21.54
b)	No	51	78.46
	Total	**65**	**100.00**

- ***Age:*** Table-1 revealed that regarding the age group majority of respondents i.e. 35 (53.58%) belong to the 21-25 years, and 30 (46.15%) belong to the 26-30 years of age group.
- ***Educational status:*** Table-1 depicts that the majority of the sample, 23 (35.38%), had primary education and secondary education and above, and 19 (29.24%) were illiterate.
- Types of Family: Table 1 revealed that regarding the types of family majority of respondents i.e. 23 (35.38%) belong to the nuclear family, 22 (33.85%) belong to the joint family, and 20 (30.77%) belong to the extended family.
- ***Monthly Family Income:*** Table-1 depicts that regarding the monthly family income majority of the respondents i.e. 22 (33.84%) belong to income 2001-3000/- R. per month, 17 (26.16%) belong to 1001-2000/- Rs. per month, 16 (24.62%) were below 1000/- Rs. per month and 10 (15.38%) belonged to the range of 3001-6000/- Rs. per month.
- ***Diet:*** Table-1 revealed that the majority of respondents i.e. 37 (56.93%) were vegetarian, 28 (43.07%) belong to a mixed diet and none (0%) were non-vegetarian.
- ***History of Malnutrition:*** Table-1 shows that the majority of samples i.e. 51 (78.47%) had no history of malnutrition, and only 14 (21.53%) had a history of malnutrition.

Section-B: Description of pre-test & post-test knowledge scores of mothers of under-five children:

Figure-1 shows that in the pre-test majority of the mothers i.e. 47 (72.31%) had average knowledge, 18 (27.69%) had poor knowledge and none of them had good knowledge. While, in the post-test 51 (78.46%) of mothers had good knowledge, 14 (21.54%) had average knowledge and none had poor knowledge. **N = 65**

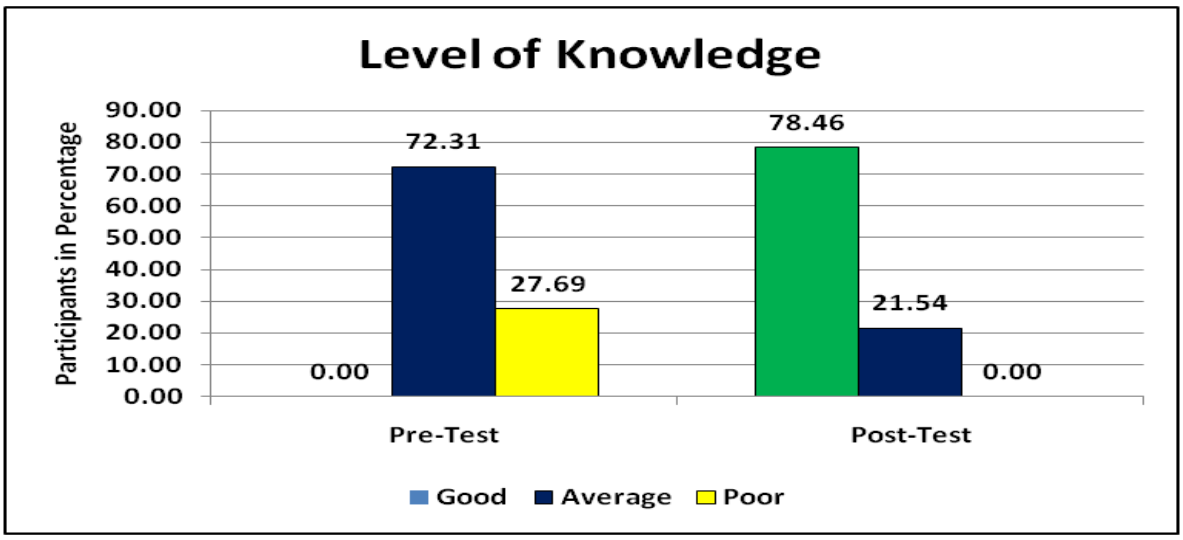

Figure 1 Description of pre-test & post-test knowledge scores of mothers of under-five children

Section-C: Evaluation of the effectiveness of health education regarding prevention and control of malnutrition among mothers of under-five children: N = 65

Table 2 Evaluation of the effectiveness of health education regarding prevention and control of malnutrition among mothers of under-five children

Test	Mean	SD	Mean Difference	df	Calculated t- value	Inference
Pre-test	11.49	2.51	22.47	64	44.54	1.664* (0.05 Level)
Post-test	33.96	2.68				Significant*

H_1 – The mean post-test knowledge scores will be higher than the mean pre-test knowledge scores at the 0.05 level of significance.

Table-2 revealed that the pre-test mean and SD was 11.49±2.51 or the post-test mean and SD were 33.96±2.68. The overall calculated t-value was 44.54 at p>0.05 in the knowledge area, significantly higher than the table value of 1.664 at a 0.05 level of significance. Hence, **H_1** was accepted.

Section-D: Association between pre-test knowledge level and selected demographic variables: N = 65

Table 3 Association between pre-test knowledge level and selected demographic variables

S. N.	Demographic variable	Pre-test Knowledge Level			df	Calculated Chi-square ($\chi 2$)	p-value (0.05 level)	Inference
		Average	Poor	Total				
1	**Age**							
a)	21-25 years	25	10	35	1	0.36	3.841	NS
b)	26-30 years	22	8	30				
Total		**47**	**18**	**65**				
2	**Educational Status**							
a)	Illiterate	13	6	19	2	1.9	5.991	NS
b)	Primary education	15	8	23				

c)	Secondary and above	19	4	23				
Total		**47**	**18**	**65**				
3	**Type of family**							
a)	Nuclear family	16	7	23	2	0.22	5.991	NS
b)	Joint family	16	6	22				
c)	Extended family	15	5	20				
Total		**47**	**18**	**65**				
4	**Monthly family income**							
a)	<1000 /- Rs.	11	5	16	3	1.11	7.815	NS
b)	1001-2000 /- Rs.	11	6	17				
c)	2001-3000/- Rs.	17	5	22				
d)	3001-6500/- Rs.	8	2	10				
Total		**47**	**18**	**65**				
5	**Diet**							
a)	Vegetarian	24	13	37	2	2.19	5.991	NS
b)	Non-Vegetarian	0	0	0				
c)	Mixed	23	5	28				
Total		**47**	**18**	**65**				
6	**History of Malnutrition**							
a)	Yes	8	6	14	1	2.09	3.841	NS
b)	No	39	12	51				
Total		**47**	**18**	**65**				

S = Significant / **NS** = Non Significant

H_2 - There will be a significant association between knowledge and selected demographic variables regarding the prevention and control of malnutrition among mothers of under-five year's children at the 0.05 level of significance.

Table-3 shows that there is no association between pre-test knowledge of mothers of under-five children and Age ($\chi 2=0.36$), Type of family ($\chi 2=0.22$), History of Malnutrition ($\chi 2=2.04$), Diet ($\chi 2=2.19$), Family income ($\chi 2=1.11$), and Education of mother ($\chi 2=1.9$). Here all calculated values were lesser than the tabulated value. Hence, the research hypothesis **H_2** was rejected.

CONCLUSION

The present study aims to assess the effectiveness of health education programs on knowledge regarding the prevention and control of malnutrition among mothers of under-five children residing in a selected rural area at Udaipur (Rajasthan). The study was evaluative. The study used a convenient sampling technique. A total of 65 mothers were selected from rural areas. The data collection was done by interview using a structured questionnaire. The data collected was analyzed using Descriptive and Inferential Statistics. The results revealed

that the knowledge scores of the mothers of under-five years children regarding malnutrition were in the pre-test majority of the mothers 47 (72.31%) had average knowledge whereas, in the post-test 51(78.46%) of mothers had good knowledge and 14 (21.54%) had average knowledge. Health education program administration enhanced subjects' knowledge of prevention and control of malnutrition. There is no significant association with demographic variables. The gain in knowledge score was statistically significant at $p>0.05$ and calculated paired t-value = 44.54. The need for improving mothers' knowledge was widely recognized. In rural areas, there is a need to educate mothers about malnutrition among under-five-year-old children.

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