

# A Study to Assess the Effectiveness of Planned Teaching Program on Knowledge Regarding Selected Nutritional Deficiencies among Mother's of Under-five Children in Selected Pediatric units of Sangli, Miraj, Kupwad Corporation Area

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## Abstract

**Aim:** The aim of the study is to assess the effectiveness of planned teaching program on knowledge regarding selected nutritional deficiencies among mothers of under-five children in selected pediatric units of Sangli, Miraj, Kupwad Corporation Area.

**Introduction:** The perception of children has evolved from “Miniature grownups” to “Unique People” with unique needs and characteristics. Priority is given to children under the age of five since they have a higher mortality and morbidity rate due to vitamin deficiency-related diseases. The World Health Day the essential truth that everyone must protect the healthy brains and bodies of the family, as well as the parents’ external happiness, the society’s excitement, and the nation’s hope.

**Methods:** The quasi-experimental quantitative research strategy used group pre- and post-tests. Simple random analysis sampling selected 75 samples for the investigation. Pre- and post-tests were given to mothers of under-5 children to assess their knowledge of selected nutritional deficiencies.

**Results:** At the time of pre-test, 52% of mothers had poor knowledge regarding selected nutritional deficiencies of under-five children, 32% had average knowledge, and 16% had good knowledge. At the time of post-test, 26.67% of mothers had poor knowledge regarding selected nutritional deficiencies of under-five children, 20% had good knowledge, where maximum 53.33% had average knowledge score. The pre-test average score was 8.25 the post-test average score was 10.60.

**Conclusion:** Statistically mean score findings reveal that planned education program about selected nutritional deficiencies increased knowledge among mothers of under-5 children. After planned teaching, mothers of under-5 children still need to learn about dietary deficiencies.

**Keywords:** Mothers, nutritional deficiencies, under five children’s

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## INTRODUCTION

Children under the age of five now receive different health-care in poor nations. The perception of children has changed from being seen as “Miniature adults” to being seen as “Unique Individuals” with special needs and qualities. Children under the age of five are given priority because they have a higher mortality and morbidity rate due to disorders caused by vitamin deficiency. The World Health Day in 1984 correctly highlighted

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the fundamental reality that everyone must protect the family's healthy brains and bodies, as well as the parents' exterior joy, the society's excitement, and the nation's hope. The nation's core concern is for the family's well-being.<sup>[1]</sup>

The children suffer from a variety of nutritional issues. For instance, calcium insufficiency, iron deficiency, iodine deficiency, night blindness, bitot's spot, scurvy, beri-beri, exophthalmia, rickets, goiter, and Vitamin E deficiency, are a few of the dietary deficiencies that are more frequently encountered in youngsters. In India, anemia and calcium deficiency are prevalent.

A lack of Vitamin A while it is frequent in underdeveloped nations, it is uncommon in wealthy ones. Night blindness in people first manifests as Vitamin A deficiency. In addition, because Vitamin A plays a crucial function in photo transduction and can result in total blindness.<sup>[2]</sup>

From 250,000 to 500,000, malnourished children acquire night blindness as a result of Vitamin A deficiency, which is one of the primary causes of preventable juvenile blindness. It is prevalent among expectant women in underdeveloped nations and is thought to kill 670,000 children. Worldwide, 65% of all children between the ages of 6 months and 59 months who are under 5 years old received two doses of Vitamin A in 2013, entirely protecting them from Vitamin A deficiency.<sup>[3]</sup>

In most diets, Vitamin D is only seldom and in relatively large levels present as a natural food ingredient. According to findings from prospective and observational studies, Vitamin D supplements given to infants and young children may help reduce the prevalence of Type 1 diabetes. In our study, clinical rickets were more common in people from Ethiopia (10.5%) and India (15.4%).<sup>[4]</sup>

The health of your heart, muscles, and digestive system depends on calcium and aids in the formation of bone and the creation and operation of blood cells. The mineral calcium is the most prevalent in the human body and serves a number of crucial purposes. The top macromineral in bones is this one. It is the main structural element of the skeleton and aids in the development of robust bones. Children should consume dairy products and maintain a well-balanced diet to meet their calcium needs, according to dietitians, and dentists. Children who have a severe calcium shortage may develop disorders like rickets.<sup>[5]</sup>

Deficiency in iron one of the most common nutritional issues in the world is anemia. According to numerous researches on the incidence of anemia in children under the age of 5, iron deficiency anemia is a related nutritional deficiency that has been recognized on a national level. About 30% of babies and kids between the ages of 6 months and 5 years were found to have anemia, with the youngest kids, aged 6–11 months, having the greatest prevalence rate, 57%, which is likely due to poor maternal nutrition status. Inadequate iron intake during infancy can cause long-term cognitive impairment. The key causes of the problem have been recognized as being

insufficient food supplies, poor monitoring, and gaps in health education initiatives.<sup>[6]</sup>

## Objectives of study

The objectives of the study are as follows:

1. To assess the exiting knowledge regarding selected nutritional deficiencies among mothers of under-five children
2. To assess the effectiveness of planned teaching program related to selected nutritional deficiencies among mothers.

## Hypothesis

1.  $H_0$  – There is no significant effect of planned teaching program on knowledge related to selected nutritional deficiencies among mothers of 0–5 years' age group of children
2.  $H_1$  – There is significant effect of planned teaching program on knowledge related to selected nutritional deficiencies among mothers of 0–5 years' age group of children.

## Research approach

In this study, it is quantitative research approach.

## Research design

In this study, it is pre-experimental one group pre-test and post-test design.

## Setting of the study

The study was conducted in selected hospitals of pediatric units of Sangli, Miraj, Kupwad Corporation Area.

## Population

The population of present study comprises of selected mothers of under-five children.

## Sample

This was selected mothers of under-five children from selected hospitals.

## Sample size

The sample size was 75 with using power analysis. Power 95% is used to calculate the sample.

## Sampling technique

In the present study, the simple random sampling technique was used to select the samples.

## Procedure for data analysis

The data analysis is planned to include the frequencies of the demographic data Karl Pearson's formula to be calculated.

## Plan for data analysis

The analysis made on the base on the objectives. The data analysis is planned to include descriptive and inferential statistics by calculating mean, SD, and "t" value.

## Organization of the data

Presentation of the data was organized in two parts.

- Section 1 – Frequency and percentage distribution of demographic variables [Table 1]

**Table 1: Demographic data**

S. No.	Variables	Groups	Frequency	Percentage
1	Age of mother	20–23	23	30.67
		24–27	37	49.33
		28–31	14	18.67
		32–35	1	1.33
2	Occupation	Housewife	48	64.00
		Service	21	28.00
		Business	6	8.00
		Any other	0	0.00
3	Education	Undergraduate	45	60.00
		Graduate	28	37.33
		Post graduate	2	2.67
4	Previous information	Yes	12	16.00
		No	63	84.00

- Section 2 – Comparison between pre-test and post-test knowledge score [Table 2].

## RESULTS

### Section I

It deals with analysis of demographic data the mothers of under-five children in selected pediatric units of Sangli, Miraj, Kupwad Corporation Area in terms of frequency and percentage.

In this study, according to age of mothers of under five children, in the study, 30.67% were from the group 20–23 years of age, maximum 49.33% in the 24–27 age group, 18.67% in the 28–31 years of age, and 1.33% in the 32–35 years of age group. According to occupation of mothers of under five children, in the study, maximum 64% were housewives, 28% were doing service, and only 8% were doing business. According to education of mothers of under five children, in the study, maximum 60% were educated up to under graduation, 37.33 were graduates and 2.67% were completed postgraduation. According to previous information regarding selected nutritional deficiencies of under-five children, in the study, 16% had information previously and 84% had no previous information.

### Section II

#### *Assessment of pre-test knowledge in terms of frequency and percentage*

It deals with analysis of data related to assessment of the pre-test and post-test knowledge regarding selected nutritional deficiencies among mothers of under-five children.

Table 3 shows that in knowledge scores, maximum 52% of mothers had poor knowledge regarding selected nutritional deficiencies of under-five children, 32% had average knowledge, and 16% had good knowledge.

Table 4 shows that in knowledge scores, at the time of post-test, 26.67% of mothers had poor knowledge regarding selected nutritional deficiencies of under-five children, 20% had good knowledge, where maximum 53.33% had average knowledge score.

**Table 2: Comparison of the average pre- and post-test knowledge**

Knowledge	Size	Mean	SD	t	P
Pre-test	75	8.25	4.22	11.92	0.000
Post-test	75	10.60	4.15		

**Table 3: Level of mother's knowledge as per in pre-test**

Variable	Groups	Score	Frequency	Percentage
PRE knowledge	Poor	0–7	39	52.00
	Average	8–14	24	32.00
	Good	15 and above	12	16.00

**Table 4: Level of mother's knowledge as per in post-test**

Variable	Groups	Score	Frequency	Percentage
Post knowledge	Poor	0–7	20	26.67
	Average	8–14	40	53.33
	Good	15 and above	15	20.00

Table 5 shows that the maximum poor knowledge was 52% in pre-test knowledge where maximum 53% average knowledge was seen post-test and maximum 20% mothers were having good knowledge.

### Section III

It deals with analysis of data related to effectiveness of planned teaching program on knowledge regarding selected nutritional deficiencies among mothers of under-five children.

Table 2 the comparison of the average knowledge score of pre- and post-test was done by the paired *t*-test. The pre-test average score was 8.25 with standard deviation of 4.22. The post-test average score was 10.60 with standard deviation of 4.15. The test statistics value of the paired *t*-test was 11.92 with  $P = 0.000$ . Hence, as  $P < 0.05$  is significant difference in the average knowledge score, at 5% level of significance.

## DISCUSSION

In 1992, a survey was carried out in three primary schools in a rural area in South-west Maharashtra State, India, to determine the prevalence of nutritional deficiency illnesses among kids aged 5–15. Anemia (32.47%), Vitamin A insufficiency (9.8%), Vitamin B-complex deficiency (2.57%), protein-energy malnutrition (2.38%), and Vitamin D deficiency (0.19%) were the most prevalent conditions among the 1050 children tested. At the time of the initial visit to the schools, 69.52% of the kids had a perception of morbidity. About 10.66% had acute respiratory infections, 30.47% had worm infestations, and 68% were judged to have inadequate personal hygiene. At subsequent follow-up visits, corrective services (immediate treatment and dietary counseling) were provided to these kids and their families, and school sanitation was improved.<sup>[7]</sup>

To determine the prevalence of protein energy deficiency in young children, conducted a study. ( $n = 52$ ), in three randomly chosen, Sri Lankan foster care institutions. PEM prevalence was found to be significantly greater than the national

**Table 5: Comparison between level of pre- and post-test knowledge**

Variable	Groups	Score	Pre-test		Post-test	
			Frequency	Percentage	Frequency	Percentage
Knowledge	Poor	0–7	39	52.00	20	26.67
	Average	8–14	24	32.00	40	53.33
	Good	15 and above	12	16.00	15	20.00

prevalence (13.5%, 29.4%, and 14.0%, respectively) as well as the prevalence of underweight (63.5%) and wasting (25.0%). Based on this preliminary data, it is advised that a study be carried out that includes all institutionalized children in both public and private facilities to find problems and suggest solutions for institutional care in Sri Lanka.<sup>[8]</sup>

In West Bengal, India, a population-based and cross-sectional study was conducted to determine the prevalence of anemia among pre-schoolers. Finger-prick blood samples were taken to assess the hemoglobin level, and information about the sociodemographic characteristics of the family was gathered. There were 437 pre-schoolers in all that were together. The majority (81%) of West Bengal's rural kids were anemic, and the frequency was noticeably ( $P = 0.001$ ) greater in the 1–3 age group (91%) than in the 4–5 age group (74.6%). Children aged 1+ (OR = 7.7; 95% CI: 2.6–22.4), 2+ (OR = 3.0; 95% CI: 1.5–6.0), and those from scheduled caste and scheduled tribe communities with lower socioeconomic status were at higher risk for anemia (OR = 2.3; 95% CI: 1.3–3.9), respectively. Results of the research anemia prevalence are a serious dietary issue with significant public health implications. Hence, programs for health and nutrition education as well as iron supplementation should be increased. It is important to motivate the community to eat a variety of iron-fortified and iron-rich foods.<sup>[9]</sup>

A descriptive research was carried out to evaluate mothers' understanding of malnutrition in young infants. For the purpose of choosing 60 moms from the rural area, a purposeful sample strategy was adopted. A questionnaire was used in conjunction with the interview method for gathering the data. Using both descriptive and inferential statistics, the acquired data were examined. According to the study's findings, 37% of mothers of children under the age of five had average awareness on the topic of malnutrition, 33% had knowledge that was below average, and 30% had knowledge that was above average. Their results showed that the majority of the moms are from average or below average socioeconomic backgrounds, and they came to the conclusion that there was a strong correlation between knowledge score and family income ( $P = 0.034$ ) and education ( $P = 0.000$ ). Knowledge score did not significantly correlate with mothers' age, number of children, occupation, or eating habits.<sup>[10]</sup>

In the Weeraketiya divisional secretariat division of the Hambanthota district of Sri Lanka, a population-based and cross-sectional study was conducted to assess the nutritional status of preschool children and to identify maternal knowledge of micronutrients and child feeding practices for 1102 families

with 1219 children under the age of 18. During a visit to the family, a pre-tested interviewer-administered questionnaire was utilized to gather data regarding the mother's or caregiver's nutritional knowledge. Children's heights and weights were measured using equipment that was correctly calibrated. The questionnaire was given out and measurements were taken by trained volunteers. Using standards set by the World Health Organization, the prevalence of children Weeraketiya has a very high prevalence of stunting, a very low prevalence of wasting, and both at the same time. The prevalence of undernutrition was not related to the educational status of the mother. Breastfeeding and complementary feeding techniques were adequate, but mothers' understanding of micronutrients, how to feed sick children, and how to treat diarrhea was lacking. Low birth weight and the prevalence of wasting and underweight in this community's children were related.<sup>[11]</sup>

## CONCLUSION

Statistically mean score finding shows that planned teaching program about selected nutritional deficiencies was effective in increasing the knowledge regarding elected nutritional deficiencies among mothers of under-five children. It shows that yet mothers of under-five children need to improve gain knowledge regarding nutritional deficiencies after planned teaching programmed.

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## CONFLICTS OF INTEREST

None.

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