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Effectiveness of Community Based Nutritional Education of Mothers on Nutritional Status of their Children below 6 Years of Age in Selected Rural Area

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Abstract **Original Research Article**

***Background*:** Children are the future of any nation and the progress of any nation depends upon the education that they acquire today, the same kind of education they will apply on themselves or their nation future. It is necessary for any nation to take special care of below 6-year children by providing basic components like well-balanced food, excellence education, hospital and shelter. Community based nutritional education process can increase the growth and development, and performance of their children. The nutritional education of mothers is vital for child grooming and they are their first educator. ***Methods*:** A Pre-experimental research design as used for current study. Assessment of nutritional status of children below 6 years of age and their mothers, was assessed by using anthropometric measurement scale, 50 samples were selected by using convenient sampling technique who are below 6 year children and their mothers residing at Sigikeri LT and Sigikeri rural areas of Bagalkot taluk, district, Karnataka. Data were analysed using descriptive and inferential statistics. ***Results*:** The result of pretest score depicts that the majority of Children, were 26(52%) found with normal level up Malnutrition, 24(48%) were with mild level of Malnutrition, and no one had Moderate, Severe and Very severe levels of Malnutrition. Whereas the post test score depicts that majority 47(94%) of children were normal score of level of malnutrition (>80%), followed by 3(6%) of children were mild level of malnutrition score (71-80%). Hence study the depicts that there is an significance difference in between pre test scores and post test scores of Height, Weight and Midarm circumference, and it shows community based nutritional education was found to be effective. There was a no significant association found between nutritional status of children. With sociodemographic variables. ***Conclusion*:** The overall study findings depicted that the effectiveness of community based on nutritional education impacts on socio demographic variables of below 6 year children and their mothers. The findings reveal that effective nutritional education impact on Nutritional status of below 6 year children.

Keywords: Effectiveness, Community based nutritional education, Mothers, Children, Nutritional status, Rural areas and Socio demographic variables.

INTRODUCTION

Children are the future of any nation and the progress of any nation depends upon the education that they acquire today, the same kind of education they will apply on themselves or their nation future. It is necessary for any nation to take special care of below 6-year children by providing basic components like well-balanced food, excellence education, hospital and shelter.

Community based nutritional education process can increase the growth and development, and performance of their children. The nutritional education of mothers is vital for child grooming and they are their first educator.

The assessment of growth and development is very helpful in finding out the state of health and nutrition of a child. Continuous normal growth and development indicate a good state of health and nutrition of a child. Abnormal growth or growth failure is a symptom of disease Hence, measurement of growth is an essential component of the physical examination. Our body needs different kinds of nutrients to accomplish several functions. We need these maltiple nutrients to

keep our bodies fit and healthy. In the absence of these nutrients, a person can suffer from various disorders.

Malnutrition can occur for various reasons like, Low intake of food, Mental health conditions, Social and mobility problems, Digestive disorders and stomach conditions.

Common Nutritional Problems in India are Vitamin D deficiency disorder Rickets, Vitamin A deficiency disorder Night blindness, Vitamin C deficiency disorder scurvy, Vitamin B12 deficiency disorder Retarded growth, Vitamin B1 deficiency disorder Beri-Beri, Vitamin-K deficiency disorder Excessive bleeding while injury, Protein deficiency disorders: Kwashiorkor, Marasmus, Nutritional dwarfing, Underweight child, Iron deficiency, Iodine deficiency disorder Goiter. And Mineral deficiencies such as Calcium-Rickets and osteo Malesia, Sodium-Hyponatremia and Iron-Anemia [1].

A healthy, balanced diet is vital for maintaining health and fitness. To stay healthy, you need to eat a variety of foods from the four main food groups including: 1. Fruit and vegetables, 2. Starchy foods such as rice, pasta, bread and potatoes, 3. Milk and dairy foods, 4. Meat, fish, eggs and beans and other nondairy sources of protein [2].

Use of protein rich foods like Puises, Cormis, Ext. Mik, Meet, Green leafy vegetables is highly essential strategy to bridge the gap between growth of children and their nutrition. Supplenicutary feeding of infants and young children with good quality protein as ground nuts and Bengal grams nut flour is a cheap food protein. hence one of the best provisions is to treat malnutrition with preparation of some special foods like Hyderabad mix recipe, DevanagEri mix recipe etc [3].

Nurses have a responsibility to address patient nutritional needs by conducting Screening, Performing assessment and Administering interventions**.** In the United States, for example, people residing in areas far from grocery stores have limited food choices. Children in low-income families may go hungry due to limited funds. There are many reasons for malnutrition. In cases like these, public health nurses can make a difference. They can inform people and communities about eating healthy foods and direct them to available nutritional programs and services [4].

MATERIALS AND METHODS

A quantitative pre-experiment research design was used to assess the nutritional status of below 6 year children residing at rural areas of Bagalko**t** district Karnataka.

The data was collected using a structured questionnaire to assess the knowledge regarding Nutritional status of children and Anthropometric measurement scale to assess the Malnutritional level of children and a descriptive and inferential statistics were used to arrange and evaluate the results.

Study design: pre-experimental research design was used to assess the effectiveness of community based nutritional education on nutritional status of their children below 6 years of age.

Setting of the study: The research was carried out among the mothers of below 6 year children residing at Sigikeri LT and Sigikeri rural areas of Bagalkot district, Karnataka.

Participants: In the present study participants were below 6-year children and their mothers. The sample consisted of 50 mothers. The researcher has used Convenient sampling technique for selection of Anganwadi, i.e. of Sigikeri LT and Sigikeri Tq: Bagalkot was selected for present study.

Instruments: The study was conducted using a structured questionnaire and anthropometric measurement scale tool. Information was collected from the mothers assess the nutritional status of their children, and the data was collected from the children to assess the anthropometric measurement of children. interview schedule using structured knowledge questionnaire.

Description of data collection instruments

Part 1: Socio-demographic variables of mothers: Comprised of 9 items to assess the socio-demographic variables of mothers.

Part 2: Social demographical variables of children: Comprised of 9 items to assess the socio demographic variables of children.

Part 3: Anthropometric measurement scale to assess the nutritional status of below 6 year children.

Data collection procedures: The main study was conducted between 23rd April 2024 to 24th july 2024 conducted among mothers of below 6 year children residing at Bagalakot taluk of Sigikeri LT and Sigikeei rural areas of Bagalkot district, Karnataka, India. Data were collected from mothers interview schedule. Before enrolment of subjects and data collection, formal authorization was obtained from the Principal of the nursing institution and the aim of the study was explain to the participants. They were asked questions in kannada and other languages understandable to them.

Variable under study: Study variable- the study variable for the present study were, nutritional education of mothers and nutritional status of their children.

Independent variable: The independent variable for the present study Community based nutritional education**.**

Dependent Variable: Dependent variable for the current study nutritional status of children who are below 6 years.

Sociodemographic Variables Mother: Age, Religion, Educational status of mother, Occupation of mother, Number of children, Type of family, Type of diet, Family monthly income, Earlier information regarding the nutritional education.

Sociodemographic Variables Children: Age, Gender, Baby birth order, Type of food, Child consumes junk food, Child had regular eating habit, Frequency of having food per day, Child suffering with any long term diseases, Child has any allergic reaction to food.

Statistical analysis: The obtained data were statistically examined in terms of the objectives of the study using inductive statistics. A master sheet was prepared with responses given by the study participants. Frequencies and Percentage was used for the analysis of demographic data. The mean and standard deviation was used as inferential statistics. The Chi Square test was used to determine association between insomnia scores and selected Socio-demographic variables of below 6 year children and their mothers.

Ethical Approval: A certificate of ethical permission was obtained from ethical committee of the institution and written consent was taken from each participant.

RESULTS

PART A. Socio-demographic variables of mothers:

The majority 34(68%) of mothers were in agr group of 21- 10 years, followed by 14(28%) of mothers were in age group of 30 years, and 2(4%) of mothers were in 21 years. The majority 40(80%) of Mothers were Hindu, followed by 10(20%) of Mothers were Muslim. The majority 16(32%) of Mothers had completed Primary education, followed by 15(30%) of Mothers had completed secondary education, 9(18%) of Mothers had completed PUC, 2(4%) of Mothers had completed University education and S(16%) of mothers are Illiterate. The majority 29(58%) of Mothers were House wife, followed by 21(42%) of Mothers professional workers. The majority 28, (56%) of mother have 2 children, followed by 13(26%) of mothers have 3 children and 9(18%) of mothers have only 1 child. The majority 38(76%) of Mothers were belongs to nuclear family, followed by 12(24%) of Mothers were belongs Joint family. The majority 33(66%) of mothers were Non vegetarian and 17(34%) of mothers were Vegetarian. The majority 49(99%) of mothers were having monthly income of 20,000/- rupees, followed by 1(2%) of mothers were having monthly income of 10,000/-rupees. The majority 49(98%) of mothers were taken earlier information regarding Nutrition, in that majority 48(96%) of mothers were taken information from Anganawadi worker, followed by 1(2%) of mothers were taken information from Health care personnel. And 1(2%) of mothers were didn't taken earlier information regarding nutrition.

PART B. Socio demographic variables of children:

The majority 18(36%) of children were in age group of 4 year, followed by 17(34%) of children were in age group of 3 year, and 1(2%) of children were in age group of 2 year. The majority 29(58%) of children were Male and 21(42%) of children were Female.

The majority 30(60%) of children are have birth order of 2nd, followed by 12(24%) of children are have birth order of 1st, and 8(16%) of children are have birth order of 3.

The majority 34(68%) of children were Mixed food type and followed by 16(32%) of children were Vegetarian. The majority 47(94%) of children were consumes junk food, in that majority 47(94%) of children were consumes junk food 2-3 times in a week, and 3(6%) of children were didn't consumes junk food. All 50(100%) of all children were having regular eating habbit. The majority 44(88%) of children have more than 3 frequencies of having food per day, followed by 6(12%) of children have more than 3 frequencies of having food per day. All 50(100%) of children were not suffering with any long-term illness. All 50(100%) ofl children were not having any allergic to food.

PART C. Findings related to assessment of nutritional status of children below 6 years of age.

Table 1: Frequency and Distribution of level of Nutrition of below 6 year children in pretest and post test

LEVEL OF MALNUTRITION	SCORE	Pre Test		Post Test	
		Frequency	Percentile	Frequency	Percentile
Normal	>80%	26	52%	47	94%
Mild	71-80%	24	48%	3	6%
Moderate	61-70%	0	0%	0	0%
Sever	51-60%	0	0%	0	0%
Very severe	<60%	0	0%	0	0%

Table 1 Indicates that, in this Present study Frequency and Percentile distribution of pretest scores were shows that majority 26(52%) of children were normal (>80%) level of malnutrition, followed by

24(48%) of children were mild level of malnutrition score (71-80%), whereas in post test score shows that majority 47(94%) of children were normal score of level of malnutrition (>80%), followed by 3(6%) of children were mild level of malnutrition score (71-80%).

PART D. Evaluate the effectiveness of community based nutritional education on nutritional status of children below 6 years of age.

Table 2: Pre-test Post test scores of Height, weight and Mid arm circumference of children below 6 years of age, N=50

Observations	Height		Weight		MAC	
	Pre test	Post test	Pre test	Post test	Pre test	Post test
Mean	94.624	96.46	15.124	16.378	13.166	13.718
Sd	13.239	13.445	12.396	13.301	1.779	1.948
Md	1.836		1.254		0.552	
Paired t test	18.91		2.092		9.843	
P value	<0.00001*		0.0415*		<0.00001*	
*:Significant at p <0.05						

Table 2 Shows that height pretest mean ± SD was 94.62-13.23 where as in posttest 96.46 13.44, mean difference was 1.83, then the calculated paired t test valine was 1891 and p value was <1.00001. hence its clearly Depicts that there is significant difference in between pretest and posttest scores of heights at the level of significance p<0.05. Followed by weight pretest mean SD wan 15.12 12.39 whereas in posttest 16.37 13.30, mean difference was 1.25, then the calculated paired t test value was 2.09 and p value was 0.0415. hence its clearly Depicts that there is significant difference in between pretest and post test scores of weights at the level of significance p<0.05, And Mid arm circumference pretest mean SD was 11.16 1.77 whereas in posttest 13.71 1.94, mean difference was 0.55, then the calculated paired 1 test value was 9.84 and p value was <0.00001, hence its clearly Depicts that there is significant difference in between pretest and post test scores of Mid arm circumference at the level of p<0.05.

PART E: Association between nutritional status of children and with their selected socio demographic variables of children.

Table 3: Describes the association between nutritional status of children and with their selected socio demographic variables of children, N=50

SN	Variable	DF	X2 Value	P value	Interpretation
1	Age	1	0.05	0.823	NS
2	Gender	1	1.21	0.661	NS
3	Birth Order	1	0.26	0.61	NS
4	Type of food	1	0.64	0.423	NS
5	Child consumes Junk food	1	0.01	0.923	NS
6	Child had regular eating habit	1	0.05	0.05	NS
7	Frequency of having food per day	1	0.11	0.74	NS
8	Child suffering with any long term diseases	1	0.05	0.05	NS
9	Child has any allergic reaction to food	1	0.05	0.05	NS

Table 3 Shows that, the present study shown that the sociodemographic variables such as Age, Gender, Birth order, Type of food, Is child consumes junk food, Is child had regular eating habit, Frequency of having food per day, Is child suffering with any long-term diseases, and Is child has any allergic reaction to food are did not show statistically significant association with nutritional status of child.

PART F: association between nutritional status of children and with selected social demographic variables have mothers.

Table 4: Describes the association between nutritional status of children and with selected socio demographic variables of mothers, N=50

SN	Variable	DF	X^2 value	P value	Remark
1	Age	1	0.21	0.646	NS
2	Religion	1	0.05	0.823	NS
3	Education	1	0.84	0.675	NS
4	Occupation of mother	1	1.42	0.233	NS
5	Number of children	1	0.02	0.887	NS
6	Type of family	1	0.25	0.617	NS
7	Type of diet	1	1.21	0.271	NS
8	Family monthly income	1	0.05	1	NS

9	Earlier information	1	0.05	1	NS

Table 4 Shows that, the present study shown that the sociodemographic variables mothers such as Age, Religion, Education, Occupation of mother, Number of children, Type of family, Type of diet, Family monthly income and have got earlier information, are did not show statistically significant association with nutritional status of child.

DISCUSSION

The findings of the present study are discussed in light of previous scientific studies in this chapter and discussion regarding findings of the study is presented in accordance with the objectives of the study and hypothesis. The current study find out the effectiveness of community based educational program of mothers on nutritional status of their children below 6 years of age in selected rural area. The study found that the there is effectiveness of community based educational program of mothers on nutritional status of their children below 6 years of age.

Findings of study shows that the level of nutritional status it shows In this Present study pretest scores were shows that majority 26(52%) of children were normal (>80%) level of malnutrition, followed by 24(48%) of children were mild level of malnutrition score (71-80%) , whereas in post test score shows that majority 47(94%) of children were normal score of level of malnutrition (>80%), followed by 3(6%) of children were mild level of malnutrition score (71-80%).

Current study is compared and supported with study conducted by Ambika K1, Prof. Sheela Williams2, Chandrashekar M3 (2020). Results of the study reveals that overall, 59 (10.6%) male children were malnourished with 42 (3.8%) from moderate degree and 17 (1.5%) from severe degree malnourishment compared to 7 (10.7%) female children with 44 (1.1%) from moderate degree and 13 (1.5%) from severe degree malnourishment.

Finding of the study shows that there was significant difference was found between pre test and post test scores of Height, weight and mid-arm circumference where calculated t test values are 18.91, 2.092, 9.843 respectively.

LIMITATIONS: The study limited to the sample of 50 mothers of below 6 year children residing at Sigikeri LT and Sigikeri rural areas of Bagalkot district, Karnataka.

CONCLUSION

The study is helpful to assess effectiveness of community based nutritional education of mothers on nutrition status of their children below 6 years of age residing at Sigikeri LT and Sigikeri rural areas of Bagalkot thaluk and district, Karnataka. The overall study findings revealed that the Correlation between community based nutritional education teaching program to mothers and nutritional status of their children.

Declaration by authors

Ethical Approval: Institutional ethical clearance approved.

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Conflict of Interest: The authors declare no conflict of interest.

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