A STUDY TO ASSESS THE EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE REGARDING KNOWLEDGE OF PRIMARY SCHOOL TEACHERS IN PREVENTION OF NUTRITIONAL DEFICIENCIES IN SCHOOL CHILDREN AT SELECTED PRIMARY SCHOOLS IN SHIMLA. HIMACHAL PRADESH.

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ABSTRACT

Background: Nutritional intakes for primary school children should provide is an important for growth. It is very important to identify nutrient deficiencies in children and to address them aggressively early in life, because they can impart lasting adverse effect on growth and development. Nutrient deficiencies can limit the growth, impair immune function, and increase mortality and morbidity and increase the global burden of acquired immunodeficiency and major underlying factor for mortality and globally for children.

Aim: A pre- experimental study was conducted. The objectives of the study were to assess the Knowledge of primary school teachers in Prevention of Nutritional Deficiencies in school children, to prepare and administer Self Instructional Module and to evaluate the effectiveness of Self Instructional Module on Prevention of Nutritional Deficiencies in school children among primary school teachers and also to find the association between level of Knowledge of primary school teachers regarding Prevention of Nutritional Deficiencies with selected demographic variables.

Methodology: A pre- experimental design was used. The study was conducted on 45 primary school teachers from 8 different government primary schools of Shimla. The convenient sampling technique was used for schools and total enumeration technique was used for primary school teachers. Knowledge of study sample regarding concept, risk factors, signs and symptoms, prevention, control, complication and treatment of hypertension were assessed through self-administered questionnaire.

Results: The study findings revealed that most of the teachers had average (82.2%) knowledge score, 4.4% had poor knowledge, and (13.3%) had good knowledge. The level of knowledge of the selected sample was significantly associated with their marital status in pre

test. In post- test 4.4% have average knowledge score and 95.6% have good knowledge related to prevention of nutritional deficiencies in primary school children.

Conclusion: On the basis of finding of present study, it has been concluded that there was significant difference was present in pre and post test knowledge of primary school children after giving self instructional module. Main source of information was books. In pre- test there is significant association between pre test knowledge score with marital status. In post test there is no statistically significant association between knowledge score with demographic variables.

Keywords: Nutritional deficiencies, immune function, mortality and morbidity, immunodeficiency.

INTRODUCTION

Nutritional intakes for school going children should provide for the maintenance of current weight and support normal growth and development. Childhood is an important period of growth, during which 60% of total growth occurs, and is finally followed by the puberty phase. It is critical to identify nutrient deficiencies promptly and to address them aggressively early in life, because they can impart lasting adverse effect on growth and development. Daily dietary intake of children not only meets the energy requirement but also provide macro and micronutrients essential for sustaining the functioning of multiple vital processes. Nutrient deficiencies can limit the growth, impair immune function, and increase mortality and morbidity and increase the global burden of acquired immunodeficiency and major underlying factor for mortality and globally for children. Health of an individual is conceptually different in different countries, in the same country at different times and in same individuals at different ages. It is thus a relative and not an absolute state[1].

Nutrition is also called nourishment or aliment, is the provision, to cells and organism, of the materials necessary in the form of food to support life. Many health problems can be prevented or alleviated with a healthy diet. A poor diet can have injurious impact on health, causing deficiency diseases such as Scurvy, kwashiorkor, protein energy malnutrition etc. in children. Malnutrition is the condition that occurs when body does not get enough nutrients. Over nutrition is a form of malnutrition, in which nutrients are oversupplied in relation to the amounts required for normal growth, development, and metabolism. There are major six

classes of nutrients – carbohydrates, fats, minerals, protein, vitamins and water; these nutrients are categorized as macronutrients (needed in relatively in large amount). Micronutrients (needed in smaller amount) these include mineral and vitamins.[2]

The nutrients provide energy intake in the child's diet is fats (9 kcal/g), carbohydrates (4kcal/g), and proteins (4kcal/g). They are referred to as macronutrients. When minimal intake of each of the respective macronutrients are attained to meet physiologic requirements and to achieve adequacy that is sufficient protein intake to meet specific amino acid requirements , fats for essential fatty acids , and neurological development, the reminder of intake can be used to meet the energy requirements. [3]

Proteins and amino acids have structural and functional roles in every cell in the body. They provide 4 kcal energy however dietary proteins are required to replace the turnover of proteins and to meet amino acid need for growth. They also provide energy substrate when in excess or during period of catabolism. [4] Anemia is the most common nutritional deficiency in primary school children especially in girls at puberty.[5]

Inadequate water intake in school children can result in dehydration, impaired thermoregulation, reduce activity tolerance and performance, and reduce intravascular fluid.[6]

Under nutrition is the condition in which there is inadequate consumption, poor absorption or excessive loss of nutrients. Over nutrition is caused by overindulgence or excessive intake of specific nutrients. The term malnutrition refers to both over nutrition and under nutrition. [7]

Inadequate energy intake causes growth failure, catabolism of body tissues and inability to provide energy substrate, whereas excess energy intake leads to risk of obesity. Additional energy is required to support the growth and development in children.[8]

The common causes of nutritional deficiency in primary school children are iron deficiency, vitamin D deficiency, zinc deficiency and calcium deficiency. Prevention of malnutrition includes prevention at national level, community level and family level. Prevention at national level includes fortification of staple food, iodination of common salt and food supplementation. Nutritional planning involves a political commitment by the government, formulation of a nutrition policy and planning to improve production and supplies of food and ensure its distribution. Prevention at community level includes health and nutritional education and awareness of the community about the nutritional quality of food, cultural

taboos and irrational beliefs about certain foods. It also include promotion of education and literacy, growth monitoring and providing integrated health package and promotion of family planning. Prevention at family level include exclusive breastfeeding, complementary foods, vaccination, iatrogenic restriction of feeding illness. The major nutritional supplementation programs in India are there which seek to directly reach out to children especially vulnerable groups and remote areas are like integrated child development service scheme (ICDS), mid day meal programs (MDM), special nutrition program (SNP), National Nutrition Anemia Prophylaxis Program.[9]

Schools are important settings for comprehensive health promotion. School exerts the most influence on the lives of children and youth. Schools can play a key role in supporting students' health and, by extension, the health of their families and communities. School teachers are the only qualified personnel to teach and guide the school children at the age when eating habits and attitudes are being established. They provide opportunities to practice healthy eating and food safety in school feeding programs and through the sale of food on their premises and can establish school policies and practices – for example, sanitation facilities, rules about hand washing – that can improve health and nutrition. They spread the effect by involving families in their children's nutrition education. They can also be a channel for community participation.[10]

Healthy, well-nourished and educated children who are the future citizens of that country are the most precious asset for achieving economic and social development of the country. It is therefore important for children to learn of the benefits of good nutrition and to develop healthy eating habits. Schools are an excellent setting for nutrition education to children at an early age and through educated teachers. If we offer nutrition education in schools then we need to focus less on increasing pupils knowledge of good nutrition, but more emphasis on motivation and establishing good eating practices. [11]

OBJECTIVES

1. To assess the Knowledge of primary school teachers in Prevention of Nutritional Deficiencies in school children.
2. To prepare and administer Self Instructional Module on Prevention of Nutritional Deficiencies in school children among primary school teachers.

3. To evaluate the effectiveness of Self Instructional Module on Prevention of Nutritional Deficiencies in school children among primary school teachers.

4. To find the association between level of Knowledge of primary school teachers regarding Prevention of Nutritional Deficiencies with selected demographic variables.

METHODOLOGY

In this study quantitative research approach and pre- experimental research design were used to collect the data from the sample size of 45 primary school teachers who were teaching at government primary schools at Shimla and who were present at the time of study and were willing to participate in the study. The study was conducted in the selected on eight government primary schools of Shimla.

Convenience sampling technique was used for selecting schools and total enumeration used for selecting primary school teachers. Self-administered structured knowledge questionnaire was used to collect the data from teachers. The questionnaire comprised of two sections; section first had questions related to demographic data (age, gender, religion, marital status, educational qualification, year of experience, place of living , source of information about nutrition) while section two contain structured knowledge questionnaire consists of 35 knowledge item. Each item was multiple choices in nature with options.

To ensure the content validity of the tool (structured knowledge questionnaire), it was submitted to ten experts. Tool was also validated for Hindi and English language by language experts. Reliability of the tool was computed by using split half method. The reliability of structured knowledge questionnaire was found to be 0.78. Since the normal range is 0.5- 0.9 so the tool was found to be reliable.

Ethical approval was taken from the college ethical committee, college primcipal, center head teachers of government primary schools. Written informed Consent was taken from the study sample regarding their willingness to participate in the research study and the purpose for carrying out research study was explained to the participants. Confidentiality of the information of the sample was maintained.

A pre-test was conducted to assess the Knowledge of primary school teachers in prevention of nutritional deficiencies in school children. Self instructional module was

administered regarding prevention of nutritional deficiencies in school children. After a week post- test was conducted to assess the Knowledge by using same questionnaire. Duration of data collection was 20 days.

Analysis is done in SPSS 19.0 version. Data was analyzed by using descriptive and inferential statistics i.e. frequency and percentage distribution, mean percentage, median , standard deviation, t- test and chi square to determine the association between knowledge with selected variables.

RESULT

Frequency and percentage distribution of primary school teachers according to their selected Sociodemographic variables shows that age of majority of study subjects were (77.8%) 27 and above, followed by 11.1% were 25-27 year old, and 6.7% were under 21-23 year and 4.4% were 23-25 year old. Female were 77.8 % while males were 22.2%. 73.3% subjects were married and 26.7 % were unmarried. All the subjects 100% were Hindu and none of them was from other religion like Muslim, Christian and Sikh or other religion. Most of the subjects were postgraduate and above followed by 33.3 % graduate and 20.0% immediate diploma and 4.4 have high school certificate. Most of teachers 57.8% have experience of 15 years and above, 26.7 % have below 1 year experience, 8.9% have 10-15 years experience and 6.7 % have 1-10 year experience in teaching. 77.8% were living in urban area and 22.2 were living in rural area. Majority of subjects have source information books, 20% have other source of information and 15.6% have source of information internet, 4.4 have attended training programs on nutrition and 2.2% have source of information from magazines.

TABLE 1

Table Showing Frequency and Percentage Distribution of Pre –Test Knowledge Score of Primary School Teachers According to their Level Of Knowledge In Prevention of Nutritional Deficiency.

n= 45

CRITERIA FOR MEASUREMENT OF PRETEST KNOWLEDGE SCORE			
Level of knowledge	**Score**	**Frequency (f)**	**PRETEST (f%)**
Poor.	(0-12)	2	4.4
Average	(13-24)	37	82.2
Good	(25-35)	6	13.3

Maximum Score=35   **Minimum Score=0**

Table 1: Depict that 4.4 % teachers has poor knowledge in prevention of nutritional deficiencies in school children, 82.2% have average knowledge score and 13.3% have good knowledge in prevention of nutritional deficiencies in school children.

Table 2

(n= 45)

Table 2 : Frequency and percentage distribution of post test knowledge score of Primary school teachers according to their level of knowledge in prevention of nutritional deficiencies in school children.

CRITERIA FOR MEASUREMENT OF KNOWLEDGE SCORE			
Level of knowledge	**Score Level**	**Frequency (f)**	**Post test (f%)**
Poor	(0-12)	-	-
Average	(13-24)	2	4.4
Good	(25-35)	43	95.6

Maximum Score=35   **Minimum Score=0**

Table 2 Depict that 0 % teachers has poor knowledge related to prevention of nutritional deficiencies in primary school children 4.4% have average knowledge score and 95.6% have good knowledge related to prevention of nutritional deficiencies in school children.

TABLE 3

Frequency and percentage distribution of difference between pre- test and post-test knowledge score, mean value and standard deviation, mean percentage, range, mean difference, paired t- test, p-value of pre-test and post test knowledge score of primary school teachers according to their level of knowledge in prevention of nutritional deficiencies in school children.

n=45

Paired t- Test	Mean	Standard Deviation	Mean%	Range	Mean Difference	Paired t –Test	Table Value at 0.05	p value
PRE—TEST KNOWLEDGE	20.87	3.853	59.60	11-28	9.600	16.469	2.02	**<0.001**
								*Sig
POSTTEST KNOWLEDGE	30.47	2.51	87.00	24-34				

Maximum Score=35   **Minimum score =0**

Significance Level ≤0.05

Table 3 Depicts that the Pre – test range was 11-28, Mean 20.87 and standard deviation was 3.853, mean percentage was 59.60% and in the post –test range was 24-34, mean 30.47 and standard deviation was 2.51 and mean percentage was 87% and mean difference was 9.6.Above table shows that the mean post test knowledge score (30.47) was higher than the mean pre-test knowledge score (20.87). The paired 't' test shows comparison within the group. The value of 't' test was 16.469 which was significant at 0.05 level of significance. Hence, Hypothesis H1 was accepted and it can be inferred that there is significant difference between pre- test and post –test knowledge.

TABLE 4

Association of pretest knowledge scores of primary school teachers with selected socio-demographic variables.

n =45

Socio-demographic Variables	Good	Average	Poor	df	Chi value	Table Value	P value
Marital Status							
Married	4	29	-	2	6.118	5.991	**0.047***
Unmarried	2	8	2				

Table 4 shows the Chi- square value shows that there was significant association between the knowledge score with demographic variable **(Marital status).** The calculated value of chi was 6.118 which was more than table value at 0.05 level of significance with degree of freedom (2df). Hence it can be concluded that knowledge of primary school teachers was significantly associated with marital status. There was no significant association between the pre-test knowledge score with other demographic variables such as **age, gender, religion, education qualification, years of experience, place of living, and source of information about nutrition.** The calculated chi square values were less than the table value the 0.05 level of significance. There was no significant association of between the knowledge score with demographic variables in post- test.

IMPLICATIONS OF THE STUDY

The findings of the study had the following implications in nursing practice, nursing research, nursing administration, and nursing education.

IMPLICATION FOR NURSING PRACTICE

In nursing practice nurses should educate the primary school teachers about school going children health. They should actively participate in school health program and should educate the teachers and students about the identification of signs and symptoms, causes, and prevention and treatment of the problems due to nutritional deficiencies. Nurse should educate the children about proper hygiene practice, proper and healthy diet and thus reducing

incidence of diseases that are due to nutritional deficiencies. Nurse should not only focus on increasing knowledge but also emphasize on implying this knowledge into practice.

NURSING EDUCATION

Nursing education should focus their attention on practice and from curative to preventive care by using extensive health education in caring child with nutritional deficiencies. The students should be encouraged to take more innovative, interesting health education activities in health promotion and thus prevention of nutritional deficiencies in primary school children. It should in corporate newer approaches and strategies in the nursing curriculum.

IMPLICATION FOR NURSING ADMINISTRATION

The nursing administrator should facilitate activities to improve knowledge and practice of public towards significant health problems such as nutritional deficiencies in primary school children. The administration should enable the nursing personal to develop newer skills through in- service education and continuing education regarding prevention of nutritional deficiencies in primary school children.

IMPLICATION FOR NURSING RESEARCH

Nurses are being one of the important health care personnel providing primary health care have the challenging task of health promotion; Implications for research include replicating study in other geographic areas such as in other rural and urban areas of Shimla and other districts of Himachal Pradesh. The study should be done in private schools also.

CONCLUSION

Malnutrition is responsible for the school children to constitute particular victims for high morbidity and mortality in all over the World and in India and Himachal. Early detection and prompt management can reduce their mortality percentage in primary school children. It is well recognized that main cause of malnutrition among these people and in many developing countries are poor economic condition, low education standard , inadequate availability of food. Lack of proper educational programs on nutrition in primary schools is also an important factor responsible for this. In this study primary school teachers was having average knowledge score before the administration of self instructional module. So from this study it

can conferred that there is a greater need to focus on increasing the knowledge of primary school teacher in prevention of nutritional deficiency in school children.

ACKNOWLEDGEMENT

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