

Effect of Nutrition Education Package on Nutritional Awareness of Rural School Going Children

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Abstract

The present study was undertaken to study the effect of nutrition education, package on nutritional awareness of rural school going children. A total sample of 80 rural school going children of 11-13 years of age were randomly selected from Shendra village of Parbhani district of Maharashtra state. Information was collected on nutritional awareness among rural school going children using personal interview method. Nutrition education was imparted through developed nutrition games. The result of the study indicated that, before imparting the nutrition education < 13 per cent children had the awareness regarding nutrient content of various food groups. On the other hand, it was found that the knowledge of school going children improved remarkably after giving nutrition education. Only < 8 per cent school going children had knowledge about importance and rich sources of protein and vit. A but after imparting the nutrition education 95 and 100 per cent children were aware about it. Almost all the selected school going children were not having the knowledge about the nutrient deficiency disorder while after the nutrition education more than 95 per cent children stated the name of the disorder causing due to deficiency of protein, calcium, iron and Vitamin A. In conclusion it can be said that, nutrition related messages given in the form of nutrition games were successfully transmitted and well received by the target groups of children and had a positive effect in raising the level of awareness of various aspects of nutrition.

Keywords: School Going Children; Nutrition Games; Nutrition Education; Nutrition Knowledge.

Introduction

The school age period has been called the latent time of growth. Physical growth is an extremely sensitive index of the general status of health of school going children. Child's growth and its nutritional status are found to be closely linked with each other. The extent of growth retardation is directly dependent upon the intake of diet. Several extensive surveys carried out in India reported that the prevalence of iron deficiency anaemia and Vitamin A were most commonly observed among the school going children (Dhavane, 2009; Srivastava *et al.*, 2012; Ramesh *et al.*, 2013 and Kumar, 2014). The quality of diet of school going children in poor families is generally good but

their diet is lacking in iron, vit. C and vitamin A. The present scenario of health and nutritional status of the school-age children in India is very unsatisfactory. Even the national family health survey (NFHS-3) data reported that 53% of children in rural areas are underweight, and this varies across states (IIPS 2007). Hence to prevent nutritional deficiencies and to improve the nutritional status, awareness of various aspects of nutrition needs to be increased among the school going children. In this context nutrition education plays an important role. Which promotes sustainable healthy eating behaviors and it influences individuals and groups to eat the right kinds and amount of food. Therefore the present study was undertaken to study the impact of nutrition education on creating awareness regarding nutrition among rural school going children.

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Methods

Eighty School going children of 11 to 13 years of age from school of "Shendra" village of Parbhani district from Maharashtra state were selected for the

present study. The present investigation was undertaken in three phases. In phase-I all the selected school going children were personally interviewed by the investigator with the help of pretested questionnaire to collect the information on nutrition awareness among rural school going children.

In phase-II nutrition games were developed namely "posting the letters" and nutrition wheel". The aspects covered in developed nutritional games were nutrient content of different foods, importance and function of foods, nutrient deficiency diseases, nutrient rich food sources etc. The games were organized for the selected school going children by giving proper instructions regarding method of playing.

In phase-III the effect of nutrition education games on nutritional awareness of rural school going children were assessed by administering the post term questionnaire.

Results and Discussion

Out of the total number of 80 selected school going children 48 were boys and the remaining 32 were girls. Among the selected school going children 42, 34 and 6 were found to be from nuclear, joint and extended type of families respectively. In regard to food habit, 55 school going children were vegetarian and the remaining were non vegetarian. Majority (55) of school children followed three meal pattern and the remaining 12 and 13 were following two and four meal pattern respectively. A relatively very high per cent (87.5) of the selected children were found to be consuming tea in the morning, whereas consumption of milk was reported by 12.5 per cent children. Maximum number (59) of children found to be consuming breakfast. The food items included in breakfast were puffed rice (37.75 %), biscuit and bread (2.12 %) and *usal* (5 %).

Nutritional awareness regarding nutrient content of different food stuffs among rural school children before and after imparting nutrition education is given in Table 1. Total 66 children were aware about functions of food. The children expressed the functions of foods were to get energy (31) to satisfy hunger (16) for good health (11) and to build up the body (8). The results indicated that few (<13%) school going children had the knowledge regarding nutrient content of various food groups before imparting nutrition education. On the other hand, it was found that the knowledge of school going children improved remarkably after giving nutrition education. Besides

this improvement in awareness of importance of soybean (0 to 80%), salad (18 to 89%) and sprouted products (9 to 80%) in the diet was recorded. It can be concluded from the results that the knowledge of school going children regarding nutrient content of different food groups was found to be enhanced after imparting nutrition education.

Knowledge of the school going children regarding protein is presented in Table 2. Results indicated that the awareness among school going children regarding protein required for body building and rich sources of protein was improved from 7 to 95 per cent and from 6 to 94 per cent respectively after imparting the nutrition education.

It is clear from Table 3 that the nutrition education has resulted in an increase in the awareness of children regarding vitamin A for healthy eyes. Before giving nutrition education none of the school children was aware of rich sources of vitamin A. On the other hand, after the nutrition education imparted majority of children had the knowledge about rich sources of vitamin A. Fruit (46), carrot (55), papaya (43), yellow color fruits (41) and mango (5) were stated as rich sources of vitamin A. The results of the present study are in agreement with the study conducted by Meti and Saraswati (2006) who reported that after imparting nutrition education the experimental group showed significant improvement in overall nutrition knowledge and practice of high school football players.

Knowledge of the school going children regarding iron is presented in Table 4. Before giving nutrition education none of the child was having the knowledge, that anemia occurs due to deficiency of iron. It was satisfactory to note that after imparting nutrition education, all the children were aware about the deficiency of iron and causes anemia. Before nutrition education none of the children were having the knowledge about rich sources of iron. On the other hand, after imparting nutrition education the rich sources of iron was stated by the children were rice flakes (73), green leafy vegetables (61), garden cress seeds (15), jaggery (8) and bengal gram leaves (12).

It was clear from the Table 5 that all most all the selected school going children were not having the knowledge about the nutrient deficiency disorders whereas after the nutrition education more than 95 per cent children stated the name of disorder causing due to deficiency of vitamin A, protein, calcium and iron and more than 85 per cent children reported regarding vitamin C, vitamin D and thiamine deficiency disorders. Even 75 per cent children were aware of Iodine deficiency. On the whole it can be

said from the results that nutrition education has helped the selected school children in gaining the knowledge about various nutrient deficiency disorders.

Table 1: Nutritional awareness regarding nutrient content of different food stuffs among rural school going children

Food groups	Nutrient content	Number of Children	
		Before Nutrition Education	After Nutrition Education
Cereals	• Carbohydrates	---	62(78.47)
	• Energy	3(3.75)	40(50.5)
Pulses	• Protein	7(8.75)	72(90.9)
	• Energy	---	33(41.25)
Leafy vegetables	• Vitamin	----	72(90.9)
	• Mineral	----	08(17.77)
Roots and Tubers	• Carbohydrate	3(3.75)	80(17.77)
Other vegetables	• Vitamin	---	75(93.75)
	• Fibre	---	6(7.5)
	• Mineral	4(5)	12(15.0)
Fruits	• Vitamin	6(7.5)	59(73.7)
	• Fibre	----	15(8.75)
	• Mineral	---	36(45)
Milk and Milk product	• Protein	5(6.25)	73(91.25)
	• Energy	10(12.5)	65(81.25)
	• Calcium	----	74(92.5)
Meat and Meat Product	• Protein	---	76(95)
	• Energy	---	69(86.25)
Sugar and Jaggery	• Energy	--	80(100)
Fats and Oils	• Energy	2(2.5)	45(56.25)

Figures in parenthesis indicate the percentage of children

Table 2: Knowledge of the school going children regarding protein

Particular	Number of children	
	Before Nutrition Education	After Nutrition Education
Nutrient required for body building		
• Protein	6(7.5)	76(95)
Rich sources of protein		
• Pulses	5(6.25)	75(93.75)
• Milk	5(6.25)	75(93.75)
• Egg	---	48(60)
• Meat	---	60(37.5)
• Oil seed	----	24(30)

Figures in parenthesis indicate the percentage of children

Table 3: Knowledge of the school going children regarding Vitamin A

Particular	Number of children	
	Before Nutrition Education	After Nutrition Education
Nutrient required for eyes		
• Vitamin A	6(7.5)	80(100)
Rich sources of vitamin A		
• Papaya	--	43(53.75)
• Carrot	---	55(68.75)
• Mango	---	5(6.25)
• Yellow fruits	----	11(13.75)
• Fruits	----	46(57.5)

Figures in parenthesis indicate the percentage of children

Table 4: Knowledge of the school going children regarding Iron

Particular	Number of children	
	Before Nutrition Education	After Nutrition Education
Anemia causes due to deficiency of iron	---	79(98.75)
Rich sources of iron		
• Green leafy vegetables	---	73(91.25)
• Rice flakes	----	80(100)
• Garden cress seeds	---	61(76.25)
• Jaggery	----	26(32.5)
• Bengal gram leaves	----	12(15)

Figures in parenthesis indicate the percentage of children

Table 5: Knowledge of the school going children on nutrient deficiency disorders

Name of the nutrient	Deficiency disorder	Number of children	
		Before Nutrition Education	After Nutrition Education
Protein	Malnutrition	--	77(96.25)
Calcium	Bone diseases	---	77(96.25)
	Joint pain		53(66.25)
Iron	Anemia	1	79(98.7)
Iodine	Goitre	---	60(75)
Vitamin A	Night blindness	--	76(96)
	Eye disease		04(11.42)
Vitamin D	Rickets	----	72(90.9)
Vitamin C	Scurvy	---	70(87.5)
Thiamine	Beri Beri	---	68(85)

Figures in parenthesis indicate the percentage of children

Even Bisht and Raghuvanshi (2007) reported effectiveness of nutrition education on vit. A through comic book and audio cassette which found to be brought significant changes in nutrition related knowledge in children and can be used as an effective media for imparting nutrition education for similar population groups. Similar findings were also reported by Dhavne (2009) that the structure disseminates of knowledge in the form of educational booklet and CD did have positive impact in raising the levels of knowledge in the area of iron deficiency anemia.

Conclusion

The results of the study indicated that the nutrition related messages given in the form of nutrition games were successfully transmitted and well received by the target groups of children. Therefore, it can be said that the structured dissemination of nutrition education in the form of nutritional games to the school going children had a positive impact on raising the levels of awareness in the areas of nutrient content of different food groups and knowledge regarding the importance of nutrients such as protein,

vitamin A and iron and also rich sources of nutrients and nutrient deficiency disorders.

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