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Nutrition education intervention through nutritional games improve nutrition knowledge, attitude and practices of school going girls in Bijnor, U.P.: A study

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Abstract

Present study is an appreciable effort to assess the impact of nutritional games on enhancement of knowledge attitude and practices pertaining nutrition with reference to school going girls in Bijnor (U.P). The present study conducted on 400 girls aged 3 between 18 years selected from government and private schools in the group was made as primary school, middle, high school, higher secondary school. Nutritional education was imparted to the girls by using nutritional games. Before imparting nutrition education, the level of nutritional knowledge recorded through pretest. After imparting nutritional knowledge another posttest questionnaire was made and data was analyzed through five point scale. Nutrition knowledge of the girls was found poor Ignorance about micronutrients and protective foods prevailed in respondents but after imparting nutritional education through games, the results were very good and responsive. The post test scores increased positively and fell in excellent, very good and good category.

Keywords: Primary School Children; Nutrition Education; Impact Evaluation, childhood overweight, obesity, fruit and vegetable consumption

1. Introduction

Malnutrition continues to be a primary cause of ill health and mortality among children in developing countries. It is a major public health problem and accounts for about half of all child deaths worldwide.¹ Health and nutrition in early stages of human life determine, to a great extent, the physical and mental wellbeing of a person. In a developing country like India, poverty undoubtedly constitutes a major factor for malnutrition in children, but lack of awareness of what constitutes a balanced diet is also a factor, which needs to be considered.

Poor nutrition starts before birth, and generally continues into adolescence and adult life and can span generations. Chronically malnourished girls are more likely to remain undernourished during adolescence and adulthood, and when pregnant, are more likely to deliver low birth-weight babies.

The school going girls is in a state or process of growing up from puberty to maturity. Their growth and development is closely linked to the diet they receive during childhood. They have to encounter a series of serious nutritional challenges not only affecting their growth and development but also their livelihood as adults. Thus it is not surprising that girl population who are "mother to be" is considers as the most important section on which the future of nation depends.

Increasing trend of urbanization life, widespread advertisements by TV and mass media, attractive packaging, and poor nutrition knowledge of parents are considered among the common reasons of increased junk food consumption. Through decreasing their appetite, extreme consumption of these worthless nutrients deprives the children from the opportunity of eating the highly nutritious food prepared in the family environment^[1]. On the other hand, since junk foods contain high sugar, salt, and fat, they form the setting for affliction with the chronic diseases such as obesity, diabetes, and cancer in later years of the life^[1]. It can be difficult to make sure that children eat balanced meals and snacks every day, and in some cases, children will not eat enough. School-age children need between 1,740 and 1,970

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calories per day; it is important that these are not empty calories from junk food. A poor diet during childhood can lead to disorders such as diabetes, heart disease, and osteoporosis or weak, brittle bones later in life [2].

Unhealthy eating practices that contribute to chronic disease are established early in life; young person's having unhealthy eating habits tend to maintain these habits as they age (Priyali Shah *et al*, 2010) [3]. Thus, it is efficacious to teach persons healthy eating patterns when they are young. High risk eating behavior and physiological risk factors are difficult to change once they are established during youth (Rao, Vijaya Pushpam, Subba Rao, Antony, Sarma, 2007) [4].

According to the Society for Nutrition Education and Behavior, nutrition education is any combination of educational strategies, accompanied by environmental supports, designed to facilitate voluntary adoptions of food choices and other food and nutrition related behaviors conducive to health and well-being. Nutrition education is delivered through multiple venues and involves activities at the individual, community and policy levels (Jones and Bartlett, 2007) [10]. The present investigation was carried out to check the impact of nutrition education on school going children using nutritional games & presentation made by manually & multimedia technology. Nutritional games were found effective as it influence the cognitive development of the children because of:

- Attracts & hold attention
- Easily understood
- Good visual impact
- Convincing
- Ties theory & Practice together

2. Material and Method

The present study conducted on 400 girls aged 3 between 18 years selected from government and private schools in Bijnor (UP) in the group was made as primary school, middle, high school, higher secondary school. The samples were taken by random sampling technique. Nutritional education was imparted to the girls by using nutritional games. The topics chosen for the study were balanced diet, sanitation & hygiene, dietary habits, obesity, breast feeding, dietary pattern, immunization according to age of girls. Before imparting nutrition education, the level of nutritional knowledge recorded through pretest. After imparting nutritional knowledge another posttest questionnaire was made and data was analyzed through five point scale.

Imparting nutrition knowledge was done by making nutritional games according to age. In this survey there are some respondents who were too small to understand the words like vitamin, balanced diet etc. They were taught by playing easy games belongs to their age. Knowledge was given on health seeking behavior, attention to hygiene and perception of choosing nutritious foods. There were three parameters to see the impact of nutritional knowledge i.e. Health seeking behavior, attention to hygiene and change in perception in choosing nutritious food.

3. Measurements & Findings

Assessment of nutritional knowledge of respondents before and after counseling through nutritional games:

Comparision of pre and post counseling results of nutritional knowledge of school going girls:

Table I

	Health seeking behaviour									
	Excellent		very good		good		average		poor	
	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test
3-6 years	1.6	12.89	9.5	43.8	14	20.6	26.9	10.4	47.8	12.2
7-10 years	3.8	11.2	13.3	34.4	17	25.3	26.9	22.8	38.8	6.27
11-14 years	8.6	20.6	12.9	21.49	12.8	22.8	23.2	23.1	42.3	11.6
15-18 years	10.8	31.2	15.7	20.76	20.6	23.4	13.5	20.1	39.2	4.52

In the age group of 3-6 years it may seen that the percentage of poor performers increases slightly after nutritional knowledge games are played with them. In the age group of 7-10 years, similar observations may be made as with the earlier age group. After playing nutritional knowledge games there is a definite improvement in the nutritional knowledge of children, while the amount may vary from child to child. The poor performer's percentage has come up immensely after playing games in age

group 11-14 years. In age group 15-18 years, it may be observed that with higher age group the amount of improvement in knowledge is higher, this indicates that with age the capacity to understand and power to grasp also improves. There is a substantial increase in the percentage of excellent performers in the group, also the percentage of excellent performers in pre-test is higher than the other age groups.

Table II

	Attention to hygiene									
	Excellent		very good		good		average		poor	
	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test
3-6 years	1.9	13.12	7.87	39.67	15.17	22.13	26.56	11.4	48.16	13.5
7-10 years	2.9	12.42	14.9	35.79	15.8	24.65	25.78	18.47	40.1	8.23
11-14 years	9.1	19.24	10.78	24.95	15.1	25.83	25.74	26.12	38.97	3.27
15-18 years	13.34	24.78	17.27	25.93	19.89	27.51	13.9	19.62	35.17	2.1

Nutritional knowledge games played with children does help in improving knowledge towards hygiene. A little increase may be seen in the percentage of poor performers after playing the

games in the age group 3-6 years. While in age group 7-10 years, the percentage of very good performers rises sharply in the posttest as compared to the pre-test figures. As seen in all

distributions, the percentages of poor performers show a little amount of increase. In 11-14 years of age group, data shows minimal change in percentage of average performers, while a narrow increase may be seen in percentage of poor performers. The increase in excellent performers is not as sharp as in other

age groups. While the data reveals a little bit percentage of poor performers post playing nutritional knowledge improvement games. Also, for the age group 15-18 years, the percentage of post-test excellent performers is relatively good as compared to other groups.

Table III

	Change in perception in choosing nutritious foods									
	Excellent		very good		good		average		poor	
	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test
3-6 years	1.4	13.2	8.24	27.64	17.23	29.73	29.86	21.11	42.92	8.12
7-10 years	3.2	12.67	11.51	29.96	18.33	27.84	30.96	24.14	35.42	5.23
11-14 years	7.9	15.17	11.64	25.16	17.21	20.16	29.12	24.9	33.95	12.91
15-18 years	11.34	20.99	15.23	19.17	21.1	27.61	21.9	23.11	29.41	9.24

It is clear from the above data that in all age group, the impact of nutritional games was proved effective as the % scores of all categories respondents increases in posttest.

These findings are in agreement with the results obtained from the similar studies conducted by Pour Abdollahi, *et al.*,^[1] Vakili *et al.*,^[5] Choobineh *et al.*,^[6] Mazloomi *et al.*,^[7] as well as Hosseini *et al.*^[8] The results showed that the pupils knowledge, attitude, and performance regarding the junk foods intake after intervention has increased significantly; this result is indicate of the positive effect of education on improving pupils' knowledge, attitude, as well as promoting their performance in decreasing the junk foods intake. The findings of Pour Abdollahi,^[1] Vakili *et al.*^[5] confirm these results, but in the latter study, the degree of increasing the participant's performance score was not significant, this does not match the present study. Also, the studies by Chobineh *et al.* confirmed of the effect of education on the students' eating knowledge and performance^[6] These results are also matched with the ones obtained from the study done by Hoffman *et al.* in 2003 on 70 girl and boy students at guidance school level for 5 weeks with the purpose of increasing the consumption of fruits and vegetables.^[9]

In this way it can be concluded that the session of imparting nutritional knowledge through games was proved to be very effective as the results shows relatively positive response from all age group.

4. Result

Access of nutrition related knowledge was poor of girls of study area. Their nutrition related knowledge was not up to the mark and majority of them were not aware about their nutritional needs. Ignorance about micronutrients and protective foods prevailed in respondents but after imparting nutritional education through games, the results were very good and responsive. The post test scores increased positively and fell in excellent, very good and good category. After playing games some important points regarding food habits, dietary pattern, life style factor, personal hygiene, social hygiene & daily hygiene were made understand them through lecturer method. Some other facts were incorporated to them to enhance their nutritional knowledge such as to learn them to differentiate between healthy and unhealthy foods, to take first aid when having sore or wound, taking regular checkup during pregnancy, doing vaccination properly of child. When talk about hygiene, all facts about cleanliness of personal, daily and social were delivered to them. Daily brushing, bathing, washing

hand before preparing and consuming food, covering the food to protect from house flies, dust etc. Respondents also were made aware home gardening so that they could maintain their economic status as well as get food easily.

So these were some measures taken in this study to improve the standard of nutritional knowledge of the respondents which was prove very convincing and had good visual impact to aware the candidates.

5. Conclusion

Nutrition education is the attempt to enable respondents to use available resources optimally. Children are the wealth of any country. Special attention should be paid to meet the needs of this group, constituting one fifth of the country's population. Above data shows that the nutritional knowledge of the girls was not found good so some measures can prove beneficial as parents as well as children should be aware of food labeling as it carries many important information regarding food. School health service is another measure by periodic medical examination and daily morning inspection of students, we can detect many more problems and treat accordingly. Imparting nutrition education is other factor as it can help their children to consume appropriate food. "What to eat and why" is an essential aspect of child's education. Awareness on health hazards of fast foods needs to be taught at schools so as to minimize its consumption. Parents have to set an example themselves by not eating fast foods and improving home food to support discouragement of fast foods. This would minimize life style disorders among children to a greater extent.

References

1. Pour-Abdollahi P, Zarati M, Razavieh SV, Dastgiri S, Ghaem Maghami SJ, Fathi Azar E. The effect of nutrition education on the knowledge and practice of elementary school children regarding junk food intake. *Zanjan Univ Med Sci J.* 2004; 13:13-20.
2. Nadia H. Demand Media. How to Reduce the Intake of Junk Food in Children, 2013. [Last cited on 12 Jun 2013]. Available from: <http://www.healthyeating.sfgate.com/reduce-intake-junk-food-children-5768.html> (2013)
3. Priyali Shah, AnoopMisra, Nidhi Gupta, Daya Kishore Hazra, Rajeev Gupta, Payal Seth *et al.* Improvement in nutrition-related knowledge and behaviour of urban Asian Indian school children: findings from the 'Medical education for children/Adolescents for Realistic prevention

- of obesity and diabetes and for healthy a Geing' (MARG) intervention study. *British Journal of Nutrition*. 2010; 104:427-436. doi:10.1017/S0007114510000681.
4. Rao DR, Vijayapushpam T, Subba Rao GM, Antony GM, Sarma KV. Dietary habits and effect of two different educational tools on nutrition knowledge of school going adolescent girls in Hyderabad, India. *Eur J Clin Nutr*. 2007; 61(9):1081-1085.
 5. Vakili M, Baghiani-Moghadam MH, Pirzadeh A, Dehghani M. Assessing the effect of education on knowledge, attitude and practice of guidance school students about milk and dairy products. *Knowl Health J*. 2007; 2:41-7
 6. Choobineh MA, Hesari SN, Hossain D, Haghhighizadeh MH. Study of nutritional knowledge of Ahwaz high school girls and the education effect. *Birjand Univ Med Sci J*. 2009; 16:23-30.
 7. Mazloomi-Mahmoodabad S, Moein-Taghavi A, Barkhordari A, Alidoosti F. Effect of role modeling through theater show in oral health education. *J Islamic Dent Assoc Iran*. 2009; 21:138-42.
 8. Hosseini M, Shojaeizadeh D, Chaleshgar M, Pishva H. A study of educational intervention on knowledge, attitude, practice about iron deficiency anemia in female adolescent students. *Gorgan Univ Med Sci J*. 2006; 8:37-43.
 9. Blom-Hoffman J, Kelleher C, Power TJ, Leff SS. Promoting healthy food consumption among young children: Evaluation of a multi-component nutrition education program. *J Sch Psychol*. 2004; 42:45-60.
 10. Greger JL, Divilabiss L. *Indian Journal of Ecology of Food and Nutrition*, 1979; 4:213-218. *Nutrition Education: Linking search, theory and practice*, Jones and Bartlett, 2007.
 11. *Nutrition Education Intervention Improves Nutrition Knowledge, Attitude and Practices of Primary School Children: A Pilot Study*.