



Volume 5, Issue 2,

April 2016,

[www.ijfans.com](http://www.ijfans.com)

e-ISSN: 2320-7876

INTERNATIONAL JOURNAL OF FOOD AND  
NUTRITIONAL SCIENCES

**IMPACT FACTOR ~ 1.021**



**Official Journal of IIFANS**

*Research Paper*

*Open Access*

EFFECT OF NUTRITION EDUCATION ON SCHOOL GOING CHILDREN BETWEEN AGES 10-12 YEARS

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Received on: 15<sup>th</sup> February, 2016

Accepted on: 19<sup>th</sup> April, 2016

A study was conducted on 125 school going children selected through purposive sampling technique. Main aim of the study was to educate children through presentations about the healthy food choices, importance of physical activity, and nutritious food for staying healthy. Respondents were informed that the television advertisements, not always give the right information and advertisements should not affect their buying behaviors. Before educating the children their pre knowledge about these topics were tested and after delivering the education post results were recorded. Results showed a significant increase in the knowledge of students post the nutrition educative sessions.

**Keywords:** Physical activity, Nutritious food, Television advertisements, Buying behavior, Junk food

INTRODUCTION

School going children's eating habits get influenced by the advertisements shown on the television. Television advertisements play a major role in food choices of children. Along with it the sedentary lifestyle has led to increased childhood obesity. Childhood obesity increases the risk of metabolic disorders. The main objective was to assess how much knowledge does children have about nutrition and importance of physical activity. Children tend to eat more of junk food which have very low nutrition and just give calories. Through the education program children were informed about the important role of healthy food in day to day life. Being physically active is important. Television advertisements are not always giving the right information.

As per report by Kaiser Family Foundation 2007, it was found that there is increase in TV viewing for every one-hour per day which resulted in the higher intakes of sugar-sweetened beverages, fast food, red and processed meat, and overall calories (48.7 kcal/day). Excess weight could be gained by the addition of only 150 calories a day. Other

research revealed that children who watched more than three hours of television a day are 50 per cent more likely to be obese than children who watch fewer than two hours.

Further, food and beverage advertising targeted at children influenced their product preferences, requests and diet. The food and beverage industry were not marketing healthy food options i.e., fruits, vegetables, whole grains, low-fat or non-fat milk or dairy products, lean meats, poultry, fish and beans to children. Almost three out of every four foods advertised to children falls into the unhealthy categories that contribute to the obesity epidemic.

A study by Carol et al., 2007 showed that 97.8% and 89.4% of food-product advertisements viewed by children 2 to 11 years old and adolescents 12 to 17 years old, respectively, were high in fat, sugar, or sodium. On average, 46.1% and 49.1% of total calories among the products advertised came from sugar in the advertisements seen by these respective age groups. A total of 97.6% of cereal advertisements watched by children 2 to 11 years old were for high-sugar cereals.

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According to Brownell *et al.* (2009) reducing food marketing to children was proposed as one means for addressing the global crisis of childhood obesity, but significant social, legal, financial, and public perception barriers stand in the way. The scientific literature documents that food marketing to children was (a) massive; (b) expanding in number of venues (product placements, video games, the Internet, cell phones, etc.); (c) composed almost entirely of messages for nutrient-poor, calorie-dense foods; (d) having harmful effects; and (e) increasingly global and hence difficult to regulate by individual countries. The food industry, governmental bodies, and advocacy groups have proposed a variety of plans for altering the marketing landscape.

The Kaiser Family Foundation in 2010 found that multiple factors influence eating behaviors and food choices of youth, two potent forces were television (TV) viewing and exposure to TV food advertising. In the United States, children and adolescents watch TV for almost four and a half hours each day. During this time, children between 2 to 12 years were exposed to up to a total of 38 minutes of advertising each day approximately. Food advertising accounts for half of all advertising time in children's TV programs. Children between 2 to 7 years watch 12 food advertisements as compared to age groups 8 to 12 years who watch 21 food advertisements which was relatively less.

The high risk of exposure to unhealthy food advertisements might promote their high favorability regarding the advertised foods, representing potential risk factors for overweight and obesity for children and adolescents.

Data also showed that 18 percent of the 65,462 advertisements across many countries when analyzed by Kelly and her group (2010) were mainly food, the second most frequently advertised product. In an overall result, 5 food advertisements were broadcasted per hour, per channel. Statistically, Greece has accounted the maximum and Brazil had the lowest rate in food advertising, only 2 food advertisements per hour per channel. In addition, most of the advertisements were unhealthy foods, which accounted 67%. Among the unhealthy food category, fast food accounted the most, 12% especially in the United States, Canada, Sweden, and Australia. However, Germany, Italy and China advertised chocolate and confectionary the most. The most frequent advertised food in Brazil was

supermarkets, which considered as miscellaneous. Spain and United Kingdom were the country for the most advertised product of low-fat dairy foods.

Powell *et al.* (2013) from the University of Illinois at Chicago sought to investigate the prevalence of unhealthy ingredients in the foods normally advertised on children's programming, as childhood obesity had more than doubled in children and tripled among adolescents in the last 30 years. The researchers point to popular culture and forms of mass media as weighing heavily on children's diets. Indeed, lax parenting approaches and the constant drilling of sugary breakfast cereals and fast food may cement a child's diet more than any other factor. The team found that 84% of food and beverage advertisements seen by children, ages 2-11, on all programming were high in fats, trans fats, sugar, and sodium. That percentage rose to more than 95% for ads during children's programming.

## MATERIALS AND METHODS

The study was conducted on 125 students out of which 72 subjects were males and 53 were females. Purposive sampling technique was used to collect the respondents. The study was done in a school of Mumbai. Questionnaires were used to assess the knowledge of children on nutrition and healthy foods, physical activity. Along with questionnaires presentations were used to educate children. Statistically results were obtained using t test.

## RESULTS AND DISCUSSION

A set of questionnaire was given to the respondents to check their level of knowledge about nutrition. After the presentation given to children about health and nutrition, the same questionnaire was given again to the respondents to check the improvised results. Results of knowledge, attitude and practice test showed a significant difference among the male and female respondents.

Tables 1 and 2 shows the average pre score of male subjects were  $3.9 \pm 1.76$  while of females were  $4.53 \pm 1.8$ . On the other hand average post scores of male respondents were  $8.4 \pm 1.03$  and that of females were  $8.25 \pm 0.83$ .

On statistical evaluation it was seen that post scores were significant for both males and females. Figure 1 depicts the average pre and post scores of both males and females and it is evident that the knowledge children had before the session was less as compared to the knowledge they gained after the session. After the intervention the scores raised significantly.

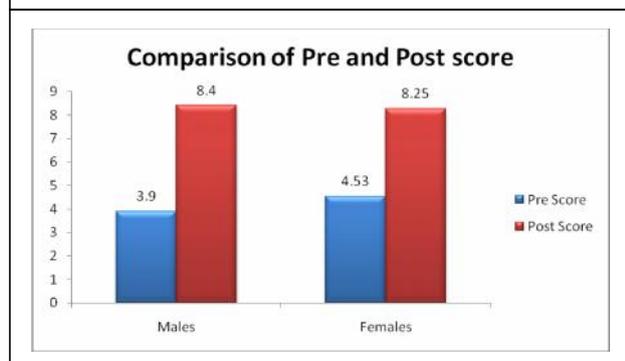
**Table 1: Results Recorded for Pre and Post Sessions of Knowledge, Attitude and Practice Test (Males)**

Males					
	Mean	N	Std. Deviation	t	Sig. (2 tailed)
Pre score	3.9	72	1.76	18.09	0
Post core	8.4	72	1.03		
Females					
	Mean	N	Std. Deviation	t	Sig.(2 tailed)
Pre score	4.53	53	1.83	13.01	0
Post score	8.25	53	0.83		

**Table 2: Results Recorded for Pre and Post Sessions of Knowledge, Attitude and Practice Test (Females)**

Group Statistics						
	Gender	N	Mean	Std. Deviation	t	Sig. (2-tailed)
Quiz 1	Male	72	8	0.805	4.059	0
	Female	53	8.57	0.721	4.128	0
Quiz 2	Male	72	7.96	0.956	1.06	0.29
	Female	53	8.13	0.833	1.082	0.28

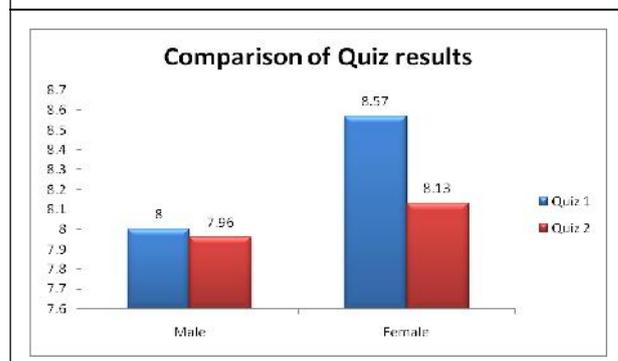
**Figure 1: Comparison of Pre and Post Scores of Knowledge, Attitude and Practice Test**



After educating students about nutrition and healthy food choices, a round of quiz was conducted to assess their knowledge post presentations.

Table 2 and figure 2 shows that questions answered for Quiz 1 by both male and female respondents had no significant difference. Average score for males in Quiz 1 was  $8.00 \pm 0.80$  while that of females was  $8.57 \pm 0.72$ .

**Figure 2: Comparison of the Results of Quiz Between Males and Females**



However with the statistical evaluation of Quiz 2 it was noticed that there was a significant difference between the average scores of male ( $7.96 \pm 0.95$ ) and female ( $8.13 \pm 0.83$ ) respondents.

Overall, students performed well in both the quizzes, which indicate that their knowledge about nutrition and health increased after educating them through presentations.

Hence, from the study it could be concluded that subjects gained and improvised their knowledge after the nutritive educative sessions. Results for knowledge, attitude and practice test showed significant results. Males and females results for quiz were also slightly significant.

## CONCLUSION

To make children understand the importance of healthy and nutritious food a presentation was shown to them, also with the help of presentation they were told about the physical activities that they can perform to keep themselves healthy as an individual.

Pre and Post questionnaires showed quite a good result. Knowledge about healthy food and physical activity was less prior to the education provided to them. There was a remarkable difference seen in the knowledge post the educative sessions. Average pre scores for females were 4.53 while post scores were 8.25. Males had a little less knowledge than girls as their average pre scores were 3.90 while post scores were 8.90. On statistical evaluation a significant difference was found in pre and post scores of the respondents.

Also, when evaluated statistically it was found that questions answered for Quiz 1 by both male and female respondents had no significant difference. Average score for males in Quiz 1 was 8.00 while that of females was 8.57.

However on the statistical evaluation of Quiz 2 it was noticed that there was a significant difference between the average scores of male 7.96 and female 8.13 respondents.

Hence, it can be concluded that a nutrition education program improvised the knowledge of students on all the aspects. It helped them to understand the importance of nutritious food, physical activity to lead a healthy life.

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