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Research Article

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Effect of Food Advertisements on Eating Pattern of School Going Children between Ages 10-12 Years

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ABSTRACT

A study was conducted on 125 school going children selected through purposive sampling technique. Main aim of the study was to understand the eating pattern of school going children and how advertisements affect their food choices. Respondents were informed that the television advertisements, not always give the right information and advertisements should not affect their buying behaviors. Results showed that respondents were consuming more of unhealthy foods as compared to the healthy one.

Key words: *Physical Activity, 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.

A number of reviews showed that advertisement leads to greater preferences and purchase of the products advertised. In addition, heavier media viewing often predicts more unhealthy diets and higher body weight among children. A few studies have also examined the effects of food advertising on actual eating behaviors, usually assessed by food choices following exposure to advertising[1].

Misra *et al.*,[2] concluded that more than 40% of the children eat out once or more in a week, 70% children consumed chips once or more in a week followed by, 38% consuming burgers further, 48% children ate pizzas, 40% ate French fries and, 60% ate noodles and drink colas once or more in a week.

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Lim[4] concluded that food marketers were willing to pay or invest for anything to increase their sales. Unhealthy child oriented food were the most advertised food in television commercials. Advertisement games were even sponsored for children to play, mainly for brand recognition. Website addresses were delivered through television commercials as well as product packaging, which is easier to share among the children group through internet. Cheaper price was one of the strategies as well to increase customers, the primary students.

Product packaging of unhealthy child oriented food include everything that was positive to attract children, such as nutrition claim, bright colors and cartoon characters. Unhealthy food mostly contain high sugar and fats because children just like junk foods, the well processed food that make children think it was more fun to be eaten. Most of the food marketers only met the minimum criteria, simply because of the intention to earn money and behave well. Advertisements were being delivered everywhere, which had also shaped the children's thought on how children's food should look like. Due to these strategies applied by food marketers, a lot of moves should be made in order to reduce the rate of childhood obesity. However, the first move by the government is to reduce the advertisement delivered through different medium by the food marketers since it attract children easily and are convincible. Therefore in conclusion, advertising unhealthy child oriented food does play a major role in childhood obesity.

Rapidly changing dietary practices and a sedentary lifestyle had led to increasing prevalence of childhood obesity (5–19 yr) in developing countries recently: 41.8% in Mexico, 22.1% in Brazil, 22.0% in India, and 19.3% in Argentina. Important determinants of childhood obesity include high socioeconomic status, residence in metropolitan cities, female gender, unawareness and false beliefs about nutrition, marketing by transnational food companies, increasing academic stress, and low levels of physical activity[3].

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 eating pattern of children and what physical activities they perform. Using a 24 hour dietary recall and a food frequency questionnaire eating habits of the subjects were assessed. Also a questionnaire on TV viewing and physical activity was given to the respondents. Statistically results were obtained using t test.

RESULTS AND DISCUSSIONS

24 hour Dietary Recall

Group Statistics

	Gender	N	Mean	Std. Deviation	t	Sig. (2-tailed)
Energy	Male	72	990.40	185.86	.16	.86
	Female	53	995.92	182.44	.16	.86
Protein	Male	72	28.71	8.01	.48	.62
	Female	53	28.08	5.77	.51	.61
Carbohydrates	Male	72	139.42	33.98	.34	.73
	Female	53	137.44	28.57	.35	.72
Fat	Male	72	34.02	8.71	1.88	.06
	Female	53	37.00	8.78	1.87	.06

Table 1- Average amount of Energy, Protein, Carbohydrates and fat consumed by males and females in a day

According to a study done by Steven *et al.*,[5] in 2003 children who ate fast food, compared with those who did not, consumed more total energy (187 kcal), more energy per gram of food (0.29 kcal/g), more total fat (9 g), more total carbohydrate (24 g), more added sugars (26 g), more sugar-sweetened beverages (228 g), less fiber (−1.1 g), less milk (−65 g), and fewer fruits and non-starchy vegetables (−45 g).

A study done by Karen[6] in 2006 stated that children who watched television for >2 hours/day were significantly more likely than children who watched television for <2 hours/day to have one or more serves/day of energy drinks, savoury snacks. They were also less likely to have two or more serves/day of fruit or to participate in any organized physical activity.

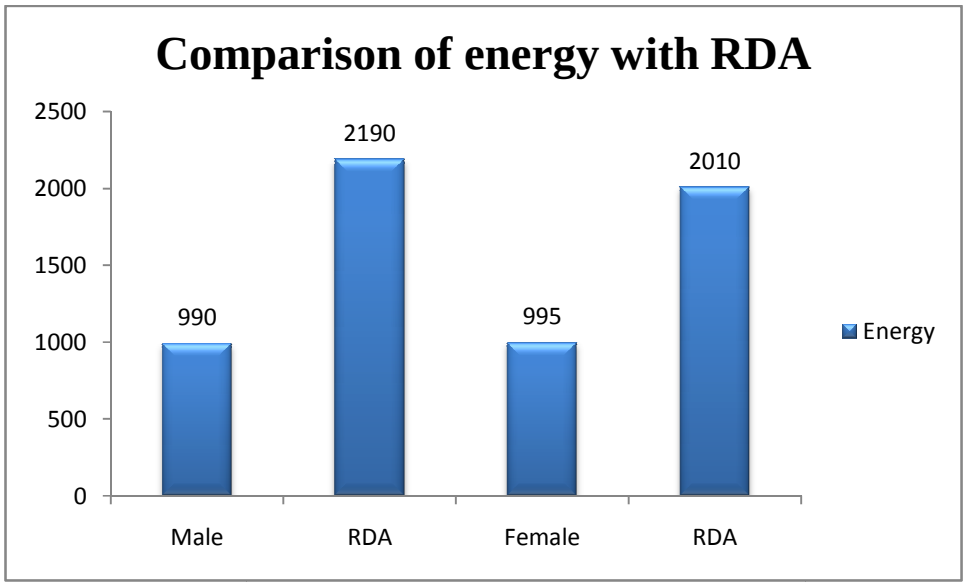

Fig. 1.1- Comparison of energy consumed by experimental group with the RDA, 2010

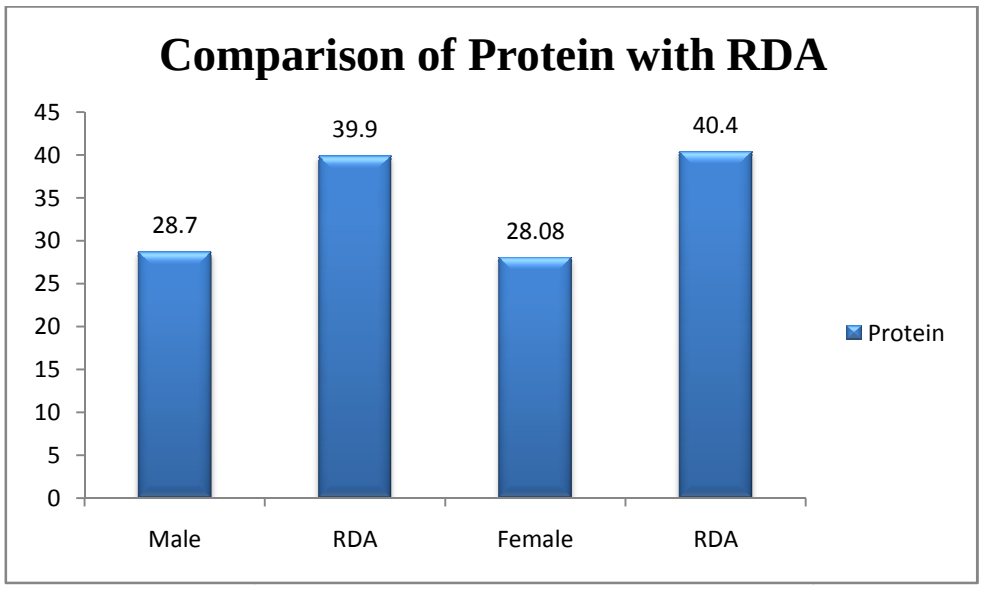

Fig. 1.2- Comparison of protein consumed by experimental group with RDA, 2010

Through a 24 hour dietary recall dietary consumption of the children were studied.

The above table shows the average consumption of protein, carbohydrates and fat of the children in a day. It also shows the total amount of energy consumed by the respondents. It was seen that there was a significant difference in the amount of energy consumed when it was compared to the RDA given by ICMR, 2010. Both male and female respondents were consuming almost same average amount of energy i.e. 990.40±185.86 and 995.92±182.44 respectively but when compared to the RDA for their age, it showed a significant difference.

Further, average protein intake of males was 28.71±8.01 and that of females was 28.08±5.77. Statistically, when intake of males and females was compared there was no difference found but when it was compared to RDA standard, the difference was significant. Children were consuming less of protein in a day.

There was a marginal difference in intake of fat among the male and female respondents. Average fat intake of males and females was 34.02±8.71 and 37±8.78 respectively. This fat consumption was calculated including both visible and invisible fat. According to, ICMR, 2010 the visible fat consumption of males and females is same i.e. 35g/day.

Food Frequency

How often do you consume-	Never (0)	Occasionally (1)	Once a week (2)	2-4 times a week (3)	Daily (4)
Burger, vada pav, samosa	3.2	29.6	48.0	14.4	4.8
Chips and chocolates	-	16.0	38.4	25.6	20.0
Pasta, maggi, noodles	6.4	25.6	51.2	12.0	4.8
Canteen food	3.2	21.6	45.6	22.4	7.2
Tetra pack-frooti, tang, maaza, etc	13.6	52.0	21.6	8.8	4.0
McD, KFC, subway, dominos	44.0	45.6	6.4	3.2	0.8
Pepsi, Thumbs up, Fanta	16.8	47.2	17.6	12.8	5.6
Cream biscuits	27.2	30.4	20.8	13.6	8.0
French fries, Mc cains	33.6	49.6	8.0	6.4	2.4
Bread, sandwiches	2.4	18.4	44.8	32.0	2.4
Pani puri, Sev puri	5.6	43.2	38.4	11.0	1.6
Frankies and rolls	10.4	45.6	28.8	11.2	4.0
Fruits	3.2	4.8	8.8	20.0	63.2
Milk, curd, paneer	0.8	5.6	4.0	12.0	77.6
Nuts-almond, walnut,groundnut	15.2	15.2	6.9	14.4	45.6

Table 2- Foods frequently consumed by the respondents

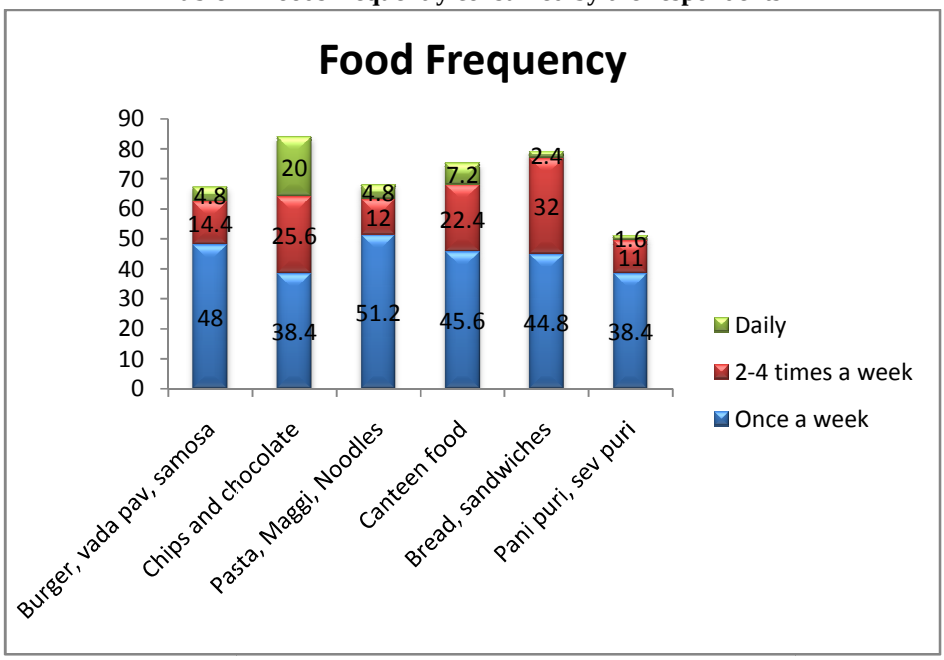

Fig. 2- Consumption rate of junk food

Food frequency questionnaire was given to the students to understand and gain insight of their eating pattern. To see how much junk food or unhealthy food was included in their diet on a daily basis.

Results showed that 48% of the students were consuming burger, vada pav, samosa once a week. Every child in the age group of 10-12 years were consuming chocolates and chips either once a week (38.4%) or 2-4 times a week (25.6%). Also 20% respondents were eating it daily.

Pasta, noodles were found to be children's favorite food item. 51.2% of children were eating pasta, noodles once a week followed by 12% who were eating it 2-4 times a week and 4.8% had it daily.

It was also seen through results that students were consuming canteen food very frequently. 45.6% were consuming it once a week while 22.4% ate 2-4 times a week.

It was found that respondents were not including much of aerated drinks, French fries, KFC, McD, cream biscuits in their diet.

Consumption of bread and its products like sandwiches were high among the children. 44.8% ate bread once a week followed by 32% who were consuming it 2-4 times a week.

It was seen that consumption of fruits and milk and its products was good among children ageing 10-12 years. More than 50% respondents were consuming them daily. Also Nuts like almonds, groundnuts were being included in the diet of 45.6% respondents daily.

Amount of junk or unhealthy food consumed by children was quite high. Such habits might result in metabolic disorders or health related issues in later stages of life.

CONCLUSION

From the study it could be concluded that the eating habits of children were not up to the mark. According to the 24 hour recall, males and females were consuming almost half the calories when compared to the Recommended Dietary Allowances for their age. Males were consuming only 990kcals while females were consuming 995kcals on an average. According to the recall, fat contributes to the energy more than the carbohydrates and proteins. Males and females were consuming 34g and 37g of fat in a day respectively.

Junk food or the foods that were low in nutrition were consumed frequently by children, which indicate that the food choices made by the children were not healthy. 48% of respondents were consuming vada pav, 38.4% were eating chips, 51.2% were consuming maggi at least once a week. Consuming such an unhealthy diet and living a sedentary lifestyle increases the risk

of childhood obesity and the disorders related to obesity.

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