



IMPACT OF JUNK-FOOD ON NUTRITIONAL STATUS OF SCHOOL GOING CHILDREN OF DURG CITY

R. Kashyap¹, A. Joglekar² and S. Verma³

¹Home –Science, Govt. arts and commerce Girls P.G.College, devendra-nagar, Raipur

²Home –Science, Govt. D.B.P.G.Girls'College, Raipur,C.G.

³Govt. Arts and Commerce Girls P.G College, devendra-nagar,Raipur

Abstract

Objectives: Assessment of impact of junk food on nutritional status among school children (150boys and150 girls) aged 13-17 years.

Method: In this cross sectional study general dietary habits and junk food eating was collected using pre tested Junk food questionnaire (FFQ) to find out the junk food eating habits of the particular subjects. Weight and height were recorded and children were classified according to BMI categories as per World Health Organisation.

Result: Out of 50 habitual of junk food boys, 10 % (5) boys were overweight; where as only 2% (1) girls were overweight. The consumption of energy and protein was also higher among junk food habitual children.

Conclusion: Junk- food or tertiary processed food is commercially prepared food designed for ease of consumption. Since last two decades the trend of eating outside the home has been increased among all people. The major change in food habit has been observed among school children. The overall result reveals that Junk food habitual children were overweight or obese than less habitual or non habitual children. The significant positive correlations between junk food habit and height and weight of the children were observed. Further studies are required to make aware parents and children regarding harmful effects of junk food. The study recommends promotion of homemade healthy food.

Keywords: Body Mass Index; Obesity, Adolescent Children; Nutritional Status; Correlation

Introduction:

Rapid urbanization and changes in social and cultural practices have modified the food habits of the community. Industrial development in Indian cities has compelled people from villages to migrate to cities in search of employment.¹ It is estimated that within the next ten years, half the India's population will be living and working in urban areas. Increase in buying power and long hours spent away from home computing to work places by women; make Junk- foods a necessity in every home. Most of junk foods are high in saturated fats and sugar that contain excess of salts and lack in fibre. These foods are less time consuming, easy to cook, easy to handle, easily available at all shopping areas and are as per consumer's choice. Junk- foods are the results of modern life style.

Since last two decades inclination towards eating outside the home has been increased among all people. The major change in food habit has been observed among school children⁴. Several studies ^{2, 3} reported high consumption of junk food by adolescent children resulting as a high prevalence overweight and obesity. But there is rare study available on effect of junk food on health status of adolescents. Keeping this view, the purpose of

present study is to find the effect of junk food on nutritional as well as health status of adolescent children.

Materials and Methods:

1. Selection of Samples and establishment of

rapport: The sample for the present cross – sectional study was collected from Durg city of Chhattisgarh state. A sample of 300 school going children (150 girls and 150 boys), aged 13-17 years were selected from various schools of Durg city. The Selection of sample was done on the basis of Junk- food eating habit. Taking permission before starting any work is an essential part of the research. So the researcher went to all institutes for seeking permission from the head of the institution. After taking permission from principal, same process was applied for students. Researcher took written consent from each student and then she distributed questionnaire to the student with an assurance that their response will be used only for research purpose and it will be kept confidential. All the details were collected in due time.

I. Junk Food Questionnaire: All the samples were selected on the basis of Junk Food consumption. It is self made non quantitative FFQs used to find out the dietary habits of the

particular subject. General dietary habits were collected using pre tested Junk food questionnaire. Using this questionnaire students were categorized as Junk Food Habitual (H), Junk Food Less Habitual (LH) and Junk Food Not Habitual (NH).

II. Anthropometric Measurements:

Anthropometry is one of the most basic tools for assessing nutritional status, whether over-nutrition or under nutrition (Zugao Mei et al, 2002). There are several methods available to measure body fatness and body thinness. Amongst all measurements height and weight based measurements are the most commonly and practical tools used in community surveys, for assessing nutritional status. Height was measured without footwear by using anthropometer to nearest 0.1 cm and while measuring height subjects were asked to look straight. The student stood straight with heels, buttocks and back touching the vertical limb of the wall. Portable weighing machine was used to measure weight of children without shoes and wearing minimum necessary clothes. It was recorded to the nearest 0.5 kg.

BMI: - The value of Body mass index (BMI) was calculated to grade chronic energy deficiency (CED). Body mass index was determined using the body weight (kg) and height (M) measurements using the following formula.

$$\text{BMI (Quetelet's index)} = \frac{\text{Body weight (kg)}}{\text{Height (m)}^2}$$

WHO classification of BMI for children and adolescents:

Underweight : <5th percentile
 Normal : 5-85th percentile
 Overweight : 85-95th percentile
 Obesity : >95th percentile

Source: Tim J Cole 2000

Statistical Analysis- the nutritional anthropometric indices were calculated as per WHO classification to grade chronic energy deficiency .⁵ mean intake of energy and protein was calculated individually and finally compared with Recommended Dietary Allowances(RDA) of India.⁶All the results were statistically analysed by using percentage, Frequency and cumulative frequency.

Results and Discussion:

Anthropometric indices and junk food consumption were observed to determine the effect of junk food on the BMI. Table 1 and 2 shows distribution of samples according to BMI classification based on WHO criterion to differentiate the level of obesity. It was found that overall slight variation was observed in both genders.

It is depicted that children habitual of junk food had poor health. They were either underweight or overweight or obese in both genders as compare to, which are less habitual or non habitual of junk food.

Table 1 shows that boys habitual to junk food were more obese (10%) and overweight as compared to other category. A study carried out by Jain in Bhilai support the present results, as the prevalence of obesity among school children was 8.4% and overweight was 23.8%. The overall result confirms that junk food habit affect the anthropometric measurements, either subject is habitual, less -habitual or not -habitual.

Table 2 shown that less habitual of junk food girls have more obese and overweight compare to other category. In this result found that 2% habitual, 14% less habitual and 8% non habitual girls are obese or overweight.

It is may be more quantity of eating junk food. Because it has high calorie and contribute to weight gaining. Junk food has sugar, trans fat, oil and salt is contribute for obesity and high blood pressure which are responsible for many other lifestyle disease like diabetes and hypertension.

Table 1 Distribution of Boys to Eat Junk Food and BMI Categories (N=150)

Categories of BMI	Tendency to Eat Junk Food			
	Total N (%)	Habitual N (%)	Less Habitual N (%)	Non Habitual N (%)
Underweight	92 (61.33)	32 (64)	30 (60)	30 (60)
Normal	47 (31.33)	13 (26)	16 (32)	18 (36)
Overweight and obese	11 (7.34)	5 (10)	4 (8)	2 (4)

Table 2 Distribution of Girls to Eat Junk Food and BMI Categories (N=150)

Categories of BMI	Tendency to Eat Junk Food			
	Total(150) N (%)	Habitual (50) N (%)	LessHabitual (50) N (%)	Non Habitual(50) N (%)
Underweight	57 (38)	21 (42)	19 (38)	17 (34)
Normal	81 (54)	28 (50)	24 (48)	29 (58)
Overweight and obese	12 (8)	1 (2)	7 (14)	4 (8)

Table 3 ANOVA Summary, Effect of Tendency to Eat Junk Food (A) x SES (B) on Calorie Intake of Girls between 13-15 years Age Group (N=84)

Source of Variation	SS	df	MS	F
A	1310146.024	2	655073.012	3.73*
B	2142079.462	1	2142079.462	12.19**
AB	546914.813	2	273457.406	1.55(NS)
Within treatment (Error)	13699979.501	78	175640.763	
Corrected Total	17137612.494	83		

* Significant at .05 level; ** Significant at .01 level; NS Not Significant

Conclusion

The term junk food itself defines to the foods that do not good to your body and they are completely unimportant to the body. Junk foods have no or very less nutritional value and irrespective of the way they are marketed, they are not healthy to consume. ³

Also the ease of manufacturing and consumption makes the junk food market spread its influence so rapidly. People, of all age groups are moving towards junk food as it is hassle free and often ready to grab and eat. ^{w3}

Nutrition experts have researched the bad affects of junk food and come to the conclusion that junk food manufacturing companies are fooling the people by showing deceptive ads that market show junk food as healthy. We must substitute junk food with healthier food like fruits and vegetables. ^{w3}

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