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A Study On Evaluation Of Junk Foods Consumption And Its Impact On Health

MS. SUCHITRA K RAJAPPAN[1] , DR. SUDHEESH.M[2] , DR.A.ANITHA[3]

[1]RESEARCH SCHOLAR , LNCT UNIVERSITY , BHOPAL.

[2]RESEARCH SUPERVISOR, DEPARTMENT OF MEDICAL BIOCHEMISTRY, LNCT UNIVERSITY, BHOPAL

[3]CO-GUIDE, SRI VENKATESHWARA RESEARCH CENTRE, THANJAVUR.

ABSTRACT

Junk foods is a term for food that is of minimal dietary benefit and regularly high in fat, sugar, salt, and calories. Low quality food can detrimentally affect levels of energy and mental prosperity. Utilization of enormous amounts of low-quality food is related with an exceptional decrease in the utilization of nutritious food. Aim: To study the junk food consumption and nutritional status of college students and to evaluate the effect of junk foods on student's health Method: The type of study design is analytical cross-sectional survey with a interview technique using close-ended questionnaire to obtain quantitative data. Data was collected among the students of Dr. N.G.P. Arts and Science College in Coimbatore district, Tamil Nadu, India. Selected subjects were in the age between18-20 year's adolescence age groups. Anthropometrical measurement such as height, weight, body mass index (BMI) were noted with the standard equipment and the biochemical parameters were collected from primary source. Results: The results shown higher percent of participants were males, with fat and obesity percentage was (31%) among females. A probability of $P<0.05$ level of significance was considered significant shows that the planned instructional module was effective and showed improvement in the knowledge level of school children about health hazards of junk foods and their food frequency were also taken to know about their consumption pattern. Conclusion: The present study found that excess consumption of junk food causes abnormalities of quantitative and qualitative data. So nutrition education is needed to enhance their health status.

Keywords: Junk foods, abnormalities, anthropometrical, waist.

INTRODUCTION

The director of the Centre for Science, Michael Jacobson (1972) invented the term junk food called "Empty calories". He was attributed as the "leader of the food protect" by the food manufacturing , for exposing the danger of junk food with using addition of food colors, salt and preservatives (Dixon et al., 2007).
Foods generally regard as fast foods such as salted foods, gum, candy, sweet desserts, fried fast food, and sugary carbonated beverages, Soft drinks, chips, wafers, noodles, pizza, burgers, French fries etc. are

firstly obtained in the shops (Ashakira and Deepthi, 2016; Klabacha,2002). From many years, junk food outdated to preceding the whole world by tempest, with their fetching colors, exciting the tongue, tempting to the younger and older ones, with their great arrangement of flavor (Kipke et al., 2007).

Normally, a junk food is given a very charming arrival by including food preservatives to improve taste, consistency, looks, and long life. Junk food can be engaging for some of cause, such as benefit, cost and flavor (Batool, 2019). Younger's could not know the health result of their consuming junk food that leads to appetizing. Although, usual eating of junk foods called as addictive for youngsters and results to obese, long term diseases, blood pressures and lower their mental activities (Currie, 2015).

Now modern days, both the parents are working so they can't able to spend their time to children. This is the main reason for that the poor unhealthy habits of children (Sharma, 2013). Some of the parents allow their children to eat junk foods to satisfy their bon-appetite. The junk foods not only affect the physiological effect but also cause psychological problems like poor IQ. World health organization (2009) reported that top five world issue to health, are overweight, heart disease, diabetes, cancer and high blood pressure caused due to poor eating habits and life style during childhood period. One quarter of 60 million deaths predicted to formed yearly due to these threats (Taber et al., 2011; Acampadoet al., 2018).

The advertisement and convenience of junk foods can peoples get faster addiction. The awareness of junk foods is very low to the society. Junk food and children are get affection to each others. So don't let children's to get adapt to junk food. Asked to avoid the junk foods in canteens in school or colleges. Also to reduce the temptation for children of taking junk foods. Controlling the temptation for junk food is much easier then controlling alcoholism.

Junk Food is danger to our health that is considered as slow poison to our generation. The term itself indicates that how harmful it is for our bodies (Feeley et al., 2009). Though, it is observed that college students eating junk food but does not fully know the involvement on health, this study is aimed at conveying the lack of awareness that the college students have regarding junk food and its dangers (Gopal et al., 2012).Nutritional problem is one of the major health problem faced by the millions students of all age group. The significance of this study is to take preventive approach for maintaining good health with specific education can be of greater benefit for the children to prevent mental and physical ailments. So, this present article aims to study the junk food consumption and nutritional status of college students and to evaluate the effect of junk foods on student's health.

Objectives of the Study:

Aim of the Study:

To study the junk food consumption and nutritional status of college students and to evaluate the effect of junk foods on student's health.

Specific Objectives:

To measure the difference in the mean level of knowledge between before the planned instructional module and after the intervention of planned instructional module to the college students.

To assess the knowledge and awareness of health hazards of junk foods.

MATERIALS AND METHOD

Selection of Subjects

This work was organized in liberty conception in total of hundred subjects were selected from Dr. N.G.P .Arts and Science College in Coimbatore district, Tamil Nadu, India. Selected subjects were in the age between18-20 years. Students were being in to adolescence age groups. Totally 100 students were selected. The students selected for this research were based on the method of raffle.

Study design

The study design is analytical cross-sectional survey for obtaining answers to the questions being studied and for handling some of the difficulties encountered during the research**.** Study design is used for assessing the effectiveness of planned instructional module on health hazards of junk foods among college students.

Sample size

The size of samples that contains 100 college students which ready to participate in this research.

Sampling method

Sampling method mention the methods of choosing of a part of the people to constitute the whole inhabitants. It refers to process of selection of a portion of the population to represent the entire population. Probability simple random sampling technique by using lottery method was used to select the children.

Tools used for the study

The interview portion was used for collection of data as quantitative and qualitatively.

Inclusion Criteria

College students both boys and girls between the age group of 18-20 years.

The students who are willing to participate.

Exclusion Criteria

College students who has exposed to similar teaching previously.

Students whose age below 18 years & above 20 years was excluded from the study.

Students who are not available during data collection.

Data collection

The data collection consists of structured questionnaire for assessment of knowledge regarding health hazards of junk foods. It deals with questionnaire for assessment of knowledge regarding health hazards of junk foods. The data collection period was one month. After obtaining permission from the principal of freedom concept college for conducting the study. The investigator visit the college and explained about the nature and purpose of the study and in person gave planned instructional module regarding knowledge about health hazards of junk foods among college students among 18 to 20 years of age.

Before collection of samples, sanction was getting from the particular person. Considering the detail of study, the collected samples were obtaining from the informed consent. The data were confident and secrecy of knowledge given by them.

The collected data from the students were corrected, tabulated and undertake in excel sheet. The data were examined and used graphic and probable manually. A possibility of lower than 0.05 was observed to be significant. The design of study was developed. Data on Mean, Standard deviation, and Mean difference, Range were used to estimate the level of college students among danger of junk foods.

Sample collection considerations

For this study, the researcher withdraws the data ranges. The work was received at the college research team. Initial approval was getting out of the particular person of the college. Determination of the sample collection was analyzed and written schedule was taken. Secrecy was pledged and make sure. The selected students were specified liberty to calm from research in the middle of if not willing. No repeated duties were changed or retained. External or internal pain was not caused.

Assessment of Nutritional status of the selected Subjects

Anthropometric measurements

This section of discussion part calculated to collect the Anthropometrical data of the persons such as Height, Weight, BMI, Waist circumference, Hip circumference, Ideal body weight and BMI. Using the BMI levels either the persons are under the category of normal weight, underweight, overweight or obese can be identified. BMI was calculated by using the formula given by NIH (Long et al., 2000).

Height

Height measurements were measured by leading the patients to stand erect without their slippers and stand straight by using 220cm Capacity SEA – 206 stadiometer.

Weight

For taking the weight measurement, the patients were asked to remove their ornaments that include wrist watch, chains, rings, bangles, shoes, slippers, and caps. The patients were asked to stand straight on the weighing machine and values were taken using a 150 kg capacity electronic digital scale.

BMI (Body Mass Index)

BMI were premeditated with the formula Weight in Kg / Height in Meter square using the reference values of NIH (2018): < 18.5 being lower weight, 18.5-24.9 being gradual weight, 25-29.9 being higher weight and >30 being obese.

Waist circumference

Circumference of waist is measured by calculating all over the belly at the portion of the navel (belly button). Health expertise use circumference of waist to monitor subjects for feasible overweight difficulties.

Men: >40 inches (>102cm) women: >35inches (>88cm)

Waist Hip ratio

The waist-to-hip ratio (WHR) is the logarithmic proportion of the perimeter of the waist to hips. The waist measurement split by hip measurement of hip (W ÷ H).

IBW (Ideal Body Weight)

A weight is considered to be extremely healthy for a subject, that mostly on height but changed to components includes sex, age, shape, and muscles development. BMI takes into exposition of both height and weight but no body composition. A BMI is under 18.5 consider as underweight and between 18.5 and 24.9 is perfect. Also in the middle of 25 and 29.9 is overweight.

Bio chemical profile

Bio chemical measurements took at the ranges of certain substances and enzymes that are produced by chemical reactions in the body **(**Baig, 2012**).** Bio chemical parameters of the selected students were collected with the help of laboratory. The ranges were compared with the normal reference values.

Clinical examination

A clinical examination is the procedure by which an autopsy the patient. All the selected students were evaluating clinically.

Dietary pattern

Food or dietary pattern related research prevents which of the basic issues of the work evaluating the part of nutrients. It supplies also general details for the person and to be worn to make healthy awareness. Consequently the effects of foods or food habits should be observed in equal to those of each nutrient. A 24-hour food habit recall (24HR) is administered survey calculated to ensure full data's about all nutrients and drinks (and possibly, dietary supplements) utilized by the defendant in the last one day.

Junk food consumption of adolescents

The junk food utilization denotes the varieties of junk food they eating, how many times they take in a week, what are the junk food they took were assessed in all selected students.

Analyzing of data using statistical method

The purpose of data analysis is to reduce the data to intelligible and interpretable form so that the relation to each problem can be studied and tested. The data was analyzed by using descriptive (frequency and percentage distribution) and inferential statistical (find out the association between the selected demographic variable and level of knowledge about health hazards) methods .They are used to find out the percentage, mean, standard deviation and t test.

RESULTS

The results distribute with this investigation and elucidation of the collected data following the computer serving belonging effect of fast foods on healthier adult students at selected college was Dr. N.G.P. Arts and Science College in Coimbatore district, Tamil Nadu, India. The collected data were corrected, tabulated and examined interpreted and the results found were produced in the following portions. Out of 100 students, majority of 54 percent were boys and 46 percent girls with regard to the age between 18 to 20 years in every class.

Anthropometric Measurements

Nobody in underfed, 2 % boys and 4% girls regarding to normal BMI, 15% boys and 22 % girls regards to overweight and 26% boys and 31% girls belong obese. So majority of the selected subjects were come under fat and obesity (Table-1).

Analysis of Bio Chemical parameters

The hemoglobin quantity of 24% boys and 22% girls had 8-10 mg/dl, 9 percent boys and 15% girls had 10-12 mg/dl and 10% boys and 20% girls had 12-14 mg/dl of hemoglobin. Most of the chosen students had very low level of hemoglobin count in their blood (Table-2).

Assessments of Clinical parameters

The assessments of clinical parameters were finished in all the selected students but all the students had usual clinical indications of health. Discussion among the participant about the fondness of fast/junk foods denotes that various types of fast/junk food getting at very low cost appear to be the main factor for selecting junk foods.

Dietary Assessments

These study provided that 3% boys and 5% girls were vegans, 40% boys and 50% of girls were non vegans and 2% girls were Ova vegans (Table-2).

Intake of Nutrients

Consumption of energy, protein, fat, and vitamin-c were elevated than the RDA for both boys and girls. Feeding of calcium and iron are lower than the RDA for both boys and girls (Table-3).

Frequency of utilization of Junk Food

26 percent of students they eat pizza once a week, 32 percent of subjects eat pizza weekly twice, and 38 percent of students had three times in a week, 3 percent of subjects greet sometimes. 35 percent of students had burger weekly once, 28 percent of students had weekly twice, and 27 percent of subjects consume three times. 23 percent of students had puffs weekly once, 29 percent of students eat weekly twice and 39 percent of students had three times per week. 25 percent of students consume pastry weekly,35 percent of subjects eat two times in a week, 26 percent of students eat for three times. Most of the students were consume all junk foods weekly once, weekly twice and thrice in a week. Very low percentage of students only eats junk foods very rare (Table 4 & 5).

Comparison between Mean and Standard Deviation of level of Knowledge

The overall mean of knowledge regarding health hazards of junk foods in post test is 20.6 and standard deviation is 1.318. The mean value is 12.31 and the standard deviation is 3.21 and the t-test value is 34.25 and the confidence level of interval ranges from 11.60 to 12.97 which was statistically significant at $p<0.05$. This shows that the planned instructional module was effective and showed improvement in the knowledge level of school children about health hazards of junk foods(Table 6 and 7).

DISCUSSION

This work revealed that selected college students for the work, an experimental research to establish the effect of educating junk foods on health among college students. The researcher formed a structured opinion poll as a gadget for the present study. The study was found to be practicable. The data collected were examined and elucidated by hand.

Krolneret al (2011) convoy a research on elements associated to toper fast food utilization in the middle of 8 to 16 years of age, in Haitian District of Beijing. A questionnaire research was regulated to explore the utilization of ten types of fast food implementation in 1019 children and adults aged between 8-16years (Green, 2019). Another work also by Sahasporn Paeratakul et al (2003) revealed that one out of every three college students in each year level had low amount of poor dietary habits (Marquis, 2005).

Similar advertising dated proved to develop kids likable for the favorite foods, their food utilization and eventually in their diets (Rang et al., 2006). The eating of fast foods and prepared foods should be keeping away at the growing years. A decreased intelligence construct them low survival with activities of school times, squint and harm the maturation and growing. Thus, the organized educational modules do a main part in developing the perception amidst school students regarding the health effects of fast foods. That also improves the students to grow healthy diet and to prevent junk foods to magnify their visible and physical growing powers (Rasmussen et al., 2006).

Same results were observed in the study tackled by Thornton et al (2009) to the college students of Bangladeshi University (Bauer et al., 2009). He analyzed that the levels accountable for liking the junk food because of their easy to eat, easy availability, taste, price and serving. This leads to the results

obtained from the study observed out to the students of Sultan Zainal Abeddin University, Malaysia (Syafiqahet al., 2018). Sonoo Ranjana et al (2001) had analyzed that time consuming, processed foods, ease of high calorie food, and easy approach to junk food are some of the most fencing to healthy eating.

This research is hold up by the result of the study brought out by Kumar et al. (2013) to the hostel boarders of the Lovely Professional University where they have discover that grasp and understanding regarding the effectiveness of junk food have indirect contact on the well utilization motif to the hostellers Rao et al (2007). Related research was found by Abraham et al. (2018) where the work showed no relationship connecting the utilization and eating habits. The students were aware of the threat involves with unhealthy diets, but their food habits does not correspond with their knowledge (Abraham et al., 2018).

Lack of physical activity and harmful dietary habits are the main reasons that may have unfavorable effects on the obese of the students in young adulthood and thus the future health of adults (Allomet al., 2013). Alphonsus et al (2013) specify that consuming junk food may leads to overweight. The term with which most participants concur was 'obesity is linked to high level fast food consumption.

It was a reality that Junk- food is tasty, easy, and fetching food material. Therefore this food has been, easily obtained through whole world. The eating of Junk-food has expanded since two decades, particularly to youths. It is easily getting at low price away from the home which gives as an interchange in nutritional habits of the population all over the world. It has become the part of our life .The fastest desire towards Junk-food has been noticed in India as well as, small cities. In our point of view apart from its low nutritional value, its easily accessibility ,its low price, marketing tools , its energy and time consuming habitual and changes in demographic status of the population, was major cause that attract adults through junk food.

Hence, the planned instructional module acts an important part in improving the knowledge between college students about the health hazards of junk foods. This will help the students to cultivate healthy eating habits and to avoid junk foods to enhance their wellbeing physically and mentally.This shows that the planned instructional module was effective and showed improvement in the knowledge level.

CONCLUSION

The results of the study showed that before the planned instructional module the college students had inadequate knowledge and awareness lack of health hazards of junk foods. But after the intervention of planned instructional module, there was development in their level of knowledge of the hazards of junk foods. Today's children are Tomorrow's future. Nutrition at the formative period has a meaningful long term effect, gives building blocks to constructing the growing brain. So, it is required for the Educators, Health Personnel and the Government to create awareness of eating habits of healthy foods among the students to develop their physical and mental well being.

Adolescence, an essential level of growing, symbols the time of change from child age to adults. It is distinguished by fast body interchanges, resulting in sexual, mental, emotional psychological and behavioral maturation. Both male and female face stress in this period. The present study conclude that excess of junk food utilization directly affects the adult's health in term of obese, increased fear, changes in blood pressure, lack of physical activation, lack of concentration in studies. The challenges to get rid of lower junk food consumption in college students involves nutrition educational programmes from the school, parents education, awareness programs, regulation of junk food trade and licensing. So nutritional education is most need of the hour for college students to reduce the utilization of junk food increase their status of health.

RECOMMENDATIONS FOR THE FUTURE STUDY

Based on the research findings the following recommendations were made:

A true experimental study can be done to assess the knowledge regarding health hazards of junk foods.

The effectiveness can be assessed by various methods of teaching like interactive video and audio programmed instruction about health hazards of junk foods in implementing the knowledge and attitude among school children.

LIMITATIONS

This investigative study has certain limitations though the real aim of this study is not affected by them. The scope of this work is limited to students of college, disregarding the rest of the peoples of higher and lower age peoples. And also this research work being carried out in Indian circumstances may not grasp true globally.

STRENGTH

This research study gives the data of baseline for accompany other research studies.

This study will be the inspiration for the young researchers to perform same studies in larger samples.

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Table-1: Anthropometric Measurements of selected students

S. No	BMI Distribution	Status	Percentage of Boys	Percentage of Girls
1	<18.5	underfed	-	-
2	18.5-24.9	normal BMI	2	4
3	24.9-29.9	overweight	15	22
4	Above 30	fat and obesity	26	31

Table-2: Analysis of Bio Chemical parameters and dietary assessment

S. No	Hemoglobin (Mg/Dl)	Percentage of Boys	Percentage of Girls
1	8-10	24	22
	10-12	9	15
	12-14	10	20

Dietary Pattern			
2	vegans	3	5
	non vegans	40	50
	Ova vegans	0	2

Table-3: Nutrient Intake of the Selected Students

Nutrients	RDA		Actual Intake		Excess		Deficit	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Energy(kcal)	3000	2350	3570	2769	400	510	0	0
Protein(g)	50.2	60.5	70.4	67.8	10.9	11.3	0	0
Fat(g)	49	37	62	59	10	20	0	0
Calcium(mg)	750	751	700	670	0	0	78	143
Vitamin c(mg)	38	38	45	53	22	17	0	0
Iron(mg)	27	25	22	16	0	0	8	7

Table-4: Frequency of utilization of Junk Food-Bakery items

Food items	Daily	Once in a week	Twice in a week	Thrice in a week	Occasionally	Rarely	Percent N=100
Pizza	_	26	32	38	3	1	100
Burger	_	35	28	27	6	4	100
Puffs	9	23	29	39	_	_	100
Pastry	_	25	35	26	9	5	100
Cake	15	13	35	37	_	_	100
Biscuits	57	8	24	11	_	_	100

French fry	10	28	29	23	7	3	100
Noodles	6	32	36	24	2	_	100
Doughnut	_	23	26	43	6	2	100

Table-5: Frequency of utilization of Junk Food- Soft Drinks

Food items	Daily	Once in a week	Twice in a week	Thrice in a week	Occasionally	Rarely	Percent N=100
Pepsi	9	28	23	35	3	2	100
Coca cola	12	15	24	44	5	_	100
Slice	4	20	25	36	12	3	100
7up	5	17	28	41	7	2	100
Bovonto	16	14	29	36	3	1	100
Sprite	11	19	23	37	7	3	100

Fig-1: **Comparison between Mean and Standard Deviation of Knowledge on Planned Instructional Module**

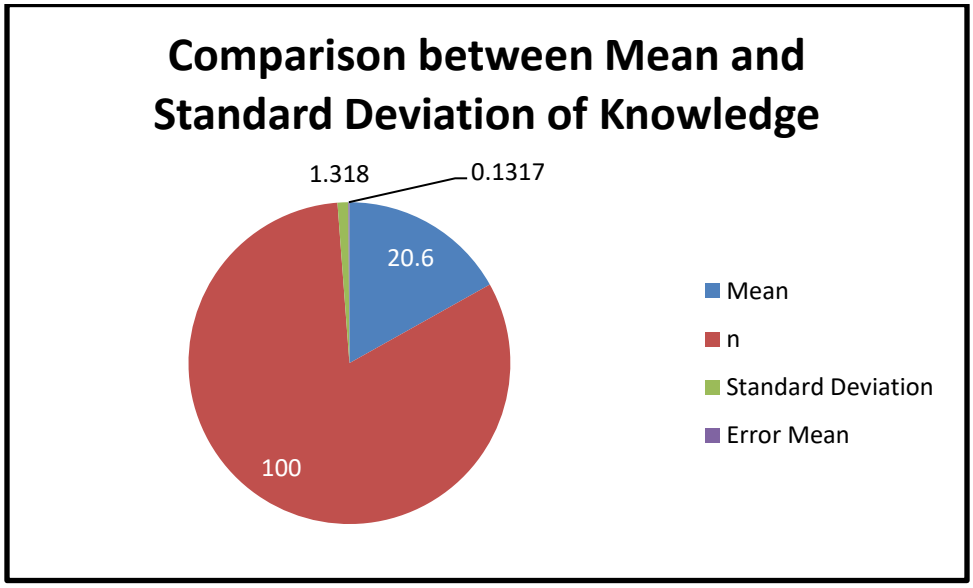

Table : 6 & 7 Comparison between Mean and Standard Deviation of level of Knowledge on before and after intervention of Planned Instructional Module on Health Hazards of Junk Foods

Paired sample t test

	Mean	N	Standard deviation	Standard error mean
Posttest	20.6	100	1.318	0.132
Pretest	8.29	100	2.412	0.234

	Paired sample t test							
	Mean	Standard deviation	Standard error mean	95% confidence level		T value	D.f	P value
Pretest-post test	12.31	3.21	0.32	11.6	12.97	34.25	99	.000

Fig-2: Comparison between Mean and Standard Deviation of Level of Knowledge and Effectiveness of Planned Instructional Module on Health Hazards of Junk Foods