The Relationship between Fast Food Consumption and Body Mass Index (Bmi) Among Lnipe Nerc Male Students

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I.   INTRODUCTION

One of the most important recent changes leading to an obesogenic environment is the increased of fast-food consumption. College's students are highly exposed to unhealthy eating habits leading to body weight gain.Because of time constrains, convenience and life style, fast food has becomeincreasingly an important part of the American diet and the growth of fast-food industry has been an important environment inducement for increases food consumption. The introduction of fast food overseas has been accompanied by a similar increase in obesity in these countries. Fast food consumption spread out rapidly in last ten years especially between teenagers and youth. The results frommany studies showed that fast food consumption was higher among children and adolescent, young adults and people with higher income. It has been suggested that fast food may encourage soft drink consumption and associated with low intake of vegetables, fruits and milk in both adult and children. Some studies have investigated the effects of fast-food consumption on energy balance and body weight. It has found harmful sequences of these foods on health; like the associations between fast food intakes, frequencies of visits to fast food restaurant and increased weight gain, higher BMI and insulin resistance which will subsequently lead to increases in the risk of obesity and development of type 2 diabetes. Furthermore, fast food consumption was associated with lower intakes of vegetables and fruits. The relationship between fast food, BMI and the pattern of food consumption in this college students was not studied well in literature. We expect that the association between fast food and BMI is different in this population as they were supposed to have knowledge in nutrition and less bad dietary habits. Therefore, the aim of the present study is to investigate the relationship between consumption of some fast food, BMI, the frequency of eating fast food and the impact of the male student's on the consumption of fast food.

Significance of the Project
The relationship between fast food, BMI and eating pattern of food consumption in male students of LNIPE NERC Tepessia, Sonapur, Assam.

Objective of the Project
1. To assess the relationship between consumption of fast food with BMI.
2. To assess the frequency of eating fast food and the impact of male students of LNIPE.
3. To make them aware about the nutrition and adverse effect of fast food.

II.   MATERIALS AND METHODS

This is a descriptive, questionnaire-based, cross-sectional analysis study. One hundred students were interview. Total of 100 LNIPE NERC Tepesia male students age between 18 to 24 years were included. The study was explained to each subject who was provided with brief information about the study. The questionnaire contains several data including information on demographic characteristics like age, height, weight, families income levels and information on consumptions patterns [consumption of fast food (French fries, chicken momo, meat sandwich, egg/meat roll, Samosa/Kachori/Pakoda, pizza and soft drink), frequency of consumption (number of days/week), portion size (super-size or regular size), where they eat their meal in restaurants, home or college]. It also includes information on applying their basic nutrition scientific knowledge on their selection of food. Height was recorded to the nearest 0.5 cm and body weight was measured to the nearest 0.1 kg using electronic scale. BMI

was derived from body weight divided by the square of body height in meters. The BMI was classified into six groups according to the National Institutes of Health (NIH) (National Institutes of Health, 1998). Group 1 underweight (BMI<18.5), group 2 normal weight (BMI = 18.5-24.9), group 3 overweight (BMI = 25-29.9) and group 4 obesity grade 1 (BMI = 30-34.9), group 5obesity grade 2 (BMI = 35-39.9) and group 6 obesity grade 3 or extreme obesity (BMI>40). In this study only three Group researcher is consider. In this study we used a definition that was modified from different reported definitions that includes but not limited to eating from the famous western fast food restaurants chains like McDonald's, Kentucky Fried Chicken, Burger King, Pizza shops, etc. and the local chains of similar restaurants. Brand name fast food when compared with same type of traditional food does contain great amount of salt, fat and high in energy, all could have an important impact on development of obesity and risk for cardiovascular disease.

Statistical Analysis

Data were analysed by using SPSS version 12. Descriptive data was obtained for all the parameters tested as percentage. For a comparison of categorical variables, one way ANOVA test were used. The probability level of $p<0.05$ was set for statistical significance.

III. RESULTS

The Subject were taken from LNIPE NERC SonapurB.P.Ed Degree 100 Male Students participated in the present study. Mean age was 20.02 years.

Table 1 represent the sociodemographic characteristics of the students Age and their Family Annual Income. The Students BMI were show that 33% of the students were Normal Weight and 67% were Over Weight.

Table 1: Sociodemographic characteristics of the students

Age	No.
18-20	65
21-23	34
24-26	1
Family Income	**No.**
Less than 2.5 Lakh	38
2.5 to 5 Lakh	48
More than 5 Lakh	14
Body Mass Index	**No.**
Group 1 (Under Weight)	0
Group 2 (Normal Weight)	33
Group 3 (Over Weight)	67

Table 2 Fast food frequency was in the range of 1-2 times per week in majority 55%, 3-4 times per week is 40% and rest 5% is more than 5 time per week.

Table 2: Frequency of fast food consumption by classification of BMI category

BMI Group	1-2 Time	3-4 Time	5 More	No.
Group 1 (Under Weight)	0	0	0	**0**
Group 2 (Normal Weight)	21	18	2	**41**
Group 3 (Over Weight)	34	22	3	**59**
	55	**40**	**5**	**100**

Table 3The majority 81 % of male students have the knowledge that fast foods are unhealthy. However only 19% didn't knew that it's high in fat, sodium, energy and low in fiber, this in spite they study this information in their college.

Table 3 : Knowledge about fast foods

Knowledge about fast food	No.
Unhealthy	**81**
I don't Know	**19**
Healthy	**0**
	100
Reason why fast food is unhealthy?	**No.**
High in fat	**21**
Low fiber	**14**
High fat, High sodium, Low fiber	**8**
High fat, low fiber	**15**
High fat, High energy	**20**
High fat, High energy, Low fiber	**15**
All of the above	**7**
	100

Table 4 However, we found that there is a significant (p<0.05) positive relationship between university study level and the knowledge in explaining why fast food is unhealthy. Also, there was no observed significant relationship between family income and each of; the amount of consuming fast foods, the frequency of consumption and BMI.

Table 4: Correlation between university study level and different variables using one way ANOVA

Variables	F	df	Sig.
Amount of Fast Food Consumption	0.363	3	0.781
Knowledge that Fast Unhealthy	0.701	3	0.553
Reasons for Agreement that Fast Food Unhealthy	10.028	3	0.001
BMI	1.413	3	0.243

Our results revealed that large number 67 of the students follow unhealthy food habits. About 33 of students thought that they consumed more quantity when they ate in restaurants compared to eating at LNIPE NERC Sonapur.

IV. DISCUSSION

Our study showed no correlation between fast food consumption and BMI, which was in agreement with Haines et al. study (2007). The present data demonstrated that 67 % of the students were overweight or obese and only 33% of students were come under Normal Weight. The frequent consumption of fast foods is one of the main reasons for high intake of saturated fatty acid and trans fatty acids which partially come from using hydrogenated vegetable oil (Mario Fernandez and Juan, 2000). This class of fatty acids can cause insulin resistance and predispose to type 2 diabetes (Pereira et al., 2005).

Many studies have reported that adults who consume fast food have significantly lower intake of more healthful nutrients such as bread, cereals, grains, milk and legumes (French et al., 2000; French et al., 2001; Paeratakul et al., 2003; Al-Rethaiaa et al., 2010). Our study showed that 81% of the male students knew that fast foods are unhealthy, which was expected since they are studying nutrition and have the information about harmful effect of these foods. Result from this study showed that there is a significant (p<0.05) positive correlation between university study level and the knowledge in explaining why fast food is unhealthy; as we found that progression in education to higher level will be associated with decrease in consumption of fast food. Students with 4 or more years of college education showed lower fast-food consumption compared with those with early levels of college education, this is in agreement with other study by Paeratakul et al. (2003). More than half of our subjects eat fast food at college, this high rate of fast-food consumption at home could be due to the convenience of ordering and delivery of fast food to college campus compared to either at going to restaurants. The limitation of our study is the relatively small sample size. The advantage of our study is that we have examined the existence of this important dietary health problem in a unique group of male students with background knowledge in nutrition. Furthermore, we have performed a face-to-face questionnaire and avoided the self-administered questionnaire in order to clarify any misunderstanding questions, prevent low response and minimize the possible bias.

In conclusion, our study showed that there is no significant relationship between consuming fast foods, frequency of consumption and BMI. Data shows that 67% of male students were overweight and obese. There is a significant positive relationship between increase in size of Samosa/Kachori/Pakoda meal and increase of BMI. Moreover, positive relationship between college study level and the knowledge in explaining why fast food is unhealthy. Frequency of consumption fast food was high among students as they consume fast food 1-2 times per week. Also, the study showed that college students consumed unhealthy food. We suggest that if it is necessary to eat fast food, then choosing the lower-fat items that are available at many fast-food locations may help in reducing the excess energy intake associated with high-fat items. Additional data, especially longitudinal data are needed to examine the relationship between fast food and BMI on large sample of subjects.

REFERENCE

[1]. Huang, T.T., K.J. Harris, R.E. Lee, N. Nazir, W. Born and H. Kaur, 2003. Assessing overweight, obesity, diet and physical activity in college students. J. Am. Coll. Health, 52: 83-86.

[2]. French, S.A., L. Harnack and R.W. Jeffery, 2000. Fast food restaurant use among women in the pound of prevention study: Dietary, behavioral and demographic correlates. Obes. Relat. Metab. Disord., 24: 1353-1359.

[3]. Paeratakul, S., D.P. Ferdinand, C.M. Champagne, D.H.Ryan and G.A. Bray, 2003. Fast food consumption among U.S adult and children: Dietary and nutrient intake profile. J. Am. Diet. Assoc., 103: 1332-1338.

[4]. Rasheed, P., B.M. Abou-Hozaifa and A. Khan, 1994.Obesity among young Saudi female adults: A prevalence study on medical and nursing student. Public Health, 108: 289-294.

[5]. Shankar, P., J. Dilworth and M. Hyers, 2001. Nutritional adequacy and factors that influence food choices among undergraduate students. In Proceedings of the American Dietetic Association, Food and Nutrition Exhibition and Conference, 101: A82.