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Fast Food Consumption Pattern among Undergraduates of the University of Ibadan, Nigeria: Implications for Nutrition Education

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ABSTRACT

Consumption of fast foods has gradually become a common lifestyle in Nigeria especially in urban areas and among young people in spite of the associated adverse health consequences. University undergraduates' pattern of consumption of fast foods and their perception of this practice as a risk factor for Non-Communicable Diseases (NCDs) have not been fully explored. This study was designed to assess fast food consumption pattern and the perception of it as a risk factor for NCDs among undergraduates of University of Ibadan. Four hundred undergraduate students recruited using a three-stage sampling technique from halls of residences participated in the survey. Data was collected through a pretested self administered questionnaire and analyzed using descriptive statistics and Chi-square test. The mean age of respondents was 22.0 ± 3.3 years, 57.3% were males, 98.5% singles and 85.4% of their parents were employed. Majority (99.5%) were aware of fast foods and 54.6% perceived them to be meals with minimal processing time. Perception of time when fast foods could be taken was at breakfast (69.5%); lunch (69.5%) and dinner (69.5%). Main types of fast food consumed were flour-based products only (81.1%) and flour-based products together with carbonated drinks (17.7%). Frequency of consumption included once in a week (19.1%), twice a week (15.6%), thrice a week (10.3%) and everyday (8.0%). Only 6.5% of respondents preferred fast foods to home-made meals and reasons for preference included being readily available and stress free (66.6%) and being more delicious and nutritious (19.1%). Fast food consumption was significantly higher among males and those whose parents were employed ($p<0.05$). 55.0% had no idea of how fast food consumption can be a risk factor for developing NCDs. Educational campaigns and behavioural change communication on healthy nutrition and lifestyles among young people are hereby advocated.

Keywords: Fast foods, Non-communicable diseases, Perceived vulnerability, Young people, Fast food consumption pattern.

INTRODUCTION

Globally, the burden of non-communicable diseases has rapidly increased. In year 2001 non-communicable disease accounted for 60 percent of the 56 million deaths worldwide and 47 percent of the global burden of disease [1]. Apart from tobacco consumption, high levels of cholesterol in the blood, low intake of fruit and vegetables, being overweight and physical inactivity are among the leading factors in the increase in non-communicable diseases. For all countries, current evidence suggests that the underlying determinants of non-communicable diseases are largely the same. These include increased consumption of energy-dense, nutrient-poor foods that are high in fat, sugar and salt; reduced levels of physical activity: and of particular concern are the increasingly unhealthy diets and reduced physical activity of children and adolescents [1]. Often overall nutrient intake adequacy improves with an increasing variety of foods [2], but the movement toward more fats, salt, sugars and refined foods quickly moves beyond the optimal state to one in which diets contribute to rapidly escalating rates of obesity and chronic diseases [3].

Diets of the African population tend to differ between rural and urban dwellers. Studies have shown that rural dwellers diets are low in fat and sugar but high in carbohydrates and fibre [4], while their urban counterparts show high fat and low fibre and carbohydrate intake [5] which is typical of a Western diet. Epidemiological data from developing and developed countries concluded that with the westernization of the diet, many chronic diseases would emerge, first as obesity (a major risk factor for non-communicable diseases including type II diabetes, stroke, hypertension and certain types of cancers [6], followed by diabetes and cardiovascular diseases.

The prevalence of non-communicable diseases such as hypertension and diabetes mellitus including obesity has increased among the black population over the past few years. The increase in these diseases has been associated with increased urbanization and lifestyle changes [7]. As a result of these changes, many people replace healthy foods with fast foods which mainly consist of saturated and trans-fats with low content of massive portion sizes and fibres. Thus dietary changes from traditional high fiber diets towards foreign fast food diet have contributed to the increase of the incidence of diet related non-communicable diseases.

The concept of fast food eating has expanded into food sales in schools. For many students the day is not complete without observing the "daily ritual" of visiting a fast food joint and most of the fast food restaurants in

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the cities have began to open centres within and very close to schools especially university campuses [8]. Some meals available for refreshment during celebrations, meetings and conferences are also now being prepared by fast food chains. This has increased the number of times people feed on these foods [8].

Diet and nutrition along with lifestyle changes are recognized as the principal environmental components affecting a wide range of diseases of public health importance in the developing countries [9]. While many Nigerians have been obsessed about weight and body shape, not so many have taken time to watch their dietary patterns. This is in view of the fact that more and more Nigerians are getting addicted to the fast food syndrome, coupled with the avalanche of fast food restaurants that are springing up in the cities. However, very few Nigerians have paid attention to the health implications of these food outlets. This study therefore was carried out to assess consumption of fast foods and perception of vulnerability to non-communicable diseases among Nigerian undergraduates.

MATERIALS AND METHODS

Study design

The study was a cross-sectional descriptive survey aimed at determining the pattern of consumption of fast food and perception of the practice as a risk for the development of non-communicable among the undergraduate students of the University of Ibadan.

Study site

The study was carried out within the campus of the University of Ibadan located 8 kilometers from the centre of the major city of Ibadan in Oyo State, Nigeria. The University of Ibadan is the first University institution established in Nigeria, it was founded in 1948, as a College of the University of London with 104 students spread across three faculties: Arts, Science and Medicine. It became an autonomous, degree-granting institution in 1962. As at the time of the study, the University has a total enrolment of over 20,000 students shared among the 13 different faculties: Arts, Sciences, Basic Medical Science, Clinical Sciences, Dentistry, Public Health, Pharmacy, Agriculture and Forestry, the Social Sciences, Education, Veterinary Medicine, Technology, Law and the various institutes. The University has ten halls of residence for undergraduate students and two for postgraduate students. Out of the ten undergraduate halls of residence, one is a mixture of both undergraduate and post-graduate students (both male and female). The others consist of six male students' halls of residence, two female students' halls of residence and one is a mixture of both male and female undergraduate students. The halls were used as a basis of the research study for easy tracing of the students and for follow up purposes.

Study population and sampling

The study population comprised of the undergraduate students of the University of Ibadan residing within the various halls of residence. The sample size for the study was calculated using the EPI-6 Statistical Package and the inclusion criteria was that the respondents must be an undergraduate student of the University and resident in the halls.

A three-stage random sampling technique was employed in selecting the respondents. First, one block each was selected by balloting from all the 10 undergraduate halls of residence in the University. Secondly the list of all the students within the blocks was compiled and stratified random sampling with proportional allocation (Table 1) was used to select respondents from the blocks and finally all the students found in the rooms within the selected blocks during the day of the visit were invited to participate in the study.

Table 1 – Sampling of Respondents from Halls of Residence

Halls of residence	Block	No. of Occupant	Proportion (%)	No. per hall
Queen Elizabeth II	E	60	4.2	17
Melanby	B	36	2.5	10
Tedder	D	66	4.7	19
Ransome Kuti	C	126	8.9	35
Queen Idia	A	432	30.4	121
Independence	B	296	20.9	84
Sultan Bello	A	171	12.1	48
Nnamdi Azikiwe	D	56	3.9	16
Obafemi Awolowo	G	140	9.9	40
Alexander Brown	C	35	2.5	10
Total			**100**	**400**

Instrument and process of data collection

A 48-item pretested self administered questionnaire consisting of questions relating to the socio-demographic characteristics; knowledge about fast foods and pattern of its consumption was used for the survey.

The questionnaire was administered to the undergraduate students in their rooms within the selected blocks in the various halls of residence. Students who were unwilling to participate were exempted from the study and were replaced with other willing students from adjoining rooms. Data collected

were analyzed using SPSS (Statistical Package for the Social Sciences) software, Version 15.0. Both descriptive (means and standard deviations) and inferential (Chi-square) statistics were used to analyze the quantitative data with the level of significance set at 5%.

Ethical considerations

Approval for the study was obtained from the University of Ibadan/University College Hospital Ethical Review Committee and verbal informed consent was obtained from each respondent before the administration of the questionnaire.

RESULTS

Socio-demographic characteristics

The mean age of respondents was 22.0 ± 3.3 years, 57.2% were males, 98.5% were singles and 87.7% of the respondents' parents were employed. Level of study ranged from 100 to 600 with 88.8% in the 100 to 400 levels. Other socio-demographic profiles are presented in table 2.

Table 2 – Socio-demographic Characteristics of Respondents

Socio-demographic variable	Number	Percentage
Age in years		
≤20	139	34.7
21– 25	213	53.2
26– 30	43	10.8
31 – 35	4	1.0
≥36	1	0.3
Total	**400**	**100**
Sex		
Male	229	57.2
Female	171	42.8
Total	**400**	**100**
Class level		
100 level	140	35
200 level	66	16.5
300 level	67	16.8
400 level	82	20.5
500 level	40	10.0
600 level	5	1.2
Total	**400**	**100**
Parent's occupation		
Self employed	140	35.0
Employed	149	37.2
Professional	48	12.0
Retired	22	5.5
Clergy	14	3.5
No response	27	6.8
Total	**400**	**100**

Awareness and Knowledge of fast foods

Awareness of fast foods was high (99.5%) among the respondents and examples of types of fast foods listed included meat pie (94.2%), beef roll/ sausage (91.0%), hamburger (89.7%), egg roll (89.4%), doughnut (88.4%), ice cream (82.7%), cake (81.2%), hot dog (75.4%) and carbonated drinks (67.1%). Fast foods are believed to be meals with low preparation time (54.6%) sold in restaurants and 52.1% believed that fast food consumption is one of the risk factors for non-communicable diseases. Of the 398 who were aware of fast foods, 39.1% knew that fast foods are prepared with high salt content among others. Other levels of knowledge of content and preparation of fast foods are presented in Table 3.

Table 3 – Respondents' knowledge of the contents of fast foods consumed

*Knowledge of content of fast foods	Number	Percentage
High salt content	127	31.9
High sugar content	274	68.8
Saturated fats	296	74.4
High Cholesterol	286	71.9
Additives	17	4.3
Low fibre content	4	1.0

* Multiple responses

Perceptions of fast food consumption and its risk in developing NCDs

Forty-five percent of the respondents agreed that fast foods are part of normal diet, 30.2% of the respondents were of the view that fast food consumption is a measure of one's socio-economic status and 31.6% agreed that fast food consumption is a sign of enjoyment and sophistication. Majority of the respondents (82.7%) disagreed with the view that frequency of fast food consumption has no effect on the body and 26.6% agreed that fast food on its own cannot lead to non-communicable diseases.

A large percentage of the respondents (86.5%) were of the view that frequency of fast food consumption should be reduced to avoid adverse effect on health, 73.9% agreed that fast food consumption is associated with weight gain and 15.4% disagreed with the view that fast food consumption increases one's chance of developing heart diseases. More than half of the respondents agreed with the view that fast food consumption predisposes one to developing diabetes; 40.6% agreed that eating a lot of fast foods consistently increases one's chance of developing hypertension and 52.1% agreed with the view that consumption of fast foods is dangerous to health.

Table 4 – Respondents' perception of how fast foods can lead to Non-Communicable Diseases

Perception of how fast food consumption can lead to NCDs	Number	Percentage
Fast foods contain cholesterol, sugar, salt, fats etc. and their accumulation in the body.	54	29.8
Fast foods are not cooked under healthy condition and environment.	54	29.8
Excessive consumption of fast foods.	43	23.8
Intake of chemicals/toxins contained in the preservatives and their accumulation.	22	12.2
Increases the risk of developing NCDs.	7	3.9
Long preservation	1	0.5
Total	**181**	**100**

More than half (54.8%) of the respondents had no idea of how fast food consumption can lead to non-communicable diseases. Of the 181 who had an idea of the link, 29.8% each opined that fast foods can lead to NCDs because they contain cholesterol, sugar, salt and fats which accumulate in the body and that they are not cooked under healthy condition; 23.8% said if consumed excessively. Other perceptions are presented in Table 4.

Pattern of fast food consumption

Pattern of fast food consumption among the respondents revealed that overall 80.5% of the respondents consume fast foods weekly. Of these 322, 33.9% took it occasionally, 22.4% once in a week and (18.3%) twice a week. Others are shown on table 5. The types of commonly consumed were flour products (81.1%) high in carbohydrates, fats and sugar which include meat pie, doughnut, beef roll, egg roll followed by combination of flour products and carbonated drinks (17.7%) and carbonated drink (1.2%). Only 6.5% of the respondents preferred fast foods to meals prepared at home and main reason for preference was ready availability and stress free (66.6%) (Table 5).

Table 5 – Pattern of fast food consumption among respondents

Pattern of fast food consumption	Number	Percentage
Frequency of consumption per week		
-Once	72	22.4
-Twice	59	18.3
-Thrice	39	12.1
-Four times	13	4.0
-Occasionally	109	33.9
-Everyday	30	9.3
Favourite type of fast food		
-Flour products	261	81.1
-Flour products and carbonated drinks	57	1.2
-Carbonated drinks	1.2	17.7
Preference of fast foods to home-made meal		
-Yes	21	6.5
-No	301	93.5
Reasons for preference of fast food to home-made meal		
-Readily available without stress	14	66.6
-More delicious and nutritious	4	19.1
-Weight control	1	4.8
-No response	2	9.5

DISCUSSION

The mean age of 22.0 ± 3.3 found in the study was consistent with the findings of an earlier study with similar population in the Obafemi Awolowo University, Ile-Ife with a mean age of 22.7±3.16 [9]. Majority of the respondents knew that fast foods are prepared with high salt content, high sugar content, saturated fats and cholesterol. This is supported by Wart [10] who stated that any food item that is high in sugar, salt and fat can be referred to as junk or fast food. It was believed among majority of the respondents that fast food consumption is one of the risk factors for non-communicable diseases. This is consistent with earlier research works which found that fast foods are a contributing factor in the etiology of NCDs such as hypertension and cardiovascular diseases [11]. The study revealed that more than half of the respondents had no idea of how fast food consumption can lead to non-communicable diseases. One possible explanation for this is that they do not agree that fast foods consumption can lead to NCDs. Another possible reason for this could be that they are not enlightened about how fast food consumption can possibly lead to NCDs. However, some respondents explained that fast foods contain cholesterol, salt, sugar and fats which may accumulate in the body leading to obesity and then to hypertension and/or heart diseases. This corroborates the WHO [6] report which stated that fast foods are high in fat, sugar and sodium which contribute additional calories, excess body fat and increase body weight. It further stated that being overweight or obese increases the likelihood of suffering from coronary heart diseases, diabetes and hypertension.

There are various misconceptions which exist among the respondents as regards the relationship between fast food consumption and development of non-communicable diseases. For example, some were of the notion that preparation of fast foods under unhealthy conditions and environment could predispose an individual to developing NCDs. However, such foods can lead to gastrointestinal infections which when treated are curable. Some also believed that fast foods are part of normal diet which is contrary to the description of fast food by Wart [10] who described it as foods that do not belong to a major food group. It was also believed that fast foods can be taken as breakfast, lunch or dinner as supported by a similar study where 87.5% of the respondents substituted fast foods for breakfast, lunch or dinner [9]. This is tantamount to skipping meals which is not good for normal body development and growth [12]. Payne and Hahn [13] concluded that that eating out is not all bad but the major concern is how often people consume these foods and the nutritional make-up of such foods.

The belief of respondents that excessive consumption of fast foods has adverse effect on health is corroborated by Rijal's [14] report that being overweight is a risk factor for diabetes and that consuming excess fast foods increase this risk and those of Tucker and Buranapin [15] who documented that the movement towards more fats, sugar, salt and refined foods moves beyond the optimal nutrient intake adequacy state to one in which diets contribute to rapidly escalating rates of chronic diseases. A large percentage of the respondents were of the view that fast foods can be eaten anytime one feels like it. This is true and depends on individual's taste and craving which also depends on resources and accessibility of fast food outlets. However, a few of the respondents did not find it compulsory to eat a particular type of

fast food every day. This may be due to affordability and individual's taste and desire as well as perceived health implication of such practice.

Majority of the respondents consume fast foods on weekly basis with differences in the number of times per week. The percentage of those who consume fast food everyday in this study is lower than the 42.5% reported by Olumakaiye *et al* [9]. The type of fast foods commonly consumed by majority of the respondents were flour-based products found to be high in carbohydrates, fats and sugar as similarly documented by Olumakaiye *et al* [9]. The finding that some of the respondents preferred fast foods to home-made meals with reasons such as the fact that fast foods are readily available, without the stress of personal preparation and the more delicious or palatable taste is a reaffirmation of the findings of Robbins *et al* [16] who reported that the time spent at home has decreased due to changes in lifestyle with little or no time for the preparation of home-made meals. This is coupled with the availability of fast food outlets at every nook and cranny of schools and campuses, a trend that would further reduce the intention to cook meals at home..

In conclusion, this study has shown the level of awareness of fast food and pattern of consumption among the undergraduates of University of Ibadan. Despite there was a high level of awareness and knowledge of the constituents of fast foods and its risk for developing NCDs in future, respondents still engage in the consumption of this category of foods. It is therefore suggested that nutrition education programme should be instituted in institutions of higher learning with emphasis on the promotion of healthy dietary intake and food choices while highlighting the harmful effects of excessive consumption of fast foods.

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