PREVALENCE AND PATTERN OF FAST FOOD CONSUMPTION AMONG ADOLESCENTS IN IBADAN NORTH EAST LOCAL GOVERNMENT AREA, OYO STATE, NIGERIA

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DEDICATION

I dedicate this research work to my Lord and God, the author and finisher of my race. Indeed he makes all things beautiful in his time. To my father, Mr. Evaristus Odum, who never stopped believing in me.

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ABSTRACT

Fast food culture is an emerging trend among the younger generation. The ready availability, taste, low cost, marketing strategies and peer pressure make them popular with adolescents and are consumed frequently irrespective of adverse health consequences. In Nigeria, adolescents' pattern of fast food consumption and their susceptibility to various Non-Communicable Diseases (NCDs) has not been fully explored. This study was therefore designed to assess the prevalence and pattern of fast food consumption among adolescents in Ibadan North East Local Government Area.

A descriptive cross sectional study was conducted using a three stage random sampling technique to select 422 respondents from the communities in the twelve wards of Ibadan North East LGA. A validated semi structured interviewer-administered questionnaire was used to elicit information on perception of fast food consumption and knowledge of NCDs. Knowledge of fast food and NCD's was assessed using a 22- point scale ≤ 11 were categorized as low, while ≥12-22 were classified as high. Perception scores ≤ 5, 6-11 and ≥ 12 -26 were categorized as poor, fair and good respectively. Data were analyzed using descriptive statistics, Chi square.

The mean age of all respondents were 9.45 ±3.70 years. Majority were females 54.3%. Most of the respondents were with senior secondary education. There were (55.7%) in SS2, SS3 (41.2%), SS1 (2.3%). Most were moslems (60.7%) and live with parent (83.6%). A large majority of the respondents (94.5%) have heard about fast food and perceived them to be meals with low nutrition preparation (62.3%). The main reasons for purchasing fast food included; varieties (99.5%) availability (98%), convenience (97.2%), advert (96.2%), attractive colours (94.8%). Majority of Fast food consumed were flour products (35.5%); taken with carbonated drinks (31.5%), fries (19.2%), and tin/canned food (13.3%). Most consume fast food in the afternoon (61.8%), morning (20.1%), and evening (11.6%). A large majority would buy fast food as gift for friends (64.5%), while (33.4%) would not buy fast food.

Respondents were knowledgeable about fast food contents they includes fat and oil (83.6%), salty (83.2%), high in high in calories (77.7%), knowledge about NCD's were generally low, they includes diabetes (45%), obesity (38.2%), cancer (35.8%), heart disease (35.5%), hypertension (28%). A total of (49.8%) perceived fast food as bad for health, perception of

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consequences of fast food includes diabetes (41.0%), weight gain (40.8%), and hypertension (23.5%). Knowledge about fast food consumption was high among respondents who had SS2 education (55.7%), SS3 (41.2%) while SS1 (1.3%) at ($P<0.05$). The consumption of Fast food was significantly high among males (54.26%) than the females (45.73%) at ($P<0.05$) with no significance difference. The consumption of fast food was high among respondents and knowledge of the link between fast food consumption and Non-Communicable Diseases were low. The use of behavioural change communication such as Information, Education and Communication materials, social media, and mobile phones are hereby recommended to increase enlightenments on lifestyle modification among the adolescents.

Keywords: Fast food, Prevalence, Pattern, Adolescents, Susceptibility

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CERTIFICATION

I hereby certify that this study was carried by Catherine Uzoamaka ODUM in the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan, Nigeria.

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LIST OF ACRONYMS

IBNELGA	Ibadan North East Local Government Area
WHO	World Health Organisation
CDC	Centre for Disease Control
BMI	Body Mass Index
NIDDM	Non-Insulin dependent Diabetes
HBM	Health Belief Model
CHD	Cardiovascular heart disease
NCD's	Non-Communicable Diseases
IDDM	Insulin Dependent Diabetes

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OPERATIONAL DEFINITION OF TERMS

Fast Food: Foods which are often highly processed and prepared in an industrial fashion, with lots of additives such as salt, sugar, preservatives and artificial sweeteners. Examples beef roll, cake, ice cream, biscuit, doughnut etc. they are also known as junk food in this study.

Junk Food: Are used to refer to an empty calorie food. An empty calorie food is a high calorie or calorie rich food which lacks in micronutrients such as vitamins, minerals, or amino acids, and fiber but has high energy.

Trans fat: A type of un-saturated fats which are common in nature and can be created oil. To increase shelf life of processed foods

Dietary Transition: The shift from traditional meals to indigenous westernized/ foreign diets

Saturated fat: A type of fat in which chain of carbon atoms are fully saturated with hydrogen atoms. They are found chiefly in animal products

Perception: An individual's view about fast food consumption. It is based on personal judgment

Non- Communicable Diseases: Also known as chronic diseases are diseases which cannot be passed from person to person. They are of long duration and generally slow progression. Examples are Cardiovascular Heart Diseases, Diabetes Mellitus, Hypertension, Cancer etc.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The term fast food relates to food that can be prepared very quickly. Most of this popular type of fast food is available in packaged formscalled 'takeaways'the fast food industry hasit roots in the foodforsales stand , that were part and parcel of ancient Roman and East Asian societies (Borade, 2012)Fast food restaurants or outlets today are either kiosks or elaborate quick service restaurants. The franchise operations have generated restaurant chains that offer standardized meals across the globe. On account of a low capital requirement and popularity of fast food, fast food restaurants and drive-through outlets are common throughout the world. Also known as sit-ins and upscale kiosks, these restaurants cater to the dry food demands of the younger generation.

Fast food is often highly processed and prepared in an industrial fashion, with standard ingredient, methodical, standardized cooking and production.It usually rapidly served in cartons, bags or in plastic wrappings, in a fashion which minimizes cost. Fast food is growing component in diet, and the frequency of fast food use has increased dramatically since the early 1970s. Fast food consumption is especially popular among adolescents, who on an average visit a fast food outlet twice per week. Several factors have contributed to this phenomenal increase in the use of fast food, including a greater number of working women, dual-career families, more diverse schedule of family members, an aging population and an increasing number of one and two person households. Fast foods meet the needs of many adolescents because they are quick, reasonably priced and readily available(Vaida, 2013).

In the U.S, Fast Food has grown from $6 billion a year industry in 1970 into a corporate juggernaut with more than $170 billion in annual revenues today. Volumes of peer-reviewed scientific studies conclusively correlate the consumption of "meat" and other animal products with many of the deadliest medical disorders plaguing humankind today,

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including cardiovascular disease, cancer, diabetes, and obesity. The overall U.S. obesity rate has more than doubled since 1980, with more than two-thirds of adults and about one-fifth of all children now being overweight or obese. Both nutritional researchers and public health agencies implicate fast food as a major contributor to the obesity epidemic, mainly because of it high sugar, fat, calorie content and low overall nutritional (Centre for Disease control and Prevention, 2008).

Adolescent has being linked to consume a lot of fast food this might be linked to their physiological, psychological, physical and social changes. This sudden growth spurt is associated with hormonal, cognitive, and emotional changes, greater demand for calories and nutrients among this group due to the dramatic increase in physical growth and development over a relatively short period of time. Second, adolescence is a time of changing lifestyles and food habits that affect both nutrient needs and intake. Third, adolescent drive for individuation means more opportunity to assert food choices and expand or narrow healthy options. (Ajuwon, Owoaje, Falaye, Osinowo, 2007).

Nigeria's population, according to the national population and housing census, was 140 million in 2006).According to the national population and housing census, Nigeria's population was 140 million in 2006 with an annual growth rate of approximately 3.2% - one of the highest in the world – the population is currently estimated as 160 million. Nigeria has a "young population" structure, with more than two-fifths of the population currently consisting of children under the age of 15 -19years (Nigerian Population Commission, 2006).

There are 1.2 billion adolescents between the ages of 10 and 19 in developing nations, making up one-fifth to one-quarter of their populations. Adolescents have typically been considered a low risk group for poor health (World Bank, 2011).A national survey carried out in secondary schools reported 30% of the young people assessed had a body mass index below the normal while 4% had values above the normal. The result of the anthropometric measurements carried out as part of the National Demographic Health Survey (NDHS,2013) indicates that three-quarters (73.7%) of adolescent girls had normal body mass index, about a fifth (19.3%) were thin while 7.0% were either overweight or obese. (NDHS, 2013) A probable link with fast food consumption cannot be ruled out with these indices.

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Diet in this age has repercussions on the future health. High intake of fat, cholesterol and salt is associated with heart disease, cancer, osteoporosis and diabetes. Improper intake of nutrients and inactivity may even lead to lifelong obesity. Adolescent are least bothered about what they eat, so adults around them have to keep watch what, where and with whom they eat because it determines their eating patterns. Urban and rural adolescents tend to enjoy soft drinks, breads, potato chips, popcorn and ready to eat meals. These foods are rich sources of carbohydrates but have low nutrient density (Vaida, 2013). Thus, there is need for this study to examine fast food knowledge and consumption among adolescents in the community setting.

1.2 Statement of the problem

With the emergence of fast food restaurants in Nigeria, the country is witnessing an upsurge rise in the number of fast food restaurants. At present, there are well over 70 different brand names, the major ones includes in Ibadan North east local Government includes; Foodco, Mr Biggs , KFC. They are so conspicuous that it would be difficult to miss their colourful edifices and billboards. Fast food is especially popular among adolescents, who on an average visit a fast food outlet twice per week(Olutayo&Akanle, 2009).

Since the 1960's, Nigeria has had one of the fastest population growth rates in the world, and as at 2010, almost half of all Nigerians lived in cities. This increased urbanization and changing work roles have contributed significantly to the growth of fast food restaurants in Nigeria. More fast food restaurants have sprung up in cities across Nigeria to cater to the changing needs of the populace with western tastes, as more and more Nigerians are able to travel and experience new cultures. Not considering the aforementioned obvious causes for market growth, it was only a matter of time before the industry would grow. As early as 2010, the informal fast food sector; the akara, suya, and fried yam sellers, was estimated at $600-750 million a year (Orgah, 2013). (Dutta, 2012) stated that many healthy (or unhealthy) life-long practices are known to commence in adolescence, therefore an increased inclination to replace traditional meals with energy-dense imbalanced foods.

Several factors have contributed to this phenomenal increase in the use of fast food, including a greater number of working women, dual-career families, more diverse schedule of family members, an aging population and an increasing number of one and two person households

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(Vaida,2013). Fast food restaurants have taken advantage of the changes in household dynamics since the 1970s. Many households are becoming more single parent or duel working parent households, leading to less parent involvement in the child's life and less time for cooking. They advertise convenient "food" which enables working parents to make sure their children have something to eat. Over the last few decades, more children are prone to eat pre-prepared, microwavable food instead of a healthy fresh meal, when both of their parents are working. In addition, studies have shown children tend to buy high caloric snacks when their parents are not around(Banegas, Gleason, & Castro, 2009).

Adolescence is the only time following infancy when the rate of growth actually increases. This sudden growth spurt is associated with hormonal, cognitive, and emotional changes that make adolescence an especially vulnerable period of life nutritionally. The eating pattern of adolescents or teenagers is usually after school activities and active social lives, busy schedules may lead to meal skipping or eating away from home (Sharma,2013). Fast food is full of fat and calories. A lot more than what is required for the body on a daily basis. This makes the teenager more prone to heart disease.There is substantial evidence that inadequate diet affects adolescent ability to learn and work at maximum productivity. Consumption of high fat fast food contributes to higher energy and fat intake and lower intake of healthful nutrients. It is also notable that changes in eating patterns such as increases in meals eaten away from home, portion sizes, meal-skipping and fast foods consumption may be involved in this trend.(Todd, Mancino, Lin, 2010).

1.3 Justification for the Study

(WHO, 2014) has reported the rising incidence of obesity and chronic diseases such as cardiovascular disease, cancer, osteoporosis, dental carries and diabetes among those who consume fast food. They have proved that there is a link between many of these diseases and the pattern of food consumed. (Amir, Farooque, Atiq, 2009). In 1998, the centre for science in the public interest published a report titled liquid candy: how soft drinks are harming Americans' health. The report examined statistics relating to the soaring consumption of soft drinks, particularly by children, and the consequent health ramifications, including tooth decay, obesity, type II-diabetes and heart diseases.

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Children must know what they eat, affects their growth and behavior. Changes in our society have intensified the need for food skills, to the extent that they need to become part of the child's basic education for good health and survival. Most people have forgotten that the primary reason for eating is nourishment. Sound nutrition can play a role in the prevention of several chronic diseases, including obesity, coronary heart disease, certain types of cancer, stroke, and type II diabetes for this reason, nutrition was a priority area for the Healthy People 2010, and remains an important objective for Healthy People 2020.(Sam,2012).

- The study would help stakeholders involved and policy makers on the need for school health programme on healthy eating to be included and disseminated through formal curriculum as well as extracurricular activities. Schools can support healthy eating by monitoring the nutrition values of the food supplies in lunch orders and snack shops.

- Therefore, this study would reinforce and change knowledge, attitude and behavior of adolescents through effective communication of fact based information, with the aim of helping them to ensure an optimum wellbeing. Health education is therefore an avenue to bridging the gap between health information and practices within the context of nutrition.

- To form a basis upon which further research in nutritional problems of adolescents of different categories is built.

1.4 Broad Objective

The broad objective of the study was Prevalence and pattern of Fast food consumption among Adolescents in Ibadan North East LGA, Oyo State

1.5. Specific Objective

The specific objectives were to:

- Document the pattern of fast food consumption among the respondents
- Assess the knowledge of respondents regarding fast food consumption
- Determine the perception of respondents to fast food consumption
- Describe the attitude of respondents towards fast food consumption.

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1.6Research Question

- What is the consumption pattern of fast food among the respondents?
- What is the knowledge of respondents regarding fast food?
- What is the perception of respondents to fast food?
- What is the attitude of respondents towards fast foods?

1.7 Hypotheses

- There is no significant association between class level and knowledge of fast food consumption
- There is no significant association between sex of respondent and attitude towards fast food consumption.
- There is no significant association between type of family and attitude towards fast food consumption

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CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual clarification

Fast foods essentially refer to the mass production of speedy food which is of standardized size, shape, colour and taste. These include increased consumption of energy (-dense) dense, (nutrient-) nutrient poor foods that are high in fat, sugar and salt, reduced levels of physical activity and of particular concern are increasingly unhealthy diets and reduced physical activity of adolescents (Afolabi, Towobola&Oguntona, 2013). Fast food also known as junk food simply refers to an empty calorie food. An empty calorie food is a high calorie or calorie rich food which lacks in micronutrients such as vitamins, minerals, (or amino acids, and fiber) or amino acids and fiber, but has high energy (calories).These foods do not contain the nutrients that the body needs to stay healthy. Hence, these foods that has poor nutritional value is considered unhealthy and may be called as junk food. These foods have little enzyme producing vitamins and minerals and but contain high level of calories in their place (Arya& Mishra, 2013)

Fast food is growing component in diet, and the frequency of fast food use has increased dramatically since the early 1970s. Fast food is especially popular among adolescents, who on an average visit a fast food outlet twice per week. Fast foods include chips, sandwiches, cake, fried chicken, fries, fish, pizza, ice-cream, Fast food is often highly processed and prepared in an industrial fashion, i.e.(with standard ingredients and methodical and standardized cooking and production methods) with standard ingredient and methodical, standardized cooking and production method. It is usually rapidly served in cartons or bags or in a plastic wrapping, in a fashion which minimizes cost (Vaida, 2013).

Fast food restaurants are primed to maximize the speed, efficiency and conformity. The menu is kept limited and standardized essentially to minimize the waiting time so that the customers eat quickly and leave. This perspective delineates the emerging fast food culture in India, its impact on children and strategies to counter it (Kaushik, Narang&Parakh, 2011).

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Consumption of high-fat fast foods contributes to higher energy and fat intake, lower intake of healthful nutrients. It is also notable that changes in eating patterns such as increases in meals eaten away from home, portion sizes, meal-skipping and fast foods consumption may be involved in this trend. Nutritional habits acquired during adolescence have a significant impact in the short and long term; these include irregular meals, snacking, eating away from home and following other nutrition alternative dietary patterns which characterize the food habits of young adults, arising from adolescence (Afolabi, et al 2013)

2.2 Prevalence of fast foods in Ibadan

Fast food restaurants in Ibadanservebothforeign and local cuisines**.** Tantalizers outlets in Ibadan serve foreign (Continental) and local (Africana**)** delicacies, and often have separate sections for them. Although Mr. Bigg's does not have an elaborate local cuisine section like Tantalizers, it sells yam porridge (asaro), fried plantain and cooked beans. It was observed that the foreign sections pies, fried rice, jollof rice**,** assorted chicken**,** doughnuts**,** hot dog,sortdrinksand so on enjoy more patronage. Queues are usually observable at the 'Pies and Fries' section compared with the 'Africana' or 'local' section, which is sometimes deserted or scantily populated. Tantalizers**,** Creamy Inn, Village Kitchen, Mr. Bigg's, Big Treats, Foodcoand others are located so close to each other at Bodija that only a few buildings and roads separate them. The same pattern is observable at ChallengeandRing Road, where Mr. Bigg'sandTantalizers face each other across busy roads(Ibadan travel guide, 2014).

In the United States, pattern and the frequency of fast-food use has increased dramatically since the early 1970s. The number of fast-food outlets increased from about 30,000 in 1970 to 140,000 in 1980, and fast-food sales increased by about 300%. More recent estimates show that in 2001, there were about 222,000 fast-food locations in the United States, generating sales of more than $125 billion. The number rose by 4.1% in 2002, with estimated sales of $130.1 billion. The same report also indicated that three of 10 consumers agreed that meals at a restaurant or fast-food establishment are essential to the way they live, and three of five consumers adolescent reported that they plan to eat at fast-food restaurants in 2002 about as often as they did in 2001 (Paeratakul, Ferdinand & Champagne , 2003) . The emergence and spread of fast food restaurants are part of the social and transformation associated with modernization,

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westernization, industrialization and urbanization, which bring with them an increasing tendency towards speed and superficiality in social relations (Olutayo&Akanle , 2009)

2.3 Pattern of fast food consumption in adolescent

The practice of high consumption of fast foods like noodles, burgers, doughnut, popcorn, potato chips, carbonated drinks, biscuits, muffins, toast bread, chocolates have become common feature of adolescent's diet (Kurukshetra, Goel, Kaur, & Gupta, 2013). Adolescent's eating behaviors are strongly influenced by their social environments, which include family, peer networks, schools, advertising, and poor knowledge of ill effects of regular intake. Dietary quality declines from childhood to adolescence, with dietary habits likely to promote fatness being actively adopted, the consumption of fruit, vegetables, and milk decreases from childhood to adolescence while soft-drink consumption increases. Metamorphosis of food habits has led to the replacement of nutritious food by things that are tasty, convenient, and easy to get (Kurukshetra, Goel, Kaur, & Gupta, 2013)

(Akinyele, 1998) found that two-third of the adolescents daily meals is brought from vendors and fast food chains. They constituted at least one-third of their daily nutrient intakes. Street food and fast foods contributed 53.2% to 92.6% to the total nutrient intake of the under 20 consumed street and fast foods because of their sporadic quest for food at any time of the day, hence these foods which are ready to eat immediately is almost the accessible diet to meet their crave for food as cooking cannot be quickly done.

Eating away from home is becoming more common, and fast food restaurant use in particular is growing even more rapidly (French, Story, Fulkerson, & Hannan, 2001). In 1970, money spent on (away-from-home) away from home foods represent 2010, 53% of the food dollar will be spent away from home. Between 1977 and 1995, the percentage of meals and snacks eaten at fast food restaurants increased 200%, while other restaurant use increased 150%. Fast food outlets are especially popular among adolescents. The average adolescent visits a fast food restaurants twice a week and fast food outlets provide about one-third of the away from home meals consumed by adolescents.As away from home foods represent an ever larger proportion of total energy intake, their nutrient profile becomes more important to examine. Away from home foods

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are higher in fat and energy compared with foods eaten at home. In 1995, away from home foods accounted for 27% of eating occasions, but 34% of energy intake (French, et al, 2001).

2.4 Reasons for consumption of fast food among adolescents

Adolescents consume fast food due to the following reasons as documented in various literatures.

2.4:1 Globalization and Westernization

The nutritional status of the average Nigerian remained precarious as the country consistently recorded deficit average per capita calorie intake. The country recorded food deficits of 31% and 20% in 1980 and 2000 respectively (Olayiwola, Soyinbo, Atinmo, 2003)

The issue of globalization and dietary change are the importance of street foods and emergence of fast food chains in Nigeria. Civil servants, skilled and unskilled and low income families constitute the major patrons of street foods since they have to take at least a meal outside the home. These people patronize street food premises because of convenience, neighbourhood reputation, and good food taste and not necessarily because of the presence of a clean food premises. Also, most consumers visit food vendors during the period between 8-10am and 12-2pm corresponding to breakfast and lunch period. The study also found that 70% of the consumers fall between the ages of 10-40 years and students under 20. Most of these consumers are in the lower socio-economic groups (Akinyele, 1998).

2.4:2 Urbanization/Sophistication

(Olayiwola et al, 2003)Urban residence has been positively associated with frequency of intake of energy-dense foods in adolescents. There is an increased inclination to replace traditional meals with energy-dense imbalanced foods. The chemical analysis of street food for nutrients reveals that they were all good sources of energy, protein and selected minerals. The results support the fact that combination of foods has a higher nutrient value than single food. It also shows that street foods are nutrient dense which indicate that they makes a significant contribution to the nutrient intakes of urban consumers who depend on street foods as the major source of meeting daily recommended dietary allowance. Moreover, nutrient losses occurring during the preparation of foods by street food vendors are limited to those nutrients that can be leached out into wash water and those affected by heat. The development of various food

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contamination diseases as a result of poor hygienic condition of the premises of street food vendors, therefore calls for the need to take hygiene seriously in considering where to patronize. This is therefore the beginning of the emergence of fast food chains in Nigeria. The improved income of the people coupled with the fact that those fast food chains can be used for relaxation really increased the rate of patronage at the fast street food vendors. Moreover, the increase in the number of working class and limited time women have for preparing meals at home really lead to an upsurge in the number of fast food chains. The number of registered fast food vendors jumped to 5,437 in 2003 compared to 1,342 in 1998.

(Akinyele1998) found that two-third of the people's daily meals is brought from vendors and fast food chains. This constituted at least one-third of their daily nutrient intakes of adolescents. Street food and fast foods contributed 53.2% to 92.6% to the total nutrient intake of this group of people because they are the active segment of the society that forms the highest consumers of street foods. The under 20 consumed street and fast foods because of their sporadic quest for food at any time of the day, hence these foods which are ready to eat immediately is almost the accessible diet to meet their crave for food as cooking cannot be quickly done.

2.4:3Appeals, Advertisement and the Addictive Nature of fast Foods

The appearance of food plays into the psychology behind adolescent food choices(French, Story, Sztainer, 2001) The appearance of an item is imperative to it sales or lack thereof. A striking example of this is presented in the color of the product.

The company that sells fast food product found that even making the color of the beverage a slightly lighter brown led to more sales (Moss, 2013)

Fast food comprises of anything that is quick, tasty, convenient and fashionable. Clever fast food advertising and the lure of convenience in addition to taste drag people to fast food addiction.

- Time: fast foods and beverages addiction is so high because of it simplicity. They are easy to prepare and ready to consume within no time.
- Taste: Great taste also, is another important reason to an extent that influences to opt for fast foods. This taste is achieved owing to lavish usage of oils, salts or sugar.
- Attractiveness: Packing of such foods has very attractive appearance by adding food additives and colours in addition to enhancement in flavour.

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- Ad factor: Advertising has a major role in attracting the public. Adolescents are attracted to the fast food selling joints. (Ashakiran. & Deepthi, 2012)

This shows how much of an affect that presentation can have on people. A lot of the time big companies try to appeal to their customers by playing to certain age categories. Appearance can be a making or breaking point in the sales of products. Not only are companies playing into the psychology of food but they are also using science and human physiology to create addiction. The food industry has been compared to the tobacco industry for advertising harmful items to children and making them addicted. Companies have hired chemists and other professionals in order to create foods that produce a "bliss point" in consumers. The bliss point is the level at which the person craves the food the most but without feeling sated. To reach this point, companies have produced unhealthy, high caloric foods that consumers continue to buy. While this has a detrimental effect on the consumer, the company thrives. Advertisement is another aspect of food companies that have targeted children and adolescents (Moss,2014).

(Boyland & Halford, 2012) Adolescents and children view over 3000 ads a day through mediums such as television, Internet, magazines and billboards. Companies use techniques such as placing products in popular movies or using celebrity endorsement to promote their items. Companies have actively made advertisements targeting children and teens even with the risks associated with the foods. Many of the advertisements that adolescents watch can be found on the television. It has been studied that the more television ad watching an adolescent does, the more likely they are to eat fast foods that is more sugary. There is a positive link among ad exposure and food choices. Ads do not generally promote healthy foods. Instead they show meal deals, which include unhealthy foods and beverages like cola and also make fast food items look good by enlarging their appearance.

Advertisements play largely into psychology and although they can be deceiving, they also have the power of being convincing (Sztainer , French, Story, Faulkerson, Hannan 2001) An example of this is shown through "Lunchables" ads, which started to appeal to independence of adolescents. Advertisers also use particular persuasive techniques to appeal to children and young people (such as the use of appeals, promotional characters, celebrity endorsement and giveaways) and such techniques do affect the popularity of the advert with children.

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(Boyland & Halford, 2012) Again, despite regulatory control in the UK, the use of promotional characters and other techniques known to appeal to children is widespread amongst food advertising on popular commercial channels. Children naturally focus their attention on techniques such as animation and visual effects, and emotional appeals do distract children from other aspects of adverts for example nutritional disclaimers or product information branding is critical to product choice, particularly for children and young people; therefore the majority of child oriented food advertisements take a branding approach Television advertising is thought to be very effective at building strong brands. Of all commodities, food is one of the most highly branded items, with over 80% of US grocery items being marketed under a brand. This level of branding of food products lends itself to major advertising campaigns, and food manufacturers carry out advertising activity with the aim of building brand awareness and brand loyalty as it is believed that brand preference precedes purchase behavior.

Children are critical targets for marketing and branding activity; they have independent spending power but also exert considerable influence over family purchases. Food and drink purchases are the categories over which children have particular influence In addition, children are also seen as‘‘teenage and adult shoppers of the future’’ so that any brand loyalty that is fostered at a young age may reward the food company with a lifetime of sales, potentially worth $100,000 to a retailer. Numerous brands use characters and celebrities in their promotions and on product packaging, and their presence is believed to assist with generating brand identity and facilitating a brand consumer relationship. This can be in the form of brand licensed characters (such as SpongeBob Squarepants as mentioned above) or brand equity characters which are created for the sole purpose of promoting a product or brand. Many of these associations have been built up over generations, for example Tony the Tiger has been the character for Kellogg’s Frosties since 1951 Celebrity endorsements are also used in order to link a brand to a certain age group or fan base. Product placement in television programming, such as the appearance of Pepsi in each episode of American Idol, is one of many contentious branding activities but is effective in ensuring that children are exposed to brands in as many situations as possible. The brand of an item has been stated as one of six key factors that drive children’s purchasing decisions, alongside fun, taste, peer-pressure, status and packaging. (Boyland et al, 2012).

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2.4.4:Convenience

Fast food in it traditional sense is not new to Nigeria(Orgah, 2013). Many households are becoming more single parent or duel working parent households, leading to less parent involvement in the child's life and less time for cooking. They advertise convenient "food" which enables working parents to make sure their children have something to eat. Over the last few decades, more children are prone to eat pre-prepared, microwavable food instead of a healthy, fresh meal when both of their parents are working. In addition, studies have shown children tend to buy high caloric snacks when their parents are not around. Parental work hours impact the quality and quantity of time that they spend with their children. Their work schedules are a definite factor in the child's health and should be taken into consideration when discussing their behaviors (Vaida, 2013)

(Banegas et al., 2009)Convenience is among the biggest factors in adolescent food choices. Food is more tempting if is easily available. As a result, quick foods are a common choice. In general, healthy foods like fruits and vegetables are not conveniently available while snacks and candies are available. Convenience influence what adolescents choose to eat. Adolescents schedule often diminish the amount of time they have to prepare healthy, nutritious meals, so they opt for faster, easier options. Whole foods such as vegetable and meat, takes time and kitchen equipment to cook properly, while fast food snacks are usually served within minutes of ordering. Over time, that convenience becomes a habit and eventually a perceived necessity to keep up with such a fast paced society. Disrupting that routine requires an investment of time, and most people prefer to stick with the faster option.

2.4.5:Availability

Fast foods are readily available. It is very easy to serve to a large number of people. People often complain of lack of enough time to prepare mealsat home. Most adolescents spend more of their time immersed in academic work, browse the internet, and write assignment, leaving them with little or no time for food preparation (Owolabi, 2012) Small grocery stores and other food services such as corner stores are also big sources of unhealthy food in the community. The adolescent's food options around their school are unlikely to offer healthy cheap options. The student is forced to pick the unhealthier option by sheer availability. Adolescent's food options

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around their communities and schools influence their food options (Otemuyiwa, Adewusi, 2012)The fact that fast food is readily available, quickly served and could be eaten on the go, makes it the choice of the youths and adolescents, as they are often in a hurry. To such people, fast food joints have become the saving grace from the drudgery and boring routine of going to the kitchen

2.4:6 Social Influences

Foods eaten (out-of-home) out of home by adolescents are typically consumed in school, communities and peer contexts, and adolescent reports confirm that lunches and snacks are often eaten with friends. In cross-sectional studies, consumption of snack foods and overall energy intake has been found to correlate with the intake of adolescents' best friends, and male friends have been found to be alike in their consumption of high-calorie foods (Haye, Robins, Mohr, & Wilson, 2013).

2.5: knowledge of adolescents about fast food

Adolescents have insufficient knowledge of food composition and healthy nutrition. Some adolescents have a significant amount of knowledge regarding healthy foods but despite this knowledge, they find it difficult to follow healthy eating recommendations and frequently consume foods that they perceive as unhealthy. Due to lack of knowledge, adolescents tend to skip regular meals and instead of enjoying a balanced meal, consume fast foods during the day resulting in weight gain. Adolescents skip breakfast in particular or eat the wrong kind breakfast points out that adolescents who skip breakfast are missing an opportunity to boost their nutrient intake, which has a negative effect on their learning performance and academic achievement (Bester & Schnell, 2004).

(Kaushik, Narang, parakh, 2011) states that fast food consumption in adolescent adversely affects health. Fast foods have high level of fat and sugar that are not only unhealthy but addictive and that creates a vicious cycle making it hard for children to choose healthy food. High content of trans-fat in commercially available fast foods predispose adolescents to risk of future heart diseases. Energy density of fast food is more than twice the recommended daily allowance for children. Fast food intake leads to higher proportion of calories being derived from total and saturated fat. Moreover, the micronutrient content (carotene,vitamin A, vitamin C) of the fast food is also low. Low levels of calcium and magnesium diet can contribute to

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osteoporosis. Diets rich in free sugars can lead to increased risk of dental caries (Kaushik, et al2011).

Eating fast food for meals or snacks is especially popular with adolescents and young adults. During early adulthood, many changes begin that lead to the development of diseases of aging several years later. Large increases in caloric intake have occurred in the past decade to match longer term shifts in eating patterns. Among issues of great concern especially among adolescents have been the greater intake of sugar, fatty foods, and other caloric sweeteners, therefore, the greater consumption of foods consumed away from the home, the greater consumption of fast foods (Afolabi et al, 2013).

2.5:1Link between fast food consumption and chronic diseases

High content of trans-fat in commercially available fast foods predispose adolescents to risk of future heart diseases. As many healthy (or unhealthy) life-long practices are known to commence in adolescence(Dutta, 2012)Fast food consumption is positively associated with energy intake and soft drink consumption, and negatively associated with fruit, vegetable and milk intakes in adolescent. Fast food consumption may adversely affect health. Results of several studies suggests that fast foods may be implicated in the cause of many chronic diseases which have a rising prevalence in Nigeria and a long term implication on the health of the younger adolescents who would grow up to become the productive economic force of the country.

2.5.2: Obesity

In addition to the documented increase in fast food expenditures, many aspects of fast food make it suspect to the associated increases in overweight and obesity. Specifically, fast food tend to be

energy dense, poor in micronutrients, low in fibre, high in glycemic load and excessive in portion size, causing many to exceed daily energy requirement (Rosenheck, 2008). Obesity is a public health problem that has raised concern worldwide. There will be about2.3 billion overweight people aged 15 years and above, and over 700 million obese people worldwide in 2015. It is no longer a phenomenon confined only to the developed countries. It has been increasingly recognised as a significant problemin developing countries and countries undergoing economic transition. The most important consequence of childhood obesity is (its) itpersistence into

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adulthood with all it health risks intact. It is more likely to persist when its onset is in late childhood or adolescence (Dutta, 2012).

Evident changes in diet in the Western world have been linked to the prevalence of obesity. Increasingly, diets are marked by the consumption of high fat, high sugar and high salt foods which, in turn are linked to cardio-vascular disease and sodium hypertension. The identification of the underlying causes of such wide -scale behaviour changes in adolescence is central to understanding the rise in obesity. These changes have variously been attributed to the contemporary environment which encourages indulgent consumption of energy rich foods, the promotion of such foods by the media and commercial concerns, and their increasing centrality in a variety of social contexts (Stevenson, Doherty, Barnett, Muldoon, & Trew, 2007). with the trend in urbanization, people now lead a more sedentary lifestyle, with the increase in fast food consumption studies has shown that this is associated with rising household income which equally leads to greater variety in the diet. Less time to cook means more time to eat fast food (Khazan, 2013).

Obesity is known to be associated with substantial loss of quality of life and social stigmatisation that may trigger or exacerbate depression, anxiety, low self-esteem and feelings of guilt. Studies have shown that the economic costs of obesity are substantial. Although the prevalence of obesity is increasing worldwide, the increase has been faster in developing countries because of declining levels of physical activity as well as nutrition transition characterised by a trend towards consumption of a diet high in fat, sugar and refined foods and low in fibre. Dietary habits are one of the modifiable risk factors for obesity in childhood and adolescence. The developmental transition (physical, psychological and social) during adolescence provides a context for development and perpetuation of eating behaviours that are substantially different from those in other phases of life(Onyiriuka, Umoru, & Ibeawuchi, 2013).

Obesity is defined as a generalized accumulation of excess adipose tissue in the body leading to more than 20 percentage of the desirable weight. Obesity is determined by measuring both the height and weight of the child. An adolescent is considered obese if he/she is significantly over the ideal weight for his/her height. Usually obesity is due to positive energy balance. The intake calories are more than the expenditure of calories (Balasubramaniyan & Bhuvaneswari, 2013)

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Table 2.1: Classification of obesity

Body mass Index (Kg/m^2)	Classification
<18.5	Underweight
18.5-24.5	Normal weight
25.0-29.9	Overweight
30.0-34.9	Obese (Class I)
35.0-39.0	Obese (Class II)
>40.0	Obese (Class III)

Source: WHO 2014

Obesity and overweight are major risk factor for a number of chronic diseases, including diabetes, cardiovascular diseases and cancer. Once considered a problem in high income countries, overweight and obesity are now dramatically on the rise in low and middle income countries, particularly in urban settings (WHO,2014).Obesity is also associated with increased risk of reduced life expectancy as well as with serious health problems such as type II diabetes, heart disease and certain cancers. Diet and exercise are the main treatment for obesity. Diet quality can be improved by reducing the consumption of energy dense foods such as those high in fat and sugar by increasing the diet intake of dietary fiber (Fortin, Bernard, Yazbeck, 2011).

Obesity presents serious consequences for both the patient and society, and affects more groups than others, but what causes it? Extensive research has been done on the many factors that may lead to obesity; however, it is a multidimensional issue that encompasses both environmental and social causes Over the past four decades, there has been a shift from a physically active lifestyle towards a more sedentary one due to technological advances Changes in lifestyle in addition to the food available also contribute to the obesity epidemic. The food industry nowadays produces a large quantity of unhealthy snacks that are high in fat, sugar, and salt. There has also been an increase in the number of outlets that sell food of low nutritional value, such as fast food restaurants and corner stores. However, it is not only the amount and proximity of fast food outlets, but also the advertisements they distribute through media such as TV, radio, and the Internet that poses a great influence in a person's food choice. For example, Adolescents and children view over 3000 ads a day through mediums such as television, Internet, magazines and billboards (Banegas, et al, 2009).

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The primary reason for obesity is that people are consuming more than they used to. This used to be the case just in developed nations; however the trend has increased worldwide. In the USA, the consumption of calories increased from 1542 per day for woman in 1971 to 1877 per day in 2004. The figures for men were 2450 in 1971 and 2618 in 2004. This is due to the fact that most of increased food consumption consisted mainly of carbohydrate (sugars) increased consumption of sweetened drinks has contribute significantly to the raised carbohydrate intake of most young Americans, while the consumption of fast food has tripled and the less one moves around, the fewer they burn calories (Medical News Today UK, 2004).

Poor balanced diet and the lack of physical exercise are the key factors in the increase in obesity and other metabolic diseases. Successful and permanent weight loss is best achieved as a result of physical activity, changing what is consumed. To reduce weight people should reduce daily calorie intake and to consume more fruits, vegetables and whole grains. The consumption of sugar and certain refined carbohydrates and some fats should be significantly reduced (Mayo clinic 2014).(Owolabi, 2012) It was reported that most Nigerian do not exercise, and that is why Nigerians are gradually getting obese. Even those who jog and do other form of exercise still maintain a poor dietary pattern. They eat all kind of junk food which does more harm than good. It was also observed that Nigerians are getting addicted to fast foods, which is one of the major causes of obesity, in this part of the world people tend to think getting fat is a symptom of good living or affluence. It is as a result of poor dietary pattern and inadequate exercise.

2.5.3: Cancer

Cancer is a dreaded and painful disease, characterized by undesirable and uncontrollable proliferation of tissue cells. The cause of cancer is largely unknown but many risk factors are recognized. Cancer is generically used for more than one hundred different diseases, including malignant tumours of different sites, such as breast,cervix, prostate, stomach, colon/rectum, lung and mouth. Other examples include leukemia’s, sarcomas, Hodgkin’s disease and non-Hodgkin’s lymphomas (Anetor, Ogundele, & Oyewole, 2013).

Cancer is one of the leading causes of death in the world and represents a tremendous burden on patients, families and societies. In 2008, there were 12.4 million new cases of cancer diagnosed

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and 7.6 million deaths from the disease. According to the world cancer report 2008, cancer will surpass heart disease as the leading killer in the world by 2010. More than half of cancer cases and 60% of deaths from cancer occur in less developed countries. The types of cancer vary around the world and there is significant variation in the risk of different cancers by geographical area. Most of these global variations are attributed to risk factors related to lifestyle or environment and provides a clear challenge to prevention. In developing countries, almost as many cancer cases are attributed to an unhealthy diet and inactive lifestyle. Importantly, 40% 0f all cancer cases can be prevented by eating a healthy diet and taking physical exercise (World cancer report 2008).

The world records more than 14.1 million of cancer cases in 2012 while its incidence rose by 11 percent in the last four years. The report stated that, 'as a single entity, cancer is the biggest cause of mortality worldwide. There is an estimated 8.2 million deaths from cancer in 2012 while 14.1 million cases were recorded in the same year equal to the populations of India's largest city Mumbai. Cancer cases worldwide will rise by 75% and reach close to 25 million over the next two decades. The report also added that deaths occasioned by the disease were growing at an alarming rate particularly among the poor and those living in low and middle income countries. Out of these, Africa, Asia, and South America topped the list of continents with the highest cancer cases and deaths in the world (Punch, February 5, 2014)

A report from the nation's leading cancer organizations shows that rates of death in the United States from all cancers for men and women continued to fall between 2001 and 2010, the most recent reporting period available. Estimated new cases and deaths from cancer in the United States in 2014: New cases: 1,665,540 (does not include non-melanoma skin cancers) Deaths: 585,720. The major causes of cancer are due to environmental factors , they include lifestyle, economic and behavioral factors, common environmental cause is tobacco about 25-30% , diet and obesity 30-35% infections 15-20%, radiation (ionizing and non- ionizing,10%) stress and lack of physical activity are the other causes. Diet, physical inactivity and obesity are related to up to 30-35% in the United State; excess body weight is associated with the development of many types of cancer and is a factor. Physical inactivity is believed to contribute to cancer risk not only through its effect on body weight but also through negative effects on immune system and endocrine system. More than half of the effect from diet is due to overnutrition (eating too

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much), rather than from eating too few vegetables or other healthful foods(National Cancer Institute 2014).

2.5.4:Diabetes

Diabetes, often referred to by doctors as diabetes mellitus, describes a group of metabolic diseases in which the person has high blood glucose (blood sugar), either because insulin production is inadequate, or because the body's cells do not respond properly to insulin, or both. Patients with high blood sugar will typically experience polyuria (frequent urination), they will become increasingly thirsty (polydipsia) and hungry (polyphagia). Diabetes is a long-term condition that causes high blood sugar levels (Medical News today, 2014).

In 2013 it was estimated that over 382 million people throughout the world had diabetes. Diabetes (diabetes mellitus) is classed as a metabolism disorder. Metabolism refers to the way our bodies use digested food for energy and growth. Most of what we eat is broken down into glucose. Glucose is a form of sugar in the blood - it is the principal source of fuel for our bodies. When our food is digested, the glucose makes itway into our bloodstream. Our cells use the glucose for energy and growth. However, glucose cannot enter our cells without insulin being present - insulin makes it possible for our cells to take in the glucose. Insulin is a hormone that is produced by the pancreas. After eating, the pancreas automatically releases an adequate quantity of insulin to move the glucose present in our blood into the cells, as soon as glucose enters the cells blood-glucose levels drop. A person with diabetes has a condition in which the quantity of glucose in the blood is too elevated (hyperglycemia). This is because the body does not produce enough insulin, produces no insulin, or has cells that do not respond properly to the insulin the pancreas produces. This results in too much glucose building up in the blood. This excess blood glucose eventually passes out of the body in urine. So, even though the blood has plenty of glucose, the cells are not getting it for their essential energy and growth requirements (American Diabetes Association, 1995)

- Type I Diabetes: The body does not produce insulin. This is often referred to as **insulin-dependent diabetes**, **juvenile diabetes**, or **early-onset diabetes**. People usually develop type I diabetes before their 40th year, often in early adulthood or teenage years.

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Type I diabetes is nowhere near as common as type IIdiabetes. Approximately 10% of all diabetes cases are type 1.

Patients with type I diabetes will need to take insulin injections for the rest of their life. They must also ensure proper blood-glucose levels by carrying out regular blood tests and following a special diet.

Between 2001 and 2009, the prevalence of type 1 diabetes among the under 20s in the USA rose 23%, according to *search for Diabetes in Youth* data issued by the CDC (Centers for Disease Control and Prevention).

- Type II Diabetes: The body does not produce enough insulin for proper function, or the cells in the body do not react to insulin (insulin resistance).

  Approximately 90% of all cases of diabetes worldwide are of this type. To control type II diabetes symptoms by losing weight, following a healthy diet, doing plenty of exercise, and monitoring their blood glucose levels. However, type II diabetes is typically a progressive disease - it gradually gets worse - and the patient will probably ends up having to take insulin, usually in tablet form.

Overweight and obese people have a much higher risk of developing type 2 diabetes compared to those with a healthy body weight. People with a lot of visceral fat, also known as central obesity, belly fat, or abdominal obesity, are especially at risk. Being overweight/obese causes the body to release chemicals that can destabilize the body's cardiovascular and metabolic systems. Being overweight, physically inactive and eating the wrong foods all contribute to our risk of developing type II diabetes. Drinking just one can of (non-diet) carbonated drink per day can raise our risk of developing type II diabetes by 22%, researchers from Imperial College London reported in the journal *Diabetologia*. The scientists believe that the impact of sugary soft drinks on diabetes risk may be a direct one, rather than simply an influence on body weight.

The risk of developing type II diabetes is also greater as we get older. Experts are not completely sure why, but say that as we age we tend to put on weight and become less physically active. Those with a close relative who had/had type II diabetes, people of Middle Eastern, African, or

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South Asian descent also have a higher risk of developing the disease (Medical News Today, 2014).

Researchers from the Mayo Clinic Arizona in Scottsdale showed that gastric bypass surgery can reverse type II diabetes in a high proportion of patients. They added that within three to five years the disease recurs in approximately 21% of them. Yessica Ramos, MD., said "The recurrence rate was mainly influenced by a longstanding history of Type 2 diabetes before the surgery. This suggests that early surgical intervention in the obese, diabetic population will improve the durability of remission of Type II diabetes." Patients with type 1 are treated with regular insulin injections, as well as a special diet and exercise. Patients with Type II diabetes are usually treated with tablets, exercise and a special diet, but sometimes insulin injections are also required. If diabetes is not adequately controlled the patient has a significantly higher risk of developing complications.

Experts have raised alarm that more Nigerians are coming down with diabetes due to the wild adoption of western lifestyles. Western lifestyles are characterized by overeating lack of physical activity and sleeplessness. About 10 million Nigerians are living with the condition. To avoid a pandemic of diabetes , the experts are seeking among other things: the ban of fast foods ins schools, heavy taxation on fast foods, including carbonated drinks, de-registration of schools without playing field; 30 minute of brisk walking daily and preparation of traditional foods (Owolabi, 2012).

2.5.5: Hypertension

Hypertension (**HTN**) or **high blood pressure**, sometimes called **arterial hypertension**, is a chronic medical condition in which the blood pressure in the arteries is elevated. Blood pressure is summarized by two measurements, systolic and diastolic, which depend on whether the heart muscle is contracting (systole) or relaxed between beats (diastole). This equals the maximum and minimum pressure, respectively. There are different definitions of the normal range of blood pressure. Normal blood pressure at rest is within the range of 100–140mmHg systolic (top reading) and 60–90mmHg diastolic (bottom reading). High blood pressure is said to be present if it is often at or above 140/90 mmHg.

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Hypertension is classified as either primary (essential) hypertension or secondary hypertension; about 90–95% of cases are categorized as "primary hypertension" which means high blood pressure with no obvious underlying medical cause.The remaining 5–10% of cases (secondary hypertension) is caused by other conditions that affect the kidneys, arteries, heart or endocrine system (Ekanem, Opara, & Akwaowo, 2013).

Table 2.2: Classification of hypertension

Category	Systolic blood pressure (mmHg)	Diastolic blood pressure (mmHg)
Optimal	< 120	> 80
Normal	< 130	< 35
High Normal	130-139	85-89
Hypertension		
Grade 1 (mild)	140-159	90-99
Grade 2 (moderate)	160-179	100-109
Grad 3 (severe)	≥180	< 90
Isolated SHT	≥140	< 90
Borderline	140-149	< 90

Source: WHO, 1999

Hypertension puts strain on the heart, leading to hypertensive heart diseaseand coronary artery disease if not treated. Hypertension is also a major risk factor for stroke, aneurysms of the arteries (e.g. aortic aneurysm), peripheral arterial disease and is a cause of chronic kidney disease. A moderately high arterial blood pressure is associated with a shortened life expectancy while mild elevation is not. Dietary and lifestyle changes can improve blood pressure control and decrease the risk of health complications, although drug treatment is still often necessary in people for whom lifestyle changes are not enough or not effective.

According to the heart and stroke foundation, most fast food chains do not have nutrition information available for their customers at the counter, but instead posted nutrition facts from their menu website. The amount of fat and sodium in some baking products may seem healthy,

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such as baked potatoes and salads. The relationship between fast food menu and hypertension comes from the use of high calorie salad dressing and high butter fat, often times, customers are not aware of the trans-fat they consume. The relationship between hypertension and fast food is increasingly due to on the go lifestyle. Access to fast food chains and the easy convenience of these locations has increased the prevalence of hypertension. Eating fast food results in this rise of hypertension not only for adult but also for adolescents as and likely won't help someone to attain their ideal blood pressure. Modern lifestyle has made it challenging to make healthy choices while advances in telecommunications and transportation have decreased the need for physical activity (Tytus, 2014) the faster pace of life with a suppose lack of time for healthy eating has led people to develop hypertension. Fast food has made it more convenient to eat, at the expense of health. This has led to the development of a food industry that caters to taste and profit rather than nutrition and healthy consumers.

Medical personnel have raised the alarm that young people in their 30's now die daily of hypertension, a disease often described as a silent killer. Expert physicians from the Nation's hospitals said that young Nigerians are now becoming the victims of the deadly disease. This they said was due to ignorance and poor management of the ailment. According to a consultant neurosurgeon with Cedacrest Hospitals Abuja, Dr. AbiodunOgungbo, doctors have calculated that 25% of adults in Nigeria have hypertension. One in every four young Nigerian

Also the Chief Medical Director, Dayspring Hospitals, Dr. Samuel Adebayo said the increase in young Nigerian with high blood pressure have been linked to intake of salt and fatty foods, obesity, lack of exercise and inadequate intake of vegetable and fruits among this generation.

> *"He said young people must begin to watch their diet ad their lifestyle so that they do not become obese or overweight. Eating fatty food is now a risky way of life no more a luxury". These are all habits that young people must run away from if they want to live longer" (Punch January 16, 2013).*

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2.5.6:Cardiovascular Heart Diseases

The term "heart disease" is often used interchangeably with the term "cardiovascular disease." Cardiovascular disease generally refers to conditions that involve narrowed or blocked blood vessels that can lead to a heart attack, chest pain (angina) or stroke. Other heart conditions, such as those that affect your heart's muscle, valves or rhythm, also are considered forms of heart disease. Many forms of heart disease can be prevented or treated with healthy lifestyle choices.Cardiovascular diseases (CVDs) are a group of disorders of the heart and blood vessels and they include:

- Coronary heart disease – disease of the blood vessels supplying the heart muscle;
- Cerebrovascular disease - disease of the blood vessels supplying the brain;
- Peripheral arterial disease – disease of blood vessels supplying the arms and legs;
- Rheumatic heart disease – damage to the heart muscle and heart valves from rheumatic fever, caused by streptococcal bacteria;
- congenital heart disease - malformations of heart structure existing at birth;
- Deep vein thrombosis and pulmonary embolism – blood clots in the leg veins, which can dislodge and move to the heart and lungs.

Heart attacks and strokes are usually acute events and are mainly caused by a blockage that prevents blood from flowing to the heart or brain. The most common reason for this is a build-up of fatty deposits on the inner walls of the blood vessels that supply the heart or brain. The most common reason for this is a build-up of fatty deposits on the inner walls of the blood vessels that supply the heart or brain. Strokes can also be caused by bleeding from a blood vessel in the brain or from blood clots (Hu, 2008).

The most important behavioural risk factors of heart disease and stroke are unhealthy diet, physical inactivity, tobacco use and harmful use of alcohol. Behavioural risk factors are responsible for about 80% of coronary heart disease and cerebro-vascular diseases.
The effects of unhealthy diet and physical inactivity may show up in individuals as raised blood pressure, raised blood glucose, raised blood lipids, and overweight and obesity. These “intermediate risks factors” can be measured in primary care facilities and indicate an increased risk of developing a heart attack, stroke, heart failure and other complications.

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Cessation of tobacco use, reduction of salt in the diet, consuming fruits and vegetables, regular physical activity and avoiding harmful use of alcohol have been shown to reduce the risk of cardiovascular disease. The cardiovascular risk can also be reduced by preventing or treating hypertension, diabetes and raised blood lipids.Policies that create conducive environments for making healthy choices affordable and available are essential for motivating people to adopt and sustain healthy behaviour.There are also a number of underlying determinants of CVDs, or "the causes of the causes". These are a reflection of the major forces driving social, economic and cultural change – globalization, urbanization, and population ageing. Other determinants of CVDs include poverty, stress and hereditary factors. (WHO, 2008).

CVDs are the number one cause of death globally: more people die annually from CVDs than from any other cause. An estimated 17.3 million people died from CVDs in 2008, representing 30% of all global deaths. Of these deaths, an estimated 7.3 million were due to coronary heart disease and 6.2 million were due to stroke. Low and middle-income countries are disproportionally affected: over 80% of CVD deaths take place in low- and middle-income countries and occur almost equally in men and women. The number of people, who die from CVDs, mainly from heart disease and stroke, will increase to reach 23.3 million by 2030. CVDs are projected to remain the single leading cause of death. Most cardiovascular diseases can be prevented by addressing risk factors such as tobacco use, unhealthy diet and obesity, physical inactivity, high blood pressure, diabetes and raised lipids 9.4 million death each year, or 16.5% of all deaths can be attributed to high blood pressure. This includes 51% of deaths due to strokes and 45% of deaths due to coronary heart disease(WHO, 2008).

Radical dietary shifts in many developed and developing countries, nations are supplanting traditional patterns of eating with a western diet high in animal products and refined carbohydrates and low in whole grains, fruits and vegetables. In china for example, consumption of animal products increased by nearly 40% between 1989 and 1997, and fast food sales more than doubled between 1999 and 2005. Furthermore, consumption of soft drinks has soared in the United States and worldwide. Fueled by urbanization and the advent of the global economy, these changes in eating patterns are the most rapid and dramatic in the course of human history. The term “Coca-colonization a reference to the ubiquitous presence

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of Coca cola , Pepsi, and Mr. Biggs , describes a world that is moving towards a common diet, one accompanied by the more sedentary lifestyles associated with the increased risk of cardiovascular heart diseases (Sztainer, et al 2001).

Presently, cardiovascular disease (CVD) is the leading cause of death in developing countries where it causes nearly as many deaths as HIV, malaria and tuberculosis. Africa, a continent of 53 countries and one billion people is not only beleaguered by a huge of infectious disease but also bears a considerable proportion of the world's CVD burden. The age-specific mortality rates from CVDs are much higher in younger age groups in both men and women in Africa than in the developed world. CVD is the second leading overall cause of death in Africa, after HIV/AIDS, and is the leading cause of mortality among individuals over the age of thirty. The World Health Organization (WHO) projects that over the next ten years Africa will experience the largest increase in death rates from CVD and therefore the negative economic impact of CVD will be more felt on the continent(Kayima, Wanyenze, Katamba, Leontsini, & Nuwaha, 2013).

2.6 Respondents Perception about fast food and its consumption

The increasing consumption of convenience foods is an international trend influenced by changing lifestyles. As society is becoming technologically more advanced and informative individuals tend to be more aware about their own health(Amir, et al).Research on people's perceptions about fast food in India showed Indian youngsters in their 20s although they preferred home cooking over fast food, their main reasons for visiting fast food establishments were going there for fun, change of scenery, and socializing. In another recent study that surveyed 106 South Asians from Bangladesh, researchers revealed that consumers are most likely to buy lunch or midday snack at a Western-style fast food restaurant and consider costs, mood of the restaurant, availability of various types of food, convenience, and location of the restaurant in their decision(Aloia, Gasevic, Yusuf, Teo, Chockalingham, patro, Kumar, Lear, 2013).

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2.7 Attitude of adolescents towards fast food consumption

A lot of public education on health effects of fast food is a reasonable strategy; there has been little scientific study of the consumers' attitudes toward fast food. Attitudes such as perceived benefits (convenience, fun and taste) and perceived concerns (unhealthful and high calories) are likely influence which induces adolescents to consume fast food consumption.

(Volhøj, 2013)showed that people eating regularly at fast food outlets had a less nutritious diet with a higher energy fat intake, while having a lower intake of fruit , vegetable & grains, leads to increased consumption of body weight and BMI. The global teenager hypothesis, as it relates to the fast-food industry, suggests international teens have similar attitudes towards fast food brands in general(Parker, Schaefer, & Hermans, 2006)With respect to self-concept, it was found that many adolescents between the ages of 14and18 had a negative self-concept with regard to their body image and therefore developed unhealthy eating habits, with a low self - concept with regard to bodily appearance Results in unhealthy eating behavior, although it appears that healthy eating habits of adolescents are associated with a sound relationship with parents. It is therefore possible that a strong family self and social self may correlate positively with healthy eating habits (Bester & Schnell, 2004).

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2.8Conceptual frame work

1. The health belief model

The Health Belief Model

Was first developed in the 1950s by social psychologist (Hochbaum, Rosenstock and Kegels)the model has been broadly applied in predicting health related behaviours, preventive health behaviours, sick role behaviours and clinic use. According to the HBM,there are six main constructs which influence people to take action towards their health. They are: Perceived susceptibility, perceive threats, perceived barriers, perceived benefits,cues to action and self efficacy.

Perceived susceptibility: This refers to ones chances of getting a condition. It looks at the participants beliefs about what would happen if they did not take medications, precautions. This include how likely they would be to develop complications or have shortened life expectancy.

Perceived severity: Perceived susceptibility refers to the perception of an individual that he/she maybe susceptible to a certain disease (Chakraborty, 2012). It is operative more in thepersonality or attitudinal spheres of an individual, indicating that his/her perception ofpersonal susceptibility may result in both denial and acceptance of the susceptibility

Perceived threat: Of a given health condition also operates at thepsychological level and is demonstrated though an individual's attitude or behavior. Theseriousness can be measured by the outcome of a disease in an individual's life and how he/she is responding to the outcome in his/her life (Chakraborty, 2012).

Perceived benefits: This refers to belief in the efficacy of the advised action to reduce risk/ seriousness of impact.A person's likelihood of adopting preventive health behavior is largely dependent on the positive ratio of perceived benefit over perceived barriers. When perceived benefits of the recommended action exceeds the perceived barriers associated with the implementation of that action, the more likely a person is going to take preventive health actions.

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Perceived Barriers: One's tangible and psychological costs of the advised action

Cues to action: These are strategies to activate "readiness"The HBM identifies the presence of cues as motivating factors for an individual to act even in the presence of the combined effect of perceived susceptibility and perceived severity. The HBM suggests that with enough susceptibility and severity of the health threat, and with a perceived benefit of the health action, sometimes a cue acts as a trigger to take the recommended health action.

Self Efficacy: These refers to the confidence in one's ability to take action towards health

The application of the Health Belief Model

To describe the phenomenon of why people ignore the health consequences of eating fast foods can be explained by referring to the hedonistic attributes of the eating experience as a perceived barrier that hinders individual's ability to consider the slow but steady health effects of fast foods. The decision to reduce/adjust eating out frequency might be controlled by other factors, for example, gender, lack of resources, and information about the possible health risks of palatable foods, which the HBM calls modifying factors. These modifying factors play together with the perceived barriers and influence individual's rational decision making process.

The recognition of the susceptibility of the disease to occur, and the acceptance of it seriousness are more likely to pose a health threat to an adolescent and force him/her to adopt a health behaviour (Chakraborty, 2012). The HBM suggests that it is an individual'sbeliefs about the available alternative methods that can reduce the seriousness of thehealth threat. The HBM emphasizes the personal attitudes and beliefs over the objectiveinformation regarding available remedies. An individual's beliefs about the effectivenessof the available ways of reducing the health threat determine his/her possible course ofaction. Often, the likelihood of adopting courses of action to address the health threat isdetermined by a cost-benefit ratio made by the individual. A person's likelihood ofadopting preventive health behavior is largely dependent on the positive ratio ofperceived benefit over perceived barriers. When perceived benefits of the recommendedaction exceeds the perceived barriers associated with the implementation of that action,the more likely a person is going to take preventive health actions. The course of

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actiontoreduce the health threat may become a barrier if it is inconvenient, expensive,unpleasant, or even painful, thus affecting an individual's intention to perform that. Thus a perceived barrier may delay or negatively affect the intentionto adopt a health behavior. (Chakraborty, 2012) addresses several possibilities regarding the interactionbetween perceived barriers and the intention to adopt certain health behaviors. Hesuggests that if the negative aspects of certain courses of action are considered weak andthe readiness toward the action is high, there is possibility that the action will betaken. If the readiness of the intention is low and the possible barriers are relativelystrong, then the negative aspects of the course of action are more likely to prevent theaction. If the readiness to act is great and the probable negative aspects of that course ofaction are equally high, a conflict might arise. The individual may equally be forced toadopt a specific course of action to prevent the health threat and, at the same time, maybe motivated to avoid the action for its negative aspects. Such a situation may provoke anindividual to look for alternative ways to attain the benefits of that action. (Rosenstock1974) suggests such conflicting situations may lead to two behavioural outcomes. Anindividual may maintain a psychological distance from the conflicting situation byadopting means that are helpful in reducing the health threat.

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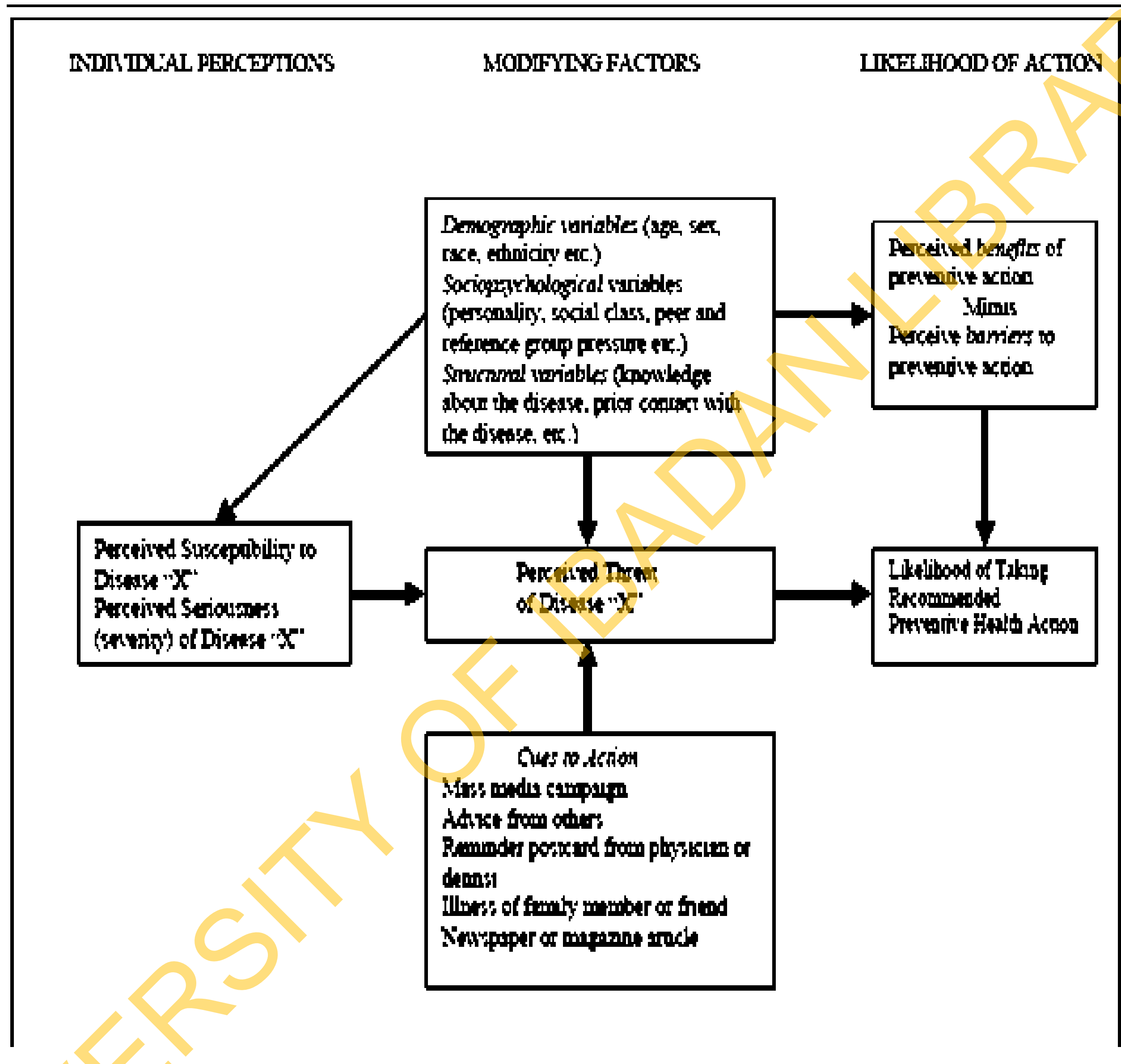
Table 2.3: The Health Belief Model



Source: Becker, 1974

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CHAPTER THREE

METHODOLOGY

3.1 Study Design

The study was a descriptive cross sectional design set out to determine the prevalence and pattern of fast food consumption among adolescents in Ibadan North East local government.

3.2Study Location

The study site was the Ibadan North East Local Government Area of Oyo State. Ibadan North East Local Government is one of the Local Government located in Ibadan.

Ibadan North East local Government was created on the 29th of August; 1991and has an area of about 15.5 square kilometer,with a population estimated to be 86,173. The administrative headquarters is in Agodi, which is one of the major commercial centres in Ibadan land. It is bounded in the East by Egbeda and OnaAra Local Government, Ibadan North Local Government in the west, while Lagelu and Akinyele share boundary in the North, and bounded by the Ibadan south –east local government in the south.The local government is made up of 12 political wards. A large number of the communities in the local government are inner core (indigenous) communities characterized by poorly planned housing and poor drainage system. The rest are transitory and peripheral areas which are mostly populated by the non-indigenes. Christianity and Islam are the two dominant religions.

A large percentage of the respondents were residents in the inner core, knowledge about healthy meals are poor, roadside vendors were often patronized to the detriment of the health statusof these adolescents. The inner core is also characterized by low socio-economic dwellers. This include street vending, fast food kiosk, road side fast food corners, which the adolescents patronize in the communities. The transitory and peripheral are made up of people with more sophistication and urbanization, and patronized the indigenous fast food restaurants.

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3.3Study population

The population for this study is adolescents between the ages of 15 to 19 and is resident in Ibadan North East Local Government Area.

3.4Inclusion criteria:

1. Adolescents who can speak and read English.
2. Both male & female adolescents aged 15-19 years resident in the community

3.5Exclusion criteria:

1. Adolescents who are not willing to participate in the study.
2. Adolescents who are not available during data collection.

3.6Sample size

The sample size was calculated thus:

- The sample size (n) will be determined by using (Lwanga& Lemeshow,1991) sample size formula:

  $$n = \frac{Z^2 p(1-p)}{d^2}$$

  Where n=minimum sample size required

  Z= confidence limit of survey at 95% (1.96)

  P= Prevalence taken to be at 50%

  d=absolute deviation from true value (degree of accuracy) = 5%

  $$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} = 384.2 \text{ approximate} = 384$$

  A non-response rate of 10% 0f 384 = $\frac{384 \times 10}{100} = 38.4$

Will be added to sample size calculated to make sample size 422 in order to address any possible case of incomplete response

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3.7Sampling Technique

A three stage sampling technique was used for this study. It involved the following stages.

Stage 1: Using stratified random sampling, the communities in the Local Government were stratified into the inner core, transitory, and peripheral thus giving a ratio of 20:16:8 (see Table 3.1) in that order.

Inner core = 20 communities × 44 (total number of communities) = 192

Transitory =16communities × 44 (total number of communities) =153

Peripheral =8 communities × 44 (total number of communities) =77

The ratio was further used to calculate the sample size for each stratum thus giving a sample size of 192:153:77.

Stage 2: using the ratio (10:4:4) 10 communities were selected from the inner core stratum while 4 communities were selected from the transitory and 2 communities from the peripheral. The ratio was then used to calculate the number of questionnaire to be administered in each of the selected communities which gave a figure of 19.2 for each of the selected 10 communities in the inner core, 38.25 for each of the 4 selected communities in the Transitory and 38.5 for each of the 2 selected communities in the peripheral. See below

Inner core =192 ÷10=19.2 in each of the selected communities

Transitory =153 ÷4=38.25 in each of the four selected communities

Peripheral =77÷2=38.25 in each of the two selected communities

Stage 3: The questionnaire was administered to a consenting adolescent who met the criteria for the study.

3.8Pre-test

The pretest site was similar to the main study in terms of socio –economic, religious and other characteristics. The sites were segregated along the peripheral, transitory and inner core areas. The consent of the respondents was obtained and participation was voluntary. The items were

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arranged to follow logical response. The pretest questions were then analyzed using the SPSS version 20

3.9Validity

This is the ability of an instrument to measure what the investigator wants to measure.

To ensure validity, the questionnaire was constructed in line with relevant literature review. The questionnaire went through independent review from peers and expert in the field of public health. The questionnaire underwent a constructive critic and fine tuning with the supervisor.

-The validity helped the researcher to determine the trend in the response of participants and the amount of time it took to administer the questionnaires.

-The level of comprehension of the items by the participants was also determined.

-At the end of the exercise, items that were not easily understood were reframed, those that were found to be irrelevant were removed, adequate spaces were provided for each response, and some questions were added and removed.

3.10Reliability

The instruments were pre-tested in a local Government having a similar characteristic with the study site. The pretested questions were also analyzed using the Cronbach's Alpha Model based on standardized items. A reliability Co-efficient of 0.78 higher than the average correlation co-efficient of 0.5 was obtained, thus showing that the instrument was very reliable.

3.11 Ethical consideration

Participants volunteer were ensured based on the consent form endorsed before the study. Special care was taken to ensure that there was no false compensation or inducement as a means of recruitment or as a way of keeping the study participants in the study.

Informed consent was sought to protect the right and dignity of the study participants. However, participants were given equal opportunity to give and withdraw their consent freely on or from participating during the study. Confidentiality of each of participant was maximally maintained during and after the collection of his or her data or information.

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3.12Procedure for data collection

Data collection was carried out within a period of three weeks. Visits were made to all the selected communities in company of the research assistants that were trained before they were deployed to the field for data collection. Five research assistants were used. They were trained on the objectives of the study , understanding of the instrument for data collection , building rapport with respondents, interviewing skills, and their ethical issues involve in research prior to the time of data collection. The instrument and how they were used in the data are explained below.

The semi structured questionnaire: the study participants were interviewed at a time considered convenient for them at their various homes in the community. The data collection process involved the following steps:

1. Visit and permission from the Ibadan North East Local Government, this was done by the researcher prior to the commencement of the research. The introductory letter from the department wasacknowledged, permission was granted to carry on with the research.
2. Identification of each wards /and selected communities by the interviewers and dotted in the map.
3. The respondents were selected based on the inclusion criteria and wards based on the stratification earlier described.
4. The use of incentives (Good mama Sachet detergent)
5. Administration of the questionnaire to the respondents based on their informed consent

3.13Data analysis

All questionnaires were reviewed and edited by the researcher for completeness. Processing of the data included sifting of questionnaires, sorting of questionnaires, collation and scoring. A coding scheme guide was developed after carefully reviewing the responses, and appropriateness scoring done. The researcher checked on the quality of the information collected. Problems discovered during data collection were resolved immediately. The questionnaires were analyzed using the statistical package for social sciences (SPSS) version 20. Data were analyzed using descriptive statistics, Chi square.

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3.14Limitations of the study

The study focused on the consumption pattern of fast food among the adolescent in the community.

There were challenges in locating some of the communities in the inner core areas, such as Alafara and AremoAlafara, Labiran, LabiranAderogbathe questionnaires were mixed up in the mentioned communities because the boundaries were not easily understood.

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Table 3.1: Stratification of Community in Ibadan North East LGA

Inner core	Transitory	Peripheral
Odoosun	Adekile	Iwo Road
Labiran	Aremo	Abaomi
Ogboriefon	OritaAperin	Basorun
ItaBaale	OkeAfa	Idi Ape (BCOS Quarters)
Oranyan	Atipe	Agodi Gate
Beyerunka	Oja Igbo	Oluyoro
Kosodo	Ajegede	Aromolaran
Labo	Koloko	Onipepeye
Alafara	Agugu	
LabiranAderogba	Oke Ibadan	
OjeAderogba	Idi –obi	
AremoAlafara	Ode Aje	
OjeIrefin	Padi	
ItaAkinloye	Alase	
Baba Sale	AremoAjibola	
Padi		
Part of irefin		
Gbenla		
OkeAdu		
20	16	8

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CHAPTER FOUR

RESULTS

The results are presented in this chapter.Itconsists of five sections.

- Socio –demographic characteristics
- Prevalence and Pattern of fast food consumption
- Knowledge about fast food consumption
- Perception about fast food
- Attitude towards fast food consumption

4.1 Socio –Demographic Characteristics

The ages of the respondents ranged from 15-19 years. Majority were female (54.3) and males were (45.7). Most respondents were Moslems (60.7) and Christians were (39.3). Majority of the respondents were from monogamoushome(63.7) and (36.0) were from polygamous homes.

The class level of respondents ranged from SS1 to SS 3. SS1 were (2.3%), majority were SS2 (55.7%) and SS 3 (41.2%). A large percentage of the respondents live with their parent (83.6%). Average source of pocket money from parent/ guardian above 100 Naira was high among the respondents (60.2%), while 55-100 Naira (25.8%). See (Table 4.1).

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Table 4.1: Age, Sex, Class level, Type of family, Live with parent

Socio-Demographic Variable	Number	Percentage
Age		
14-16 years	212	50.24
17-19 years	199	47.16
Non Response	11	2.59
Total	422	100.0
Sex		
Female	229	54.3
Male	193	45.7
Total	422	100.0
Class Level		
SS1	10	2.3
SS2	174	55.7
SS3	235	41.2
Total	422	100.0
Type of family		
Monogamous	269	63.7
Polygamous	152	36.0
Non Response	1	.2
Total	422	100.0
Livewithparent		
Yes	353	83.6
No	68	16.1
Non response	1	.2
Total	422	100.0

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Table 4.2: Parent's level of education

Variable	Number	Percentage
Tertiary education	70	16.6
Secondary education	210	49.8
Primary education	112	26.5
Artisan	20	4.7
No Education	9	2.1
Total	421	99.7

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Table 4.3: Average pocket money

Variable	Number	Percentage
0-50	59	14.0
55-100	109	25.8
above 100	254	60.2
Total	422	100.0

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Table 4.4: Household Appliances

Variable	Yes	No
Electricity	341 (80.8 %)	81 (19.2%)
Radio?	380 (90%)	42 (10%)
Television?	369 (87.4%)	53 (12.6%)
Telephone?	393 (93.1%)	28 (6.6%)
Refrigerator?	195 (46.2%)	224 (53.1)
Electric Fan?	364 (86.4%)	57 (13.5%)
Gas cooker?	82 (19.4%)	337 (79.9%)
Electric Iron?	314 (74.4%)	108 (25.6%)
Motorcycle?	138 (32.7%)	281 (66.6%)
Car?	151 (35.8%)	269 (63.7%)

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4.2: Awareness about fast food consumption

The respondents are highly aware about fast food (94.5%) and consumption pattern was mainly through friends (43.4%). A large Majority explained that fast foods are low in nutrition content and sold in fast food restaurants and kiosk (62.3%) (See table 4.5).

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Table 4.5: Awareness about Fast Food

Variable	Number	Percentage
Heard you about fast food before		
Yes	399	94.5
No	22	5.2
Total	421	99.7
How did you get to know about fast food		
Radio	34	8.1
Television	22	5.2
Newspaper	19	4.5
Friend	183	43.4
Others	161	38.2
Total	419	94.9
Fast foods are meal with low nutrition preparation		
Yes	263	62.3
No	156	37.0
Total	419	99.3

- Missing responses were left out.

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4.3 Pattern of Fast Food Consumption

The fast food consumed by the respondents include: WaraDindin (92.7%) consumed mostly weekly (44.1%) source of money majorly parent (51%), cake (95.7%) consumed daily (47.4%), major source of money for consumption is from parent (89.8%), Buns (97.2%) consumed mostly daily (53.1%) and source of money for purchase is parent (88.4%), suya (93.4%) and consumed weekly by the respondents (51.7%) and source of money was from parent (89.8%), plantain chips (95.7%) and consumed mostly daily (48.8%) and source of money parent (90.3%), Dundu fries (94.5%) consumed mostly daily (43.4%) and source of money was from parent (90.3%), ice cream (97.2%) consumed mostly daily (41.0%) and source of money was from parent (90.3%), puff-puff (98.3%) consumed mostly daily (75.6%) chief source of money was parent (90.3%) , Biscuit (99.5%) consumed mostly daily (72.7%) , Noodles (98.6%) majority consumed it daily (44.8%) , carbonated soft drinks (97.4%) , meat pie (96.4%) (See details in table 4.6).

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Table 4.6: Pattern of fast food consumption among respondents

Variable	YES	NO	How often do you consume these Fast foods			Source of Money	
			Daily	Weekly	fortnight	Parent	Guardian
Wara-Dindin	391 (92.7%)	31 (7.3%)	123 (29.1%)	186 (44.1%)	94 (22.3%)	368 (51%)	51 (12.1%)
Cake	404 (95.7%)	18 (4.3%)	200 (47.4%)	152 (36.0%)	55 (13.3%)	379 (89.8%)	41 (9.7%)
Buns	410 (97.2%)	12 (2.8%)	224 (53.1%)	160 (37.9%)	21 (5.0%)	373 (88.4)	45 (10.7%)
Suya	394 (93.4%)	28 (6.6%)	79 (18.9%)	218 (51.7%)	108 (25.6%)	379 (89.8%)	41 (9.7%)
Plantain chips	404 (95.7%)	15 (3.6%)	206 (48.8%)	132 (31.3%)	65 (15.4%)	381 (90.3%)	39 (9.2%)
Dundu (fries)	399 (94.5%)	23 (5.5%)	183 (43.4%)	164 (38.9%)	50 (11.8%)	381 (90.3%)	39 (9.2%)
Ice cream	410 (97.2%)	12 (2.8%)	173 (41.0%)	152 (36.0%)	83 (19.2%)	381 (90.3%)	41 (9.7%)
Puff puff	415 (98.3%)	6 (1.4%)	319 (75.6%)	83 (19.7%)	11 (2.6%)	381 (90.3%)	39 (9.2%)
Biscuit	420 (99.5)	2 (0.5%)	307 (72.7%)	89 (21.1%)	13 (3.1%)	381 (90.3%)	39 (9.2%)
Noodles	416 (98.6%)	6 (1.4%)	189 (44.8%)	161 (38.2%)	54 (12.8%)	379 (89.8%)	41 (9.7%)
Carbonated Drinks (Mineral)	411 (97.4%)	11 (2.6%)	92 (21.8%)	158 (37.4%)	160 (37.9%)	382 (90.5)	30 (9.2%)
Meat pie	407 (96.4%)	14 (3.3%)	100 (23.7%)	163 (38.6%)	148 (35.1%)	382 (90.5)	9.2%)

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4.4: Reasons adolescents consume fast food

Majority of the respondents agreed adolescents consume Fast food because they are sweeter than the mix at home (60.2%) , while (94.8%) agreed the reason adolescents bought fast food was due to the attractive colours, a large proportion of the respondents also agreed adolescents consume fast food due to thecolourful advert and these influence their fast food consumption (96.2%), fast food are convenient (97.2%), a large percentage of the respondents also opined adolescents buy fast food due to extra pocket money (87.4%) , while(92.7%) agreed that adolescents take fast to show off to their peers , while (93.6%) agreed adolescents consume these fast food in the company of opposite sex, a total of (98.3%) also agreed adolescents purchase fast foods due to it availability around the community and (99.5%)as a result of fast food varieties(See table 4:7).

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Table 4:7 Reasons adolescent consume fast food

	Why Adolescents consume fast food		Why you consume fast food	
	Yes	No	Yes	No
Fast food are sweeter than the mix at home	254 (60.2%)	168 (39.8%)	164 (38.9%)	242 (57.3%)
Fast food comes in attractive colours	400 (94.8%)	21 (5.0%)	340 (80.6%)	75 (17.8%)
Fast food comes in colourful advert	406 (96.2%)	15 (3.6%)	340 (80.6%)	71 (16.8%)
Fast food are convenient	410 (97.2%)	11 (2.6%)	363 (86.0%)	47 (11.1%)
I buy fast food due to extra pocket money	369 (87.4%)	52 (12.3%)	215 (50.9%)	194 (46.0%)
People consume fast food to show off to their Peers	391 (92.7%)	30 (7.1%)	156 (37.0%)	251 (59.5%)
People consume fast food in company of opposite sex	395 (93.6%)	26 (6.2)	124 (29.4%)	284 (67.3%)
Fast food are available around community	415 (98.3%)	6 (1.4%)	359 (85.1%)	47 (11.1%)
Fast food comes in varieties	420 (99.5%)	1 (0.2%)	378 (89.6%)	29 (6.8%)

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4.5: Knowledge of respondents on fast food content and consumption

(Table 4.8) shows the respondents knowledge on fast food consumption.83.2% of the respondents stated that fast food are high in salt , a large percent of the respondent explained that fast food are actually high in calories and fat and oil with a percentage of (77.7%) and (83.6%). In addition, (64.0%) also stated that fast food can reduce ones appetite for home cooked meals, (54.5%) also explained that fast food are not good source for growth and development, while (50.5%) actually believed fast food are not balanced diet

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Table4.8: knowledge of respondents on fast food content and consumption

Variable	Number	Percentage
Fast food are salty		
Yes	351	83.2
No	70	16.6
Fast food are high in calories		
Yes	328	77.7
No	86	20.4
Fast food are high in fat and oil		
Yes	353	83.6
No	68	16.1
Reduces ones appetite for home meals		
Yes	270	64.0
No	151	35.8
Fast food are not balanced diet		
Yes	213	50.5
No	207	49.1

***Missing responses were left out**

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4.5:1 Knowledge of respondents about NCD's

A total of (28.0%) of the respondents do not know fast food can lead to hypertension, (38.2%) also did not know that fast food can lead to obesity, (35.8%) and (45.5%) were not aware that prolonged intake of fast food can lead to cancer and diabetes respectively at a later stage in life.

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Table 4.9: Knowledge of respondents about NCD's

Variable	Number	Percentage
Fast food can lead to hypertension		
Yes	118	28.0
No	299	70.9
Fast food lead to obesity		
Yes	161	38.2
No	258	61.6
Fast food can lead to cancer		
Yes	151	35.8
No	268	63.5
Prolonged intake of fast foods can lead to diabetes		
Yes	192	45.5
No	227	53.8
Fast food can cause Heart Disease		
Yes	150	35.5
No	270	64.0

***Missing responses were left out**

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4.6: Perception about fast food consumption

This section provides the answer to the respondent's perception about fast food and their susceptibility to developing non-communicable diseases as a result of consuming fast foods.

A total of (88.2%) stated that fast food is a sign of enjoyment and sophistication while 4.3% were undecided about the view. Sixty one percent of the respondents stated no, that fast foods are rich in nutrients that are good for body development while 5.7 were undecided. A total of forty one percent agreed that fast food consumption on a daily basis can lead to developing diabetes and 7.3% were undecided about the view. Fifty nine percent disagreed that fast food is a daily of part ones diet, while (8.3%) were undecided about the view. Twenty three percent explained that fast food could increase ones chances of developing a heart disease and (8.5%) were undecided about the view.

A large percentage of the respondents (52.6%) agreed that frequent intake of fast food can increase ones chance of being overweight. Majority of the respondents (69.7%) explained that their fast food consumption increases day by day. A total of (49.8%) respondent agreed fast food is bad for health, while (8.1%) undecided about the view, (41.0%) disagreed about the view (see details in Table 4.10).

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Table 4.10: Perception about fast food consumption

Statements	Yes	No	Undecided	No Response	Total
Fast food consumption is a sign of enjoyment and sophistication	372 (88.2%)	31 (7.3%)	18 (4.3%)	1 (.2%)	421 (99.8%)
Fast food are rich in nutrients that are good for body development	259 (61.4%)	138 (32.7%)	24 (5.7%)	1 (.2%)	421 (99.8%)
Fast food consumption on a daily basis can lead to developing diabetes	173 (41.0%)	216 (51.2.0)	31 (7.3%)	2 (0.5%)	420 (99.5%)
Fast food is a daily part of one's diet	133 (31.5%)	252 (59.7%)	35 (8.3%)	2 (0.5%)	420 (99.5%)
Fast food increases one's chances of developing hypertension	99 (23.5%)	285 (67.5%)	36 (8.5%)	2 (0.5%)	420 (99.5%)
Frequent intake of fast food consumption can increase ones chances of being overweight	222 (52.6%)	172 (40.8%)	25 (5.9%)	3 (0.7%)	419 (99.3%)
Your fast food consumption increases day by day	294 (69.7%)	105 (24.9%)	18 (4.3)	5 (1.1%)	417 (98.9%)
Consumption of fast food is bad for health	210 (49.8%)	173 (41.0%)	34 (8.1%)	5 (1.1%)	417 (98.9%)

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4.7 Attitude towards fast food consumption

This section provides the result of the respondent's attitude towards the consumption of fast foods. A large majority of the respondents agreed with the view that people take fast food to show off to their peers (75.6%) only (20.6%) disagreed while a total of (3.6) were undecided. More than half of the respondents agreed that people who take fast food daily skip normal meals (62.6%) while (32.2%) disagreed with the view, a total of (5.0%)were undecided. Sixty two percent totally agreed that fast food encourages laziness while (35.8%) disagreed with the view. More than half of the respondents disagreed with the view that people who are rich buy fast food (83.2%), a total of only (15.2%) agreed with the view and (0.9%) were undecided about the view.

Fifty seven respondents explained that to be healthy one should consume little or no fast food , (40.3%) disagreed with the view and undecided were (3.1%). More than half of the respondents explained that fast food consumption increased as they left home (82.0%) and (14.7%) were undecided. In addition, a total of (77.0%) also opined that fast food changes ones attitude towards normal meal, (18.2%) were undecided and (4.3%) were undecided about the view. A large proportion of the respondents agreed that eating fruits is a better option to fast food (87.4%) while (10.9%) disagreed , a total of (0.7%) were undecided on the view see (Table 4.11)

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Table 4.11: Respondents attitude towards fast food consumption

Statement	Agree	Disagree	Undecided	No response	Total
People take fast foods to show off to their peers	319 (75.6%)	87 (20.6%)	15 (3.6%)	1 (0.2%)	421 (99.8%)
People who take fast foods daily skip normal meals	264 (62.6%)	136 (32.2%)	21 (5.0%)	1 (0.2%)	421 (99.8%)
Fast foods encourages laziness	262 (62.1%)	151 (35.8%)	7 (1.7%)	2 (0.5%)	420 (99.5%)
People who are rich buy fast foods	64 (15.2%)	351 (83.2%)	4 (0.9%)	3 (0.7%)	419 (99.3%)
To be healthy one should consume little or no fast food	243 (57.6%)	170 (40.3%)	8 (1.9%)	1 (0.2%)	421 (99.8%)
Fast food consumption increased as you left home	346 (82.0%)	62 (14.7%)	13 (3.1%)	1 (0.2%)	421 (99.8%)
Fast foods changes ones attitude towards normal balanced meal	325 (77.0%)	77 (18.2%)	18 (4.3%)	2 (0.5%)	420 (99.5%)
Do you think eating fruit is a better option to fast food	369 (87.4%)	46 (10.9%)	3 (0.7%)	4 (1.0%)	418 (99%)

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The attitudinal score was calculated for each respondent using a 16-point attitudinal scale. Each positive attitudinal response had a score of 2 while a negative score attitudinal response or a no response had a score of 0. The scores were then summed up to give a composite attitudinal score for each respondent. The higher the score, the more positive the attitude.

Inversely, the lower the score, the more the negative attitude. A score above 8 was categorized as a positive attitudinal score while a score of 8 and below was categorized as a positive score while a score of 8 and below was categorized as a positive attitudinal score.

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Table4.12: Attitudinal, knowledge and perception score

Variable	Frequency	Percentage
Attitudinal score		
0-8(Negative)	148	34.83
8-16(Positive)	274	65.17
Total	422	100.0
Knowledge score for fast food		
0-11(low)	229	54.65
12-22(High)	190	45.33
Total	419	100.0
Perception		
0-5(poor)	166	39.52
6-11(Fair)	28	6.67
12-16(Good)	226	53.81
Total		100

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The mean attitudinal score was 9.45 ±3.70 for all respondents. The mean attitudinal score for males was 8.9 ± 2.74 and 10 ± 2.69 for females. The compared mean test for attitudinal score by sex was significant ($p<0.5$). The mean attitudinal score by religion is as follows: 9.15± 4.7 for all respondents. The mean score for Christianity is 8.0 ±0.28 and 10.3 ± 3.00 for Moslems. The compared mean test for attitudinal score is ($p<0.5$). For class, the mean attitudinal score is 9.53± 1.41. SS1 (8.0 ±1.11), SS2 (9.8±2.5), and SS3 (10.3±3.00). Respondents in SS3 had a positive attitude the compared mean test by class level was significant ($p<0.5$). The mean attitudinal score by type of family is 11.5± 1.9 for all respondents. Monogamous family was 12.8±2.8 and polygamous 10.1 ±0.9. Again, the compared mean test for attitudinal by type of family was significant ($p<0.5$) for Education, the mean attitudinal score for all respondents was 12.0±1.4. The mean attitudinal score is as follows Tertiary education 13.4±0.91, Secondary Education 10.57±2.2, Primary Education 11.63±2.0 while Artisan 12.5±0.9 and No Education 12.0±1.1 see (Table 4.13)

A positive attitude was based on agreement with a positive statement, while a negative attitude was based on agreement with a negative statement. For example, positive attitude was portrayed by the respondents as majority of them (77%) fast food changes ones attitude towards normal meal.

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4.13: Mean attitudinal score by selected variables

Variables	Number	Mean	Standard Dev	p-value
Sex				0.029
Male	229	8.9	2.74	
Female	193	10	2.69	
Total	422	9.45	3.70	
Religion				0.849
Christianity	166	8.0	0.28	
Islam	256	10.3	3.00	
Total	422	9.15	4.7	
Class				0.445
SSS 1	10	8.0	1.11	
SSS 2	235	9.8	2.50	
SSS 3	174	10.8	1.5	
Total	419	9.53	1.41	
Type of family				0.011
Monogamous	269	12.8	2.8	
Polygamous	152	10.1	0.9	
Total	421	11.45	1.9	
Parent's level of education?				0.055
Tertiary education	70	13.4	0.91	
Secondary education	210	10.57	2.2	
Primary education	112	11.63	2.0	
Artisan	20	12.5	0.9	
No Education	9	12.0	1.1	
Total	421	12.0	1.4	

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4.7; 1 Fast food consumption practice and behaviour

The most commonly consumed fast food consists chiefly of flour products such as cake, doughnut, meat-pie, chin-chin, and carbonated drinks. A total of 35.5% explained they prefer flour products, while 31.5 consumed carbonated drinks. Nineteen percent preferred fries and thirteen percent stated tin/can foods. A total of 31% of the respondents preferred to visit KFC fast food restaurant, while forty percent stated they prefer to visit other fast food joints, vendors and stalls. Only 10% preferred to visit Mr. Biggs, while 17.0% explained they love FoodCo. Based on the table, a large percentage of the respondents 61% explained they prefer to consume food fast food in the afternoon, very few 20.1% preferred to take their fast food in the morning, while a total of eleven percent stuck with evening only two percent stated they love to take fast food at bed time. Majority of the respondents said they buy fast food as gift for friends (64.5%), while 34% disagreed (see Table 4.14)

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Table 4.14: Fast food consumption practice and behaviour

Variable	Number	Percentage
Preferred types of fast food		
Carbonated drinks	133	31.5
Fries	83	19.7
Tin/canned foods	56	13.3
Flour products	150	35.5
None	0	0.0
Total	422	100.0
Preferred fast food restaurant		
Kfc	80	31.5
Mr Biggs	44	10.0
Foodco	71	17.0
Other fast food stalls/kiosk	167	40.0
None	4	1
Total	418	100.0
Preferred time for fast food		
Morning	85	20.1
Afternoon	261	61.8
Evening	49	11.6
Bedtime	12	2.8
None	15	3.5
Total	407	100.0
Buy fast food as gift for friends		
Yes	272	64.5
No	141	33.4
None/No response	9	2.1
Total	413	100.0

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4.8 Respondent's suggestions for change towards healthy and nutritious meals

Respondents suggested measure for change towards healthy and nutritious meals as shown in Table 4.15 below. A total of 5.2% suggested balance meals, a balanced meal which comprises of all the classes of food. Suggestions towards consumption of home meals and less fast food was 5.0%. While 5.2% suggested meal preparation by self. Variably, 3.3% insisted meals should be prepared under strict hygienic conditions. A large proportion of the respondents 12.1% suggested eating more of vegetables. Majority of the respondents 13.5 also explained less of sugary foods should be consumed. A total of 10.2% of the respondents opined more consumption of fruits than fast foods, while seven percent explained that fast food advert should be monitored. Five percent of the respondents also explained the importance of exercise.

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Table 4.15: Suggestions towards healthy and nutritious meals

Variable	Number	Percentage
Eat balanced meals	22	5.2
Eat less fast food and more of home cooked meals	21	5.0
Prepare meals by self	22	5.2
Eat foods prepared under good hygiene standard	14	3.3
Eat more of vegetables	51	12.1
Do more cooking at home	22	5.2
Brush teeth after eating fast food	19	4.5
Eat less of sugary foods	57	13.5
Eat more fruits than fast food	43	10.2
Monitor fast food advert and food preparation	32	7.6
Eat more of protein meals	17	4.0
Exercise daily	22	5.2
Non response	80	19.0
Total	342	100.0

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4.16:Test of Hypotheses

Hypothesis I: There is no significant association between class level and knowledge of fast food consumption

There is a significant association between class level and knowledge of fast food consumption. However, respondents in SS2 had more knowledge about fast food than SS3. The data revealed that SS2 were more knowledgeable about fast food than respondents in SS3. The null hypothesis was rejected.

Table 4.16 Test of Hypothesis 1

Knowledge score			Total	Df	p-value
Variable	0-11(low)	12-22 (High)			
SSS 1	8	2	10 (1.3%)	2	0.0886
SSS 2	131	94	235 (55.7%)		
SSS 3	90	94	174 (41.2%)		
Total	229 (54.65%)	190 (45.33%)	419 (100%)		

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Hypothesis II: There is no significant association between sex of respondent and attitude towards fast food consumption.

There is a significant association sex of respondents and attitude to fast food consumption. Male respondents' attitude towards fast food consumption was high compared to females.

Therefore, the null hypothesis was rejected.

Table 4.17 Test of Hypothesis 11

Attitude score			Total	x^2	Df	p-value
Variable	0-8 (Negative)	9-16 (Positive)				
Male	90 (21.39%)	139 (33.1%)	229 (54.26%)	4.5	15	0.009
Female	58 (13.44%)	135 (32.07%)	193 (45.73%)			
Total	148 (34.83%)	274 (65.17%)	422 (100%)			

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Hypothesis III: there is no significant association between type of family and attitude towards fast food consumption. Respondents from monogamous homes and with more access to pocket money and more sophistication are more likely to purchase fast food.

Therefore, the null hypothesis was rejected

Table 4.18 Test of Hypothesis 11I

Attitude score			Total	Df	p-value
Variable	0-8 (Negative)	9-16 (Positive)			
Monogamous	104 (24.67%)	165 (39.09%)	269 (63.7%)	1	0.074
Polygamous	43 (10.47%)	109 (25.83%)	152 (36.3%)		
Total	147 (34.83%)	274 (65.17%)	421 (100%)		

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CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATION

This study is based on investigations of the prevalence and pattern of fast food consumption among adolescents and their susceptibility to developing Non-Communicable Diseases (NCDs). Below are the explanations to the results presented in the previous chapters.

5.1: Socio demographic characteristics

Four hundred and twenty two adolescents resident in Ibadan North East and between the ages of 14-19years participated in this study. These age groups are school age adolescents, with no source of income or livelihood and depend on their parent for survival and protection.At this stage, a high level of independence is usually asserted,characterized by unhealthy meal choices. A finding supported by(Stevenson ,Doherty, Barnett 2007)wrote that adolescence is a period of development associated with striving for independence through making rebellious or non-conformist statements and adopting social causes One of the ways in which independence or rebellion may be expressed is through eating less healthy foods, or not eating as an act of parental defiance . Majority of the respondents were females residing in the inner core areas and were not knowledgeable about how unhealthy meal choices could lead to severe nutritional problems such as obesity and underweight. This was supported by (The Telegraph UK, 2014) wrote thata diet of pizza, sweets, and sugary drinks is taking a severe toll on the health of young women which is having implications as they get older.

5.2: Pattern of fast food consumption

The respondents in this study are aware about fast food and sold in fast food restaurant. However, majority of the respondents patronize local fast food outlets found in the community. The fast food joints which the adolescents visited comprises mainly of elaborate fast food restaurants, kiosk, road side retail outlets and corners.A large percentage of the respondents also explained that fast food are meals with low nutrition preparation and gotten from fast food restaurants, on the contrary, (Borade, 2012) opines that Fast food restaurants can come in form

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ofoutlets,either kiosks or elaborate quick service restaurants, also known as sit-ins and upscale kiosks, these restaurants/outlets cater to the dry food demands of the younger generation.

The pattern of meal of the adolescents consisted mainly of flour products , carbonated soft drinks , pasta, tinned/can foods and fries. These snacks are high in salt, oil, fat and calorie content. This was supported by (Pramanik & Dhar, 2014)they stated that Junk food, are fast foods, they are empty calorie foods. An empty calorie food is a high calorie or calorie rich food which lacks in micronutrients such as vitamins, minerals or amino acids and fibers and has high energy. These foods lack nutrients that the body needs to stay healthy, they contain high levels of refined sugar, white flour, trans-fat, salts and numerous food additives such as monosodium glutamate and tartrazine. At the same time it is lacking in protein, vitamins, essential minerals and fibers. Majority of the fast food pattern of the adolescent were consumed daily,this was also cited and justified by (Sharma, 2013) who explained that Teenagers are frequent visitors to fast food restaurants, different stores, road vendors, visits occur immediately after school. This was also justified by (Dapi, Nouedoui, Janlert, & Håglin, 2005) they stated that,In urban areas in Cameroon, as in other countries in Africa, a lot of food is consumed outdoors, mostly on the streets. Food sold on the street by vendors is mostly composed of junk food and these are found chiefly in fast foods

In this study the chief source of money for the purchase of these fast foods was majorly from their parents,these fast food reduces the inclination towards family meals. The reason for this is behind the fast food adverts, fast food varieties, fast food promos, food convenience, availability, extra pocket money and peer network which the adolescent themselves explained in the results gotten from the previous chapter. This was clearly opined by (Onyiriuka, Ibeawuchi, & Onyiriuka, 2013)Adolescents, as a group are highly receptive to new food products and to fast foods, largely due to peer group influence. As a consequence, the food habits of adolescents are usually dynamic and change with time this justifies the explanations which the adolescent themselves explained in the results gotten from the previous chapter. In a similar investigation on fast food adverts, (Harris, Schwartz, Munsell,2013)stated that in their fast food fact findings, report raised significant concerns about the effects of fast food marketing on the health of young people. Most fast food menu items including kids' meal items contained more calories, saturated fat, sugar, and/or sodium than recommended. The industry spent $4.2 billion on advertising to

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encourage frequent visits to fast food restaurants, targeting children as young as two years old. From 2003 to 2009, fast food TV advertising to children and teens increased by more than one-third, and the majority of fast food ads viewed by youth promoted restaurants' high-calorie, nutritionally poor regular menu items. This justifies the result in the previous chapter.

5.3: Knowledge of respondents on fast food consumption

A large percentage of the respondents in this study were fully aware that the fast foods they consume were high in salt content, high in calories and high in fat and oil Junk food causes adverse effects on health including: obesity, dental cavities, type-2 diabetes, hypertension, stroke and heart disease. This was supported by a finding by (Ashakiran&Deepthi, 2012) they explained that junk foods which are found in fast food contains high levels of refined sugar, white flour, trans-fat and polyunsaturated fat, salt, and numerous food additives such as monosodium glutamate and tartrazine at the same time.

It is a well-knownfact that high consumption of saturated fats, refined carbohydrates, sodium, as well as lack of consumption of micronutrients and fiber, increases the risks of development of such chronic non-communicable diseases as cancer, cardiovascular diseases, and diabetes mellitus. Increased levels of junk food consumption is obviously associated with rapidly increasing burden of chronic non-communicable diseases around the world, especially in developing countries and countries in transition (Dymytrenko, 2009).

In a study carried out by (Beester& Schnell, 2004) they stated that in general adolescents have insufficient knowledge of food com-position and healthy nutrition. This clearly proves the result in the previous chapter, majority of the respondents had no knowledge on some of the Non-Communicable disease and it relationship to fast food consumption. Knowledge on junk food which is found in fast food facts is lacking dramatically in every corner of the society. 90% of parents agree that junk food advertisements were making it difficult for them to promote healthy eating at home. Messages for healthy eating are getting undermined at every turn by the relentless number of junk food advertisements.

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The respondents in this study also stated that fast food reduces one's appetite for home meals. This was consistent with the submission of (Otemuyiwa&Adewusi, 2012) The fact that fast food is convenient, readily available, quickly served and could be eaten on the go, makes it the choice of the adolescents and youths on the go who, because of the demands of their busy schedule and jobs, are often in a hurry. To such people, fast food joints have become the saving grace from the drudgery and boring routine of going to the kitchen to prepare their own meals or wasting unduly long hours shopping for foodstuffs and the subsequent preparation. Adolescents spend a good deal of time away from home and many consume fast foods, which are convenient, but are often high in calories and fat. It is common for adolescents to skip meals and snack frequently.

A large percentage of the respondents in this study believed that fast food are not good source for growth and development.(Kaushik, Narang, Parakh, 2011)clearly corroborates the fact that Fast foods have high level of fat and sugars that are not only unhealthy but addictive and that creates a vicious cycle making it hard for children to choose healthy food. High content of trans-fat in commercially available fast foods predispose children to risk of future heart diseases. Energy density of fast food is more than twice the recommended daily allowance for children. Fast food intake leads to higher proportion of calories being derived from total and saturated fat.Moreover,the micronutrient content (Carotene, vitamin A, vitamin C) of the fast food is low. Low levels of calcium and magnesium in the micronutrient content of the fast food is also low.

Fast food is widely associated with obesity, increased cholesterol levels, cardiac problems and many other threatening health hazards. Most of these quick and convenient meals contain high amount of sodium, which increases and aggravates the risksof high blood pressure. According to the recommendations of the National Research Council of the National Academy of Sciences 1,200 - 1,500 mg of sodium is the daily sodium requirement for adults. The body requires minimum quantities of sodium;too much sodium contributes to high blood pressure. Sodium can also lead to building-up of fluids in case of people who are suffering from people with congestive heart failure, cirrhosis, or kidney disease. Fast food is loaded with calories from refined sugar and fat (especially, the artery-clogging saturated and hydrogenated fats, which are repeatedly reheated to high temperatures for frying purposes). Dietary habits like frequent

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consumption of deep fat fried fleshy foods; fast food consumption and soft drinks consumption play a vital role in increasing the number of obese children (Arya& Mishra, 2013).

In a recent study, it was demonstrated that a diet heavy in fast food increases the risk of developing Type 2 diabetes by 27 percent and coronary heart disease. Recent data show that of the 10 countries where the rates of diabetes are highest, 7 are developing countries. The death rate from diabetes is 4 times higher in sub-Saharan Africa than the world average.
People who consumed fast food once a week increase their risk of dying from coronary heart disease by 20 percent in comparison to people who avoid fast food. For people eating fast food three times each week, the risk increases by 50 percent and the risk climbs to 80 percent for people who consume fast food items four or more times a week (Pereira, 2012)

5.4: Respondent Perception about fast food consumption

Fast food consumption and globalization of diet has led to loss of traditional healthy food practices. One of the consequences of ready availability of cheap food outside the home is devaluation ofcooking skills. The respondents explained that fast food is a sign of enjoyment and sophistication, this was clearly supported by (Otemuyiwa&Adewusi, 2012) they opined that Fast food restaurants are springing up at every street corner in highbrow and downtown areas of cities and semi-urban areas across Nigeria. With this, comes the unmistakable fast food culture that is rapidly evolving among the various segments of the Nigerian society, especially the children, youths, members of the middle class. The nouveau riche especially perceived the emerging fast food culture as a mark of high social status or a way of displaying affluence and high standard of living.

A large percentage of the respondents 88.2% disagreed that fast food are rich in nutrient for body development. (Miura, 2012) clearly stated that typically, fast food and take away items should be consumed in small amounts or not consumed at all as these foods do not provide essential nutrient but are likely to contribute to a high energy intake. They contribute to excess energy intake and subsequent weight gain. Furthermore, fast food consumption is associated with lower fruit and vegetable intake.

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The respondents disagreed that fast food is a daily part of one's diet. In a study carried out in Denmark, people who did not consume fast food very often were asked why they did not do so. The reasons were that the food was too unhealthy and too expensive. For changes in the fast food market there was a desire for healthier options e.g. lower fat content, more fruits and vegetables, more whole grains and a wish for less processed food made on location (Miura, 2012)

As society is becoming technologically more advanced and informative, individuals tend to be more aware about their own health. As part of this awareness, more attention is now given to a healthy lifestyle involving diet and exercise habits. Though the level of awareness varies from individual to individual, the fact that fast food and it nutrition content may worsen certain health conditions, or may invite health problems is now well known. In spite of the growing,the prevalence of non-communicable diseases, previously associated with developed countries and more affluent populations, is increasing in poorer countries. A known consequence of urbanization is obesity, a major risk factor for non-communicable diseases. Several contributing factors have been cited, including the limited availability of affordable, healthy food in poorer areas, combined with the increased availability of fast foods that are high in fats and sugar. As communities become more urbanized, physical activity declines because of sedentary, despite awareness of these different factors, the focus on non-communicable disease prevention remains on lifestyle change. This focus applies to both developed and developing countries. Recent data suggest that the growing rates of chronic degenerative diseases have a direct connection with diet, and especially with the consumption of fast food. Fast foods are often rich in salt content. Recent studies show a positive relationship between increase salt intake and stroke and other cardiovascular diseases (Chakraborty, 2012).

In this study the respondent's perceptionabout fast food and predisposition to hypertension is low, contrary to the view of (Ekanem, Opara&Akaowo, 2013) they stated that it is an established fact that most countries of the world are going through different phases of risk transition. Most low and middle income countries including Nigeria are in the interface between traditional and modern risk, otherwise explained as the phase of double burden of diseases, where the challenge of controlling infectious diseases have been caught up by increasing burden of non-communicable chronic diseases. Nigeria is not immune to the trend of global health, it is even

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more vulnerable considering her population growth rate and socio-economic changes, which has led to ageing populations, with dietary and lifestyle modifications, all of which tend to favour the development of non-communicable diseases. In Africa, hypertension is thought to be the foundation for epidemic cardiovascular diseases and it had been identified as the most powerful, highly prevalent, independent, modifiable risk factor for death from heart disease and stroke at the population level.

The respondents in this study believed that fast food can result to Overweight and obesity which has adverse effect on the long run. This was corroborated by (Chan, Prendergast, Gronhoj&Bech-larsen 2007) they opined that Overweight and obesity do not only bring about physical problems, but are also associated with a number of psycho-social problems including body shape dissatisfaction and eating disorders. People with obesity are often confronted with social bias, prejudice and discrimination. Studies indicate the importance of developing healthy eating habits among people at a young age. Yet, there is steadily increasing obesity among young people. Indeed it is estimated that at the turn of the 21St century, there were over 155 million overweight children and youth in the world. Consumption of fast food is bad for health as perceived by the respondents, this was clearly shown by(Wilson, et al, 2009) Both soft drink and fast food consumption may adversely affect health.

5.5: Attitude towards fast food consumption

The attitude of the respondent to fast food consumption is depicted in their explanations. They believed that fast food consumption is synonymous with affluence. They opined that people take fast food to show off to their peers. This was clearly stated by Foods eaten out-of-home by adolescents are typically consumed in school and peer contexts, and adolescent reports confirm that lunches and snacks are often eaten with friends. In cross-sectional studies, consumption of snack foods and overall energy intake has been found to correlate with the intake of an adolescents' best friends (De la Haye , et al, 2009).

Majority of the respondent also stated that people who take fast food skip normal meals and as well encourages laziness, they also explained that fast food consumption changes ones attitude toward health meals this can be traced to the trend in globalization and urbanization This was corroborated by (Parker, Schaefer &Hermans, 2006) according to them, the global teenager

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viewpoint phenomenon is the result of technological innovation (e.g., satellite television, the Internet), which has contributed to a uniformity in fashion, preferences, values, and attitudes of the world's teens. The global teenagers' affinity for fast-food may be the driving force behind the rapidly expanding global fast-food industry, valued at $99.6 billion, with approximately 82.2 billion transactions in 2004. It is common for adolescents to skip meals and snack frequently.

The respondents opined that eating fruits could be a better option to fast food this was clearly stated by (National Obesity observatory, 2011) that eating lots of fruit and vegetables is the most frequently cited component of a healthy diet. Eating lot of fruits and vegetables is the most frequently cited component of a healthy diet. Current dietary recommendations emphasize the consumption of fruits, vegetables and whole grains as these foods are high in vitamins and minerals (Miura, 2012).

5.6: Implication for Health promotion and Health education

Health Education is a major component of Health promotion and education, Health education comprises a series of constructed opportunities for learning, involving communication designed to improve health literacy, improving knowledge, and developing life skills which are conducive to individual and community health. Health education is not only concerned with the communication of information, but also with fostering the motivation, skills and confidence (self-efficacy) necessary to take action to improve health. It includes the communication of information concerning the underlying social, economic and environmental conditions impacting on health, as well as individual risk factors and risk behaviors, and use of the health care system. Health education directs information to individuals, families and communities to influence their knowledge, attitudes and practices that is beneficial to health. It is concerned with reinforcing and changing knowledge, attitude and behavior of people through effective communication of fact based information, with the aim of helping them attain optimum level of health.

The use of mass media such as Newspaper, magazine, internet, Television, Mobile phones, Radio and Billboards advert can be used to reach the adolescents as they are known to go with the trend. Knowledge gap can be bridged by advertising on the right meal pattern. Nutrition education can be watched through this medium. Health education is therefore an avenue through which adolescents can make good nutritional choices in order to maintain good health.

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5.7: Conclusion

The WHO has reported the rising incidence of obesity and chronic diseases such as cardiovascular disease, cancer, osteoporosis, dental carries and diabetes among those who consume more of fast foods and soft drinks. They have proved that there is a link between many of these diseases and the pattern of food consumed. This shows that there is a need to change marketing (ads) strategies for the promotion of health enhancing foods

To conclude, healthy eating is an important issue for the well being of the young consumers. Socializing agents including parents, schools, governments, friends, and foodadvertisers are competing with one another in influencing children's health perceptions and food choices. Previous studies have examined the role of various socializing agents in influencing the eating habits and behaviors of children. Yet the all-important adolescent group has been ignored. It becomesimperativethat this group needs to be studied, since these teenagers are gradually becoming independent in both thinking and behavior.

5.8: Recommendations

1. The adolescents spend more time on social media. Therefore, the development of effective public health interventions usingbehavioural change communication through the use of mobile phones, social media such as internet, and IEC materials should be used to reach the adolescents.Effective health communication to young people should be based on a sound knowledge of their perceptions ofhealthy and unhealthy eating habits, and their perceptions of different communication appeals regarding healthy eating.
2. There should be legislation against the proliferation of fast food outlets in the society, a permanent check be placed on fast food promos and advertisement Apart from parents, teachers, peers and government, young consumers may also be attracted by food advertisements which sometimes put pressure on their parents to purchase those foods that are unhealthy.
3. The need for health education on food choices included and disseminated through formal curriculum as well as extracurricular activities. Schools can support healthy eating by monitoring the nutrition values of the food supplies in lunch orders and snack shops.

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4. Nutritionists and dieticians should be employed in fast foods outlets to control the quality and quantity of nutrient composition of foods prepared. This will enhance proper functioning of food components used in the preparation of these foods.

5. Governments and Public health organizations should play a role in health promotion by advocating balanced diets and design health related publicity campaigns.

6. Parents should serve as role models and influence children's purchase behaviour through direct communication. Empirical data supports the notion that parental support for healthy meals and nutrition skills have a positive association withadolescents' healthy food choices and healthy eating habits.

7. Adequate emphasis should be laid on healthy dietary practices, physical exercise and food hygiene practices both in the community. This will facilitate a healthysociety.

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Appendix

The cancer research UK and weight concern developed a ten tips programme for a healthy weight and to reduce the risk of cancer.

- Keep your meal routine. Try to eat at roughly the same times each day. Whether two or five times a day, this will help avoid unplanned meals and snacks which are often high in fat, oils and calories
- Choose reduced fat diet, such as dairy products spreads, salad dressing
- Walk off the weight. Walk 10,000 steps each day (about 60-90 minutes of moderately activity)
- Pack a healthy snack. Such as fresh fruit, low calorie yoghurt rather than chocolates
- Think about your drinks. Choose water or sugar free drinks. Unsweetened fruit juice is high in natural sugar so limit it to one glass per day. (200ml or 1/3pint).
- Focus on your food. Slow down, don't eat on the go or while watching TV. Eat at a table if possible (Cancer Research UK, 2014)

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According to the USA -2011 Diabetes Fact sheet: Complications linked to badly controlled diabetes include:

- **Hypertension** - common in people with diabetes, which can raise the risk of kidney disease, eye problems, heart attack and stroke
- **Eye complications** - glaucoma, cataracts, diabetic retinopathy, and some others.
- **Foot complications** - neuropathy, ulcers, and sometimes gangrene which may require that the foot be amputated
- **Skin complications** - people with diabetes are more susceptible to skin infections and skin disorders
- **Heart problems** - such as ischemic heart disease, when the blood supply to the heart muscle is diminished
- **Stroke** - if blood pressure, cholesterol levels, and blood glucose levels are not controlled, the risk of stroke increases significantly
- **Mental health** - uncontrolled diabetes raises the risk of suffering from depression, anxiety and some other mental disorders
- **Hearing loss** - diabetes patients have a higher risk of developing hearing problems
- **Gum disease** - there is a much higher prevalence of gum disease among diabetes patients
- **Gastroparesis** - the muscles of the stomach stop working properly
- **Ketoacidosis** - a combination of ketosis and acidosis; accumulation of ketone bodies and acidity in the blood.
- **Neuropathy** - diabetic neuropathy is a type of nerve damage which can lead to several different problems.
- **HHNS (Hyperosmolar Hyperglycemic Non-ketotic Syndrome)** - blood glucose levels shoot up too high, and there are no ketones present in the blood or urine. It is an emergency condition.
- **Nephropathy** - uncontrolled blood pressure can lead to kidney disease

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- **PAD (peripheral arterial disease)** - symptoms may include pain in the leg, tingling and sometimes problems walking properly
- **Erectile dysfunction** - male impotence.
- **Infections** - people with badly controlled diabetes are much more susceptible to infections
- **Healing of wounds** - cuts and lesions take much longer to heal

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Suggestions for Healthy eating in adolescents(Rolfes, Kathryn ,Whitney, 2012)

1. Breakfast

The body needs energy after a long sleep so breakfast is vital. Foods that are high in carbohydrates, such as bread, breakfast cereal and fruit, make good breakfast choices. Skipping meals, especially breakfast, can lead to out-of-control hunger, often resulting in careless overeating.

2. Eat variety of foods

Lots of different foods every day is the recipe for good health. The adolescents need 40 different vitamins and minerals for good health and no one food can supply all of them.

4. Substitute snacks with vegetables and fruits

Adolescents can enjoy fruits and vegetables at meals and as tasty snacks. These foods provide vitamins, minerals and fiber. They should aim to get at least 5 servings of fruits and vegetables a day.

5. Avoid fried foods

Everyone needs some fat in the diet for good health .However too much fat, especially saturated fat, can be bad for our health. Saturated fat is found in full fat dairy foods, pies, pastries, fatty meats and sausages. Adolescents should avoid fried foods like fries, and eat healthy meals cooked at home.

6. Adequate water

The adolescent needs to drink plenty of liquids because half of their body is made up of water. At least 6 to 8 glasses of fluid day are needed, more if it is very hot or you are exercising. Avoid carbonated drinks like sodas by all means. They contain very high sugar levels and bad for long-term health.

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7. Exercise

Exercise is important for healthy hearts and strong bones to get active. Too many calories and not enough activity can result in weight gain. Physical activity helps burn off those extra calories.

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Questionnaire

Prevalence and pattern of Fast food consumption among Community Adolescents in Ibadan North East LGA, OYO State

Dear Respondent,

My name is Catherine Odum, a **postgraduate student of the department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan.** Iam carrying out a research on, **Prevalence and Pattern of Fast food consumption among Adolescents in Ibadan North East LGA, OYO State**. Please note that your name and identity is not required, responses and opinion are strictly confidential and will be used for the purpose of this research only. Your honest answer and maximum co-operation will assist in making this research a success.

Serial Number:

Kindly indicate your willingness to participate or otherwise by ticking [√] in the appropriate box below: (1) Yes [ ] (2) No [ ]

SECTION A: SOCIO-DEMOGRAPHIC DATA

Tick (√) or fill necessary information where applicable at the options provided below

1. Age as at last birthday (in years) ………….……...……………………
2. Sex .a. Female [ ] b. Male [ ]
3. What class are you in? ………………….
4. Religion: a: Christianity [ ] b. Islam [ ] c. Traditional [ ] d. Others (specify)
5. Type of family: a. Monogamous [ ] b . Polygamous [ ]
6. Do you live with your parents? a. Yes [ ] b. No [ ]
7. What is your parent's level of education?
   a. Tertiary level [ ]
   b. Secondary level [ ]
   c. Primary level [ ]
   d. Artisan [ ]

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8. On the average, how much is your Pocket money from your parent/guardian daily? (please specify range in words) N...

9. Does your household have the following?

a.	Electricity	1. Yes 2. No
b.	Radio?	1. Yes 2. No
c.	Television?	1. Yes 2. No
d.	Telephone?	1. Yes 2. No
e.	Refrigerator?	1. Yes 2. No
f.	Electric Fan?	1. Yes 2. No
g.	Gas cooker?	1. Yes 2. No
h.	Electric Iron?	1. Yes 2. No
i.	Motorcycle?	1. Yes 2. No
j.	Car?	1. Yes 2. No

10. The main material for the floor of your home is :
    a. Natural floor-Sand/ Dung
    b. Wood planks/Palm/Bamboo
    c. Polished floor
    d. Ceramics floor
    e. Cement
    f. Carpet/ Rugs

SECTION B: PATTERN OF FAST FOOD CONSUMPTION AMONG RESPONDENTS

Please tick [√] appropriately in the appropriate boxes that correspond to your answers or complete the provided below

11. From where did you hear about fast food? a. Radio [ ] b. Television c. Newspaper [ ] d. friend [ ] others please specify …………………….
12. Fast food are meals with low nutrition preparation and sold in fast foods restaurant. a. Yes[ ] b. No [ ]
13. Where do you get your fast food?
    a. School [ ] .b. Road side [ ].c. Fast food restaurant [ ] d. church [ ]
    Others please specify………………..

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14. **Please list all the fast foods you know.**

Instruction: Kindly indicate Yes or No to the items below, for source of money kindly indicate"p" for parent and "g" for guardian, tick (√) for daily, weekly and forth night consumption of fast foods

S/N	Variable	YES	NO	How often do you consume these Fast foods			Source of money
				Daily	Weekly	fortnight	
1	WaraDindin						
2	Cake						
3	Buns						
4	Suya						
5	Plantain chips						
6	Dundu (fries)						
7	Ice cream						
8	Puff-puff						
9	Biscuit						
10	Noodles						
11	Carbonated Drinks (Mineral)						
12	Meat pie						

13. Others, please specify

………………………………………………………………………………………

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14. The following are the reasons why adolescents consume fast food

Instruction: (please pick all applicable options)

S/N	STATEMENTS	Why adolescents consume fast food		Why youconsu mefast food	
		Yes	No	Yes	No
A	Fast foods are sweeter than the mix at home				
B	Fast foods comes in attractive colours				
C	Fast foods comes in colourful advert				
D	Fast foods are convenient				
E	Extra pocket money				
F	People consume fast food to show off to their Peers				
G	People consume fast food in company of opposite sex				
H	Fast foods are available around community				
I	Fast foods comes in varieties				

15. Others please specify J----------------------------K-----------------------------L-------------------------

SECTION C: KNOWLEDGE OF RESPONDENTS ON FAST FOODS

Instructions: For questions 18-32 kindly indicate Yes or No to the following questions below

S/N	STATEMENTS	YES	NO
16	Fast food are salty		
17	Fast food are high in calories		
18	Fast food are high in fat and oil		
19	Fast food can lead to malnutrition		

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20	fast food will reduce ones appetite for home meals		
21	Fast food are not good source for growth and development		
22	Fast food can lead to hypertension		
23	Fast food can lead to cancer		
24	Prolonged intake of fast food can lead to diabetes		
25	Fast food can cause Heart Disease		
26	Fast food are not balanced diet		

SECTION D: RESPONDENTS PERCEPTION ABOUT FAST FOODS CONSUMPTION

Instruction: For questions 33-44 please indicate Agree, Disagree, or Undecided to the following statements.

S/N	Statements	AGREE	DISAGREE	UNDECIDED
27	Fast food consumption is a sign of enjoyment and sophistication			
28	Fast foods are rich in nutrients that are good for body development			
29	Fast food consumption on a daily basis can lead todevelopingdiabetes			
30	Fast food is a daily part of one's diet			
31	Fast food increases one chances of developing hypertension			
32	Fast food consumption can increase ones weight			
33	Your fast food consumption increases day by day			
34	Consumption of fast food is bad for health			

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SECTION E:RESPONDENT'S ATTITUDE TOWARDS FAST FOODS CONSUMPTION.

Instruction: For questions 45-58 please indicate Agree, Disagree, or Undecided to the following statements.

S/N	STATEMENTS	AGREE	DISAGREE	UNDECIDED
35	People take fast foods to show off to their peers			
36	People who take fast foods daily skip normal meals			
37	Fast food encourages laziness			
38	People who are rich buy fast foods			
39	To be healthy, one should consume little or no fast food			
40	Fast food consumption increased as you left home			
41	Fast food changes ones attitude towards normal balanced meal			
42	Do you think eating fruit is a better option to fast food			

Instruction: please fill appropriately below

43. Which type of fast food do you like to eat? 1……………2……………..…3…………..……4
44. Which fast food restaurant do you prefer most? ---------------------
45. At what time do you prefer to buy fast food a. Morning [ ] .b. Afternoon [ ] c. Evening [ ] d. Night [ ]
46. On the average, how much do you spend a day on fast food? N--------------------------
47. Do you buy fast foods as gifts for friends? a. Yes [ ] b. No [ ]
48. What suggestions do you have towards healthy and nutritional meals?
    a. ………………………………………
    b.…………………………………………
    c.…………………………………………

Thank you for participating in this study

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Our Ref. HPE/SF.

2nd September, 2014

TO WHOM IT MAY CONCERN

Re: ODUM, Catherine
Matric No: 176699

This is to certify that the bearer Odum Catherine is an MPH (Population and Reproductive Health Education) in the department of Health Promotion and Education, Faculty of Public Health, University of Ibadan.

The student is to carry out research on a project titled: **"Prevalence and Pattern of Fast Food Consumption Among Adolescents In Ibadan North East Local Government Area".**

Kindly accord her all necessary assistance she may require.

Thank you.

Professor O. Oladepo

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