EATING HABITS AND PERCEIVED HEALTH CONSEQUENCES AMONG UNDERGRADUATES OF THE UNIVERSITY OF IBADAN, OYO STATE, NIGERIA

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A PROJECT IN THE DEPARTMENT OF HEALTH PROMOTION AND EDUCATION SUBMITTED TO THE FACULTY OF PUBLIC HEALTH, COLLEGE OF MEDICINE, UNIVERSITY OF IBADAN IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE OF MASTER OF PUBLIC HEALTH (HEALTH PROMOTION AND EDUCATION) OF THE UNIVERSITY OF IBADAN

AUGUST, 2015

ABSTRACT

An understanding of the pattern of eating habits of undergraduates is important, as it could be protective or predictive to chronic diseases. So also is the identification of the factors affecting food choice, including their perception of the consequences of unhealthy eating habit, and their sources of nutrition information. The study aimed at assessing the eating habit and perceived health consequences of eating habits among University of Ibadan undergraduates.

A cross-sectional survey including 405 undergraduates of the University of Ibadan was conducted. The Faculties were stratified and one-third of the Faculties in each stratum were randomly selected. Likewise, a third of departments in each selected faculty were randomly selected and proportionate number of students was drawn from each department. Pre-tested and validated semi-structured self-administered questionnaire was used to assess the eating habits and its factors, perceived health consequences and source of nutrition information. Perception of the health consequences of eating habit was assessed on a 42- point scale and scores ≥22 were regarded as good. Descriptive statistics and Chi-square test were used to analyse the collected data at 0.05 level of significance.

Respondents' ages were from 16.0 to 41.0 years; with mean age of 20.0±7.7 years and 58.3% were female. Most represented ethnicity was Yoruba (75.3%), 88.4% were Christians while 10.6% were Muslims. The highest proportions were found in Science-based Faculties (47.4%), and 300 level, while 72.6% lived on campus. Most (36.0%) of those with heath problem had ulcer. Breakfast (60.0%) was the most widely skipped meal and snacks (79.6%) were mostly consumed in between meals. A large proportion (43.3%) had breakfast as their lightest meal, 36.5% ate breakfast before the day's work, 72.7% had lunch after 2p.m. or any time in the afternoon, while 57.1% ate dinner between 6-9p.m. Almost half (49.9%) ate out at least three a week. Vegetables and fruits were consumed daily by 8.1% and 8.7% of participants, respectively. Cereal (79.5%) constituted the bulk of daily meals, and only 16.8% drank eight or more glasses of water daily. Friends influenced what some (39.0%) of the respondents ate; fear of gaining weight affected what 34.3% of them ate, 21.7% avoided food for religious purpose, and appetite determined what 73.6% of them ate. Lecture schedule prevented 69.7% from eating meals regularly,

and appetite and affordability were mentioned by majority as the major determinants of what they ate. Majority (92.6%) of the participants rightly perceived the health consequences of eating habit and had positive score grade. A significant association was found between frequency of eating out and sex, and lecture schedule and time of lunch consumption.

Despite high good perception of health consequences of eating habits, few of the respondents indulged in healthy eating. Daily consumption of fruits and vegetables was low and majority skipped breakfast, while many took less than the daily water requirement. There is therefore the need for nutrition education to promote healthy eating among the undergraduates.

Keywords: Eating habit, Perceived health consequences, University undergraduates, Source of nutrition information

Word count: 481

DEDICATION

I dedicate this work to the Almighty God, the Alpha and Omega for giving me the grace to commence and eventually complete this MPH programme.

I also dedicate this work to all my family members and friends who never gave up on me.

Lastly, I dedicate this work to all teachers who have crossed my path in the course of my academic pursuit.

Aanu, Oluwaseun OLAITAN

ACKNOWLEDGEMENTS

My profound gratitude goes first to God Almighty, who granted me strength and kept me by His grace throughout this MPH Programme. He alone could have brought me this far and for this, I acknowledge His sovereignty. My appreciation also goes to my parents; Reverend and Pastor (Mrs.) Olaitan, for their care and enormous effort at attempting to give me the best. It is my prayer that your labour will never be in vain in Jesus name, amen. I also appreciate my wonderful sisters who kept watch while I was busy and unavailable. Eniola and Seun, you are the best. To a special and wonderful part of me; Ogunmola Iyanuoluwa, I want to express my profound gratitude. Thank you for the walk of life you have chosen to walk with me.

I wish to express my sincere appreciation to my supervisor, Dr O.E. Oyewole, for his unwavering technical support and commitment in ensuring a successful completion of this project. I also appreciate him for the educating and enlightening sessions he shared with me and my other colleagues throughout the course of the research. Thank you sir for your kind investment of time, energy and intellect, and may God bless you greatly sir.

My deep appreciation also goes to all the lecturers of the Department of health Promotion and Education starting from the Head of Department, Professor O. Oladepo, to the other lecturers in the Department: Professor A.J. Ajuwon, Dr F.O. Oshiname, Dr Oyedunni Arulogun, Mr M.A Titiloye (Oga), Mr J. Imaledo, Mr O.Dipeolu, Mrs Adeyimika Desmenu, Mrs Mojisola Oluwasaanu for their professional and technical support and for impacting valuable knowledge and skills in me during the course of my study. I also appreciate them for the mentoring I have received from them. My appreciation also goes to the, wonderful, energetic and amiable non-teaching staff of the Department especially the secretary, Mr O. Olubodun, Mr Segun Bello and Mr Lanre Quadri. God bless you all.

I would also like to express my profound gratitude to my friends, colleagues, acquaintances and other persons that have assisted and encouraged me in different ways in the course of my research. I will be an ingrate if I don't specially thank Keji, Olanike, Moses, Dipo, Charles, Frank, for being there when I really needed them. God bless you so much for your effort and make you successful in life, Amen.

Aanu, Oluwaseun OLAITAN

CERTIFICATION

I certify that this study was carried out by Aanu, Oluwaseun Olaitan under my supervision at the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan.

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INTRODUCTION

1.1 Background to the study

Food, arguably, was one of the few basic needs of the early man, prompted by human instinct, and important as the need for survival. The importance of food and its consumption has not waned out in recent times; rather, it has gained more recognition and attention with the availability of varying food item and different eating habits among cultures and subcultures. The *increased* emphasis placed on the practice of food consumption has been fostered further by the evolution of the science of food. Food is a chemical substance which like drug has the ability to alter our body structure and, or functions. What and how we eat determines whether we are fighting diseases or feeding diseases, especially when it becomes a habit. As supported by literatures, "diet and nutrition play important roles in maintaining health and preventing diseases" (Çitozi, Bozo, and Pano, 2012).

Eating habit is an important public health issue that has huge health and socio-economic implications. "Eating habits have been implicated in many chronic diseases including stomach cancer. In response to the mounting evidence that eating habits can be modified for better health, it is important to understand the pattern of eating habit among the University students" (Anetor, Ogundele, and Oyewole, 2012). "Many food preferences are established early, but because people make more independent eating decisions as they move through adolescence, the transition to independent living during the University days is an important event" (Deshpande, Basil, and Basil, 2009).

As with older people, eating practices are closely associated with social indoctrination and social interaction. Although social interaction is essential at all stages of life, it is particularly critical at the formative stage of people's lives which is when they develop near long-time attitudes and behaviours. The University of Ibadan is the premier University in Nigeria and the expectation and pressure to live to the standard of its glorious position necessitates the University community; including the students, to put in extra effort to ensure excellence at times at the expense of healthy meals, or rest. Unfortunately this may become the status quo.

Because college students are constantly surrounded by the attitudes and values of the University setting, their ideas concerning eating attitudes, weight control, body dissatisfaction and body image can be greatly impacted (Kiley, 2006). The impact can contribute enormously to the burden of non-communicable diseases in the near future if not checked at an early stage.

The main thrust of this study was to examine the students' eating habits as this behavior is closely related to their health. This was based on and reflected three domains namely the pattern of eating habit, the factors influencing eating habits and the perceived consequences of eating habits. The pattern of eating habits was examined within the scope of food type or quality, frequency, timing, quantity, location or source, and food content. The perception of the health consequences of eating habits among the students was examined along the premise of perceived susceptibility and severity.

1.2 Statement of the problem

University students besides been the future nation builders, also represent the most viable target population for education on healthy eating habits as the institution has been tagged as a platform for health promotion and education. Although, eating habits are major determinant of health status, the eating habits of University students has been subsequently found to take unhealthy patterns. The mounting evidence clearly establishing the role of food consumption pattern in the development of numerous non-communicable diseases has led to increased wave of research interest surrounding the issue of eating pattern. It is worrisome that "the World Health Organization in its report has attributed 2.7 million of the total deaths in the world per year to diets low in fruits and vegetables" (Arash, Gholamreza, Akbar, and Firoozeh, 2014).

Inadequate nutrition and over-nutrition, with accompanying effects of underweight and obesity are major challenges to health most especially in developing countries partly due to the skewed balance of wealth and resources, in which the rich get richer and the poor get poorer. Nonetheless, "there are other outcomes of food choice and nutrition that also have an independent effect on health including some types of cancer, cardio-vascular disease, and diabetes" (Deshpande et al., 2009).

During adolescence, young people are assuming responsibility for their own eating habits, health attitudes and behaviors (Çitozi et al., 2012). The numerous co-morbid conditions

associated with the unhealthy eating pattern and wrong perception of its health implication is a major problem which has been identified to trigger life-threatening crisis leading to health complications. “Many undergraduates are youths; youths encounter numerous health risks along the path to adulthood, many of which affect quality of life and life expectancy. Studies have revealed the vulnerability of youths to poor eating habits. They are said to be in the habit of eating “junks”. In a study, carried out in the United States, it was also reported that University students consume a lot of fast food which is high in fat and low intake of fruits and vegetables. (Anetor, Ogundele, and Oyewole, 2012).

“People who are undernourished are not able to lead healthy, active and productive lives. They have less energy to carry out normal every day activities. They are less able to fight infections and become ill more easily and become more seriously ill, unable to recover adequately from an infection or illness. They often need medical care. Undernourished adults are less able to work, earn income and provide and care for themselves and their families” (FAO, 2011).

1.3 Justification of the study

With the infiltration of the western culture in various indigenous cultures, it is apparent that there is a trend of emulation of the western ideal of eating. This is further of more concern with the explosive establishment of cafeterias, eateries, and restaurants, and by-the-road snacks-shops where students can easily purchase and consume snacks and highly seasoned foods at their convenience. These they often live on till the lecture ends, at times in the evening.

It is obvious that most students buckle under the pressure of fresh arrival in higher institution in their first year of study. This may lead to stress which may prompt an unhealthy eating habit. It was therefore necessary to examine the pattern of eating habit among undergraduates of the University of Ibadan in other to better understand it and its causes within the context of University student population and to use the findings to drive any intervention.

This study further sought to determine whether undergraduates accurately perceive the consequences of eating habits.

For the University population, the college environment can also have a powerful influence on eating habit, especially at a critical developmental and transition period from late

adolescence and into early adulthood. “For many young people, college is usually the first time in their lives when he or she is leaving home and entering a new social environment, forced to question new social norms and build new relationships. This contextual environment not only plays an important role in the way individuals interact with each other, but it provides a variety of influences on them from the organizational, community and societal levels” (Kiley, 2006).

Because almost all University students; including those attending school from home, consume a large portion of their daily food intake at school, the school food environment can be assumed to have a significant influence on the pattern of eating habit of the University students. The school can therefore be seen as a subculture within a larger societal culture. This is of much greater concern because many of the students eat out and consume fast food (which has been linked to the development of numerous non-communicable diseases), and thereby indulging in unhealthy eating habits.

Summarily, focusing primarily on University population, this study aims to explore the pattern of eating habit, the factors influencing the eating habit and the perceived consequences of the practiced eating habit among intended study population due to three main reasons. Firstly the progress to the institutions of higher learning often marks the first time that the students leave the safe and protective reach of their parents. Therefore inability to adjust to a life of freedom and little supervision may result in adoption or development of unhealthy lifestyles among which eating habit is prominent. Secondly, this stage of their life characterizes a transition from late adolescent to young adulthood and is critical to the development of physiological features life-long attitude and behaviour. Invariably, this study is expected to identify the maintaining mechanism for eating habits. Thirdly, the University as an institution of learning has been tagged as a platform of health promotion and education. It is therefore worthwhile to examine the extent to which the institution and her immediate environment influence the eating habit of the students.

Conclusively, the findings of this study was expected to provide recommendations on the variables to be studied and to direct the design of any proposed intervention as well as provide a basis for future study. “Factors influencing eating behaviors need to be better understood to develop effective nutrition interventions tailored to individuals to improve their healthy eating” (Çitozi et al., 2012). This study therefore considered its subject

matter within the purview of the health seeking behavior of the undergraduates relating to food, their perception of the consequences as well as the forces influencing their eating behavior. Accordingly, the findings might further elucidate possible causal relationship for the adoption of the pattern of eating habits among students in the University settings.

1.4 RESEARCH QUESTIONS

1. What is the pattern of eating habits among undergraduates of the University of Ibadan?
2. What are the factors influencing the eating habits of undergraduates of the University of Ibadan?
3. What are the perceived health consequences of eating habits among undergraduates of the University of Ibadan?
4. What are the sources of information on healthy eating available to undergraduates of the University of Ibadan?

1.5 BROAD OBJECTIVE

The broad objective of this study was to investigate the pattern of eating habit and perceived health consequences among undergraduates of the University of Ibadan

1.6 SPECIFIC OBJECTIVES

The specific objectives of this study were:

1. To determine the pattern of eating habits among undergraduates of the University of Ibadan.
2. To identify the factors responsible for the eating habits of undergraduates of the University of Ibadan.
3. To examine the perceived health consequences of eating habits among undergraduates of the University of Ibadan.
4. To identify the sources of information on healthy eating available to the undergraduates of the University of Ibadan.

1.7 Research hypotheses

1. There is no significant difference in the frequency of eating out among undergraduates of Ibadan based on gender.
2. There is no significant relationship between affordability of varieties of fruits and frequency of fruit consumption among undergraduates.

3. There is no significant relationship between fear of gaining weight and meal skipping frequency among the undergraduates.
4. There is no significant relationship between tightness of lecture schedule and timing of lunch meals based on course of study.
5. There is no significant difference in the source of information on healthy eating among undergraduates based on sex.

CHAPTER TWO

LITERATURE REVIEW

2.1 Food and its consumption

Food is any substance consumed to provide nutritional support to the body. It is usually of plants or animal origin and contains nutrients Food can generally be defined as any chemical substance which has the ability to alter or change the body function or structure. There is no way we will talk about food and not mention nutrients. Park (2011), described nutrients as organic and inorganic complexes contained in food. According to Park (2011), there are about 50 different nutrients which are normally supplied through the foods we eat and each nutrient has specific functions in the body. The pattern of consumption of food has been greatly determined over time in communities by cultural practices relating to eating, availability of foods, accessibility, and many others.

Nutrition can be divided into two categories namely (good nutrition i.e. optimum or adequate) and malnutrition which can be either over-nutrition or under-nutrition, good nutrition leads to the physical wellbeing while malnutrition leads to ill health (Chopra, 2002).

A good diet which is gotten from a well-balanced food has a tremendous bearing on a person's vitality, emotional stability and enthusiasm for life. Food is a substance which when consumed supplies the body with nutrients which are essential for the proper functioning of the body. Hence, nutrients are derived from good food and nutrition functions in one or more ways i.e. it helps in growth, maintenance and repair of the body's worn out tissues. Nutrients can be classified into two categories. The first category is found according to their chemical composition while the second category is according to their function. The classification according to their chemical composition include (carbohydrate, fats, proteins, vitamins and minerals while the other classification according to their function includes body building materials or nutrients, energy giving nutrients and body regulatory nutrients and body protecting nutrient (Elijah, 2010)

2.2 Classification of food

Food can and has been classified in various ways using different criteria. Park (2011) highlighted the various classification as based on origin (animal or vegetable origin),

chemical composition (proteins, fats, carbohydrates, vitamins, minerals, water and roughages), predominant functions (body-building, energy-giving, and protective foods), and lastly classification by nutritive value (cereals and millets, pulses; legumes, vegetables, nuts and oil seeds, fruits, animal foods, fats and oil, sugar and jaggery, condiments and spices, and miscellaneous foods). For the purpose of this study, the classification by nutritive value was used for the assessment of the pattern of eating habits among the target population.

Cereals: "Cereals (grains) are the staple foods in large parts of the world, supplying most of the energy and bulk in diets. Cereals (grains) are the seeds and energy stores of cultivated grasses. The main types are wheat, rice, maize (corn), millet, sorghum, barley, oats, and rye. Many of the cereals (grains) that we consume are refined. Grains are first broken into pieces and then refined, sifting away the bran, germ and, usually, the aleurone layer. This removes most of the fibre, oil, and B vitamins, as well as approximately 25 per cent of the protein. Polishing, as often performed on rice, removes additional nutrients" (World Cancer Research Fund/American Institute for Cancer Research, 2007). Cereal foods may be eaten in wholegrain form, although consumption in refined forms, such as white rice, bread, or pasta, is generally much more common, particularly in high-income countries.

Legumes: Leguminous plants produce their fruits as pods and are considered here separately. The dried, edible seeds of this family are often called pulses, although this term is used interchangeably with legumes. They include beans, lentils, peas, and peanuts (groundnuts). The dried forms, which have matured and dried on the plant, are eaten most widely. But some varieties are eaten as a green vegetable, such as peas; the pods are sometimes eaten like this too, for example, green beans and runner beans. Some legumes can also be sprouted (germinated) and eaten, such as beanspouts.

Mentioning some common cereals and legumes peculiar to the Nigerian culture, Onimawo (2010) provided the following examples: maize, sorghum, millet, acha, rice, and cowpeas, pigeon pea, African yam bean, mung bean, African breadfruit etc., while food products from cereals and legumes included Boiled rice, jollof and rice pudding e.g Tuwo shinkafa , corn-food, pap, eko/agidi, "maize – rice" African bread fruit Jollof, toasted bread fruit seeds,

Boiled bean, marshed beans, rice and beans Jollof beans, moin moin, akara, and gbegiri soup

Vegetables and fruits: Vegetables are the edible parts of plants, which are typical cultivated or gathered in the form of leaves, roots, stalks, bulbs, and flowers. According to Onimawo (2007), "Vegetables are the leafy outgrowth of plants or part of plants that are used in making soups or eaten with the principal part of a meal". Some vegetables are green leafy vegetables, such as spinach and lettuce; cruciferous vegetables (the cabbage family), for example, broccoli, cabbage, and water- cress; and allium vegetables, such as onions, garlic, and leeks. A fruit is the seed-containing part of the plant; for example, apples, bananas, berries, figs, grapes, mangoes, carrots, pineapples, melons, oranges, grapefruits, lemons, and limes; and cherry. "Fruits and vegetables abound in the different Nigerian culture but are highly seasonal. However, vegetables such: as bitter leaf, Amaranthus (green), okazi (Gnetum spp.) and pumpkin (ugu) are available year-round, but are expensive during the dry season" (Onimawo, 2010). Others include cultivated leafy vegetables such as pumpkin, green (spinach), bitter leaf, bitter leaf, water leaf and so on.

Nuts and Seeds: Nuts have being described as edible seeds surrounded by a tough, dry shell. This definition by World Cancer Research Fund/American Institute for Cancer Research (2007) includes true nuts (such as hazelnuts and chestnuts), as well as seeds that most people think of as nuts (including Brazil nuts, macadamia nuts, and cashews). Other seeds commonly eaten include sunflower, sesame, pumpkin, and poppy seeds. Nuts and seeds are processed for their oil, ground into pastes, used as ingredients, or eaten raw, cooked or roasted as snack foods.

Animal Food: Food from animal sources consumed by human are mainly meats, fish, milk and cheese, and egg. Meat is often gotten from either domesticated or wild animals, commonly called bush animals in the south western part of Nigeria. Unlike the domesticated animals' meat, the bush animal has little fat but is rarer than the domesticated animals' meat. "Meat contains around 20–35 per cent protein by weight. The fat content by weight ranges from less than 4 per cent in lean poultry to 30–40 per cent in fatty meat from domesticated, farmed animals" (World Cancer Research Fund/American Institute for Cancer Research, 2007).

Fish has being found to have similar levels of protein to meat. World Cancer Research Fund/American Institute for Cancer Research (2007) stated that it has a fat by weight content of between 0.5 per cent in low-fat fish such as cod or skate to as much as 20 per cent in oily fish such as Atlantic salmon or eels. Wild fish have a lower fat content than farmed fish, with a higher proportion of n-3 fatty acids. These fatty acids are essential to the development and function of the brain and retina; they also reduce inflammation, blood clotting, and cholesterol production".

Milk is produced by all mammal species to suckle their young. It is often credited with being a highly nutritious food for the infants. It can be consumed raw (untreated) or, as is common in many high-income countries, pasteurised. Milk is also commonly processed into a wide variety of foods including cream, concentrated milks, cheese, fats such as butter and yoghurt.

Eggs on the other hand are the ova of animals consumed before they are fertilized. They are either consumed on their own and as an ingredient in a variety of baked products, sauces, and other composite foods. Chicken eggs are widely available and as such are the most commonly eaten, although people also eat duck, ostrich, and quail eggs.

Sugar and Salt: Sugars are sweeteners and, in some forms, also a preservative. Nutritionally, sugars supply energy and nothing else. Some recent studies have shown that consumption of added sugars, notably in the form of sugary drinks and beverages, accounts for a substantial proportion of energy intake.

Salt (sodium chloride) is also a preservative. It is a major electrolyte in extracellular fluid. The body's sodium content and its concentration in body fluids are controlled homeostatically to very precise limits; excess sodium is excreted in the urine.

Water: Water is an essential element for life. It is a molecule mainly composed of Hydrogen and Oxygen. The water used by the body could be accessed from various sources ranging from the pure natural state of water to fruit juices, soft drinks, tea and coffee, Sugar Sweetened Beverages, and even cooked and uncooked foods.

Experts at Harvard School of Public Health and Harvard Medical School created the Healthy Eating Plate, which points consumers to the healthiest choices in the major food groups. This pyramid according to Harvard School of Public Health (2011) specified six

major food groups essential for healthy living. These include the following as well as recommendations;

Fruits: HSPH recommends that individuals should eat plenty of fruits of all colours.
Vegetables: It was reported that the more vegetables an individual eats, and the greater the variety, the better it is for the human health.
Whole grains: Eat variety of whole grains (like whole-wheat bread, whole-grain pasta, and brown rice). Individuals are to limit the consumption of refined grains like white rice and white bread.
Oil: it was recommended that consumers should use healthy oils like olive and canola oil for cooking, on salad and at the table. Butter and Trans fat is to be avoided.
Healthy protein: The plate recommends the choice of fish, poultry, beans, and nuts. Red meat and cheese should be limited while bacon, cold cuts and other processed meats are to be avoided.
Water: Of all the drinks available to man, the highly recommended is water. Tea or coffee with little or no sugar ranks next. Milk or diary should be limited to 1-2 servings a day and Juice should not exceed one small glass a day. Sugary drinks are to be avoided.

2.3 Drinks consumption among adolescents and young adults

Drinks can be referred to as all forms of liquid consumable by humans. Healthy drinks have been found to be of great importance towards ensuring the health of individuals. The Nutrition source (2011) stated that "water is the best choice for quenching thirst, while some beverages should be limited or consumed in moderation, including diet drinks, fruit juice and milk. Water provides everything the body needs—pure water—to restore fluids lost through metabolism, breathing, sweating, and the removal of waste. It's the perfect beverage for quenching thirst and re-hydrating your system". They further cautioned against sugary drinks like soda, sports beverages, and energy drinks; recommending that they should be avoided.

These less healthy drinks however have been reported to be favoured by adolescents. This may be as a result of the massive advertisement targeted at youngsters. Drinks come in different form and the oldest and most common is water. According to Amir, Faroque, and Atiq (2009), "among students, consumption of water is usually replaced by soft drink while having food". There is no one estimate for how much water an individual needs

each day. Instead, the Institute of Medicine (2004) has set an adequate intake of 125 ounces (about 15 cups) for men and 91 ounces (about 11 cups) for women. It was added that this is not a daily target, but a general guide. In most people, about 80% of this water volume comes from beverages; the rest comes from food. "Sugar sweetened beverages (SSBs) are energy-dense, nutrient poor, and a significant source of sugar in young people's diets" (Delpier, Giordana, and Wedin, 2013). Previous studies have attributed the consumption of other forms of liquid except water to the development of various health problems. Children and adolescents' intake of SSB is a key nutritional concern that contributes to weight gain, obesity, type 2 diabetes, dental caries and tooth erosion, poor nutrition, and the establishment of unhealthy lifetime dietary habits (Hafekost, Mitrou, Lawrence, and Zubrick, 2011; Pomeranz, Munsell, and Harris, 2013).

2.4 Students Eating Habits

It has been revealed that developing of new habit demands daily repetition of the behaviour. This shows a critical feature of habit formation which may determine the course of health status between the continuum of optimal health and ill health which may deteriorate to death. Behaviour is simply and widely defined as what people do or fail to do. In relation to health, it comprises of actions and inactions which promote or deteriorates the state of health.

Although nutrition is important for all segments of the society, it is of a different importance for University students. Individuals, who gain independence in this period, start to decide on their eating preferences, to eat out more frequently and to get influenced by their circle of friends more. Therefore, they tend to consume those foods that are deemed unhealthy such as fizzy drinks and fast-food more (Hulya, Yahya, Ayse, Ozfer, and Metin, 2012).

Eating habit can be said to be multi-faceted. Generally, it is either healthy or unhealthy but the difference between the two lies in the many indicators, namely; eating frequency, fruits and vegetables consumption, quantity of food (caloric balance) in relation to body need, quality of food (food nutrient), timing of food consumption, and many others. "University students' diets feature some un- desirable practices, especially for those living away from the family home"(Walid E Ansari, 2012). "Food choices are also obvious habits, which evolve over time with our preferences" (Darnton, Verplanken, White, and Whitmarsh, 2011).

The pattern of eating habit of students may been found in some studies to differ along the line of gender, residence, course of study, ethnicity, religion, level of study among many others. “The transition from high school to University is known to be problematic stage in adult development. It is associated with unhealthy eating, skipping meals, high intake of fast food, minimal intake of dairy products, and low intake of fruits and vegetables, which can lead to diet-related disorders such as chronic diseases and obesity”(Al-otaibi, 2014). “Meal habits usually depend on lecture schedules attended by students and availability of food inside or in the vicinity of the University campus. As a result of the expansion in the fast-food market and lack of appropriate food, students usually face meal skipping, inadequate consumption of variety of foods, and snacking.

The living situation further compounds the problem and “studies have reported that students living on campus reported significantly less frequent food preparation. Frequency of preparing food was related to more healthful food choices in terms of lower intakes of fat and fried foods and higher intakes of fruits and vegetables. These factors affect students when they move to a different city within their own country, or translocate to attend University in countries other than their own with new eating patterns and food choices in their new environment”(Walid, 2012). This shows that the location or place of residence of the students also influences the eating habit of the students.

Another common feature of University student’s eating habit is the practice of eating out. Bowman and Vinyard, (2004) stated that fast food eaters have lower intakes of nutritious foods such as fruits and non-starchy vegetables than those who do not eat fast food. The intake of these nutritious foods decreases as the number of fast food days increases. This fact about the types of food most frequently sold and consumed in restaurants makes the practice a potentially harmful one.

2.5 Predictors of Eating Habits

“Some research has shown that the most important factors predicting food selection among adults are: taste, cost, nutrition, convenience, pleasure, and weight control, in that order” (Deshpande et al., 2009). Among University students, a number of eating habits are reported to be influenced by physiology (e.g. appetite and satiety signaling), acquired preferences, norms, habits and environmental aspects such as food price, access, or exposure to advertising (Teixeira, Patrick, and Mata, 2011). In addition, “Steptoe, Perkins-

Porras, McKay, Rink, Hilton, and Cappuccio (2003), found that taste, preparation effort, family and cost are the most important barriers on person's intake of vegetable and fruits". In a multi-country research, "food consumption patterns differed across the studied countries, with females typically making more healthy choices. Differences between students living at parental home and not were relatively homogenous across the countries, i.e. despite differences in background patterns of food consumption leaving parental home is associated with specific patterns of food consumption" (Walid, 2012).

Specific to the student population, peculiar factors influence the eating habits of the undergraduate students which most often results in inadequate nutrition. "The main reasons attributed to this caloric shortage can be attributed to lack of money in some cases which is a socio-economic problem and school's activities such as classroom activities while include, reasoning, listening, seeing and writing down what is been said in the lecture hall or at times series of test may be conducted which requires abject reasoning in classrooms, leisure reading in the library, Practical's in the Laboratory, Reading, Walking to various lecture halls, Extracurricular activities such as sport and games, Television viewing in the common room and even writing examinations" (Elijah, 2010)

2.6 Health consequences of eating habits

Healthy eating contributes to overall healthy growth and development including healthy bones, skin and energy levels and a lowered risk of dental carries; eating disorders, constipation and iron deficiency anaemia (UNICEF, 2008). Furthermore, healthy eating practice helps to prevent problems such as are accompanied by inadequate and over-nutrition.

Unhealthy pattern of eating habit has been implicated as a precipitating factor in the onset and development, as well as maintenance of a number of chronic conditions. Among these are malnutrition and its accompanying effects of obesity, under-nutrition, ulceration of the intestinal walls, heart diseases and many others. "Epidemiological studies support the relationship between high fruit and vegetable intake and reduced risk for many chronic diseases, including cardiovascular disease, stroke, a number of cancers, type 2 diabetes, also it helps to maintain a healthy body weight"(Al-otaibi, 2014). "Studies show that some people indulge in some eating habits like excessive intake of salt, meat, fatty foods, low intake of fruits vegetables, cigarette smoking, excessive intake of alcohol that make them

more susceptible than others to develop cancer, especially stomach cancer" (Anetor, Ogundele, and Oyewole, 2012).

2.7 Conceptual Framework

The PRECEDE Framework principles was applied to this study

The Precede Framework

This framework outlines and describes the behavioural antecedent factors that influence the eating behaviour of undergraduates. These factors are categorized as: Predisposing factors, Enabling factors and Reinforcing factors.

Predisposing factors: These are the antecedents to behaviour that provide rationale for the behaviour. They are knowledge, values, beliefs, attitudes, perceptions, norms, parental control, home education, food availability, cultural practice, mass media, peer influence, body image, disease, stress, socio-economic status, upward social mobility. Most adolescents and young adults are predisposed to the initiation of unhealthy eating habit partly due to their perceived state of maturity and independence for choice making, especially those in the University. Predisposing factors have the potential to influence the decisions people take about their health and their resultant health behaviour. They do this by either encouraging the behaviour or by inhibiting the behaviour from occurring.

Enabling factors: These factors comprise of another set of antecedents to behaviour because they also influence the realization of motives, aspirations and decisions. These include freedom of choice, cost of food (time and monetary), self-efficacy/discipline, socio-economic status, residency, food preference. These factors influence the establishment of the behaviour.

Reinforcing Factors: These comprise of the feedback or influence of significant others or people, or media which influences the continuance or discontinuance of a particular behaviour after it has been initiated or established. Examples of these factors include pressure from peers, familial influence, availability of fast foods at perceived lower cost, tight/busy academic schedule, mass media/television commercials, appeals of food (taste and aroma) and other social support groups. They are also factors subsequent to behaviour that provide perpetual rewards or incentives for the behaviour and contribute to its persistence or extraction.

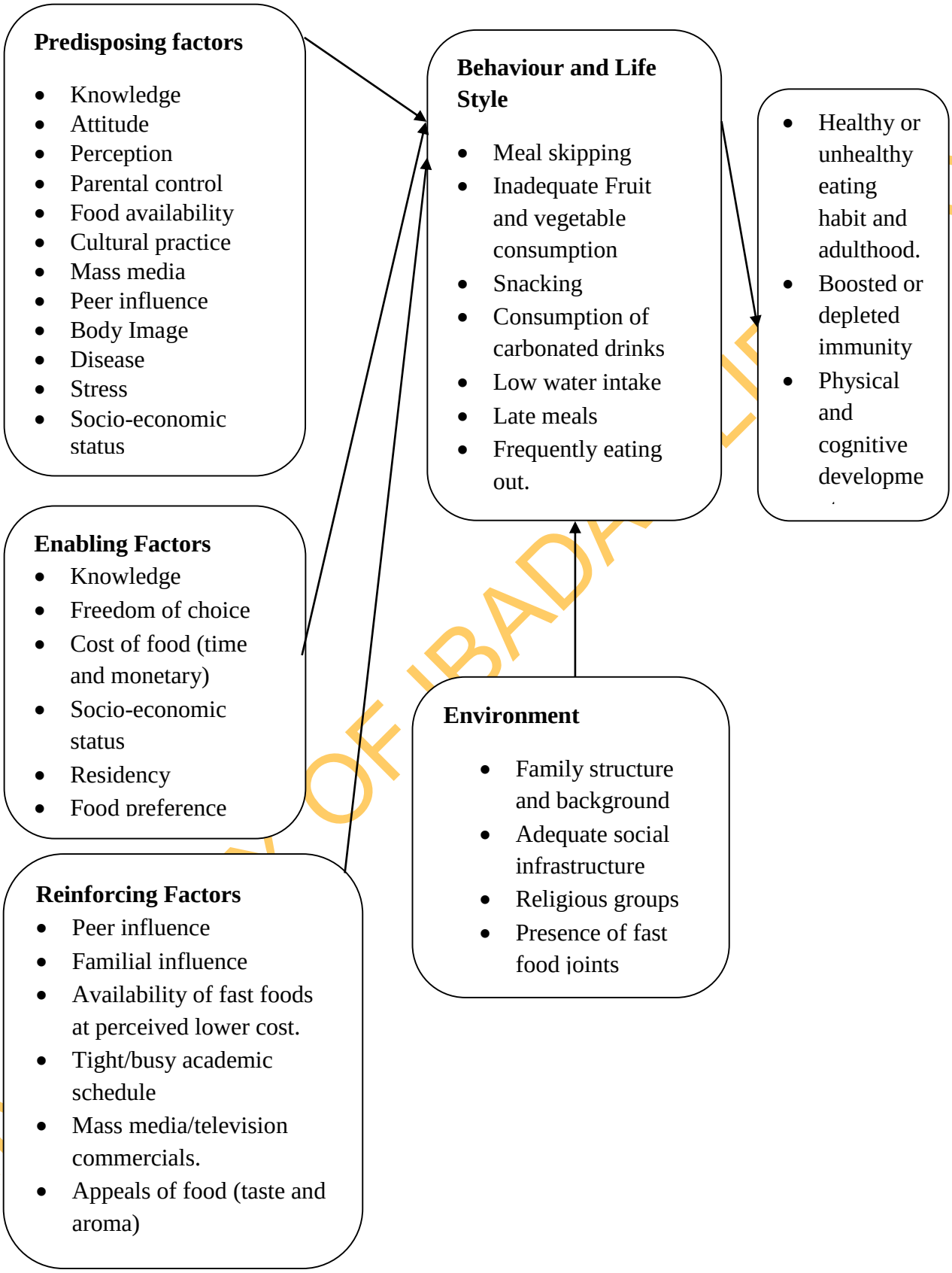

Figure 2.1: The behavioural antecedents of eating habit of undergraduates using PRECEDE model. (Adapted and modified from Oxford Journals, 2015)

CHAPTER THREE

METHODOLOGY

3.1 Study design

The descriptive cross sectional study design was used. The study investigated the pattern of eating habits and perceived health consequences among Undergraduates of the University of Ibadan.

3.2 Study Setting

This study was carried out at The University of Ibadan. The school is the oldest Nigerian University, and it is called the premier University. The institution is located 8 kilometers from the center of the major city of Ibadan, in Western Nigeria. The institution was established in on her own site 1948 after it had been moved from Yaba College. The University of Ibadan (UI) is the oldest University in Nigeria. The University was originally instituted as an independent external college of the University of London, when it was called University College, Ibadan. The University of Ibadan became an independent University in 1962. The University is justifiably selected as the site for the study since it is the premier University and established high standards. Furthermore, previous study among the students by Arulogun and Owolabi (2011) focused only on fast food consumption among the students and found some unhealthy eating practices along this discourse.

Outside the main campus ground and within the University College Hospital is the College of Medicine. There are now thirteen faculties altogether, namely: Arts, Science, Agriculture and Forestry, Social Sciences, Education, Veterinary Medicine, Technology, Law, Public Health and Dentistry, Clinical Sciences, and Basic Medical Sciences and with a population of more than 13,000 students as at May, 2014. Details of students distribution in each faculties as recorded by the Academic planning unit are shown in table 3.1 below. The University has 12 halls of residence. Nine of these residential halls are occupied by undergraduates, two halls are occupied by postgraduate students, and the last hall of residence (Obafemi Awolowo Hall) is occupied by both undergraduate and postgraduate students. Four out of the ten halls available for undergraduates is designated for undergraduates, with three of them situated within the University main campus premise and the fourth one; a clinical students' hostel (Alexander Brown Hall) is on the grounds of the University College Hospital.

Table 3.1 Showing the distribution of undergraduate students in each faculty for 2013/2014 academic sessions

Category of faculty	Name of faculty	Number of male students	Number of female students	Total number of student
Science based (9)	Science	1437	828	2265
	Technology	1079	211	1290
	Basic medical science	235	259	494
	Clinical science	573	530	1103
	Public health	47	92	139
	Dentistry	95	102	197
	Pharmacy	161	188	349
	Agric and forestry	618	621	1239
	Veterinary medicine	243	150	393
Art based (2)	Law	282	421	703
	Arts	697	1178	1875
Social science (1)	Social science	819	721	1540
Education (1)	Education	749	963	1712
Total	13 faculties	7035	6264	13299

Source; Academic planning unit, 2014

3.3 Study Population

The study population consisted of undergraduates of The University of Ibadan who were presently admitted for full-time academic programme at the institution at the time of the research. The University of Ibadan undergraduates were enrolled in thirteen faculties and numerous departments.

3.4 Inclusion criteria

Only the undergraduates of the University of Ibadan, who had full-time programme status were included in this study.

3.5 Exclusion criteria

This study excluded postgraduate students as well as part-time or distant learning students. The postgraduate students were often adults who had passed the transitory stage from late adolescent to early adulthood, hence their exclusion.

3.6 Determination of sample size

The sample size (n) was determined by using 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= Proportion of students with unhealthy eating habit

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

$$n = \frac{1.96^2 \times 0.50 \times 0.50}{0.05^2} = 384.16 \text{ approximate} = 384$$

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

was added to sample size calculated to make sample size 422. This was to cover for the possible case of incomplete response from the respondents.

3.7 Sampling Technique

A three stage sampling technique was used for this study to select 422 students from the student population.

First stage sampling level

There were 13 faculties at the University of Ibadan with undergraduate, the 13 faculties were first stratified into four namely: Science-based, Art-based, Education and the Social Sciences, the science based faculties were Science, Technology, Basic Medical Science, Clinical Science, Public Health, Dentistry, Pharmacy, Agriculture and Forestry, and Veterinary Medicine

The Art-based faculties were Law, and Arts, while the Social Science based had only one faculty; the Social Sciences.

Second stage sampling level

The faculties were proportionately selected under each stratum. A third of the faculties from each zones were drawn using the fish bowl method or ballot method. These faculties were Science-based (Agriculture and Forestry, Clinical Science, and Dentistry), Arts-based (History and English), Social Sciences (Social Sciences), and Education.

Third stage sampling level

Proportionately, a third of the departments in each faculty were randomly drawn using the ballot method. The departments selected were Agriculture Extension and Forestry, Animal Science, Forest Resource Management, Dentistry, Medicine and Surgery, English, History, Psychology, Sociology, Guidance and Counselling, and Human Kinetics and Health Education. The sample from each department was further proportionately derived based on the total number of undergraduates in each department, and these respondents were randomly selected.

Departments selected

1. Agriculture extension (83)
2. Animal science (97)
3. Forest resource management (111)
4. Dentistry (197)
5. Medicine and surgery (828)
6. English, (218)
7. History (121)
8. Psychology (352)
9. Sociology (351)
10. Guidance and counselling (236)
11. Human kinetics and health education (213)

Total=2807

3.8 Instrument for data collection

The data was gathered with the aid of quantitative method of data collection. A semi-structured questionnaire designed by the researcher, with the aid of the project supervisor, peers and other relevant professionals was the quantitative instrument of used to collect data. This questionnaire comprised of two sections and the first section elicited responses

on the socio-demographic variables, while the second section contained sub-sections which covered the various specific objectives designed for the study.

3.9 Validity of the Instrument

The content and construct validity of the data collected was ensured by designing the questionnaire through thorough literature review and by consulting peers, project supervisor, staffs of the department and other professionals in the field of study. This was with the aim of ensuring face validity. It was ensured that the objectives of the study were clearly considered in the design of the instrument as the items were teased out of the objectives.

3.10 Reliability of the study

The draft instrument for data collection was pre-tested in a population within a similar University population (Obafemi Awolowo University, Ile-ife) as the study population. 10% of the sample size was used for the pretest which involved undergraduates of OAU and the internal consistency of the instrument was tested using Cronbach alpha which generated reliability of 0.67%. This result assisted in modifying the data collection instrument where it was discovered necessary before the final administration of the instrument.

3.11 Data collection procedure, management, analysis and presentation

Six research assistants were recruited and trained to administer the instrument according to instructions. The data collected was checked for completeness and accuracy in the field. A serial number was assigned to each questionnaire for easy identification and for correct data entry and analysis. Respondents perception was assessed on a 42 point perception scale and scores were categorized as follows, >21, and 0-21, as good, and poor scores respectively. The data were analysed using descriptive statistics; chi square at α=0.05 level of significance. Descriptive statistics of frequency and standard deviation were first calculated to examine socio-demographic data, patterns of eating habits, factors influencing eating habits, perceived consequences of eating habits and the sources of information on healthy eating. The chi-square statistical measure was used to test the association and differences in the variables in the hypotheses.

3.12 ETHICAL CONSIDERATIONS

Ethical consideration was ensured at every stage of the research, including methodology, data gathering and management, and respondents' enrollment. The consent of the respondents was sought and their privacy was assured and ensured. The assured confidentiality was protected by training the research assistants and limiting the access to the completed questionnaires. Furthermore, the results of the study will be published in other to provide a situation report on the present eating habits of the students and to promote healthy eating habits.

LIMITATION

Due to the fact that the study was conducted during the examination period of the respondents, most of the students approached denied or delayed participation in the research till after examination, and this caused the data collection procedure to take slightly longer than planned. Furthermore, the study would have benefitted on a larger scale with sponsorship or grant.

CHAPTER FOUR

RESULTS

The findings from this study are presented in this chapter. The findings are organized into the following subsections:

1. Socio demographic information
2. Pattern of eating habits
3. Factors influencing eating habits
4. Perceived health consequences of eating habits
5. Sources of information on eating practice

Socio-demographic information

The ages of respondents ranged from 16 to 41years with a mean age of 20.0 ± 7.7 years. The majority (55.6%) fell between 16 to 20 years age group. A larger proportion of the respondents (58.3%) were female. Majority (88.4%) of the respondents were Christian and 10.6% were Muslim, while 2.0% each claimed to be traditionalist, Buddhist, Freethinker and Eckankar. The respondents (75.3%) were mostly of Yoruba ethnicity, with Igbos (16.3) having the second highest representation. Details of other ethnic groups represented can be found in the table 4.1 below. Eleven departments were represented with the highest proportion (29.6%) being from MBBS (Medicine and surgery). The sampled departments were drawn from six faculties namely; Agricultural science and Agricultural extension (10.6%), Clinical science (29.9%), Dentistry (7.2%), Arts (12.3%), Social sciences (24.7%), and Education (15.3%). One third (33.3) of the students were in 300level of study, and thereby gaining the highest proportion for any level. Majority (72.6%) of the respondents lived on campus while others (27.4%) resided off the campus. Less than half (46.2%) of the respondents reported living with their parents while 53.8% reported not living with their parents. Less than half (35.1%) of the respondents claimed social group or club affiliation and membership, with others (64.9%) stating otherwise. Of the 35.1% of respondents who claimed membership of one social group or the other, the largest percentage (37.5%) reported membership to one form of sport club or the other, with 64.9% claiming no social club affiliation, while the rest of the respondents claimed membership to one group or the other. While some (10.4%) of the respondents failed to

provide information on their average monthly allowance, a large proportion (57.0%) claimed they receive a monthly allowance within the range of ₦1000 and ₦10000, 36.1% of the respondents reported a monthly allowance of between ₦11000 and ₦20000, 5.2% specified their monthly allowance to be between ₦21000 to ₦30000, while ₦31000 to ₦40000 and ₦41000 to ₦50000 were each specified as monthly allowance by 0.8% of respondents. Few (6.2%) of the respondents mentioned that they have a form of health problem or the other, while 379 (93.6%) reported not having any health problem. Among those who reported having a health problem, the highest proportion (36.0%) mentioned ulcer as their health problem. Less than half (41.7%) of respondents were male while 58.3% were of female sex.

Table 4.1: Respondents' Socio-Demographic Characteristics (N=405)

Characteristics	Frequency	Percentage
Age (in years)		
16 – 20 years	225	55.6
21 – 25 years	158	39.0
26 – 30 years	21	5.2
41 – 45 years	1	0.2
Religion		
Christianity	358	88.4
Islam	43	10.6
Others	4	1.0
Ethnic group		
Yoruba	305	75.3
Igbo	66	16.3
Edo	8	2.0
Urhobo	6	1.5
Others	20	4.9
Faculty		
Agricultural science	43	10.6
Clinical science	121	29.9
Dentistry	29	7.2
Arts	50	12.3
Social sciences	100	24.7
Education	62	15.3

Table 4.2: Respondents' Socio-Demographic Characteristics (N=405)

Characteristics	Frequency	Percentage
Level of study		
100	41	10.1
200	101	25.0
300	135	33.3
400	89	22.0
500	34	8.4
600	5	1.2
Place of residence		
On campus	294	72.6
Off campus	111	27.4
Living with parents or guardian		
Yes	187	46.2
No	218	53.8

***No responses were excluded**

Respondents' Pattern of Eating Habit

With regards to breakfast consumption, when asked if the respondents always take breakfast, 64.7% claimed they took breakfast while 35.3% reported that they do not take breakfast. The most consumed breakfast foods as reported by the respondents were rice (41.5%), bread (18.5%), anything available for consumption (9.0%), and noodles (8.6%).

When asked if they skipped any meal today, 65.2% of the respondents said yes, while 34.8% said they didn't skip any meal. When further asked what meal they skipped if they skipped a meal today, breakfast was reported as the most widely skipped meal of the day (60.0%), followed by lunch (38.3%), and finally dinner (1.9%). Very few (2.7%) of the respondents replied "never" to the question "how often do you skip meals", 32.6% reported rarely skipping, 53.8% submitted that they most times skip meals, while 10.9% said they always skip meals.

Majority of the respondents eat in between meals in a day with 57.1% eating once between meals in a day and 37.2% eating at least twice in between meals in a day. Very few (5.7%) reported never eating in between meals. The most frequently elicited responses to the question: "what do you consume in between meals?" was snacks (79.6%), drinks (10.3%), and fruits (9.0%). Very few (1.0%) of respondents stated that they consume sweets or chewing gum between meals.

With respect to the question about when the respondents eat their lightest meal, majority (43.3%) selected breakfast, 32.2% reported it is dinner and 24.4% selected lunch.

Slightly above a third of the respondents (36.5%) specified that they normally eat breakfast before the day's work, 35.2% stated they have their breakfast at any period of the morning while 28.3% reported eating breakfast mid-day after early morning work.

Regarding the time when the respondents normally eat lunch, 33.8% reported having lunch between 3p.m. and 4p.m., 32.0% claimed anytime in the afternoon, 27.3% between 12noon and 2p.m., 7% between 5p.m. and 6p.m.

Majority of the respondents (57.1%) normally eat dinner between 6pm and 9pm, 17.9% between 10p.m. and 11p.m. or anytime thereafter, and 25.1% at any time in the evening.

With regards to the eating out practice of the respondents, the question: "how often do you eat in restaurants/eateries/fast food joints in a week?", 53.9% of respondents reported eating out less than three times a week, making the majority. Less than one-third (27.8%)

of the respondents reported eating out three to five times a week, 18.1% claimed daily visiting eateries and other fast food outlets, while 0.3% reported never eating in restaurants.

Based on what the respondents claimed they often eat when they go to the restaurant, majority (58.1%) reported they normally eat rice, 18.6%; morsels, 3.9%; plantain, and beans each, 0.7%; carbonated drinks, and 3.2 selected snacks.

When asked what they normally drink when they go to the restaurant, 60.4% of the respondents specified water, while 38.0% reported they drink carbonated drinks. Fruit juice and yoghurt were consumed by 0.6% of the respondents each while alcohol and milk or tea was consumed by 0.3% of the respondents each. more than half (54.5%) of the respondents reported that they consume carbonated drinks when they eat, while 45.5% stated otherwise. Of the respondents who drink carbonated drinks when they eat, 64.3% consumed carbonated drinks less than three times a week, 27.3% do so three to five times a week, while 8.4% consume carbonated drinks daily.

When asked if the respondents like fatty meats, majority (73.1%) submitted that they do not like fatty meat while 26.9% stated that they like fatty meat.

Majority of the respondents (31.1%) eat vegetables two to three times a week, 18.8% consume it once a week, 18.0%; once in two weeks, 17.5%; once in a month, 8.1%; daily, 0.5%; once in four months, while 3.5% eat vegetables whenever they have the chance, very few (1.5%) stated they eat vegetables whenever they are at home while 1.0% reported they never ate vegetables.

Majority (32.7%) claimed they eat fruits two to three times a week, 21.8% eat fruits once in a week, 19.6% eat fruits once in two weeks, 12.9% of respondents eat fruits once in a month and 8.7% eat fruits daily. Very few (0.7%) of respondents eat fruits once in four months, and 2.2% eat fruits when they are at home.

Of the responses generated by the question “which of these classes of food constitutes the bulk of your meal each day”, majority (79.5%) of the respondents reported cereal, 6.7%; legumes, 6.4%; diary or animal products, 0.7%; nuts.

Majority of the respondents (57.3%) stated that they take vitamin supplements less than three times a week, 17.3% take vitamin supplements three to five times a week, while 13.7% take it daily.

Some (29.4%) of respondents reported that they do not add sugar to their beverage drinks and semi-solid foods, 34.1% add a spoon of sugar, while 36.5% add more than one spoon of sugar. Majority of the respondents (89.6) claimed that they do not add salt to their served food before eating and 10.4% reported that they add salt to their served food before eating it.

Majority of the respondents (52.1%) reported that they normally drink between one to three glasses of water, 31.1% drink between four and seven glasses of water, while 16.8% drink more than eight glasses of water in a day.

Nearly half (49.1%) of the respondents claimed they consume fried food less than three times a week, 31.1% take it three to five times a week, and 18.3% consume it daily while 1.5% claimed they never consume fried food.

Majority of the respondents (56.3%) said they always use condiment when they cook, 35.3% use it sometimes while 8.4% never use it.

Table 4.3: Respondents' pattern of eating habit

Variables	Frequency	Percentage
Do you always take breakfast (405)		
Yes	262	64.7
No	143	35.3
What food do you normally eat for breakfast most of the time (530)		
Rice	226	42.5
Bread	101	19.0
Anything available	49	9.3
Noodles	47	8.9
Tea/coffee	40	7.6
Golden morn/corn flaxes	16	3.0
Beans	22	4.2
Egg	10	1.9
Others	19	3.6
Did you skip any of your meals today (405)		
Yes	264	65.2
No	141	34.8
Which meals do you skip often (N=403)		
Breakfast	161	40.0
None	134	33.3
Lunch	103	25.5
Dinner	5	1.2
How often do you skip meals (405)		
Rarely	132	32.6
Most times	218	53.8
Always	44	10.9
Never	11	2.7

***No responses were excluded**

Table 4.4: Respondents' pattern of eating habit

Variables	Frequency	Percentage
How often do you eat in between meals in a day (N=403)		
Once	230	57.1
Twice	150	37.2
Never	23	5.7
What do you consume as in between meals (N=388)		
Snacks	309	79.6
Drinks	40	10.3
Fruits	35	9.0
Sweets/chewing gum	4	1.1
When do you eat the lightest meal (N=397)		
Breakfast	172	43.3
Dinner	128	32.3
Lunch	97	24.4
When do you normally eat breakfast (N=389)		
Before the day's work	142	36.5
Any period of the morning	137	35.2
Mid-day after early morning work	110	28.3
What time do you normally eat lunch (N=400)		
3pm-4pm	135	33.8
Anytime in the afternoon	128	32.0
12noon-2pm	109	27.2
5pm-6pm	28	7.0

***No responses were excluded**

Table 4.5: Respondents' pattern of eating habit

Variables	Frequency	Percentage
What time do you normally eat dinner (N=403)		
6pm-9pm	230	57.0
Anytime at night/evening	101	17.9
10pm-11pm	72	25.1
How often do you eat in restaurants/eateries/fast food joints in a week (N=349)		
Less than three times	188	53.9
Three to five times	97	27.8
Daily	63	18.0
Never	1	0.3
What do you normally eat in restaurant (N=463)		
Rice	269	58.1
Morsels	86	18.5
Plantain	18	3.9
Carbohydrate device	3	0.7
Anything	39	8.4
Snacks	15	3.2
Beans	18	3.9
Spaghetti	4	0.9
Meat/fish	11	2.4

***No responses were excluded**

Table 4.6: Respondents' pattern of eating habit

Variables	Frequency	Percentage
What do you drink in the restaurant (N=361)		
Water	218	60.2
Carbonated drink	137	40.0
Fruit juice	2	0.6
Yoghurt	2	0.6
Alcohol	1	0.3
Milk/tea	1	0.3
Do you take carbonated drinks when you eat (N=404)		
Yes	220	54.5
No	184	45.5
If yes to question 28, how often do you consume carbonated drinks in a week (N=403)		
Never	176	43.6
Less than three times a week	146	36.2
Three to five times	62	15.4
Daily	19	4.8
Do you like fatty meat		
No	296	73.1
Yes	109	26.9

***No responses were excluded**

Table 4.7: Respondents' frequency of vegetables and fruits consumption

Variables	Frequency	Percentage
How often do you eat vegetables (N=401)		
Two to three times a week	126	31.4
Once a week	76	19.0
Once in two weeks	73	18.2
Once in a month	71	17.7
Daily	33	8.2
Whenever I have the chance	14	3.5
Whenever I am at home	6	1.5
Once in four months	2	0.5
How often do you eat fruits (N=404)		
Two to three times a week	132	32.6
Once a week	88	21.8
Once in two weeks	79	19.6
Once in a month	52	12.9
Once daily	35	8.7
When I am at home	9	2.2
Whenever I can afford it	6	1.5
Once in four months	3	0.7

***No responses were excluded**

Table 4.8: Respondents' pattern of eating habit

Variables	Frequency	Percentage
Which of these classes of food constitute the bulk of your meal each day (N=404)		
Cereals	321	79.5
Legumes	27	6.7
Nuts	3	0.7
Fruits	5	1.2
Vegetables	22	5.5
Diary/animal products	26	6.4
How often do you take vitamin supplements in a week (405)		
Daily	46	11.4
Three to five times a week	58	14.3
Less than three times a week	232	57.3
Never	69	17.0
How many teaspoon(s) of sugar do you normally add to your beverages (tea cup size) including semi-solid food (405)		
None	119	29.4
One spoon	138	34.1
More than one spoon	148	36.5
Do you add salt to your food after it has being served before eating (N=403)		
Yes	42	10.4
No	361	89.6
How many glasses of water do you take per day(405)		
One to three glasses	211	52.1
Four to seven glasses	126	31.1
Eight and above glasses	68	16.8

***No responses were excluded**

Table 4.9: Respondents' pattern of eating habit

Variables	Frequency	Percentage
How many times do you consume fried food per week (405)		
Daily	74	18.3
Three to five times a week	126	31.1
Less than three times a week	199	49.1
Never	6	1.5
How often do you use condiments while cooking	**(405)**	
Always	228	56.3
Sometimes	143	35.3
Never	34	8.4

***No responses were excluded**

Factors influencing respondents' eating habit

Majority of the respondents (61.0%) claimed that their friends do not influence what they eat, while 39.0% reported that their friends influence their decision on what to eat. Regarding the fear of gaining weight, majority (65.7%) submitted that they are not afraid gaining weight when they eat while others (34.3%) reported that they are afraid of gaining weight when they eat. A large percentage of the respondents (78.3%) claimed that they do not avoid any food for religious purpose while some (21.7%) reported that they avoid some foods for religious purposes. Appetite was reported as a major determinant of what the respondents eat as 73.6% of those who replied to the question reported that what they eat is mainly determined by their appetite, while 26.4% stated that what they eat is not mainly determined by their appetite. Some (44.8%) of the respondents claimed they barely have the time and strength to cook their meals by themselves, with 55.2% claiming otherwise.

Majority of the respondents (64.0%) said they considered the health implication of food before eating, 36.0% stated that they do not consider the health implication. Majority of the respondents (65.4%) claimed they do not have difficulty in identifying what variety of food should constitute their meal to make it a balanced or adequate diet, while 34.6% stated that they have difficulty in identifying such foods which makes their meal balanced. 22.1% of the respondents claimed they do avoid food from other cultures while 77.9% said they do not avoid food from other cultures.

Majority of the respondents (70.0%) reported that their schedule does not afford them the time to eat their meals regularly, while 30.0% claimed that their schedule afford them the time to eat their meals regularly. About half of the respondents (49.5%) indicated that they cannot always afford buying variety of food for healthy eating, 50.5% claimed they can always afford it, and 0.2% didn't respond. When asked what factor majorly determines their choice of food, a large percentage of the respondents (34.1%) mentioned "appetite", 23.9% said "affordability", and 10.8 % mentioned mood.

Table 4.10: Factors influencing respondents' eating habits

Variables	Frequency	Percentage
Do your friends influence what you eat (405)		
Yes	158	39.0
Are you afraid of gaining weight when you eat (405)		
Yes	139	34.3
Do you desist from eating some foods for religious purpose	**(405)**	
Yes	88	21.7
What I eat is mainly determined by my appetite(N=402)		
Yes	296	73.4
I barely have the time and strength to cook (N=404)		
Yes	181	44.8
I consider health implication of food before eating (N=399)		
Yes	255	63.9
Can you identify what foods make balanced diet (N=399)		
Yes	138	34.8
Do you avoid foods from other cultures (N=402)		
Yes	89	22.1
Does your schedule of work afford you the time to regularly eat (N=402)		
Yes	122	30.4
Can you always afford buying foods for healthy eating	**(N=404)**	
Yes	204	50.5

***No responses were excluded**

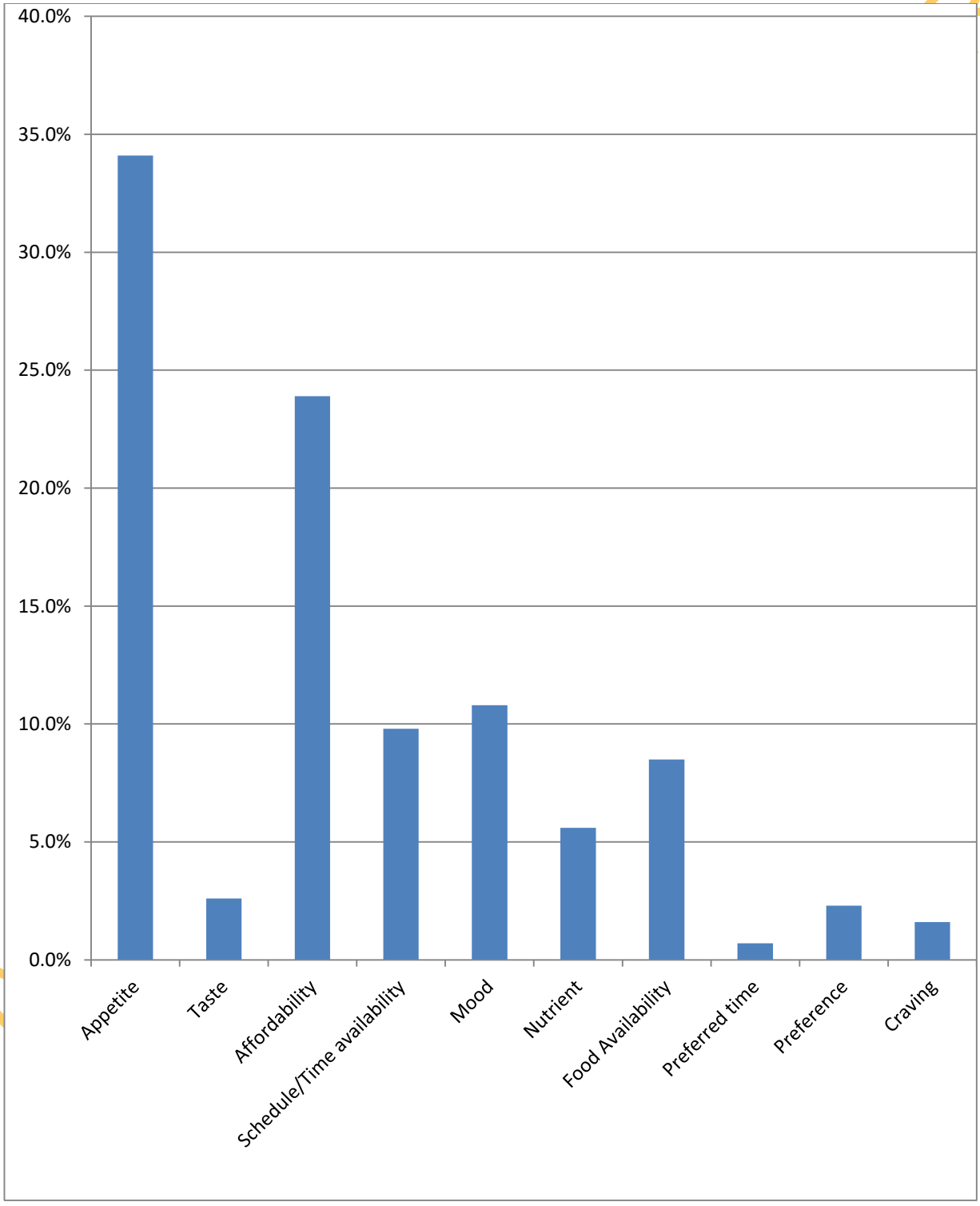

Figure 4.1: Factors influencing respondents' choice of food

Perceived consequences of eating habit

Majority of the respondents (91.9%) agreed that what people eat is a major determinant of their health while 6.2% disagreed. Majority (80.0%) of the respondents rightly perceived that heart problems and cardiovascular diseases can be prevented through healthy eating habits while 18.0% wrongly perceived that heart problems and cardiovascular diseases cannot be prevented by healthy eating habits.

Most of the respondents (80.5%) disagreed with the opinion that there are no adverse effects associated with eating out in the restaurant always, while 18.3% claimed that there are no adverse effects associated with eating out in the restaurant always. Majority (87.9%) of the respondents agreed that unhealthy eating habit may expose an individual to short life span, while 11.1% opined that unhealthy eating habit cannot expose an individual to short life span.

Most (83.7%) of the respondents agreed that cancer cases can be reduced by adopting healthy eating habits, while 14.1% disagreed. Majority (94.8%) of the respondents believed that healthy eating habits can help boost immunity while 3.2% believed otherwise. Nearly all (93.3%) of the respondents believed that quick recovery from illness can be ensured through healthy eating habits and 5.4% disagreed.

Majority (74.3%) of respondents perceived that fast foods have a high dense caloric content while 21.5% disagreed. Few (20.2%) of the respondents believed that regular consumption of carbonated drinks does no harm to the overall health, while 78.8% claimed that regular consumption of beverages and carbonated drinks does the overall health harm.

Some (18,5%) of the respondents opined that heavy appetite and consumption of large quantity of food is a sign of good living while 79.0% of them claimed that heavy appetite and consumption of large quantity of food is not a sign of good living, thereby disagreeing with the minority. Less than a third (29.6%) perceived that the energy given by food is of utmost importance irrespective of the nutrients it contains, while 67.4% disagreed, rightly perceiving that the energy given by food is not of utmost importance, especially with respect to the nutrient it contains.

Majority (86.7%) agreed that high fat intake can lead to cardiovascular diseases and cancers, while 10.1% disagreed. Few (13.8%) of the respondents opined that as young

adults/adolescents, their body system is not significantly affected by what they eat, while 83.5% perceived that what they eat as young adult/adolescents, significantly affects their body system.

Few (15.3%) of the respondents wrongly perceived that constantly skipping meals or having insufficient food intake does not adversely affect the major internal organs in the body, while 83.2% of them opined otherwise. Also, 14.6% perceived that constantly overeating does not adversely affect the major internal organs in the body, but 82.7% disagreed.

Majority of the respondents (84.7 %) agreed that overeating can lead to obesity, while 13.6% disagreed. About a third (33.8%) of them perceived that no matter how much they eat, they can't get overweight, while a larger percentage (63.2%) felt otherwise.

Some (25.9%) of the respondents agreed that no matter what food they eat, they can't develop any of the diseases associated with eating pattern, while 72.3% felt otherwise, believing they could develop those diseases. Few (13.3%) of the respondents believed that chronic diseases associated with eating are diseases of the rich people, while 84.9% perceived that those diseases are not only restricted to the rich people; 8.4% perceived that only old people are affected by diseases associated to eating, while 89.6% believed that those diseases are not only developed by old people.

Few (14.8%) of the respondents wrongly agreed that chronic diseases like cancers, diabetes and high blood pressure are not caused or complicated by what they eat, while 83.7% perceived that those chronic diseases are caused and complicated by what people eat. Out of all the respondents, 14.8% perceived that what they eat at their age can no longer affect their growth and development, while 82.7% believed that their growth and development can still be affected at their present age by what they eat.

Table 4.11: Respondents' perceived health consequences of eating habit

Variables	Frequency	Percentage
What people eat is a major determinant of their health	**(N=397)**	
Agree	372	93.7
Disagree	25	6.3
Healthy eating habits prevent cardiovascular diseases	**(N=397)**	
Agree	73	18.4
Disagree	324	81.6
Fast foods deposit high dense caloric (N=388)		
Agree	301	77.6
Disagree	87	22.4
Regular consumption of beverages and carbonated drinks does no harm to the overall health (N=401)		
Agree	82	20.5
Disagree	319	79.5
Heavy appetite and consumption of large quantity of food is a sign of good living (N=395)	75	19.0
Agree	320	81.0
Disagree		

***No responses were excluded**

Table 4.12: Respondents' perceived health consequences of eating habit

Variables	Frequency	Percentage
The energy given by food is of utmost importance irrespective of the nutrients it contains (N=393)		
Agree	120	30.5
Disagree	273	69.5
High fat can lead to cardiovascular diseases and cancers (N=392)		
Agree	351	89.5
Disagree	41	10.5
As young adults/adolescents, what we eat does not significantly affect our body system (N=394)	56	14.2
Agree	338	83.8
Disagree		
Constantly skipping meals or having insufficient food intake does not adversely affect major internal organs. (N=399)	62	15.5
Agree	337	84.5
Disagree		
Constantly overeating does not adversely affect the major internal organs in the body (N=394)	59	15.0
Agree	335	85.0
Disagree		

***No responses were excluded**

Table 4.13: Respondents' perceived health consequences of eating habit

Variables	Frequency	Percentage
Over eating can lead to obesity (N=398)		
Agree	343	86.2
Disagree	55	13.8
No matter how much I eat, I can't get overweight (N=393)		
Agree	137	34.9
Disagree	256	65.1
No matter what food I eat, I can't develop any of the diseases associated with eating pattern (N=398)		
Agree	105	26.4
Disagree	293	73.6
Chronic diseases associated with eating are diseases of the rich people (N=399)	54	13.5
Agree	345	86.5
Disagree		
Only old people are affected by diseases associated to eating (N=397)	34	8.6
Agree	363	91.4
Disagree		

***No responses were excluded**

Table 4.14: Respondents' perceived health consequences of eating habit

Variables	Frequency	Percentage
Chronic diseases like cancers, diabetes, and high blood pressure are not caused or complicated by what we eat	**(N=399)**	
Agree	60	15.0
Disagree	339	85.0
I feel that at this age, what I eat can no longer have an effect on my growth and development (N=395)	60	15.2
Agree	335	84.8
Disagree		
Score grade	375	92.6
Positive	30	7.4
Negative		

***No responses were excluded**

Source of information on eating habits

About half of the respondents (48.2%) stated that their parents "often" provide them with information on healthy eating, 27.1% reported "rarely" obtaining information on healthy eating from their parents, 20.1% "always" do, while 5.0% claim they "never receive information on eating habit from their parents.

Majority (49.0%) of the respondents claimed they "rarely" gather information on healthy eating habit from their friends, 37.4% of them "often" gather information from their friends, 9.0% "never" obtain information from friends while 4.5% "always" get information on eating habit from their friends.

Some (27.2%) of the respondents claimed they "never" get information on healthy eating from University organized programmes or setting, 39.0% "rarely" do, 26.7% "often" do, and 7.2% always do.

Majority of the respondents (41.2%) often get information on what constitutes healthy eating from previous knowledge obtained from secondary or primary school. 31.7% of the respondents rarely got information from primary or secondary school, 16.5% always did, and 10.7% never did.

Most of the respondents (47.1%) often obtain information on healthy eating from the mass media, 30.1% rarely do, 18.1% always do and 4.8% never do.

Some (39.5%) of the respondents "often" acquire knowledge on eating habits from health organizations, 38.8% "rarely" do, 11.3% "never" do and 10.5% "always" do.

Majority of the respondents (45.1%) said they rarely get information on eating habit from the religious settings, 32.7% "often" get information on eating habit from religious settings, 16.7% "never" did and 10.0% "always" do.

Majority (46.3%) of the respondents "rarely" encounter information on healthy eating habit from social clubs or association, 32.2% never did, 17.6% "often" do, and 3.8% always do.

When asked for their most preferred source of information on what constitutes a healthy eating habit, a higher percentage of the respondents (31.7%) mentioned the mass media, 24.7% mentioned parents or guardian, 20.2% mentioned health facilities or professionals, and 10.1% of them mentioned school or educational institution. Other details of the various responses are highlighted in the table below.

Slightly above one-third (37.6%) of the respondents, when responding to the question; "what is the most common source of information on healthy eating habit that you access", mentioned mass media, 18.4% said it is their parents or guardian, 15.9% stated that it is the internet and 9.2% mentioned school or educational institution. Details of the other responses are highlighted in the table below.

Table 4.15: Respondents' sources of information on eating habit

Variables	Frequency	Percentage
My parents provide me with information on eating (N=398)		
Never	20	5.0
Rarely	108	27.1
Often	190	47.7
Always	80	20.2
I gather information on healthy eating from friends (N=398)		
Never	36	9.0
Rarely	195	49.0
Often	149	37.4
Always	18	4.6
I get information on healthy eating from University setting	**(N=401)**	
Never	109	27.2
Rarely	156	39.0
Often	107	26.6
Always	29	7.2
I got nutrition information from primary/secondary school	**(N=401)**	
Never	43	10.7
Rarely	127	31.7
Often	165	41.1
Always	66	16.5

***No responses were excluded**

Table 4.16: Respondents' sources of information on eating habit

Variables	Frequency	Percentage
I get information on healthy eating from the mass media	**(N=399)**	
Never	19	4.8
Rarely	120	30.1
Often	188	47.1
Always	**72**	18.0
I get information on healthy eating from health organization	**(N=400)**	
Never	45	11.2
Rarely	155	38.8
Often	158	39.5
Always	42	10.5
I get information on healthy eating from religious setting	**(N=401)**	
Never	67	16.7
Rarely	181	45.1
Often	113	28.2
Always	40	10.0
I get information on healthy eating from social clubs(N=397)		
Never	128	32.2
Rarely	184	46.4
Often	70	17.6
Always	15	3.8

***No responses were excluded**

Table 4.17: Respondents' sources of information on eating habit

Variables	Frequency	Percentage
Most preferred source of information on healthy eating	**(N=376)**	
Health facilities/professionals	76	20.2
Parents/guardian	93	24.7
Books	5	1.3
Internet	21	5.6
Mass media	119	31.7
School/educational institution	38	10.1
Religion	7	1.9
Social media	8	2.1
Friends	9	2.4
Most common source of information on healthy eating	**(N=391)**	
Health facilities/professionals	31	7.9
Parents/guardian	72	18.4
Books	8	2.1
Internet	62	15.9
Mass media	147	37.6
School/educational institution	36	9.2
Religion	7	1.8
Social media	15	3.8
Friends	13	3.3

***No responses were excluded**

TEST OF HYPOTHESES

HYPOTHESIS 1

The Null hypothesis stated that there was no significant difference between the frequencies of eating out in restaurants among undergraduates of the University of Ibadan and gender. Chi-square was used to test for association and the result is presented below

Table 4.18: Difference between frequency of eating out among undergraduates of University of Ibadan and gender.

Socio-demographic characteristic	Frequency of eating out in restaurants in a week			X^2	Df	P-value
	Less than three times (%)	Three to five times (%)	Daily			
Gender						
Male	16.4	14.1	10.4	19.307	2	0.000
Female	37.6	13.8	7.8			

P-value is less than 0.05, therefore there was a significant association between frequency of eating out among the respondents and their sex. Hence we fail to accept the null hypothesis

HYPOTHESIS 2

The null hypothesis stated that **t**here was no significant difference between affordability and frequency of fruit consumption among undergraduates.

Table 4.19: Difference between affordability and frequency of fruit consumption among undergraduates.

Socio-demographic characteristic	Affordability		X^2	Df	P-value
	Yes (%)	No (%)			
Fruit consumption					
Once daily	5.3	3.9	18.715	2	0.284
2-3 times a week	20.8	13.2			
Once a week	10.2	12.6			
Once in two weeks	8.8	11.6			
Once in a month	5.3	8.3			

P-value is more than 0.05, therefore there was no significant association between affordability and the frequency of fruit consumption among the respondents. Hence we accept the null hypothesis

HYPOTHESIS 3

The null hypothesis stated that **t**here was no significant difference between fear of gaining weight and meal skipping behavior based on gender.

Table 4.20: Difference between fear of gaining weight and skipping of meals among the undergraduates

Variables	Fear of gaining weight		X^2	Df	P-value
	Yes	No			
Meal skipping					
Never	1.5	1.2	2.445	3	0.485
Rarely	11.1	21.5			
Often	18.5	35.3			
Always	3.2	7.7			

P-value is more than 0.05, therefore there was no significant difference between fear of gaining weight and the frequency of skipping meal among respondents. Hence we accept the null hypothesis

HYPOTHESIS 4

The null hypothesis stated that **t**here was no significant difference between affordable schedule and timing of lunch meals based on course of study. The relationship between schedule affordability and the timing of lunch was weighed against the course of study and chi square was used.

Table 4.21: Difference between affordable schedule and timing of meals based on course of study

Socio-demographic characteristic	Does your schedule afford you the time to eat your meals regularly		X^2	Df	P-value
	Yes	No			
Timing of lunch					
12noon-2pm	9.7	17.2	6.457	3	0.091
3pm-4pm	11.2	21.9			
5pm-6pm	1.2	5.7			
Anytime	8.2	24.9			

P-value is more than 0.05, therefore there was no significant difference between affordable schedule and time of lunch consumption by the respondents. Hence we accept the null hypothesis

HYPOTHESIS 5

The Null hypothesis stated that there was no significant difference in the source of information on healthy eating among undergraduates and sex. Chi-square test was used to test for association and the result is presented below.

Table 4.23: Difference between the sources of information on healthy eating based on sex

Socio-demographic characteristic	Sex		X^2	Df	P-value
	Male (%)	Female (%)			
Source of information					
Health/Educational institutions	11.7	20.0	7.389	2	0.025
Social media	11.2	20.0			
Mass media	18.8	18.3			

P-value is less than 0.05, therefore there was a significant difference between respondents' most preferred source of information and sex. Hence we fail to accept the null hypothesis.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This chapter as the title implies, discusses the major findings of the research which were obtained from the analysis of the data collected through quantitative tool. Based on these research findings, this chapter also presents the conclusions and suggests recommendations inferentially drawn. This chapter is organized and presented in the following sub-sections:

1. Pattern of eating habit
2. Factors affecting eating habit
3. Perceived consequences of eating habits
4. Source of information on eating habit.

More than half of the respondents were of the female sex. The mean age of 20.0± 7.7 years found in this study was observed to slightly vary from the findings of an earlier study in the University of Ibadan by Arulogun and Owolabi, (2011). Majority of the participants fell into the 16-20 age group; those within the 21-25 age bracket were the next most numerous group while respondents who fell within 41-45 age bracket were the fewest. Majority of the respondents were Christians as they far outnumbered all participants from all other religion summed up, by a wide margin. The main religious affiliations were however reported to be Christianity and Islam.

5.1 Respondents' pattern of eating habit

With regards to breakfast consumption, when asked if the respondents took breakfast the day before, nearly two-third of them claimed they took breakfast while slightly over one-third reported not taking breakfast the day before which is similar to the result of a study carried out in southern Nigeria which found that 66.7% of the students always eat breakfast, while 33.3% either never, mostly do not or sometimes eat breakfast (Nmor, 2014). The most commonly consumed breakfast foods as reported by the respondents were rice, bread, anything available, and noodles which are mainly carbohydrate. This is similar to the findings of a cross sectional study among University students in University of Nsukka which reported that "a 24 hour dietary recall of the participants showed that their diet was mostly yam, noodles, rice, bread and butter, meat pie, biscuits, roasted

groundnuts and popcorn"(Agatha and Christiana, 2008). The common characteristics shared by these foods is that they are easy to cook and do not consume much time to cook, hence the observed preference for them as breakfast meals.

Most of the respondents: which amounted to about two-third, skipped at least a meal on the day of data collection. When further asked what meal they skipped if they skipped a meal on the day of the data collection, breakfast was reported as the most widely skipped meal of the day, followed by lunch, and finally dinner. The largely recorded breakfast skipping consumption can be interpreted to be due to the morning schedule of the students which may not afford them the luxury of time needed to prepare breakfast, especially if they have a poor time management. More than half of the students skipped their meals most of the time, about one-third reported rarely skipping their meals, while more than a tenth always skipped meals.

Majority of the respondents eat in between meals in a day with more than half of the respondents eating once between meals in a day and slightly above one-third eating at least twice in between meals in a day. Only 5.7% reported never eating in between meals. This signifies that most of the students consume foods or some other form of snacks to supplement their normal meals. Snacks, drinks, and fruits were most frequently consumed in between meals. Snacks were however the most commonly consumed with about three-quarter of the respondents taking it. This might be due to the cost, and ready availability of these snacks as well as the common appeal that most energy dense foods and drinks have on the young population. Very few of the respondents often consume sweets or chewing gum between meals.

Breakfast was reported by the majority as being their lightest meal of the day most often. This indicates that lunch and dinner often feature heavy meals which are probably consumed to make up for the light or skipped breakfast meal. This therefore has the potential to lead to over-nutrition during lunch and dinner, and under-nutrition during breakfast. About one-third of the respondents reported eating breakfast mid-day after early morning work which could be a pointer to the common challenge of non-availability of time for breakfast consumption before the day's work commences. Slightly above a third of the respondents (36.5%) however specified that they normally eat breakfast before the day's work, while the timing was inconsistent with the rest of the students as 35.2% claimed they have their breakfast at any period of the morning.

Inconsistency in timing of dinner and late dinner consumption was found among 40% of the respondents which indicates unhealthy timing of meals among the respondents.
With regards to the practice of eating out among the respondents, just a little more than half of the respondents were found to eat out less than three times a week in restaurants/eateries/fast food joints in a week, while close to half of the respondents reported eating out three to five times a week or daily.

An appraisal of the relationship between frequency of eating out and sex revealed that there was a significant association between frequency of eating out among the respondents and sex, with a higher proportion of female eating out less than three times a week compared to male. This discovery points to a higher consumption of fast foods and cafeteria foods among male students.

Based on what the respondents claimed they often eat when they go to the restaurant, majority reported they normally eat rice, morsels, plantain, and beans each, carbonated drinks, and selected snacks in numerical descending order of frequency. This is similar to findings from a study by Driskell et al. (2006), University students reported at least one to two fast food restaurant visits a week. This common practice of fast food consumption may be due to the availability of fast food points of various classes at every nook and cranny of schools. Additionally, Arulogun and Owolabi (2011) observed that this may also be due to affordability and individual's taste and desire as well as perceived health implication of such practice. Additionally, Bowman and Vinyard, (2004) stated that fast food eaters have lower intakes of nutritious foods such as fruits and non-starchy vegetables than those who do not eat fast food. The intake of these nutritious foods decreases as the number of fast food days increases.

Most of the respondents mentioned water as the drink they take when they visit restaurants, while above a third of them reported they drink carbonated drinks. Fruit juice, yoghurt, alcohol and milk or tea are consumed by very few of the respondents. This may be due to the significant difference in the cost of each of the drink with water being the cheapest and alcohol and fruit juice being the costliest. Another plausible reason is the fact that water and soft drinks are more readily available in restaurants than other drinks, hence the much higher purchase and consumption of carbonated drinks and water when they eat. Slightly more than half of the respondents reported that they consume carbonated drinks

whenever they eat. This pattern was observed in a previous study by Amir, Faroque, and Atiq (2009), which discovered that "consumption of soft drink usually replace water while having food".

More than one-third of the respondents consume carbonated drinks when they eat either daily or on a frequency of three to five times a week, which poses the threat of obesity and other non-communicable diseases. Others consume carbonated drinks when they eat consume carbonated drinks less than three times a week. The preference and appeal for fatty meat was not so high among the respondents as about three-third of the respondents stated that they do not like fatty meat.

Eating raw fruit and vegetables in the course of a meal or between meals was found to be uncommon among the respondents. Some of the respondents eat vegetables two to three times a week which was closest to the recommended daily dietary intake of two servings by WHO as reported by Al-otaibi (2014). More than half of the respondents reported consuming vegetables once a week or less, while only few consume it daily. This shows that a lot of the respondents do not eat close to the recommended two servings per day.

The same trend was observed for fruit consumption as majority of the respondents failed to meet the recommended requirement of five servings a day or more. Very few claimed they eat fruits daily while less than a third of them eat fruits two to three times a week. Others, who constitute more than half of the respondents, eat fruits once a week or less indicating a common habit of insufficient fruit consumption among the students. This result is consistent with a previous study by King who found 66.0% of University students not meeting fruit and vegetable consumption recommendations, and also similar to a study which reported that concerning fruit and vegetable intake, the World Health Organization (WHO) recommends intake of a minimum of 400g of fruits and vegetables per day (WHO, 2012). Likewise, in a study by Racette, Deusinger, Strube, Highstein, and Deusinger (2008), less than 30.0% of first year University students consumed the recommended amount of fruits and vegetables. In addition, "according to the American College Health Association (2006), a 2004 study revealed that only 7.3% of students ate five or more servings of fruits and vegetables daily"(Deshpande, Basil, and Basil, 2009), and this shows little or no variation between students in the University of Ibadan and those in American colleges. The increasing age and independency may be the cause as observed in previous studies which stated that consumption of fruits and vegetables among adolescents

between the ages of 12 and 19 years has been reported to decrease with age (AIHW, 2007). This trend could be as a result of waning parental influence as adolescents get into tertiary institutions or the problem of easy accessibility to these foods on the University or residential premises.

The participants were asked if they could afford buying varieties of food groups for healthy eating and this was analysed against the frequency of fruit consumption. It was discovered that there is no significant association between affordability and the frequency of eating fruits among the respondents.

Few of the respondents take vitamin supplements daily, while majority take vitamin supplements three to five times a week or less than three times a week, Of the responses generated by the question "which of these classes of food constitutes the bulk of your meal each day?", majority of the respondents reported cereal, legumes, diary or animal products. Cereal however was the most widely consumed of them all. The high consumption of cereals over other food groups may be due to the relatively high availability of cereals compared to others.

Less than a third of respondents reported that they do not add sugar to their beverage drinks and semi-solid foods, while majority add a spoon of sugar or more. Majority of the respondents claimed that they do not add salt to their served food before eating and 10.4% reported that they add salt to their served food before eating it. For this few who add salt to their served food, they risk the development of high blood pressure over time, depending on the frequency and quantity consumed.

More than half of the respondents reported that they normally drink between one to three glasses of water daily, less than a third of them drink between four and seven glasses of water, while few drink the recommended portion of eight glasses of water or more in a day. This reveals that majority of them fail to consume the daily requirement of minimum of eight glasses per day. Nearly half of the respondents claimed they consume fried food less than three times a week, while less than a third of them take it three to five times a week, and fewer consume it daily. More than half of the respondents said they always use condiment when they cook, while slightly more than a third of the respondents use it sometimes and very few never use it.

5.2 Factors influencing respondents' eating habit

Several potential factors were presented to the respondents and they were asked if these factors influence their eating habits. More than half of the respondents claimed that their friends do not influence what they eat, while more than a third of them reported that their friends influence their decision on what to eat. This shows that although friends were found to have influence on eating habits of some of the respondents, it wasn't wide spread. Regarding the fear of gaining weight, majority slightly above one-third of the respondents had their eating habits influenced by the fear of gaining weight. The fear of gaining weight in its relationship to eating practice is a strong aetiology factor in the initiation, development and sustenance of eating disorders; especially anorexia nervosa and bulimia nervosa. This factor of apprehension towards weight gain was cross-tabulated and analysed against the frequency of meal skipping among the respondents. The result showed that there was no significant association between the fear of gaining weight and frequency of skipping meals.

A large percentage of the respondents claimed that they do not avoid any food for religious purpose while about one-fifth of them reported that they avoid some foods for religious purposes. Religion was therefore found to promote or dissuade the consumption of some food items

Appetite was reported as a major determinant of what majority of the respondents eat. Availability of time and strength to cook meals was described by nearly half of the respondents as on factor that influences their eating habits. The health implication of the food or consideration of its nutritional value was specified by many of the respondents as an influencing factor in their eating habits and behaviour.

It was informing as well as disturbing to discover than more than a third of the respondents have difficulty in identifying what variety of food should constitute their meal to make it a balanced diet. This indicates that these students eat without a guiding knowledge of food varieties to constitute adequate nutrition for better health and improved life expectancy. The University is a renowned federal University with students enrolling from various cultures and parts of the country. It is therefore expected that some students who are new to the indigenous culture of the University host community will come across some new sets and variety of food and may not find their own cultural food within or

around the school and host community. More than one-fifth of the respondents claimed they do avoid food from other cultures. This exposes the cultural practice as an influencing factor since food has often being regarded as part of the culture of the society.

Majority of the respondents reported that the tight nature of their schedule does not afford them the time to eat their meals regularly. This was analysed against the timing of lunch meals and a significant association was discovered to exist between how much time the schedule of the respondents afford them time to eat their meals regularly, and the timing of their lunch meals based on course of study. This association was analysed using non-parametric chi-square test. About half of the respondents indicated that they cannot always afford buying variety of food for healthy eating. In general, the most important determinant of the choice of food consumed by the respondents was inquired and the most frequent response was appetite, followed by affordability, and mood. The appetite of the students therefore determined what food they choose to eat and how much of it they choose to eat, while the cost of the foods also weighed against the purchasing power of the students and inherently determined what food they eat and how much of it as well.

5.3 Perceived consequences of eating habit

Majority of the respondents agreed that what people eat is a major determinant of their health. Majority of the respondents rightly perceived that heart problems and cardiovascular diseases can be prevented through healthy eating habits.

Most of the respondents disagreed with the opinion that there are no adverse effects associated with eating out in the restaurant always, indicating that they perceived that eating out in restaurants regularly has harmful consequences on health. Majority of the respondents agreed that unhealthy eating habit may expose an individual to short life span, thereby reducing the life expectancy of the person. “A wide range of factors related to food, nutrition and physical activity have been linked to a number of cancers” (Ministry of Health, 2003). Most of the respondents agreed that cancer cases can be reduced by adopting healthy eating habits. Most of the respondents believed that healthy eating habits can help boost immunity and majority of them perceived that quick recovery from illness can be ensured through healthy eating habits.

Fast foods were rightly perceived to have a high dense caloric content by most of respondents, with few wrongly perceiving otherwise. Most of the respondents believed that regular consumption of carbonated drinks does harm to the overall health.

Some of the respondents were of the opinion that heavy appetite and consumption of large quantity of food is a sign of good living. This perception is very likely to be accompanied by over eating on the part of those who believe heavy appetite and consumption is healthy. Majority of them however felt that heavy appetite and consumption of large quantity of food is not a sign of good living, thereby disagreeing with the minority. Some perceived that the energy given by food is of utmost importance irrespective of the nutrients it contains, indicating that they may be in the habit of consuming foods with high caloric content and may be unable to expend the excess caloric intake and becoming overweight. Majority rightly perceived that the energy given by food alone is not of utmost importance, implying that other features such as nutrient content is also of importance.

Majority opined that high fat intake can lead to cardiovascular diseases and cancers. Few of the respondents wrongly opined that as young adults/adolescents, their body system is not significantly affected by what they eat, while majority of them perceived that what they eat as young adult/adolescents, significantly affect their body system.

Majority of the respondents perceived that constantly skipping meals or having insufficient food intake adversely affects the major internal organs in the body. However the high positive perception proportion does not reflect on the meal skipping habit of the respondents. Majority of the respondents rightly perceived that constantly overeating adversely affect the major internal organs in the body.

Majority of the respondents agreed that overeating can lead to obesity. About a third of them perceived that no matter how much they eat, they can't get overweight, and therefore do not associate the quantity of food consumed to the weight gain. Others however felt that the amount of food they eat matters in weight gain or loss. Majority of the respondents agreed the food they eat could predispose them to or protect them from developing any of the diseases associated with eating behaviour and pattern. Some of the respondents: although few, wrongly believed that chronic diseases associated with eating are diseases of the rich people. This notion wasn't found to be wide spread as majority rightly perceived that those diseases are not only restricted to the rich people. Again, very few of the respondents perceived that only old people are affected by diseases associated

to eating, while the majority believed that those diseases are not only developed by old people, but could be developed at any other age.

Majority of the respondents agreed that chronic diseases like cancers, diabetes and high blood pressure are caused or complicated by what they eat. Majority believed that their growth and development can still be affected at their present age by what they eat. They implied that their development can still be boosted through adequate nutrition.

5.4 Source of information on eating habits

Parents always or often provide information on healthy eating to majority of the respondents while about one-third of them never or rarely receive information on healthy eating from their parents. Parental influence can be an influential factor in determining the eating habit of the students as they tend to develop these eating habits at tender age in their various homes. Less than half of the respondents always or rarely get information from friends.

Contrary to findings of Prendergast (2009), that "in terms of socializing agents, participants reported that it is parents and teachers who most often advise them to eat healthy foods", the University settings was found to always or often provide nutrition information to only about a third of the students, and rarely or never provided nutrition information to majority of the respondents. Interestingly, less than half of the respondents never or rarely got nutrition information from their previous elementary or secondary schools, and more than half always or often got information on healthy eating from their primary or secondary school. This revealed that the secondary and primary schools provide nutrition information more often that the University does, probably because food and nutrition as a course is a required subject and is often featured in other subjects such as integrated science, physical and health education and home economics. This therefore necessitates the planning and implementation of nutrition education programs in colleges and Universities.

The mass media was found to often or always educate majority of the respondents indicating a largely influenced media audience. Half of the respondents "often or always" acquire knowledge on eating habits from health organizations, and the other half "rarely or never" do. The religious organizations were found to always or often provide healthy eating information to less than half of the participants while majority of them never or

rarely got information on healthy eating from the religious organizations. Majority of the participants "rarely or never" encountered information on healthy eating habit from social clubs or association, while always or often do.

The most preferred sources of information by the participants were mass media, health facilities or respondents, and parents or guardians. Few mentioned the educational institution as well as books as their most preferred source of information while others mentioned religion, social media, friends, and internet. The most preferred source of student's information on eating was tested against sex and a significant difference was found. The sources were categorized as Health/Educational institutions (Health professionals/institutions, schools and books), social media (social media, parents, religious institution and friends), and mass media (mass media and internet).The highest proportion of the respondents mentioned the mass media as the most common source of information, followed by parents, and the internet in descending order of frequency. Surprisingly, the fewest selected sources were educational institutions and books, and health facilities or professionals, religion, social media, and friends.

5.5 Implication for Health Promotion and Education

The discoveries of this study provide relevant information on the pattern of eating habit, factors affecting eating habit, perception of the health consequences of eating habit and the sources of information on healthy eating habit among undergraduates of the University of Ibadan who were enrolled for the 2013/2014 session with a full-time status. These findings further corroborates previous studies bordering on this issue and will be relevant for the development of effective and tailored intervention programs which will be aimed at promoting healthy eating practices among the University population. The high level of right perception of the consequences of eating habit which failed to reflect positively on the eating habit of the students indicates that such designed intervention programs should not just be aimed at educating the students but should employ other strategies to achieve the desired behavioral change.

To the knowledge of the author, no other study had carried out a comprehensive and extensive assessment of the eating habits of students, its factors, perception of the consequences as well as sources of information on healthy eating of University undergraduates in the country and more specifically in the South-West part of the country.

It is the hope of the researcher that the findings of this study will provide basis and guideline for action by the University authorities, and other stakeholders to address the fast rising pattern of unhealthy eating habit among the University population.

5.6 Conclusion

This study has provided more evidence to the widely acknowledged problem of unhealthy eating habits among young adults, specifically the undergraduates of the University of Ibadan. This pattern has been identified along the line of poor timing of meals, inconsistency in the consumption of meals; characterized by meal skipping, inadequate water, fruits and vegetable consumption, heavy consumption of energy dense foods among many others. Also, majority of the students have been found to have positive perception of the consequences of eating habit but which unfortunately has been observed to have no positive influence on their eating habit. It was also discovered that the most credible sources of nutrition information in the form of the health organizations and University settings were less frequently accessed than the mass media, parents, and internet, by the students. The validity of the information they get is therefore questionable as this sources may negatively indoctrinate the undergraduates to adopt unhealthy eating habits.

Therefore, in conclusion; different aspects of undergraduates eating behavior may be influenced by different factors. These factors were assessed and it was discovered that most notable of these factors were appetite, schedule and affordability. These factors need to be considered in designing intervention programs. Nutritionists and health professionals should tailor educational and treatment strategies according to the specific desired dietary outcomes. Interventions should help to make healthy eating easy for adolescents to apply and explain the consequences of unhealthy eating and benefits of healthy eating for human health, providing knowledge to create awareness, change negative perception and attitude and supporting the students in the adoption of healthy lifestyle

5.7 Recommendations

In the light of these findings, it is obvious that the pattern of eating habit of the undergraduates needs coordinated intervention targeted at improving their eating habit.

It is recommended that based on the timing of the data during examination period, another similar study should be carried out at the beginning of the semester. This is with the aim of comparing the results. It is highly recommended that nutrition education programs should

be put in place as well as other strategies to foster the adoption of health promoting eating practices. Making provision within the daily lecture schedule for timely lunch is also essential. Summarily, an integrated approach to promote healthy eating habit among the undergraduates should be employed and should include but not be limited to the following:

- Lecture schedules should consider the timing of meals of the undergraduates so that they can have time to eat their breakfast before the day's work, lunch between 2p.m. and 3p.m., and dinner before 9p.m.
- Educational campaigns and behavioural change communication programs on healthy nutrition should be structured to target the entire University community, including the students and the fast food joints staffs with the aim of influencing health promoting production, procurement and consumption of foods. Nutrition education components should be incorporated into the general courses taken by the students.
- Establishment of youth friendly clubs where undergraduates can be reached with health promotion information relating to their eating habits and how to get the best quality of nutrients from their meals at affordable prices. Credible sources of information should be youth friendly as well as accommodating.
- Availability of fruits at affordable prices should be promoted just as snacks are available in every nook and cranny of the University environs. This can be achieved by establishing fruit barns or stores, or selling of fruits at subsidized prices in the institution-owned cafeterias.

REFERENCES

Agatha, U., and Christiana, A. (2008). Prevalence of Obesity among Undergraduate Students living in halls of residence , University of Nigeria , Nsukka campus , Enugu state. *Animal research international*, *5*(3), 928–931.

AIHW, (2007). Profile of Nutritional Status of Children and Adolescents. Cat. no. PHE 89. Australian Institute of Health and Welfare, Canberra.

Al-Otaibi, H. H., (2014). Psychosocial Factors Associated with Fruit and Vegetable Consumption among Saudi University Students. *Journal of Food and Nutrition*, 1, 1–10.

Amir, P.Z., Faroque, A., and Atiq, R. (2009). A study on perception of soft drinks and fast foods advertisements and its impact on youth lifestyle and eating habits. *Research Scholar*, Integral University, Lucknow., 217(7), 1–14.

Anetor O. Gloria, Ogundele O. Benjamin and Oyewole E.Oyediran, (2012). Effect of Nutrition Education on the Eating Habits of Undergraduates in South-West, Nigeria. *Asian Journal of Epidemiology*, 5: 32-41.

Arash Salahshoori, Gholamreza Sharifirad, Akbar Hassanzadeh, and Firoozeh Mostafavi, (2014). An assessment of the role of perceived benefits, barriers and self-efficacy in predicting dietary behaviour in male and female high school students in the city of Izeh, *Iran Journal of Education and Health Promotion*. 2014; 3: 8. Available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3977394/

Arulogun, O. S., and Owolabi, M. O. (2011). Fast Food Consumption Pattern among Undergraduates of the University of Ibadan , Nigeria : Implications for Nutrition Education. *Journal of Agriculture and Food Technology*, 1(6), 89–93.

Bowman, S. A., and Vinyard, B. T., (2004). Fast food consumption of US adults: impact on energy and nutrient intakes and overweight status. *Journal of the American College of Nutrition*, 23(2), 163-168.

Chopra, (2002). Globalization and food; Implication for the promotion of healthy diet. In: World Health Organization, *Globalization, diets and non-communicable diseases.* Geneva: World Health Organization.

Çitozi, R., Bozo, D., and Pano, G. (2012). An assessment of the perception of physical activity , eating habits, self-efficacy and the knowledge about healthy food in Albanian adolescents. *Journal of human sport and exercise, Faculty of Education. University of Alicante*, 8(12), 9–12. doi:10.4100/jhse.2012.8.Proc2.22

Darnton, A, Verplanken, B, White, P and Whitmarsh, L. (2011). Habits , Routines and Sustainable Lifestyles Summary Report A research report completed for the Department for Environment , Food (p. 68). London SW1P 3JR.

Deshpande, S., Basil, M. D., and Basil, D. Z. (2009. Factors Influencing Healthy Eating Habits Among College Students : An Application of the Health Belief Model Factors Influencing Healthy Eating Habits Among College Students : An Application of the Health Belief Model. Routledge.Inc doi:10.1080/07359680802619834

Delpier, T., Giordana, S., and Wedin, B. M. (2013). Decreasing sugar-sweetened beverage consumption in the rural adolescent population. *Journal of Pediatric Health Care*, 27(6), 470–478.

Driskell, J. A., Meckna, B. R., and Scales N.E. (2006). Differences exist in the eating habits of University men and women at fast-food restaurants. *Nutrition Research*, 26, 524-530.

Elijah, O.O. (2010). The assessment of food intake pattern and consumption of students residing in the dormitory in the university of submitted to the department of nutrition and dietetics , in partial fulfilment of the requirements for the award of the degree of bachelor of. University of agriculture, Abeokuta.

Hafekost, K.,Mitrou, F., Lawrence, D., and Zubrick, S. R. (2011). Sugar sweetened beverage consumption by Australian children. Implications for public health strategy. *BMC Public Health*, 11, 950–960.

Hulya Yardimci, Yahya Ozdogan, Ayse Ozfer Ozcelik and Metin Saip Surucuoglu (2012). Fast food consumption habits of university students: The sample of Ankara. *Pakistan Journal of Nutrition* 11 (3): 265-269. ISSN 1680-5194

Institute of Medicine, (2004). Dietary Reference Intakes for Water, Potassium, Sodium, Chloride, and Sulfate. Washington, D.C.: National Academy Press. Available at http://www.nap.edu/openbook.php?isbn=0309091691 Accessed on July 28, 2014.

King K.A, Mohl K, Bernard AL, Vidourek R.A. (2007). Does Involvement in Healthy Eating Among University Students Differ Based on Exercise Status and Reasons for Exercise?. *Californian Journal of Health Promotion* 5: 106- 119.

Park, K.(2011). Park's Textbook of preventive and social medicine. 21st edition, Bhanot Publishers. ISBN: 978-81-906079-9-5

Ministry of Health, (2003). Food and Nutrition Guidelines for Healthy Adults: A background paper. Ministry of Health, Wellington, New Zealand. ISBN 0-478-25840-2

Nmor, J. (2014). Eating Behaviours of University Students in Southern Nigeria: An Evaluation of Sex Differences. *Science Journal of Public Health*, *2*(1), 23. doi:10.11648/j.sjph.20140201.14

Onimawo, I. (2010). Nigerian traditional food system and nutrition security. In *International Scientific Symposium: Biodiversity and Sustainable Diets United Against Hunger 3-5*.

Oxford Journals, (2015). Available at: http://jamia.oxfordjournals.org/content/jaminfo/18/6/827/F1.large.jpg

Pomeranz, J. L., Munsell, C. R., and Harris, J. L. (2013). Energy drinks. An emerging public health hazard for youth. *Journal of Public Health Policy*, 34(2), 254–271.

Prendergast, G., Chan, K., Gronhoj, A. and Bech-Larsen, T. (2009). Adolescents' perceptions of healthy eating and communication about healthy eating, *Health Education*, 109(6), 474-490.

Racette, S. B., Deusinger, S. S., Strube, M. J., Highstein, G. R., and Deusinger, R. H. (2008). Changes in weight and health behaviors from freshman through senior year of college. *Journal of Nutrition Education and Behavior*, 40, 39-42.

Steptoe A, Perkins-Porras L, McKay C, Rink E, Hilton S, Cappuccio FP. (2003). Psychological factors associated with fruit and vegetable intake and with biomarkers in adults from a low-income neighborhood. *Health Psychol* 22: 148 - 155.

Teixeira, P. J., Patrick, H., and Mata, J. (2011). Why we eat what we eat : the role of autonomous motivation in eating behaviour regulation. 1 *British Nutrition Foundation Nutrition Bulletin*, 36, 102–107.

The Nutrition source (2011). Healthy drinks. Harvard School of Public Health newsleter. Retrieved from http://www.hsph.harvard.edu/nutritionsource/healthy-drinks/, Accessed on September 11, 2014

The Nutrition source (2013). Healthy Eating Plate. Harvard School of Public Health newsleter. Retrieved from http://cdn1.sph.harvard.edu/wp-content/uploads/sites/30/2013/04/HEPApr2013.jpg/, on September 11, 2014

Walid El Ansari1, C. S. and R. T. M. (2012). Relationships between food consumption and living arrangements among University students in four European countries - A

cross-sectional study - 1475-2891-11-28.pdf. *Nutrition Journal*, 11(28), 2–7. Retrieved from http://www.biomedcentral.com/content/pdf/1475-2891-11-28.pdf

World Cancer Research Fund/American Institute for Cancer Research (2007). Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective. RR Donnelley: Washington DC. ISBN: 978-0-9722522-2-5

APPENDIX

QUESTIONNAIRE

Dear Respondent,

Greetings; My name is Olaitan Aanu Oluwaseun, a Masters in public health student in the department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan. I am conducting a research project titled **"Pattern of Eating Habit and Perceived Health Consequences among Undergraduates of the University of Ibadan"** as part of the requirement for award of the degree. I intend to gather information from you on the topic and will be very grateful if you can spare some minutes to participate in the study by completing the questionnaire.

No name is required and utmost confidentiality of your identity, response and opinion will be ensured. You are requested to please provide honest responses as much as possible as you complete the questionnaire.

S/N……

SECTION A (SOCIO-DEMOGRAPHIC INFORMATION)

<u>Instruction:</u> Please fill slots or mark (√) in boxes provided (as appropriate)

1. Age in years (As at last birthday) ……
2. Religion (1) Christianity□ (2) Islam□ (3) Traditional□ (4) Others (specify)……
3. Ethnic group: 1. Hausa□ 2. Igbo□ 3. Yoruba□ 4. Others (specify)…….
4. Department ……..
5. Faculty …….
6. Level of study……..
7. Place of residence (1) On-campus hostel□ (2) Off-campus hostel□
8. Do you presently live with your parents/guardian? (1) Yes□ (2) No□
9. Do you belong to any social group or club? (1) Yes□ (2) No□
10. Group/club membership (1) Sport□ (2) Dance□ (3) Others□ (specify)……..
11. Average pocket money/monetary allowance per month (*In naira*)……
12. Do you have any health problem? (1) Yes□ (2) No□ ***(If No, skip number 13)***
13. If yes to question 12, what is the health problem? ……

SECTION B:

PATTERN OF EATING HABITS

<u>Instruction:</u> Please fill slots or tick (√) in boxes provided (as appropriate)

14. Do you always take breakfast yesterday? (1) Yes□ (2) No□
15. What food(s) do you normally eat for breakfast most of the time? .....
16. Did you skip any of your meals today? (1) Yes□ (2) No□ ***(If No, skip number 17 and 18)***
17. If yes to question 16, which meal(s) did you skip? (1) Breakfast□ (2) Lunch□ (3) Dinner□
18. How often do you skip meals? (1) Never (2) Rarely (3) Often/most times (4) Always
19. How often do you eat in between meals in a day? (1) Twice□ (2), 0nce□ (3) Never□ (4)Others (specify) ……
20. What do you eat in between meals? (1) Drinks □ (2) Snacks □ (3) Fruits □ (4) others (specify) ……..
21. When do you eat the lightest meal? (1) Lunch □ (2) Breakfast □ (3) Dinner□
22. When do you normally eat breakfast? (1)Before day's work□ (2)Mid-day after early morning work□ (3)Any period of the morning□ (4)Not applicable□
23. What time do you normally eat lunch? …….
24. What time do you normally eat dinner? ……
25. How often do you eat in restaurants/eateries/fast food joints in a week? (1)Less than 3 times□ (2)Three to five times□ (3)Daily□. (4) Never□.
26. What do you normally eat when you go to the restaurant? ……...
27. What do you normally drink when you go to the restaurant? (1)Water□ (2)Carbonated drink□ (3)Alcohol (4)Others (specify) ……..
28. Do you consume carbonated drinks when you eat? (1) Yes□ (2) No□ ***(If No, skip number 29)***
29. If yes to question 28, how often do you consume carbonated drinks in a week? (1)Less than 3 times□ (2) 3 to 5 times□ (3)Daily□
30. Do you like fatty meat? (1) Yes□ (2) No□
31. How often do you eat vegetables? (1) Daily□ (2) Two to three times a week□. (3) Once a week□. (4) Once in two weeks□. (5) Once in a month□. (6) Never□. (7) Others (specify) …….

32. How often do you eat fruits? (1) Once daily□ (2) Two to three times a week□. (3) Once a week□. (4) Once in two weeks□. (5) Once in a month□. (6) Others (specify) …….
33. Which of these classes of food constitute the bulk of your meal each day? (1) Cereals□ (2) Legumes□ (3) Nuts□ (4) Fruits□ (5) Vegetables□ (6) Diary/Animal product□
34. How often do you take vitamin supplements in a week? (1)Daily□ (2) 3 to5 times a week□ (3)less than 3 times in a week□
35. How many teaspoon(s) of sugar do you normally add to your beverages (tea cup size) including semi-solid food? (1)None□ (2)One spoon□ (3)More than one□
36. Do you add salt to your food after it has being served before eating? (1) Yes□ (2) No□
37. How many glass/litres of water do you take per day (1 sachet of water=50cl, 2 sachet of water=1litre, 2 sachet=3 glasses)? ……..
38. How many times do you consume fried food per week? (1)Daily□ (2)3 to 5 times a week□ (3) less than 3 times a week□ (4) Others (specify) ……..
39. How often do you use condiments while cooking? (1) Always □ (2) Sometimes□ (3) Never □

FACTORS INFLUENCING EATING HABITS

S/N	Question/statements	Yes	No
	Do your friends influence what you eat?		
	Are you afraid of gaining weight when you eat?		
	Do you desist from eating some foods for religious purpose?		
	What I eat is mainly determined by my appetite?		
	I barely have the time and strength to cook by myself.		
	I consider the health implication of food before eating.		
	Do you have difficulty in identifying what variety of food should constitute your meal to make it balanced/adequate diet?		
	Do you avoid foods from other cultures?		
	Does your schedule afford you the time to eat your meals regularly?		
	Can you always afford buying varieties of food for healthy eating?		

50. What determines your choice of food? .....

PERCEIVED HEALTH CONSEQUENCES

S/N	Statements	Agree	Disagree
	What people eat is a major determinant of their health		
	Heart problems and cardiovascular diseases cannot be prevented by healthy eating habits		
	There are no adverse effects associated with eating out in the restaurants always.		
	Unhealthy eating habit exposes an individual to short life span		
	Cancer cases can be reduced by adopting healthy eating habits		
	Healthy eating habits can help boost immunity		
	Quick recovery from illness can be ensured through healthy eating habits		
	Fast foods has high dense caloric content		
	Regular consumption of beverages and carbonated drinks does no harm to the overall health.		
	Heavy appetite and consumption of large quantity of food is a sign of good living		
	The energy given by the food is of utmost importance irrespective of the nutrients it contains.		
	High fat intake can lead to cardiovascular diseases and cancers		
	As young adults/adolescents, what we eat does not significantly affect our body system		
	Constantly skipping meals or having insufficient food intake does not adversely affect the major internal organs in the body		
	Constantly overeating does not adversely affect the major internal organs in the body		
	Over eating can lead to obesity		
	No matter how much I eat, I can't get overweight		
	No matter what food I eat, I can't develop any of the diseases associated to eating pattern.		
	Chronic diseases associated with eating are diseases of the rich only		
	Only old people are affected by diseases associated to eating.		
	Chronic diseases like cancers, diabetes, and high blood pressure are not caused or complicated by what we eat.		
	I feel that at this age, what I eat can no longer have an effect on my growth and development.		

SOURCES OF INFORMATION ON HEALTHY EATING

S/N	Statements	Never	Rarely	Often	Always
	My parents provide me with information on healthy eating.				
	I gather information on healthy eating from my friends				
	I get information on healthy eating from the University organized programs/settings				
	I got information on what constitutes healthy eating from secondary/primary school				
	How often do you obtain information on healthy eating habits from the mass media?				
	I acquire knowledge on healthy eating habits from health organizations..				
	I get information on healthy eating habit from the religious settings				
	I encounter information on healthy eating habit from social clubs/associations.				

78. From the table above which of the sources of healthy eating do you prefer the most? …….

79. What is the most common source of information on healthy eating habit that you access? ……