UNIVERSITY OF EDUCATION, WINNEBA

EATING HABITS OF STUDENTS OF OBRACHIRE SENIOR HIGH SCHOOL

JUSTINA MARIGOLD ASSAN
8130100002

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DECLARATION

Student's Declaration

I, Justina Marigold Assan hereby declare that this thesis with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

Signature: ……..

Date: ……..

Supervisor's Declaration

I hereby declare that, the preparation and presentation of this work was supervised in accordance with the guidelines on supervision of Thesis as laid down by the University of Education, Winneba.

Supervisor's Name: Ms. Comfort Katumi Madah

Signature: ……..

Date: ……..

DEDICATION

This thesis is dedicated to my husband Joseph Assan and my children Ama Amissah Assan, Kobina Gyasi Assan and Abeiku Nhyira Assan for their support and prayers throughout the period of this study.

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ABSTRACT

The study investigated the eating habits of students of Obrachire Senior High School. The objectives were to find out students‟ nutritional knowledge, their food intake, factors that influence their food choices and the effects of their eating habits. A descriptive survey design was used for the study. One hundred and twenty students were randomly selected as respondents. A questionnaire and semi-structured interview guide were used for data collection and was analyzed using SPSS version 19. Results indicated that students‟ nutritional knowledge is low. Students generally had two meals a day especially the day students with majority taking snacks between the main meals. Factors that affected student‟s food choice included: food available, religious and ethnic taboos, food advertisement and money available. Recommendations include; students should be educated on food nutrients and functions, parents should be encouraged to feed students with well balanced meals including fruits and vegetables. Promotion of healthy eating guidelines and messages should become a mass media campaign in order to target large groups, especially adolescents. If students acquire healthy eating habit from home, they will practice it when out of home.

CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter discusses the background of the study, statement of the problem, purpose, objectives, research questions, hypothesis, and significance of the study, delimitation, limitation and organisation of the study.

1.1 Background of the Study

Adolescence is an important growth and development life stage with implications for nutritional status and food consumption habits (Lytle, 2002). Adolescent‟s experience growth spurts associated with rapid physical growth and gain up to 50% of their adult weight and skeletal mass, and more than 20% of their adult height (Rogol et al., 2003). During this period of accelerated growth, the demand for nutrients increases posing a greater risk of nutritional deficiencies. Additionally, the adolescent life stage is a period of increasing independence with respect to food choices and food habits and experimentation with diets which may increase vulnerability to nutritional problems if unhealthy eating behaviours are adopted (Savige et al., 2007).

Adolescence is a period of rapid physical growth which creates an increased demand for energy and nutrients. Healthy eating practices decrease adolescents‟ risk for a number of immediate health problems, such as iron deficiency anaemia, obesity, eating disorder and dental caries, and may prevent long-term health problems such as cancer, stroke, hypertension and osteoporosis (Williams, 1995). Adolescents are tomorrow‟s adults. Looking at the quality and quantity of food consumed by adolescents is a concern because of their growth and development, with future health

linked to their diet. World Health Organisation (WHO, 2005) report called for the development and use of adolescent-specific anthropometric references as one of the sources of data used to define the nutritional status of this group.

Nutritional status is largely influenced by the food intake; this means what is eaten as food forms an important aspect of living as human being. Studies have shown that the concern about nutrition has grown appreciably in recent years, although the level of knowledge about nutrition has not increased by the same degree (Velazquez et al., 2011; Navia, Requejo, Mena & Sobaler, 2003; Croll, Neumark-Sztainer & Story, 2001). These studies have shown relationship between nutrition status and health on schools‟ indicators such as classroom concentration, cognitive functioning, intelligence and performance on selected cognitive tasks including achievement test scores.

Nutrition is one of the most important single factors for the health of the individual or the community, and is consequently a fundamental issue in modern public health (Tulchinsky & Varavikora, 2000). Optimal health is found in good nutrition, eating the right kinds and amount of food with good dietary habits throughout the entire life cycle means healthier bodies and minds, greater vitality and energy, greater resistance to diseases, efficiency and happiness (Dietary Guidelines Advisory Committee, 2010; Tulchinsky & Varavikora, 2000).

Eating habits may change from regular meals prepared at home to irregular meals, skipped meals, poor snacks and fast food meals. Healthy eating is associated with reduced risk for many diseases, including several of the leading causes of death: heart disease, cancer, stroke, and diabetes (Polnary, 2002). Thus, meal skipping which is a common practice among school children and food insufficient, and the subsequent nutrient inadequacy crucially affect children who are in the stage of physical and

psychosocial development and this greatly affect their academic performance in school (Roberts, 2007). Healthy habit according to Edzeameh (2008) are typically characterized by variety of foods, adequate amounts of vitamins and minerals, large amounts of vegetables and fruits, and moderate amounts of fat, hence, deviation from this practice present a problem of special social relevance and effective diagnoses of these contrary eating habits which constitute social and educational priority.

Eating patterns are frequently erratic in adolescents and might predispose them to some nutritional problems such as obesity or micronutrient deficiencies. Problems related to nutrition that originate earlier in life can track into adulthood. They can also be corrected if current ones can be addressed, so nutrition-related chronic diseases in adulthood can then be prevented (WHO, 1997). Therefore, up to date information is necessary about health and nutrition, and this has to start at young age; the report as well called for policies and regulations at a country level to improve adolescent nutrition (WHO, 2005).

Food choices of adolescents have attracted the interest of many professionals, including nutritionists, dieticians and food marketers. Many countries have considered eating behaviours and dietary choices of adolescents in their programmes when promoting healthy eating (BMA, 2003). The food choice and behaviours of adolescents are influenced by different factors, including food availability, peer and parental influences, cost, convenience, individual beliefs, mass media and body size satisfaction (Story et al., 2005). Theories and models that are relevant to understanding food choice behaviour of adolescents could potentially have implications for attempts at dietary change (Shepherd & Raats, 2006).

Adolescents have been found to have the highest prevalence of any age group of an unsatisfactory nutritional status (Polnary, 2002). Most adolescents consider

themselves to be generally healthy. However, studies reveal a number of widespread health problems among male and female adolescents. A major finding since most people believed that the schools were supplying nutritional information to children (Bordi et al., 2005).

1.2 Statement of the Problem

From observation made on students of Obrachire Senior High School like most adolescents consume a lot of sugar-sweetened foods which is not very good for their growth and academic development.

Good nutrition is of prime importance in the attainment of normal growth and maintenance of health throughout life. Adolescents need adequate and appropriate quality food to meet the nutrient requirement for their physical and mental growth in their early life. Nutrition is an essential component of total adolescents‟ health care, thus, changes occurring during adolescence can cause crisis in the nutritional needs. The consequence of poor snacking, usually on energy-dense, but otherwise poor-nutrient items; meal skipping; irregular eating patterns; and a wide use of fast food for meals and snacks contribute to adolescent poor development, poor health and affect academic performance. These food habits may also apply in varying degrees to adolescents in other parts of the world for which adolescents in Ghana are no exception. Other eating behaviours generally recognized as common among adolescents are eating away from home, low intake of fruits and vegetables, and in some instances, of dairy products as well; and weight concerns leading to faulty dieting practices (Whitney & Rolfes, 2008).

Thus, the quest for solutions to these problems is the reason this research investigates the eating habits of students of Obrachire Senior High School in the Central Region of Ghana.

1.3 Purpose of the Study

The purpose of the study was to investigate the eating habits of students of Obrachire Senior High School in Awutu-Senya District located in the central region of Ghana.

1.4 Objectives of the Study

The objectives of this study are:

i. Examine nutritional knowledge of students of Obrachire Senior High School.
ii. Investigate eating patterns and food intakes of students of Obrachire Senior High School.
iii. Investigate the eating habits and factors affecting students‟ choice of food at Obrachire Senior High School.
iv. Find out the effects of poor eating habits on students of Obrachire Senior High Technical School.

1.5 Research Questions

The study seeks to find answers to the following questions:

i. What is the nutritional knowledge of students of Obrachire Senior High School in Awutu-Senya District?
ii. What are the eating patterns and food intakes among students of Obrachire Senior High School in Awutu-Senya District?

iii. What eating habits and factors affect the choice of food among students of Obrachire Senior High School in Awutu-Senya District?

iv. What are the effects of poor eating habits on students of Obrachire Senior High School?

1.6 Significance of the Study

Poor eating habits are an important public health issue that has large health and economic implications. Many food preferences are established early, but because people make more and more independent eating decisions as they move through adolescence, the transition to the independent living during university days is an important event. The study was to investigate factors that influence food habits among students in Obrachire Senior High Technical School and the sources of information on eating habits with the view of establishing the predominant information source. The information on eating habits information source is deemed necessary because it will help to establish the adequacy of eating habits information available to meal planners. More importantly, it will equip students in making the right food choices. To meal planners, the information will help them plan and prepare more balanced meals to meet the nutritional requirements of the students as well as their physiological, social, psychological and cultural needs.

1.7 Delimitation of the Study

The study was limited to students of Obrachire Senior High Technical School only, both day and boarding students. The majority of the students are day students (the students are not housed in boarding facilities) and they are exposed to different foods both at home and on the street or food joints. This in effect has either positive or negative effect on them.

1.8 Limitation of the Study

Eating habits are influenced by many factors such as the quest for independence and acceptance by peers, increased mobility, greater time spent at school, preoccupation with self-image, routine, marketing, cultural and social issues, high availability of foods, gender, self-concept, and personality etc. However, in the study, the focus is to determine the eating pattern/habits and some of the factors that influence eating habits. Faking of responses was a major threat when questionnaires are used to collect data. The generalization of the results of this study might, therefore, suffer some setbacks since some students may appear to have given socially acceptable responses to the questionnaire items. This situation has the potential to affect the conclusions drawn from the results of the study since the information provided might not be representative enough of the realities on the ground.

1.9 Organisation of the Study

The study is organized in six chapters: chapter one focuses on the introduction which consists of background to the study; statement of the problem; purpose; objectives; research questions and hypothesis; the significance of the study; delimitations and limitations of the study and organization of the study. Chapter two deals with literature related to the topic and are discussed from the theoretical aspects, sub-variables considered and empirical reviewed discussion. While chapter three presents the methodology for the study which includes discussion on research design, area of study, population, sample and sampling technique, instruments for data collection, validity and reliability of the instruments, field testing of the instruments, data collection procedures, data analysis and ethical considerations. Chapter four presents the data from the study which is presented in tables and figures where

necessary. Chapter five presents a discussion of the findings and chapter six presents the summary, conclusion and recommendations of the study.

1.10 Definition of Terms

Breakfast - a meal eaten in the morning, the first meal of the day.

Dietary Intake - refers to the daily eating patterns of an individual, including specific foods and calories consumed and relative quantities.

Eating Behaviour – (interchangeably used as eating habit) the act of consuming food.

Eating Habits (interchangeably as eating behaviour) - refers to why and how people eat, which foods they eat, and with whom they eat, as well as the ways people obtain, store, use, and discard food.

Food Fad – a diet that is popular for a time without being a standard dietary recommendation.

Food Choice - the type of foods that a person chooses to eat, based on factors such as level of hunger, the appearance of food and packaging, advertising, nutritional education and personal health choices.

Lunch - a light meal especially between breakfast and dinner.

Nutritional Status - refers to the availability of nutrients and calories in the individual's diet compared to nutrition recommendations for the individual's age group and overall health status.

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

The chapter discusses related literature relevant to eating habits and effect on adolescents‟ nutritional status. Thus, the review is based on literature from published journals, articles, periodicals, textbooks, workshops, seminars and conference proceedings published. This chapter discusses the relevant related literature under the following sub-headings:

2.1 Theoretical Framework of Food Choices

Theories that are relevant to understanding food choices and eating behaviours of adolescents could potentially have implications for attempts at dietary change. Theories are also important to understand what obstacles, there might be to affect such changes. The importance of using a theory to make dietary recommendations to adolescents has been recognised by research. Story et al. (2002) suggest that the development of effective strategies for improving the dietary behaviours of young people requires an understanding of the multiple factors that influence these behaviours.

Genetic predispositions such as the preferences for a particular type of food and its taste and the tendency to reject new foods were referred to as social contexts of eating such as eating food with friends and families (Woodruff et al., 2010). Food preferences are learned via people‟s experience with food and eating, and this depends on the food that is made available and accessible and emphasizes the critical role played by the food environment in determining the adequacy of diets (Birch, 1999). The increased emphasis of research on the significance of environmental and

structural factors explaining food choice and eating behaviours of children and adolescents has initiated actions on more than one level (Larson & Story, 2009).

Factors related to environmental levels such as social, physical and macro-systems and factors related to personal behaviours were identified as important for food choices and eating behaviours of adolescents. Story et al. (2002) concluded that some of these influence food choices throughout life. In addition, other influences that include developmental, e.g. rapid physical growth are exclusively associated with this age group. The same authors suggested that other researchers when conducting prospective research should consider the possibility that these factors interact with each other, thereby indirectly affecting young people‟s food preferences and behaviours. They also recommended researchers should not study factors at each level separately.

Models of eating behaviours have been developed because of the increased awareness of researchers that the etiology of many health problems facing adolescents are influenced by a myriad of diverse causative or associated factors existing at multiple levels of analysis. Story et al. (2002) developed a conceptual model of multiple factors that influence eating behaviours of adolescents. The model depicts three interacting levels of influences that affect adolescent eating behaviours: personal or individual, environmental, and macro-systems.

Investigating dietary habits and behaviours during the adolescent years offers challenges depending on the multilevel factors that influence the food choice of adolescents (Story et al., 2002). For adolescents, a number of individual factors may influence food choice such as psychosocial (e.g. food preferences, taste and sensory perceptions of food, health and nutrition, meanings of food, self-efficacy and knowledge), biological and lifestyle factors. According to Story et al. (2002), the most

influential social environmental influences are the family and peers. The physical environment (e.g. schools and fast-food restaurants) in the community has a major impact on the dietary behaviour of adolescents, influencing, for instance, food availability and perceived norms. Some of the major macro system influences in society as a whole includes the media, cultural and social norms and food production systems.

2.2 Model of Eating Habits

The achievement of eating habits is a complex process that involves many factors across different backgrounds (Story et al., 2008). A theoretical framework can be used to understand the multiple factors related to personal behaviours and environments that influence eating behaviours of adolescents (Story et al., 2002). As described by Story et al. (2008), the proposed theoretical framework is based on Social Cognitive Theory and an ecological perspective. The basic principle of the ecological systems theory is that individuals and their environment have a dynamic interaction and relational nature (Laustsen, 2006; Davison & Birch, 2001).

Ecological models of health behaviour in general focus on individual influences such as physical activity and sedentary activity, as well as on social such as family meals and environmental factors (such as access to food). These factors may affect individual behaviour either positively or negatively (Sallis & Owen, 1996). Story and her colleagues have also recommended the model to be used when guiding interventions (Story et al., 2008). The model also highlights factors at different levels that influence health and nutrition, adolescents and their environments (Story et al., 2008). According to the same authors, individual-level factors include cognitions, behaviour, biological and demographic factors. As described by the same authors,

environmental factors include the immediate social environment such as family, friends and peer networks, and other factors such as school, fast-food outlets and social and cultural norms are related to the physical environment. Food production and marketing, mass media and advertising in addition to food distribution systems, policies and laws that regulate food-related issues, such as pricing are factors that are related to macro-level environments. The same model also includes other factors that relate to social norms, agriculture policies and economic price structures. According to Story"s model, although macro-systems or societal influences play a more direct and indirect role in determining eating behaviours, they are considered as one of the multiple factors that have been identified as important for young people"s food choices.

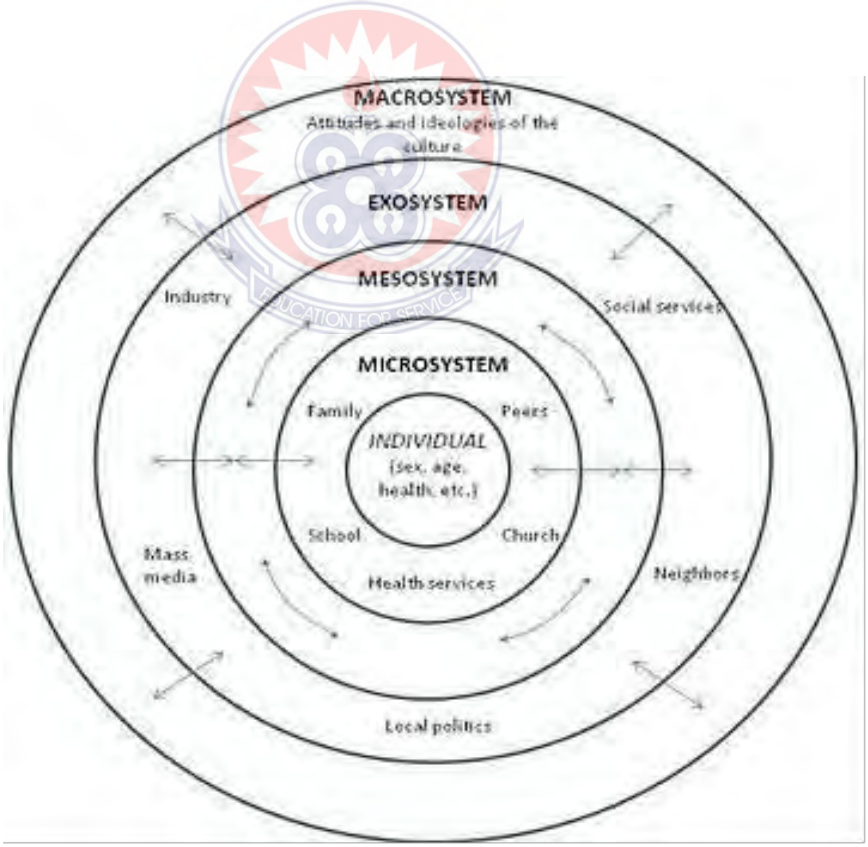

Figure 2.1: A theoretical framework depicting the multiple influences on food choice

Source: Story, 2008

2.3 Eating Habits

Rodriquez (2011) refers to eating habits as why and how people eat, which foods they eat and with whom they eat as well as the ways people obtain, store, use and discard food. De Chesare (2007) commented that, the usual habit of a banker is to skip breakfast altogether, get a take out for lunch and then eat a huge dinner. Contrarily, Isalker (2012) thinks that bankers have a regular food habit but they sit in one place for hours which increases their risk of contracting diseases like piles and constipation.

Nobble (2014) use the term 'Food habit' to refer to eating habits, which he describes as the way a group of people select, prepare and serve food as well as the number of times meals are eaten in the day. It is the attitude and reaction of individuals towards food on a regular basis, it may be good or bad. Once a food habit is formed, it is difficult to change (Nobble, 2014). Thus, eating habits consist of the patterns an individual maintains in regards to when, what, and how much (too much or too little) food is consumed.

2.4 Factors that Influence the Formation of Eating Habits

Every person cites different reasons for their eating choices and this often changes as a person matures and faces different health issues and influences (Rose, 2010). Another viewpoint from Rodriquez (2011) outlined other significant influences on food choices such as cultural factors, social, religious, economic, environmental and political influences. He concluded that eating habits are thus the result of both external factors and internal factors which when formed may change over a person's lifetime.

Thompson and Noel (2016) also added that social factors which include family and peer pressure play an important role in our food habits. They show that people in a social group will influence each other's behaviours and values. They also share a common culture. A person's membership in particular peer, work, or community group impacts food behaviours. For example, we live with our family since we were born. It is easy for us to follow our family's food habits and culture when we were small. So, it is difficult for us to change our habits even if is bad. That's why our food habits and culture cannot easily change. It's a heritage we inherit from our ancestor (Thompson & Noel, 2016).

According to Brown (2008), factors affecting food selection and dietary quality are food preferences (taste, smell, colour, texture, hereditary and familiarity); culture (customs, food symbolism, religious beliefs, acceptable foods); nutrition knowledge and beliefs (health concerns, nutritional value, education, experience, attitude and beliefs) and practical considerations (food cost, convenience, hunger, availability and health status). She concluded that food choices are largely learned and do change as we learn more about foods but nutrition knowledge, attitudes and values have a lot to do with changing food choices.

Nobble (2014, p.23) enumerated certain factors that influence the food habit of people to include foreign influences, economic religious beliefs, technological advancement, superstitions and number of meals eaten a day. One can conclude that both Brown (2008) and Nobble (2014) share similarities in what they believe are the factors that determine the food habits of individuals or groups of people. Beyond this, Nobble (2014) added that family customs and values are the most influencing factors of people's food choices: the food customs of one's ancestors, grandparents and parents have influenced the type of food families now serve. Food customs within a

family are part of the eating habits taught to young ones. At an early age, children learn to eat what their families serve, and values are things which people cherish in life, they are worth doing and important. For example, people who value their appearances and health are likely to be interested in their diet, they select food that they believe will help them to be most attractive or strong. Some people place a high priority on time. They are prepared to buy convenience foods to save time, even though they sometimes cost more than preparing meals from scratch with raw ingredients. Some people value flavour and therefore buy certain brands of food regardless of their price (Nobble, 2014, p.24).

According to Sarkodie (2009), food choices are related to actual selection of food which is often determined by food habits. He also outlined a number of factors influencing individuals' choice of food similar to that of Nobble (2014), such as family customs, values, emotions, geographical location, advertisement, food taboos, fads and fallacies, religion and technological advancement.

2.4.1 Family custom

Sarkodie (2009) is of the view that, the food custom of one's ancestors has an influence on the type of food families now serve. The food customs within a family are part of the eating habits taught to young ones. At an early age, children learn to eat what their family serves. In this regard, William, Harold and Bunny (2010) observed that, people belonging to the same ethnic group or specific cultures have their own food customs and as cultural groups developed over the ages, they form their own living pattern which included food customs. These customs helped to differentiate between ethnic groups and give each their sense of identity and belongingness.

Patterns of eating are established early in life and evidence has shown that, people tend to prefer the types of food they learned to eat when young. Food selection and eating habits may be influenced greatly by the meals served in the home during the growing up years. William et al. (2010) also of the opinion that, someone who is not hungry may eat a piece of cake that has been baked in his honour and eating according to learned behaviour and in relation to etiquettes, meals, snack patterns, acceptable foods, food combinations and portion sizes.

2.4.2 Family and cultural values

Values are things we cherish in life which are worth doing and very important. Through a slow process of conscious and unconscious learning, individuals take on their cultural value, attitude, cooking and eating habits and other practices of storing, preserving and preparation of foods through the influence of parents, teachers and others. From observation among the Ewe ethnic group of Ghana, cereals and grains are highly valued since these are their main staple. Therefore, during harvesting, preservation and preparing of cereal foods, such as beans, maize and cassava, a lot of care is taken not to adulterate the indigenous taste of such foods. Sarkodie (2009) is of the view that, people who value their appearance and health are likely to be interested in their diet thereby select foods that they believe will help them to be more attractive and strong. Others also believe all claims made by food faddist by spending huge sums of money on special food supplements because they value health and are convinced that it will make them healthier. Some persons who are overweight and value their appearance limit their food choices to low caloric foods. People value their work more than health therefore because of their busy work schedules they skip their meals (Boateng, 2013). This may be rather endangering their health because they

refuse to eat. He continued that some people place high priority on time thus prefer to buy convenience foods to save time, even though it sometimes cost more than preparing the meal from the scratch using raw ingredients. He added that, others also value flavours and buy certain brand of foods regardless of their prices.

2.4.3 Culture

According to Sarkodie (2009), cultural beliefs and superstitions have influence on food habits of some people. Some foods are considered as deity therefore cannot be eaten. Others also consider certain foods as dirty whilst others consider these foods as delicacies. For example, among the Krobo's in the Eastern Region of Ghana and the people of Adaklu in the Volta Region of Ghana, snails are forbidden whilst snails are considered as delicacies among the Asante's.

Adigbo and Madah (2010) also opined that, groups in specific cultures may determine what the people could and could not eat, how food was to be prepared and when it could be eaten. In most African countries, the head of the family gets more of the food, especially protein rich food and the children get the least. These cultural practices could be carried over to wherever the people go and no matter what happens, they would still want to eat their traditional foods. Ghanaians in Britain would still want to eat foods like „fufu" and „banku" even though these foods would be expensive there.

William et al. (2010) share the opinion that, a cultural group provides guidelines regarding acceptable foods, food combinations, eating patterns and eating behaviours. Compliance with the guidelines creates a sense of identity and belongings for the individual. Within a large group sub groups exist that may practice variations of the group's eating behaviour though they are still considered as part of the larger

group. For example, hamburger, French fries and soda are considered as a typical food habit largely established during childhood.

When people leave their families and native lands to go to other areas, they take with them the food traditions they have known since childhood. Changes in food habits are also motivated by moral, social desirability, scientific sanctions or forces. Immigrants bring food traditions with them since familiar foods give them a sense of security. However as two different cultures comes together, intercultural influence is expected especially in schools where students tend to adulterate their choices of food. When people are in a village or in their own localities, they are often under strict cultural rules and norms but free when they are outside their cultural sitting. On the other hand, people keep to their cultural food habits because they may be living with people of the same ethnic group since food habits when established are difficult to change William et al. (2010). This shows that, a group of people who find themselves in another location would still keep faith with their cultural beliefs about the consumption of food. People with the status of being able to go on holiday celebrate with foods unique to their family and traditions.

2.4.4 Peer influence

Sarkodie (2009) states that, food fads are practices about foods engaged in by people for a relatively short period which may have adverse effect on their health. Food fallacies also influence food choices making people to have wrong opinion about the role of certain food nutrients in the body. This may contribute to high rate of malnutrition especially among children. Food habits are developed from other social groupings that the child may belong to (friends, school, church and later clubs, societies and profession) influence his or her food habits. William et al. (2010) are of

the view that, members of a social group depend on each other, share common culture and influences each other's behaviour and values. A person's membership in a particular peer, work or community group impacts food behaviours. According to them, a young person in a basketball club may eat certain foods when accompanied by friends and by his or her Teacher. Adigbo and Madah (2010) are of view that, adolescents often eat away from home therefore they do not follow family food patterns. Peer pressure may influence the eating of certain foods and following certain food fads.

2.4.5 Availability of food in season

Sarkodie (2009) indicated that, the climatic condition of a place determines the type of food that can be cultivated. He continued that the climate in Ashanti and Brong - Ahafo Regions of Ghana makes it possible to grow plantain, cassava, palm fruits, maize cocoyam etc. whilst the climate in the Northern part of Ghana being dry, it is possible to grow guinea corn, maize, millet, groundnuts etc. and that people in these areas will choose what is available to them. People in the Ashantis and Brong - Ahafo Regions of Ghana build their foods around the starchy roots and plantain, which are prepared into “fufu”, served with soup and “ampesi”. The people along the coast in Southern Ghana such as the Fantes and the Ga's prefer the “kenkey” and “banku”. The Frafra and the Dagombas eat “tuo –zaaf” prepared from their staples. Those in the Volta Region prefer to eat their “akple” made from cassava and maize and okro soups which is their staple (Sarkodie, 2009).

Physically availability of food in the environment and cultural availability are the two main concepts here. Physical availability depends on the kinds of food attainable in a specific part of the world in which the individual or family lives. The

productivity of the land, the climate and the agricultural technology are the most important factors. The regional, climate and the fertility of the land shows what can be produced in areas and thus its availability for consumption. William et al. (2010) are also of the opinion that the influence of the environment on food habits derives a composite of ecological and social factors. Foods that are commonly and easily grown within a specific region frequently become part of the local cuisine. William et al. (2010), are also of the view that modern transportation, agricultural practices and preservation methods have increased the availability of many foods that were previously available only in certain seasons or in specific areas are now available almost anywhere any time. Sarkodie (2009) observed that, food preservation methods have improved due to advanced technology in recent times. This has given the opportunity to Ghanaians to enjoy properly packaged foods such as canned foods, bottled foods, plastics and paper packaged foods that are manufactured within the country and are imported from other countries. Changes are also stimulated by physical circumstances such as pressure for time, crop failures leading to lowering the economic status of individual, groups or nation.

William et al. (2010) again express their view that, politics influences availability of food trends. Foods laws and trade agreement affect what is available within and across countries and also affect food prices. Food labeling laws determine what consumers know about the food they purchase. Adigbo and Madah (2010) also state that, government policies may affect the types of food imported and how cheap or expensive these foods are e.g. rice, wheat, and oats among others.

Again family income, community source of income, food market conditions influences food choices and ultimately eating habits. People would eat foods that are readily available to them, culturally accepted by people who have always lived in that

area. Money can be said to be a primary determinant of food availability since people can eat what they can afford or choose to afford. Sarkodie (2009) is of the view that, the income of any group of people determines the food they choose and their eating habits. People skip meals due to lack of money to buy the food Boateng (2012). The affluent in the society tends to eat more meat, fish, eggs, milk and its products. The poor build their meals around the cereals, the starchy roots and plantain which are cheaper. Adigbo and Madah (2010) also argues that, the foods chosen by the rich are often expensive and eaten in elegant ways and foods chosen by the poor are simple inexpensive, meager and monotonous. The food patterns of country are molded by its agricultural resources, technical progress and power and cultural patterns. According to them, food habits have been influenced by contact with the outside world. Eating of confectionaries such as toffees, chocolates, chewing gums, cakes biscuits and bread, coffee, tea and cocoa beverages by Ghanaians is as a result of contact with the European culture through education. William et al. (2010), however stated that money, values and consumer skills all affect the kinds of food a person purchases. The price of food however is not an indicator of its nutritional value. Cost is a complex combination of availability, status and demand.

2.4.6 Religious beliefs

Food plays a vital role in many religious rituals. According to Sarkodie (2009) some religions prohibit certain foods either partially or completely on certain periods. The Islamic religion and Judaism forbids its members from eating pork and Islam also calls for the slaughtering of animals according to certain rituals before that meat can be considered clean to eat. Muslims in celebrating the death of prophet Mohammed only eat meat that has been prepared according to Muslim customs by “halat” butcher

and after the celebration would eat meat unless he or she is sure that the animal was slaughtered by a person of his or her religion. Orthodox law of Judaism prohibits intake of milk and meat at the same meal or even prepared or served in the same cooking utensil. The Catholic Church also prohibits its members from eating meat during the lent. Some other religious groups also believe that good health can only be obtained if the right kinds of food are eaten and getting proper exercise and adequate rest. Therefore, they become lacto-vegetarians thus depend solely on fruits, vegetables, cereals and eggs but not meat and fish according to Sarkodie (2009). However, William et al. (2010) who shares similar view also states that religious prescriptions range from a few to many, to relax to highly restrictive. This affects follower's food choices and behaviour. Also with Christianity, the Seventh Day Adventist discourages the use of stimulating beverages such as alcohol which is not forbidden among some other groups.

2.4.7 Advertisement

The issue of modernization through advertisement of foods is a great concern to all since it affects the nutritional choices of adolescents. Advertisement is one of the greatest influences on food choices. In Ghana, advertisements are carried on billboards, poster on walls, in journals and newspapers, on radio, television, through internet, at lorry stations in buses and on pavements along the streets and also in mobile vans. The message we hear influences us both negatively and positively. Some of the advertisements bring some knowledge about the importance of some nutritional elements such as vitamins and minerals in foods. However, some of the advertisements are known to be misleading thus providing inaccurate information. Visual and hearing messages are very powerful as they appeal to our subconscious

especially if it is carried out by significant persons in the society who serve as role models to people in the society (Letsa, 2012). For instance, an advertisement made by Coca Cola Company Limited may be misleading. A billboard of two ladies eating a nice meal with a bottle of coke beside it is implying that, to have an interesting meal, add a bottle of coke. The fact is that combining this with a meal will make the individual consume more calories thereby predisposes the individual to obesity and its related diseases (Sackey, 2007). Therefore, the wise consumer must critically examine some of these adverts before accepting them.

2.4.8 Modernization

These days, differences in family lifestyle have so much influence on the eating habit of the adolecents. A lot of food preferences are developed within the family and accepting or rejecting what is served or valued by family members influences the food choices and eating rejecting what is served or valued by family members influences the food choices and eating habits of individuals. Again because the mother of the home must also go to work, therefore a wife as the purchaser of food items has changed. Fathers and sons now go out to shop may have the chance of selecting and preparing food that the family eats together. Pattern of eating styles have also been altered, breakfast is omitted or self -prepared and in addition the foods eaten away from home has a critical influence on an individual's nutritional and food habits (Boateng, 2013). In social situations when eating as group, more often people forget about the quality of the food they are eating, especially if they are drinking as well. They consume more high fatty and sugary foods. The availability of convenience fast food encourages people to eat more food on the go. The fast food joint not only

function as convenience but also a trigger and promotes excess food intake and high fat and energy food intake and if accompanied by inactivity, weight gain is assured.

2.4.9 Economic status and education

Sarkodie (2009) observes that, the income of any group of people determines the food they choose and their eating habits. The affluent in the society tends to eat more meat, eggs, fish, milk and its products. The poor build their meals around the cereals, starchy roots and plantain which are cheaper. Adigbo and Madah (2010) are also of the opinion that richest people in our society may want to eat expensive foods while the poor man's meal is usually simple and inexpensive. William et al. (2010) is also of the opinion that money, values and consumers' skills determine the kinds of food an individual buys and use. However, the cost of food is not an indicator of its nutritional value. Cost of food is a complex combination of availability, status and demand.

The more educated people are, the more knowledgeable they are about the nutrition, and the more attention they pay to their diet. This is because knowledge about nutrition and health does not lead to direct action when individuals are not sure about to apply their knowledge. Furthermore, information dissemination on nutrition comes from a variety of sources and is viewed as conflicting or is mistrusted which discourage motivation to change.

2.5 Quality Eating Habits

According to Wardlaw and Kessel (2002), although good eating habits cannot be substituted for physical training and generic endowment, proper diet choices are actually crucial to top- notch performances, which contribute to endurance and helps speed up the repair of tissues. The best eating plan for active living should follow a

balanced diet which can supply all the needed nutrients. Mader (2005) describes quality-eating habit as the process of adhering to eating a low fat and sugar diet in addition to regular exercise which would help prevent diseases. Insel, Walton and Roth (2004) also argues that, a sensible eating habit with regular exercise would promote long term good health and fitness which would enable people to enjoy and feel their best in life.

A good eating habit should include the combination of all food groups. This is the principle of great importance and it is a preventive measure in the management of sickness (Nelson, 2004).

Moshfegh et al. (2005) ascertains that eating of dark leafy vegetables helps in good blood clotting. Furthermore, eating fatty foods promote satiety which suppresses hunger quickly. Sizer and Whitney (2008) have stated that, the body renews its structure continuously and build each day a little muscle bone, skin and blood and replacing old tissues with new ones. The best food for humans is the kind that supports the growth and maintenance of the muscle, healthy bone, skin, sufficient blood and nutrients and enough water. If the food one eats provide too little or too much nutrients, then by the time one is old one may suffer from severe disease (Begum, 2010).

High starch and sugary foods consumption habits make better use of the world's resources as they are cheaper source compared to animal foods. An eating habit of skipping food intake is not the best way to lose weight and change body composition. However, the amount of food intake is considered by most experts to be an important component of a sound and fat loss programme (Muller, Mast, Asbeck, Langnase & Grund, 2001).

2.6 Eating Habits in Adolescents

Hanson (2007) describes that habit is something a person learns to do over and over again without thinking about how to do it. However some peoples' bad food eating habits make them overweight and it subjects their bodies to strain. It is stressed that faulty food intake is connected with many of the illnesses that are common today, some of which are diabetes, anemia, heart disorders, dental decay, stroke, raised blood cholesterol, obesity, high blood pressure and constipation.

According to Smith and Lifshiftz (1999), eating habits refer to why and how people eat, which foods they eat, and with whom they eat, as well as the ways people obtain, store, use, and discard food. Everybody eats to survive. People eat according to learned behaviours regarding etiquette, meal and snack patterns, acceptable foods, food combinations, and portion sizes.

According to Shaw (1998), the components of a meal vary across cultures, but generally include grains, such as rice; meat or a meat substitute, such as fish; or beans and accompaniments, such as vegetables. Various food guides provide suggestions on foods to eat, portion sizes, and daily intake. However, personal preferences, habits, family customs, social setting, and other factors largely determine what a person consumes. Eating habits are generally formed right from childhood through to the adolescent years Schoenhals (2005). The period of adolescence is very crucial, involving a variety of physiological and psychological changes that usually affect dietary needs and eating habits (Schoenhals, 2005). Hence they tend to have particular food choices and eating habits compared with younger children and adults (Kaplan, 2004).

Snacking is a common eating habit found in adolescent's daily meal intake. A survey conducted in South Africa in 2007, showed 34% to 45% of school teenagers

skipped breakfast at least four days in a week, almost half reported eating three snacks a day, 60% of this food being high in fat but otherwise low in nutritional quality (Schoenhals, 2005). It may be difficult for western adolescents to have a balanced diet, considering that snacking represents an increasing part of their food intake, and that the most popular and widely available snacks are high in sugar or in fat (Bull, 2002). Fast-food attraction was shown to be very strong among adolescents, but mainly among the youngest, the boys, and the foreign (Tull, 1996).

Adolescents with huge appetites are most poorly nourished groups. They have the characteristics of skipping meals especially breakfast and snack frequently on foods high in sugar and fats and prone to fad dieting (Tull, 1996). For fear of excessive weight gain some young girls limit their energy intake hence restricting their available foods options. They lack sufficient knowledge to make healthy food choices. Primary food choice criteria are mostly taste, familiarity/habit, health, dieting, and willingness. The food choice process involved personal food decision making rules such as trade-offs among choice criteria within a meal (e.g., taste for core items and health for secondary items), and between lunches with peers (taste) and family dinners (health); negotiation patterns with the family (autonomy versus family needs); and interactions with peers. However, the food choice processes for most adolescents involve cognitive self-regulation where conflicting values for food choices were integrated and brought into alignment with desired consequences.

Adolescent girls may be even more at risk of inadequate intakes for various reasons: dieting, discrimination, early pregnancy and lower energy intake than boys. Yet, girls usually have better eating habits than boys and they are more concerned about healthy eating (Schoenhals, 2005) when they can exert their choice, and provided dieting does not interfere.

Based on School Health Survey conducted by Vance (2009), it was observed that adolescents who obtained breakfast and lunch foods from sources other than home or school were more likely to consume high-fat, low nutrient dense snacks, as well as dieting over the previous year. In Australian adolescents', inadequate consumption of fruits, vegetables and dairy products were observed (Schoenhals, 2005). In the USA, it was found by Johnson (1995) that adolescents frequently had intakes of vitamin A, vitamin E, calcium, magnesium and zinc below recommended levels. Females also had low intake levels of phosphorus and iron. At the same time, diets were high in some nutrients related to increased risk of chronic disease (total fat, saturated fat, sodium). Female adolescents were considered to have higher risk of inadequate intakes of micronutrients owing to a lower intake of foods than males; and would therefore need to make careful food selections.

These survey findings provide a unique opportunity to assess the prevalence of nutrition-related items in a large and diverse adolescent population, and to examine their relationship with a range of socio-demographic, psychosocial, and other health-promoting and health compromising behaviours. Major concerns identified included the high rate of inadequate consumption of fruits, vegetables and dairy products, unhealthy weight-control practices and overweight. Inadequate consumption of fruits and vegetables was more widespread in adolescents from low socioeconomic backgrounds (Vance, 2009). American Indians were at greatest risk of inadequate fruit consumption, and African Americans of inadequate vegetable consumption (Story & Neumark-Sztainer, 2005). Psychosocial correlates of inadequate consumption included low family connectedness, weight dissatisfaction, and poor academic achievement. In another study, girls were more likely to have eaten fruit and vegetables the previous day, and less likely to have eaten high-fat meat and snacks

than boys (Story & Neumark-Sztainer, 2005). It is observed that the busy lifestyle of today's families often results in adolescents skipping meals or relying on snack foods for basic nutrition.

2.7 Basic Meal Patterns of Adolescents

Bender and Remancus (2000) wrote that eating as a necessity has become a means of developing social relationships. So the need and preference of people eating together should be considered. Kelder, Perry, Klepp, and Lytle (1994) are of the view that meal pattern with breakfast as the first meal of the day should be nourishing and digestible and should include fruits, cereals, fish or meat, vegetables, carbohydrate foods, fat and oil with a drink. According to Kaplan (2004) to stay healthy, breakfast eaten daily should make the body feel full, promote proper metabolic function and a key for managing proper weight. The American Dietetic Association (2002) cited in Hanson (2007) stated that, starting the day by eating breakfast can actually help people lose weight or maintain their weight better.

Tull (1996) is of the view that, lunch or mid-day meal is a meal pattern which should include meat, fish, legumes, vegetables, fats and oils, fruits, animal products, cereals and grains. The last meal of the day or supper may take the form of a full meal or as a hot drink with biscuit. In addition to this, an appetizer is a small portion of food served at the start of eating. It could be an easy soup or vegetables. Tull (1996) lists the following as preferable snacks in-between the main three meal pattern of the day: fresh fruits, raw vegetables, example carrots, yogurt, sandwiches, milk shakes, fruit juice and water.

Supper provides a significant proportion of daily energy and nutrient requirements. Traditionally dinner has also been the meal most families have together.

Family meals still seem a reasonably regular activity for most Ghanaian children. In the 2007 Ministry of Health indicated that nearly all (98%) of parents and caregivers said their children sometimes had their main meal sitting down with the rest of the family. In a national survey of secondary school students, just over half of students reported that their family ate meals together on five or more days of the week (Ministry of Health, 2007). In the same study, 42 percent of Ghanaian secondary school students had eaten a family meal on all of the previous five school nights and a further 30 percent had eaten a family meal on three to four of the previous five school nights (Ministry of Health, 2007). According to Kaplan (2004) the main dish is the protein food in a meal and side dishes are complements to main dishes such as vegetable salad, bread or pasta. He also said that a healthy beverage in a diet includes, milk and juices. Again Kelder, Perry, Klepp, and Lytle (1994) view carbohydrate dishes added to main dishes as accompaniments.

Cutting across eating habits and food consumption pattern regardless of their origin are likes and dislikes for individual foods. If personal preferences are strong enough to affect food selection they may also determine the nutritional adequacy of a diet. It is therefore important for the individual to understand the forces that influence his attitude towards food. Uddoh (1980) reported that the frequency of eating varies from once a day to three times a day.

Some adolescents may eat once a day probably for convenience but this habit is acquired from childhood. According to Birch, Johnson, and Fisher (1995), work pleasures and other demands often place a distance between man and his food. For instance, farmers who get up very early in the morning and travel long distances over their farms may not have time to eat until the afternoon when they will consume large amount of food.

Most people eat three times daily but take light refreshment between meals. According to Martin (1971) multiple snacks in a day can have a disrupting effect on desirable foods. Birch, Johnson and Fisher (1995) also mentioned that cultural and group influence determines not only what foods are eaten but they also determine the meal pattern, the number of meals in a day and the method of eating.

Gunda (2003) reported that, in the study of eating habits there are often two objectives; to ascertain in dietary adequacy of a group of people; and to determine which socio-cultural factors influence dietary behaviour. These objectives are combined by researchers in dietary data to calculate a variable, reflecting dietary quality and then used this measure as the dependent variable in subsequent analysis, which relate dietary variable to variation in socio-cultural variables.

Adolescents have huge appetites for food. However they are the most poorly nourished groups. They have the characteristic of skipping meals especially breakfast. In addition they snack frequently on foods high in sugar and fat and are prone to fad dieting (Gunda, 2003). Skipping breakfast may also have an adverse effect on cognitive function (including memory), academic performance, school attendance, psychosocial function and mood in children and young people (Foreman & Cordelia, 2001). They maintain that skipping breakfast tends to be more common among girls than boys.

For fear of excessive weight gain, some young girls limit their energy intake hence restricting their available food options. Many of them skip meals, depriving themselves of sufficient energy intake and other nutrients. They lack sufficient knowledge to make healthy food choices. Their food choices consist primarily of soft drinks, sweets, pastries etc (Kaplan, 2004). Kaplan (2004) adds that to adolescents, what they eat is more important than when or where they eat. Since they seek

opportunity to get out and socialize with friends, they turn to snacking and this is mostly on energy foods.

Moreover, adolescents are likely to eat any type of food at any time of the day. The food choices are only unusual in terms of the time of the day at which they are consumed but they present no threat to health or nutritional status (Williams, 2005). The habit of eating between meals is common in adolescents and it has been observed that they obtain substantial nourishment from foods eaten outside traditional meals. The problem however is their choice of food (Kaplan, 2004).

2.8 Factors that Influence Adolescent Eating Habits Availability of Food

Physical availability of food in the environment and cultural availability are the two main concepts here. Physical availability depends on the kinds of food attainable in a specific part of the world in which the individual or family lives. The productivity of the land, the climate and the agricultural technology are important factors. Regional, climate and fertility of land shows what can be produced in areas and thus its availability for consumption. Ministry of Health (2007) research indicated that in Ghana, the main crops like cassava, maize, cocoyam, plantain and garden eggs grow very well in the Ashanti and Brong Ahafo Regions. The Northern Region being an example of Savannah lands cultivates crops like millet, maize, rice, guinea corn, groundnuts and melon seed. It follows that people in these areas will choose foods that are available to them.

Again, family income, community source of food, market conditions influence food choice and ultimately eating habits. People would eat foods that are readily available to them, culturally accepted by people who have always lived in that area.

Again money can be said to be a primary determinant of food available, people can only eat what they can afford or choose to afford.

Additionally, findings indicate that whoever buys food for the family largely controls food selection for the entire family system. Furthermore, whenever money to be spent on food is limited, more cereals and starchy foods are used than animal foods and fruits or vegetables (Williams, 2005). Poverty may impose constraints on the choice of food. In times of famine food may be available but it may be so expensive that only few people will be able to buy.

Cultural availability has a strong influence on food behaviour. Beliefs and attitudes about food have considerable input. A group of people who find themselves in another location would still keep faith to cultural beliefs about the consumption of food.

2.8.1 Religious beliefs

From early times, ceremonial and religious rites have surrounded certain events and seasons. Arhin (2008) remarks that food gathering, preparation and service have followed specific customs and commemorated special events of religious and national significance and heritage. These sometimes create changes in eating habits. This is especially true when certain foods are not allowed by religious sects. Similarly, Arhin (2008) maintains that strong religious factors associated with food tend to have their origin and reinforcement with food within the family meal circle. For instance, no matter the scarcity of beef in the country the Muslims would refuse to touch pork; neither would they eat animals that have been slaughtered by non-Muslim communities. The fetish would only touch certain food items after specific rites have been performed for fear of going against the beliefs of their gods.

2.8.2 Physiological

According to Williams (2005) hunger is a basic condition or drive felt by individuals when they lack food in the body system. Certain aspects of food also increase the drive to eat. These include its sensory appeal, that is, how it stimulates the senses initially by its appearance and smell, later by its taste. If these things dominate eating habits, there is the probability of overlooking the nutritive values and this can bring about nutritional deficiency diseases.

2.8.3 Social

The study of human group behaviour reveals numerous activities, processes and structures by which social life goes on. Human behaviour can be understood in terms of social phenomena and problems, such as social change, urbanism, rural life, the family, the community, race, relations, delinquency, drugs and crime.

Eating habits in any setting are highly socialized; these habits perform significant social functions. Some of which may not always be evident. First within social relationships, food is a symbol of social acceptance, warmth and friendliness. People tend to accept food more readily from those persons they view as friends or allies. Roberts, McGuinness, Bilton, and Maxwell (1999) stated that people eating in a group are likely to eat better or at least have a wider variety of foods and a more lavish and nutritious meal than people eating alone.

One problem is that, habits that are most closely associated with family sentiments are the most tenacious throughout life. Again, Vance (2009), revealed that food and the way it is presented can be used to express status in society. Those who strive climb the social ladder, advance their economic status and avoid foods of the

poor. An elaborately prepared dish with sauces and garnishes is considered to be superior in status than a simple nutritious food.

2.8.4 Psychological

Vance (2009), mentioned that food is needed to meet an emotional requirement that is for sadness or depression. A lactating mother, eating a meal can give milk to her baby, the baby feels happy and content which leads to a feeling of affection for his mother. However people who have had unhappy experiences connected with eating when they were young may have dislike for food connected with the unpleasantness. Parents may also pass on their likes and dislikes for certain foods and their preference for cooking and serving styles. The mother is especially influential in developing eating habits of their children. Usually, parents attempt to get the children to eat what they believe is good for them.

2.8.5 Culture

Often the most significant thing about a society's culture is what it takes for granted in daily life. Culture has other tenants in addition to all the little habits of everyday living such as preparing and serving food and caring for children, feeding them and lulling them to sleep (Williams, 2005). Through a slow process of conscious and unconscious learning individuals take on their culture's values, attitudes, habits and practices through the influence of parents, teachers and others. Culture usually determines what foods are eaten, as well as meal patterns. Roberts et al., (1999) said that sometimes food is associated with evil and cannot be eaten. Each culture and ethnic group passes on its likes and dislikes through the family system.

At a very young age, each child knows what is considered appropriate food. Children are taught socially accepted behaviour in relation to food. They come to

know the limits of food behaviour and what is accepted behaviour of their culture and the family system. This has resulted from the fact that food habits are among the oldest and most deeply rooted aspects of many cultures and tend to exert deep influence on the behaviour of the people. The cultural and sub cultural background determines what shall be eaten as well as when and how it shall be eaten.

Again, within every culture certain foods are deeply infused with symbolic meaning. Those symbolic foods are related to major life experiences from birth through death and to the religion to politics and to general social organization. Some examples of strict adherence to cultural practices in food habits are as follows.

Immigrants brought food traditions with them since familiar foods gave them a feeling of security. In other instances, it is culturally accepted in some locality that children should not be given meat or eggs because from generations it has been believed that these items make children steal.

Also, a pregnant woman is not supposed to eat snails because if she does, her baby will salivate too much.

In another culture when a fowl is slaughtered, and prepared, the back, gizzard and the liver are given to the man, while the children and their mother share the rest.

According to Roberts et al. (1999) as people move from their native areas to other areas they take with them the food traditions they have known since childhood. However, as two different cultures come together, inter-cultural influence is expected especially in the area of eating habits, these people therefore tend to adulterate their choices of food. This is because when people are in villages or localities, they are often under strict cultural rules and norms but become free when they are outside their cultural setting, this may be changed during education and nutritional requirements.

On the other hand, Arhin (2008) intimates that people keep to their cultural food habits in spite of where they find themselves. This might be due to the fact that they may be living with people of the same ethnic group and also because the habits are difficult to break. However if these customs are strictly adhered to, they can have adverse effects on the health of the individual members in the society.

2.8.6 Modernity

These days, differences in family lifestyles have so much influence on the eating habits of adolescents. Many food preferences are developed within the family. Accepting or rejecting what is served or valued by family members influences individual food choice and eating habits (Kaplan, 2004). For example, if milk and dark green vegetables are not favoured by the family, children will not become accustomed to eating these foods. Economics which involves keeping within the food budget, market knowledge, the quality or grade of food desired, family wishes, time pressures including the saving of time in preparation pressures all affect lifestyle and eating habits.

Furthermore many individuals cannot resist the glowing description of food on television, radio commercials, in magazines, newspapers, on the bus or pavement advertising. Other influences are work and leisure patterns of people and the degree to which authorities are recognized. Reference and peer groups are also influential. If for instance, a famous athlete or entertainer subscribes to or endorses a food item; many young persons may follow the same pattern. Again, these days the wife as a purchaser of food items, has changed, fathers and sons now go out to shop, school-aged teenagers may have the task of selecting and preparing food that the family eats together. Patterns of eating styles have also altered, breakfast is omitted or self-

prepared, and in addition, the food eaten away from home has a critical influence on an individual's nutritional and food habits.

Other habits formation involve the following; in crises situation people face, such as famines, fire, food and widespread diseases, the tremendous emotional stress on victims of such disasters is sometimes associated with food served them at times of these crisis. This may affect their future attitudes toward those foods. Again personal crisis such as the loss of loved one, failure in business, or great strain in personal relations can have strong influence on an individual's food habit. Large quantities of food may be consumed, there may be an urge to return to the food of infancy or childhood for a feeling of security or eating patterns may be altered in other ways to ease the tension. Apart from these, individuals may have other experiences which may equally lead to eating habit formation.

2.8.8 Restaurants and eating out

In social situations when eating as a group, more often than not people forget about the quality of the food they are eating, especially if they are drinking as well. They consume more high-fat foods, such as "fried rice" and high-sugar foods such as cake and ice cream. These fatty foods take a longer period to digest in the human body.

2.8.9 Education

The more educated people are, the more knowledgeable they are about nutrition, and the more attention they pay to their diet. This is because knowledge about health does not lead to direct action when individuals are unsure how to apply their knowledge. Furthermore, information disseminated on nutrition comes from a

variety of sources and is viewed as conflicting or is mistrusted, which discourages motivation to change (Roberts et al., 1999).

2.8.10 Income/occupation

People in higher-ranked position pay more attention to their eating and can also afford to eat in better places with better food. However, these people are more socially involved and therefore as a group they drink alcohol more often and in larger amounts. Their fast-paced jobs do not allow them time to cook each meal, so they tend to dine out more often, dine alone, and eat on the run.

2.8.11 Taste

Ramie (2003) mentioned that taste is consistently reported as a major influence on food behaviour. In reality 'taste' is the sum of all sensory stimulation that is produced by the ingestion of a food. This includes not only taste per se but also smell, appearance and texture of food. These sensory aspects are thought to influence, in particular, spontaneous food choice.

2.8.12 Convenience and environment

The availability and convenience of fast foods encourages people to eat more food on-the-go. Fast food places not only function as a convenience, but also as a trigger. They promote excess food intake, and large portions of high-fat and energy-dense food intake. If this is accompanied by inactivity, weight gain ensues.

2.8.13 Financial status

Studies have shown that the affluent tend to consume more vegetables, fruits, lean meat, fish, poultry, cheese and high-fat foods, while consuming less rice and beans. This has both positive and negative health effects: there is a higher risk for

heart disease and stroke in affluent people because they consume more meat and poultry.

2.9 Importance of Regular Eating

According to Nicklas, O'Neil and Myers (2004) eating habits, which affect food preferences, energy consumption and nutrient intakes are generally developed in early childhood and particularly during adolescence. In support of this assertion, Story and Newmark-Sztainer (2005) argued that adolescents are being exposed to periodic food fads and slimming trends, tend to skip meals and develop irregular eating habits. One of the most frequently missed meals is breakfast which plays an important role in providing the needed energy and nutrients after an overnight fast and can aid in concentration and performance at school (Nicklas, et al., 2004).

The home and school environments play a major role in determining an adolescent's attitude to and consumption of individual foods. Snacks generally form an integral part of meal patterns for both children and adolescents. Younger children cannot eat large quantities at one sitting and often get hungry long before the next regular mealtime. Nicklas et al. (2004) advice that mid-morning and mid-afternoon snacks can help to meet energy needs throughout the day.

The energy requirements of adolescents tend to parallel their growth rate and a majority of adolescents who maintain energy balance and its varied food intake provides sufficient nutrients to ensure optimal growth and development (Williams, 2005). Mild or severe infections, nervousness, menstrual, dental or skin problems (acne) can result in depression of appetite and adolescents on marginal diet are most vulnerable. Emotional stress is often associated with food faddism and slimming trends, both of which can lead to eating disorders such as anorexia or bulimia nervosa.

In the investigation of Story and Newmark-Sztainer (2005) into the association between dietary and lifestyle factors indicated that the cause of obesity is multi-factorial involving socio-economic, biochemical, genetic, psychological, and lack of activity play important role in the development, progression and perpetuation of obesity in adolescence. Nicklas, O'Neil and Myers (2004) recommended that children should try to be physically active for at least sixty (60) minutes daily.

2.10 Eating Disorder amongst Adolescents

According to Williams (2005) the public perception has been that a woman is attractive, desirable and successful when she is slim. Williams (2005) explains that adolescents have an over-perception of their body size and tend to diet as a way of controlling their weight and keeping their bodies in check. In some cases, the situation generate into self-starvation which may result in complex disorders such as bulimia nervosa, anorexia nervosa and binge eating.

The number of adolescents with diagnosed anorexia nervosa or bulimia nervosa is growing and many adolescents with various eating disorders and disordered eating behaviors remain undiagnosed and untreated. Uncounted teenagers preparing to be models, entertainers, dancers, gymnasts, jockeys and other athletes who manipulate their weight also suffer from long-term effects of chronic malnutrition, whether they do or do not meet the criteria for anorexia nervosa or bulimia nervosa. They may be categorized as having an eating disorder not otherwise.

2.11 Nutrition Issues in Adolescence

Adolescence is a period of dramatic physiological changes when the regular development of childhood is rapidly altered by an increase in the rate of growth. This sudden spurt is also associated with hormonal, cognitive, and emotional changes.

Because of all these changes, adolescence is considered to be an especially nutritionally vulnerable stage of life. The nutrient needs in this period are greater than in infancy or childhood periods (Lifshitz et al., 1993). For example, the obvious physiological growth in adolescence affects the body's nutritional needs increasing adolescents‟ requirements for energy and all nutrients to support rapid growth rate and development (Stang, 2001). As much as 50% of adults‟ ideal body weight is gained in adolescence, and a failure to consume an adequate and balanced diet at this period of time can have a negative impact on growth status. In extreme situations, it may also result in delaying sexual maturation, and it can hinder or slow linear growth (Story, 1992). In adolescence, muscle and fat development are rapid in both boys and girls. However, there are significant sex differences along the two dimensions. The growth of muscle tissue is greater in boys, compared to girls while, body fat is finer in girls, compared to boys, particularly just before puberty.

Adolescents are vulnerable to nutrition-related problems, including malnutrition, micronutrient malnutrition, obesity and other nutrition-related malnutrition. Low nutrient intake may result in under-nutrition problems. In many industrialized countries, eating disorders have become a significant chronic illness among adolescent girls (Fisher et al., 1995). Anorexia and bulimia are the extreme sides of a broad range of disordered eating, which includes frequent dieting, binge eating and partial syndromes (limiting of food intake and concerns about weight). However, eating disorders are still uncommon in societies where obesity is not widespread or marked by society (WHO, 1998). In Saudi Arabia, severe malnutrition secondary to poverty has almost disappeared with the oil boom during the last four decades. Though, underweight status is still common (Hammam et al., 1980, Attallah et al., 1990).

On the other hand, excess intake of energy-dense foods may result in additional fat and cause health problems such as obesity. Relative to both obesity and under-nutrition problems, some attitudes and practices that are related to cultural values might result in some health problems (WHO, 2005). A good example is the cultural aspects of body-size perceptions that make adolescents, particularly girls, interested in weight management. Weight management and body image are topics of great importance, and interest in adolescence. Serious concerns about body image can cause some health consequences such as dietary disorders, and psychological discontent (Heinberg et al., 1996). As a part of nutrition support and obesity prevention it is, therefore, important to develop a positive body image and self-esteem among adolescents. Behaviour patterns acquired during adolescence are likely to be continued to adulthood (Kelder et al., 1994) and „adolescence period could prevent the prevalence of nutrition-related chronic diseases in adult life" (WHO, 2005). This could be achieved by optimal nutrition and healthy eating practices that decrease young people"s risk of a number of health problems such as iron deficiency anaemia, obesity, eating disorders, and dental caries. This may also protect them from long-term health problems, such as chronic heart diseases, cancer, stroke, hypertension and osteoporosis (Williams et al., 1995).

2.12 Nutritional Knowledge among Adolescents

In developing countries like Ghana, one of the greatest problems affecting millions of people, predominantly adolescents are insufficient protein intake in terms of quality and quantity (WHO, 2000). Lack of nutritional knowledge is one of the most important factors causing this low protein intake.

Duff, Gonan and Atwood (1987) defined nutrition as the food one eats and the way the body uses the nutrients in the food. The effect of under-nutrition depends on the nutrient status and health of adolescents and can be affected by the intake of substances such as alcohol, nicotine and various drugs.

Nutritional knowledge is the understanding of different types of food and how food nourishes the body and influences health. The quality of healthcare of adolescents is largely dependent on their knowledge which may be obtained from several sources including formal education, families and friends, mass media and community health services (Glewwe & Jacoby, 2001).

Nutritional knowledge affects food choice and preparation. Knowledge particularly given to women is a powerful weapon against malnutrition since increased knowledge and skills enable women enhance household food security and improve the quality of day to day care women give themselves and all members of their household especially children. Nutrition knowledge empowers women to make optimal choices for nutritious and safe food (Chopra & Darton, 2007).

Nutritional knowledge is important in the development of one‟s eating habits. Research has reported that other influential factors on one‟s dietary decisions include his level of nutritional knowledge (Rasanen et al., 2003). In the provision of healthy food, Keemey and McElhone (1999) found in their studies that time, cost and nutritional knowledge were commonly perceived as barriers to eating healthy foods. These barriers may be the results of many people taking nutrition education and guidelines as complex, instead of recognizing that incorporating nutrition recommendations is not a difficult task. For instance, a nutrition recommendation of six servings of starchy foods a day is not difficult to adhere to but people find

nutrition advice too confusing (Lake et al., 2007) because of too much conflicting information, leading people to stick to what they think is healthy.

People‟s understanding of basic nutrition and health measure strongly influence the care they provide (Appoh, 2005). Household socio-economic characteristics also determine to a large extent the nutritional status of people and a positive relationship between socio-economic status and the ability of them to provide adequate food and primary care has been observed (Appoh, 2005).

One‟s practical nutritional knowledge is important for growth (Appoh, 2005). Maternal nutrition knowledge substitutes for schooling, particularly at lower levels of income (Black et al., 2013). Promoting maternal nutrition knowledge may represent an important avenue for improving diet in adolescents from socio-economically disadvantaged neighbourhoods (Williams et al., 2012). A correlation between the level of parental education and nutritional knowledge has been supported by research (Parmenter & Wardle, 2000) positing that higher level of parental education is associated with greater levels of nutritional knowledge.

It then follows that individuals who attain higher education are most often exposed to sources of nutritional information and understand the tenets well leading to them making well informed dietary decisions. Supporting this argument, Kunkel, Bell and Luccia (2001) reported that highly educated people were more exposed to nutritional information and scored higher nutrition scores. They further explained that adults who had higher levels of education had more knowledge regarding nutrient content of foods and were more aware of diet-related health problems. However, education did not put educated people at a better side in terms of eating habits as those who had higher levels of educational qualifications such as degree.

Research has favourably argued that, nutritional knowledge is associated with better quality diets in individuals, but others (Worsley, 2002) suggest that interest in nutrition is more important. Different categories of persons for example, adolescents, nutritionists, sportsmen, and nursing mothers may require different nutritional needs and thus, require different amount of nutritional knowledge.

Adolescents‟ nutritional knowledge has been noted as influencing eating habits. However, research has identified other motivators such as cultural values, social influences, and some other factors including cultural beliefs and economic status contributing to food behaviours of adolescents (Worsley, 2002). It was added that apart from nutritional knowledge, some adolescents value taste, convenience, and price more than nutrition in their choice of diet.

2.13 Nutrition and Health Problem of Adolescents

Among the major requirements for developing and maintaining good health is nutrition. Some chronic diseases including cardio-vascular disease, stroke, hypertension, diabetes and many others are associated with poor dietary practices. Poor diet, in fact, is life threatening (Freedman, Dietz, Srinavasan & Berenson, 1999). Poor dietary behaviours resulting in malnutrition especially in adolescents exposes them to health consequences and poor nutritional habits in later years. Iron deficiency, anaemia and dental caries are typical examples of health problems associated with poor dietary practices in adolescents.

Studies have established that, a lot of children in the developing countries have unsatisfactory diets. United States of America for instance, have many children exceeding the American Heart Association dietary recommendations for total fat and cholesterol (Nickals, 1995). Also, in the studies of Buttris (2000), nearly 75% of

children were reported to have exceeded the recommended target of energy derived from fat. Similarly, in Great Britain, Wardle (1995) reported that more children fall short of the required consumption of fruits and vegetables, and that only 5% of the children sampled exceeded the recommended dietary intake. Such poor feeding pattern is important in the light of increasing evidence, using both cross-sectional and longitudinal studies, that a person‟s diet has profound effects on their health. He concluded that longevity was related to the consumption of fruit and vegetables.

Furthermore, high intake of non-iodide salt increases the risk of getting blood pressure and cardiovascular diseases (Silvester, Bingham, Pollock, Cummings & O‟Neill, 1997), adding that an association between poor fatal growth and high tolerance of glucose in children. Children‟s diets are therefore important both in terms of their present health and their health in later life. In a related study Steele and O‟sullivan (2011) found that children who often take a lot of gummy sticky sugary food and snacks develop dental carries because the sugar provides a fatal ground for bacterial infection that attack teeth.

Noguchi Memorial Institute (2003) reported that, anaemia is common among young individuals in Ghana, and it is as a result of inadequate amount of haemoglobin in the blood which is caused by iron and foliates deficiencies. Some of the most prevalent conditions related to anaemia are Vitamin B12 and protein deficiencies. In a similar manner, protein energy malnutrition also wreaks havoc on people causing a high mortality rate in the United States of America. Protein energy malnutrition and micronutrient malnutrition remain public health problems, affecting the most vulnerable group of young people, (Wardlaw, 2003). High fats and more calories, combined with a decrease in physical activities, have created an obesity problem among people. Between 1980 and 1994, the percentage of children who were

overweight increased from 11% to 24% in the US, with a similar trend in Brazil, Chile, Britain, Ireland, Spain and Sweden.

The case is quite different in Ghana and other developing countries. It is only about three percent of young people in Ghana who are overweight as reported Ghana Statistical Survey, Noguchi Memorial Institute for Medical Research and GDHS (2003). Insufficient Vitamin A leads to night blindness (Tull, 1996) commonly experienced among children in the developing countries. Asia for instance has 25,000 young individuals getting blind each year because of lack of Vitamin A in their diet (Robert-McComb, 2001). Several health problems are attributed to malnutrition. The quantity of food nutrients characterized by life styles contribute to food related diseases. Each nutrient has its own function in the body. Childhood nutrition has both long and short-term effect on the health of the individuals. Both macro and micro nutrients are to be adequate in the body of children in order to avoid health problems associated with food and nutrition.

2.14 Knowledge of Nutrition and Eating Habits

Past studies show that the "concern about nutrition has grown appreciably in recent years, although the level of knowledge about nutrition has not increased by the same degree" (Navia, Requejo, Mena & Sobaler, 2003, pp. 90). There appeared to be a lack of knowledge when it comes to what healthy eating really included; thus, revealing that nutrition education among youth is in disarray (Navia et al., 2003). Nutritional intake as a pivotal element contributing to human health and well-being is of great importance and its role in childhood and adolescence is more prominent and of greater concern. Nutritional intake has a special direct effect on children's health due to their physical and mental growth as well as cognitive development.

Furthermore, it has long-term effects on general health status through formation of life-long eating behaviors in children. (Story et al., 2002; Coulson, Eiser & Eiser, 1998).

Food intake patterns and overweight are associated with different immediate complications and major long-term consequences including cardiovascular diseases, diabetes, high blood pressure, stroke, cancer, dental caries, asthma, and some other psychological disorders like depression (Shepherd, Harden, Rees, Brunton, Garcia, Oliver et al., 2006; Ricciardelli & McLabe, 2001). Thus, quality of children's and adolescents‟ diet has become a major concern for researchers. In recent decades, there have been considerable efforts following changes in diet and types of consumed foods leading substitution of fast foods with salutary traditional meals. However, the majorities of children do not meet recommended standards of dietary guidelines and are devoid of healthy dietary habits (Story et al., 2002). In addition, dietary quality would be exacerbated when children grow up by not only lower consumption of fruits, vegetables, and milk, but also higher consumption of soft drinks (Lien, Lytle & Klapp, 2001; Lytle, Seifert, Greenstein & McGoveon, 2000).

In recent years, health organizations have implemented a variety of interventions to promote healthy eating behaviors of young population, yet they have had limited impact, which might be attributable to insufficient understanding of dietary habits and necessary interventions implemented in accordance with children ages (Shepherd, Reats & Eghan, 2007; Story et al., 2002). They indicated in their study that dietary influences vary with age, and not all interventions are suitable for all age groups (Shepherd et al., 2006). Yet, relatively little research has examined nutritional knowledge, practice and attitudes of young population and related

differences between different age groups and genders in many aspects of this field have not clearly been defined.

2.15 Barriers to Healthy Eating of Adolescents

A study done at Minnesota University indicated that little time, lack of concern for healthy eating, and lack of healthy resources available at school were some of the barriers to healthy eating (Croll et al., 2001). The Minnesota University Health student‟s research concluded that while young women were being reached by messages from the Dietary Guidelines for America, they were not taking action. These women need to be further prompted to do so by interventions that helped with the meaning of these messages and provided easy ways on how to apply them in their daily lives (Croll et al., 2001).

Despite many interventions for adolescents regarding weight loss and the changes that they needed to make in order to be healthier, many younger adults continued to eat very unhealthy foods (Croll et al., 2001). Velazquez et al. (2011) study indicated that it was absolutely necessary to understand why adolescents were making behavioral choices that could eventually lead to obesity and ultimately premature death. Over 15,000 people participated in this study, half being female and half being male. Participants completed a Physical Activity and Nutrition Survey. Questions about diets included self-reports on what participants ate that day. The study showed that perceived healthiness of eating was associated with consumption of perceived healthier foods. In conclusion, they found that dietary knowledge would not be enough for an intervention, that interventions must create changes in environments (Velazquez et al., 2011).

2.16 Adolescents' Nutritional Needs

There are a host of factors that influence the nutritional needs and nutrition intake of children. These factors can be categorized as being both biological and non-biological. Biological factors include age, gender, growth, disease states, and genetic makeup. Among the non-biological factors, socio-economic status is the most important. Poverty is one of the major socio-economic causes of variation in nutrient intake, and it also impacts nutrient requirements. Poverty imposes constraints to live in environments that are less food secure and that have greater potential health risks, including environmental contaminants such as lead, and other heavy metals. Parasites, especially hookworms, Schistosomes, malaria, cause blood loss, which increases nutrient needs. These parasites generally are more prevalent in poor environments. Socio-cultural factors, such as religion, food, and social status, also influence nutritional intake and needs. Religion and culture influence what people understand to be edible foods, what they eat, and as such has an impact on which nutrients are consumed and which nutrients may be needed in higher amounts (Massey-Stokes, 2002).

2.16.1 Food groups and functions to the body

According to Permaculture Network (2006), the body need nutrients to sustain life. Nutrients are the part of foods that we must have for life and health. So, when we have good nutrition and good food security in our country, it means that the foods and drinks we eat are providing us with the nutrients we need for life and health. A practical way to remember the nutrients is to learn the six basic groups of foods rather than remember each of the 43 nutrients. You can even relate the nutrients to a home and the things that are used to keep that home in order.

i) Proteins build the walls of our body (hair, skin, muscles, etc.), just like bricks build our home. Bricks are made of many ingredients and so are protein; they are made up of smaller parts called amino acids and there are 8 types we need. Example of protein foods include beans, meat, fish etc.

ii) Minerals are like mortar that is used to hold bricks together in a wall. Minerals in our body join together different parts of the body. There are 14 minerals of which foods such as onion, garlic and mushroom are worthy sources of minerals.

iii) Carbohydrates are what our body burns most often for fuel, much like firewood. Carbohydrates are used in the body to provide the first source of energy. Yam, rice and cassava are good sources of carbohydrates.

iv) Fats are also burned for energy, but they give more fuel and are easy for our bodies to store for later use. This is much like paraffin in our homes; it is stored in a small jug and a little fuel goes a long way. There are 3 types we need and fat is derived from foods such as vegetable oil, avocado and butter.

v) Vitamins are like watchdogs which protect us from thieves while vitamins in our body protect us from diseases. There are at least 16 types of vitamins. Food items such as tomatoes, citrus fruits and mango are rich sources of vitamins.

vi) Water has many cleaning jobs in the body, similar to the way that we use water for cleaning in our homes.

Moreover, Permaculture Network (2006) states that, any combination of these Food Groups (along with water, sweets and alcohol) can make a snack or meal. Your pattern of snacks and meals is your diet. We all have our own patterns of eating and the factors influencing our diet (parents, religion, tastes, culture, season, etc.) are also numerous. Some people believe that diets are based purely on taste, but it is important

to remember that tastes change over time -- we can all make changes in our diets (and the foods we grow) so that they provide us with better nutrition.

2.16.2 Nutritional attitudes

Nutritional attitude is another factor that influences food selection and food consumption. When attitude is associated with food or nutrition, it is termed nutritional attitudes. Fleck (1982) described food attitude as the way in which individuals or group of individuals in response to social and cultural pressures select, consume and utilize portions of available food supply. According to Ulrich and Briggs (1975), nutritional attitudes are designated by other terms, which reflect their definitions. Lowenbergh, Todhunter, Wilson, Savage and Luboueski (1979) refer to them as "food ways" and "food patterns". They also submitted that attitude is a connotation of changelessness. They added that the diet of any individual or group of individuals is characterized by a blending of traditional and non-traditional food preferences with the daily food patterns. Otto, Julian, Tetter and Nassif (1985) observed that eating habits that develop in the formative years by parent"s control of feeding may become part of a life-style and set the stage for health or disease in later life. They further submitted that mutual attitudes, beliefs and habits may easily influence the tendency to operate some food taboos or fads, and that habit is an important predictor of feeding behaviour. Skinner, Saveltti, Ezell and Castello (1985) gave the dimensions of nutritional attitudes to food or nutrition which include: eating between meals, consumption of sugary foods, consumption of alcohol, food fads, consumption of carbonated soft drink, parental influence/role model, too much consumption of table salt, adding raw maggi into already cooked food, consumption of diets that have high saturated fats and cholesterol, wide range of likes and dislikes

of meals and dieting to maintain figure or weight control. These nutritional attitudes negatively influence the nutritional status of a person. It must be noted that the characteristics of nutritional attitudes highlighted above are a global reflection of food or nutritional attitudes of people around the world.

The attitude of eating in-between meals adversely affects one‟s nutritional status. A survey conducted in ten states of United States of America and reported by Okoro (1991) showed that the attitude of eating in-between meals was reported as been undesirable. The report explained that eating in between meals spoilt one‟s appetite for regular meals with a substantial proportion of their daily calories‟ requirements. The study went further to confirm that the calories provided by food consumed in-between meals are "empty". Thomas and Call (1973) found in their study that both males and females had vitamin A intake from foods eaten in-between meals, which were below.

2.16.3 Recommended dietary allowance (RDA)

Snacking and consumption of sweets and sugary foods are some of the common food attitudes that are inimical to health. Gatenby (1997) described snack as other eating episodes, generally smaller and less structured than meals. He further described snacking as the patterns of frequency of those eating events consumed at times other than recognized meals times. Barnstein et al. (1981) perceived snack as an eating event conducted individually. Also, Truswell and Dornton-Hill (1981) observed that the standard meals sometimes omitted are made up for with snacks. They added that some people are seen eating more of their food as snacks.

The study of McGandy et al. (1992) revealed that the Caucasian boys took more snacks, followed by Negro and Oriental girls. The study further revealed that the

favourite snacks among Californian boys were cereals and bread, pie, cake, pastry and cookies, soft drink, milk, fruits, meat, cheese, ice cream, candy, potato chips and vegetables in this their descending order. In girls, the order of popularity started with pie, cake, pastry and cookies and then went into candy, fruits, cereals and bread, soft drinks, ice-cream, milk, eggs, meat, cheese, potato chips and vegetables. Guthrie (1980) attested that snacks are regarded as "junk foods" or empty calories food and there is no doubt that some of these snacks which people love are lacking in very essential nutrients like iron and calcium. Advising people on the consumption of snack, Insel and Roth (2010) stressed that consumption of excess calories of sugars may contribute to weight gain. To reduce sugar consumption, they added, one should cut back on soft drinks, candies, fruit drinks and other foods that contain large amounts of sugar. They further advised that people should not let sodas and other sugary foods crowd out more nutritious foods such as low-fat milk. Gracey et al. (1996) found in their study that the nutritional attitude of students from lower socio-economic status was associated with unhealthy nutrition behaviours which is similar to the findings.

Gracey et al. found that food varieties score was lower among the low economic status, especially for cereals and fruits, where almost half of the girls reported that they did not eat breakfast, an attitude associated with higher cholesterol (Resnicow, 1991), as well as with nutritional deficiencies (Morgan, Zabik & Stampley, 1986), and impaired academic performance (Simeon & Grantham–McGregor, 1989). The nutritional attitudes of likes and dislikes of certain food influence the choice and consumption of food. Dwyer (1981) attested that one can tell the age of subject from the list of likes and dislikes for food and drinks. He further observed that most adolescents have special preferences on favourite foods.

Greenwood and Richardson (1979) found that the most popular food items of adolescents include milk, ice-cream, steak, roasted beef, pork, hams, chicken, turkey, orange juice, apples, chips, corn, peas, bread, cake and pie. They further found that there was a reluctance to eat salads and green leafy vegetables. Food dislike is sometimes associated with the attitude of alcohol consumption which often affects one‟s appetite.

The nutritional attitudes of skipping meal so as to maintain shape or figure adversely affect the selection and consumption of food. People that take to dieting in order to control or to gain weight do not eat the kinds or the amounts of nutrients that are recommended (Truswell & Darnton-Hill, 1981). The reason is largely due to personal discontent with body appearance. A disturbing number of adolescents, particularly girls, reported dissatisfaction with their body weight, shape and size (Maude, Wertheim, Paxton, Gibbons & Szmulker, 1993; Wertheim, Paxton, Gibbons, Maude, Szmulker, Hiller & Gibbons, 1992).

Correspondingly, the prevalence of adolescent dieting has been found to be high (Patton, Carlin, Shao, Hibert, Rosier, Selzer & Bowes, 1997). A research in Australia revealed that up to 50 per cent of adolescents engage in weight loss behaviours (Wertheim et al., 1992). These behaviours range from healthy attitudes such as exercise, to more extreme nutritional habits, such as those associated with the clinical eating disorder such as anorexia nervosa, bulimia nervosa and binge. Each of these nutritional behaviours has a serious adverse effect on health.

Anorexia nervosa is a psychiatric disease arising from refusal to eat food, which often leads to severe emaciation (Passmore & Eastwood, 1986). Adolescents have been shown to have poor nutritional attitudes. These are characterized by

skipping of meals and above all, starving themselves to maintain shape or figure. The disease characteristically occurred among young women aged 15-25.

Bulimia nervosa is one of the eating disorders associated with poor nutrition behaviour. It is characterized with repeated episode of over-eating followed by compensatory behaviours such as self-induced vomiting, misuse of laxative for purging, or excessive exercise (Insel & Roth, 2010). Binge is also another eating disorder characterized by uncontrollable overeating, usually followed by feeling of guilt and shame with weight gain. The common eating patterns include eating more rapidly than normal, eating until uncontrollably filled, and eating when not hungry (Insel & Roth, 2010). The eating disorders such as anorexia nervosa and bulimia may predispose one to starvation and under nutrition while the eating disorder such as binge may predispose one to overweight or obesity. These have serious adverse effects on health.

Developmental research suggests a relationship between parents and children‟s eating attitudes and behaviours when children are young and during childhood (Rozin, Fallon & Mandell, 1984). For example, parents and their children have been found to have similar food attitudes (Pliner & Pelchat, 1986). Brown and Ogden (2004) submitted that children‟s eating attitudes and behavior need to be understood. They added that understanding children‟s nutritional attitudes and behaviours is important in terms of children‟s health. Evidence also indicates that dietary habits acquired in childhood persist through adulthood (Kelder, Perry Klepp & Lytle 1994; Steptoe, Pollard & Wardle, 1995). In addition, research also indicates a role for childhood nutrition on adult health (Berenson, Srinivasan, Boa, Newman, Tracy & Watigney, 1998). The acquisition of similar eating attitudes and behaviours according to Mizes (1988) may result from limited exposure to and restriction on

different foods during childhood. He added that the purchase and preparation of children‟s food is usually the responsibility of parents. Furthermore, parents sometimes use coercive strategies and explicit instructions to encourage their children to increase consumption of what they consider to be "good" food and decrease the consumption of "bad" foods. A typical example is when children are told they have to finish their vegetables before they can have dessert. Interestingly, it has been found that when parents coerce children into eating disliked but nutritious foods, children tend, to dislike these foods even more. Conversely, restrictive use of palatable foods as rewards, tends to increase children‟s liking of these foods (Birch & Zimmerman, 1980). Furthermore, evidence suggests that a high degree of parental control over children‟s eating meal times hinders children‟s responsiveness to internal hunger cues, leading to difficulty in controlling food intakes during childhood and frequent or chronic dietary weight fluctuations and pre-occupation with foods at college age (Constanzo & Woody, 1985; Birch, McPhee, Shoba, Steinbergh & Krehbiel, 1987).

On parents as models of food attitudes, the research of Wardle (1995) on the role of parents on nutritional attitudes found that parental attitudes certainly affected their children indirectly through the foods purchased for and served in the household influencing the children‟s exposure and their habits and preferences. Some evidence, according to Brown and Ogden (2004), supports an important role for parents. For example, Klesges, Stein, Eck, Isbell and Klesges (1991) showed that children selected different foods when their parents were watching them compared to when they were not watching them. Olivera, Ellison, Moore, Collman, Garrahie and Singer (1992) reported that a correlation between mother‟s and children‟s food intakes for most nutrients in preschool children exists and therefore they suggested targeting parents to try to improve children‟s diet. Cotento, Bash, Shea, Gutin, Zyberk, Michela and Rips

(1993) found a relationship between mother‟s health motivation and the quality of the children‟s diets.

Food habits and preferences therefore change through watching others eat. Research also indicates that children may not only model parents‟ food intake but also their attitudes to food and their body dissatisfaction (Brown & Ogden, 2004). For example, Hall and Brown (1982) reported that mothers of girls with anorexia show greater body dissatisfaction than mothers of non-disordered girls. Likewise, Steiger, Stotland, Ghadirian and Whitehead (1994) found a direct correspondence between mother‟s and daughter‟s level of weight concern. In the same vein, Hill, Weaver and Blundel (1990) reported a link between mother‟s and daughter‟s degree of dietary restraint. Research reported by Mee (2004) therefore emphasizes the role of observational learning with a particular role for parental nutritional attitudes and behaviour.

Research findings indicate that females are more likely to have attempted to lose weight by dieting than are males (Wertheim et al., 2002). While most researchers focused on daughters (Striegel-Moore & Silberstein, 1993; Mee, 2004; Werthem, 2000; Brown et al., 2004), several studies have also included sons (Thelen & Cormeir, 1995, Smolak & Levine, 1996). In general, the patterns tend to be similar between male and female children. That is, parental encouragement to diet and weight-related criticism or teasing is associated with both sons and daughter‟s weight loss attempts and body concerns and parental modeling of dieting and weight concerns is somewhat less impactful (Mee, 2000). Mee (2000) submitted that parents appear to be pivotal in the development of their children‟s eating attitudes and behaviours in a number of ways.

These include:

1. The influence parents have on their children‟s diet during childhood and adolescence;
2. Parental modeling of eating attitudes and behaviours of their children‟s particularly of food preferences in early childhood and extreme dieting behaviours in later childhood and adolescence;
3. Parental encouragement for their children to lose weight or go on weight loss diets; and
4. Parental criticism or teasing related to their children‟s weight.

Considering the impact of weight related behaviours on nutrition and health, Mee (2000) recommended that future prevention strategies (through nutrition education) should aim to:

1. Educate parents on the potential of their eating attitudes and behaviours to influence their children‟s behaviours,
2. Emphasize the need for parents to be aware of their children‟s dieting behaviours;
3. Challenge parents‟ beliefs regarding the thinness ideal;
4. Educate parents on the potentially harmful effects of encouraging their children to lose weight, and
5. Educate parents on the proper attitudes of snacking.

2.16.4 Nutritional beliefs and effects on adolescence

Food beliefs seem to be one of the factors influencing food consumption. Food fads, fallacies, taboos and myths have major influence on the general nutrition of man. The food roots of an individual – be they geographical, cultural, religious, national, regional or cult oriented – have an influence on choice of foods (Fleck, 1982). Each

person is born into a culture or group or group matrix that is usually reflected in food pattern. With the current interest in heritage, Fleck (1982) lamented that there is a surge of attention in cultural foods. Ogunsina and Emapkae (2003) submitted that there are food taboos and fallacies regarding food consumption or food combination that people have been made to believe to be harmful.

Food taboos, fads fallacies, culture and misconceptions exert powerful influence on nutrition beliefs. Gudam (2002) attested that people"s beliefs about food have important influence on food behaviours. He went further to say that understanding the food beliefs of a community are important for certain reasons. Osborn, Means and Smolenky (1968) asserted that man often is food conscious, but not very nutritious wise, that man often lacks an appreciation for the relationship between nutrients and physical and emotional health, and he is misled by customs, incorrect information, and beliefs in fallacies and superstitions. They added that patterns of eating are influenced by culture, family background, beliefs and knowledge of science of nutrition and philosophy about nutrition behaviours. Scholars such as Devadas (1970), Ogungbenro and Akinbile (2003) pointed to the importance of studying food or nutritional beliefs among less privilege communities (which Pankshin is one) where food is scarce, or wrongly consumed. When nutrition education is delivered in communities that have low knowledge of nutrition, it promotes the nutritional awareness of people and aid the alteration of negative nutritional behaviours.

2.17 Summary of Related Literature Reviewed

The review of literature has provided much understanding on food and eating habits of adolescents. Food has been understood as an essential part of everyday living as it will be difficult to go without food. The components of nutrients in food were elaborated in the discussions as these were categorized. The nature and characteristics of nutrients in adolescents explained much about their eating habits. The review also provided insight into the factors that influence adolescent eating habits. These include: availability, advertisement, restaurants and eating out, education, income/occupation, convenience, environment and financial status. The effect of poor eating habits were also discussed.

CHAPTER THREE

METHODOLOGY

3.0 Overview

This chapter looks at the method and procedures used in this study, the design, study area, examination of the population, sample and sampling techniques, description of the instruments used for data collection, validity and reliability, field testing, method of data collection, method of data analysis as well as issues of ethical guidelines for this study.

3.1 Research Design

The study employs descriptive survey research. This method allowed the use of gathering data about a population from a sample of individuals. Thus, the design is an ideal method to use in describing people and their behaviour, opinions, attitudes and populations. It helps to gather data on what people think, feel and do about something, somebody, practices and policies. Neuman (2003) postulates survey research seeks to measure variables and also test multiple hypotheses to determine relationships between the variables. Babbie (2013a) also postulates that descriptive survey seeks to provide measurement and report characteristics of population or phenomenon under study. The study tends to describe situations and events and answer the question of what, when, where and how, thus tells the nature of what exists, and also attempts to describe activities and attitudes. Information gathered from a descriptive research can be useful in diagnosing a situation since it involves describing, recording, analyzing and interpreting conditions that exist.

3.2 Study Area

Obrachire Senior High Technical School is a co-educational institution established in January 1991 as part of government‟s policy to bring education to the doorstep of every Ghanaian child. The school is located in Obrachire in the Awutu Senya District of the Central Region of Ghana, on a 50-acre plot of land donated by the Obrachire royal family. It is 10km from Agona Swedru lying to the west, 4km from Bawjiase to the east and 20km from Awutu Bereku, the district capital to the south.

3.3 Population of the Study

According to Bryman (2012), a population is the entire aggregation of respondents that must meet the designated set of criteria. It is a group of potential participants to whom the researcher wants to generalize the results of the study population encompasses the total collection of all units of analysis about which the researcher wishes to make specific conclusions (Bell, 2010). In Alonge‟s (2010) view, a population is the universe that contains all the subjects or parameters of interest. The population of the study was made up of all students of Obrachire Senior High School in Awutu Senya District. The total students‟ population was 1,130.

3.4 Sample and Sampling Technique

Sampling according to Ranjit (2005) is the process whereby a small proportion or subgroup of the population is selected for scientific observation and analysis. A sample is a small proportion of a population selected for the study (Seidu, 2006). A sample size of 120, that is, 40 in each level was randomly selected. In each class, 20 girls and 20 boys were randomly selected to be part of the study. The names of boys and girls were written on pieces of paper. All the boys were put in one bowl and the

girls in another bowl. One student was asked to pick a name at a time. The bowl was shaken after each picking to give each student an equal chance to be picked. This was repeated twenty times for the boys and the girls.

Table 3.1: Respondents selected from Obrachire Senior High Technical School

Form (Level)	Total number of Students	Sample		Total
		Male	Female	
1	363	20	20	40
2	433	20	20	40
3	334	20	20	40
Total	**1130**	**60**	**60**	**120**

3.5 Instrument for the Study

This study made use of two instruments; a questionnaire and semi-structured interview guide. The survey instruments five sections: section „A" focused on the bio-data and included gender, age, educational programme, weight, height, etc. Section B examined the nutritional knowledge of students. Section C investigated the eating patterns and food intake of the students. Section „D" focused on factors affecting the choice of food among students. Section E investigated the effects of poor eating habits on the students. The structured nature of the questionnaire had closed-ended questions to extract the actual data needed. Generally, questionnaires do not allow probing, prompting and clarification of questions (Sarantakos, 2005). This coupled with the fact that the questionnaire items used in this study are mostly close-ended in nature.

3.6 Validity of the Instrument

Validity is an indication of how sound your research is. More specifically, validity applies to both the design and the methods of research. Validity in data collection means that the findings truly represent the phenomenon claiming to measure. Valid claims are solid claims. Validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are. In other words, does the research instrument allow you to hit "the bull"s eye" of your research? In determining the content validity, a copy of the instrument, the objectives/research questions were given to two of my mates and the supervisor to validate. The comments and suggestions were used to prepare the final questionnaire for field testing of the instrument from respondents who were not part of the study respondents.

3.7 Reliability of the Instrument

Reliability has been described as the extent to which results are consistent over time and an accurate representation of the total population under study, and if the results of a study can be reproduced under a similar methodology (Joppe, 2000). The instrument was tested for reliability for two weeks" interval using the test-re-test method. Ten copies of the instruments were given to 10 students of Swedru Senior High School who have similar characteristics to answer. They did not form part of the respondents. After 2 weeks the same students were given the same instruments to answer. The questionnaire (instruments) was analysed using the Cronbach alpha coefficient. The result yielded 0.76 which is good.

3.8 Data Collection Procedure

An introductory letter was obtained from the Head of Home Economics Department of the University of Education, Winneba (UEW) soliciting the assistance of the headmaster. After explaining the purpose of the study, the researcher was introduced to the Head of Home Economics Department of Obrachire Senior High Technical School who gave a convenient time for the researcher to meet the students. On the given date each class was put in one classroom. Twenty girls and boys each were randomly selected in each class to participate. The names of all the students were written on pieces of paper, after grouping them into boys and girls. One student was asked to pick each group at a time. The bowl was shaken after picking each name. The researcher explained the purpose and benefits of the study to the selected students and assured them that they were free to participate or decline. After this, they all agreed and signed the consent form. The researcher went through the questions and explained to them. The students were then given time to answer after which they were interviewed as a group. The interview was to confirm what they had written. The students were assured that their responses would only be used for academic purposes and this helped in eliciting in-depth information from the interviewees. This helped in getting the students to enthusiastically participate and willingly expressed their candid views. All the interviews were audio-recorded and later transcribed for data analysis.

3.9 Data Analysis

Data was coded into themes and analyzed using SPSS version 19 descriptive statistics of frequency counts, percentage, mean for the demographic information and research questions were calculated.

3.10 Ethical Consideration for the Study

The research was guided by the need to ensure appropriate ethical conduct in research. The informants were informed and made to understand as fully as possible the aim and possible implications of the research including the right not to participate without negative effects on them.

To protect and respect participants‟ appropriate responses to the needs of the survey, the main researcher maintained high ethical standards. An introduction about the objectives of the study, the permission letter from the Department of Home Economics, University of Education, Winneba to collect data from schools, was taken personally by the investigator to the Headmaster of Obrachire Senior High Technical school one week before gathering data. This was to obtain permission to arrange suitable times to conduct the study. The particular classes were contacted before data collection.

In each of the classes, before the interviewing session, the researcher did a personal self-introduction and explained the nature and purpose of the study. It was during this stage that the researcher appealed to the participants for support. The questionnaire used for the study also had a section for consent (Appendix A), which was signed by the participants before responding to the questionnaire. The respondents were assured of their anonymity and confidentiality. The results are presented in the next chapter.

CHAPTER FOUR

RESULTS OF FINDINGS

4.0 Overview

The study investigated the eating habits of students in Obrachire Senior High Technical School. This chapter discusses the results of findings from data collected for the study. The findings are presented separately in three parts. The first part presents the Bio-data information of the respondents, knowledge on nutritional composition of food, eating patterns and intake of respondents, factors affecting adolescents eating behaviour. The second part presents results on the research questions asked, and the last part present results on the hypothesis tested.

4.1 Bio-Data Information

Table 4.1: Results of gender distribution of respondents

Sex	Frequency	%
Male	60	50
Female	60	50
Total	**120**	**100**

Source: Survey Data 2018.

The result from table 4.1 shows the gender distribution of respondents for the study with both male and female respondents having equal representative of 50% each.

Table 4.2: Results of age distribution of respondents

Age	Frequency	%
12-14	26	21.6
15-16	50	41.7
17-19	24	20.0
Above 19	20	16.5
Total	**120**	**100**

Source: Survey Data 2018.

Table 4.2 above shows the age distribution of respondents, students between ages 15-16 had the highest representation of 41.7%, followed by those between 12-14 years with 21.6%, students between ages 17-19 and above 19 representing 20% and 16.5% respectively. This indicates that most of the respondents sampled were at their early age of adolescent period and also are very active which require them taking more food with good or right nutrients.

Table 4.3: Results of respondents' ethnicity distribution

Ethnicity	Frequency	%
Akan	55	45.8
Ewe	35	29.2
Ga	30	25.0
Total	**120**	**100**

Source: Survey Data 2018.

Table 4.3 above shows the respondent"s ethnic affiliation with those belonging to the Akan ethnicity more sampled with 45.8% share, followed by Ewes with a 29.2% representation and finally the Ga tribe representing 25%.

Table 4.4: Results of respondents' religion

Religion	Frequency	%
Christian	75	62.5
Islamic	40	33.3
Others	5	4.2
Total	**120**	**100**

Source: Survey Data 2018.

The table 4.4 above revealed the religious affiliation of the respondents, with 62.5% representing the Christian religion, 33.3% represent the Islamic religion and 4.2% belong to the other religions.

Table 4.5: Educational background of parents of the respondents

Educational Background	Frequency	%
JSS	22	18.3
SSS	19	15.8
Ordinary Level	20	16.7
Advance Level	18	15
HND/Diploma	15	12.5
First Degree	10	8.3
Masters	5	4.2
Others	11	9.2
Total	**120**	**100**

It can be deduced from Table 4.5 above that parents of respondents hold a range of educational qualifications from JSS to Masters Level, among other qualifications. Majority of the parent"s educational qualification are spread between JSS, Ordinary Level and SSS with percentage representation of 18.3%, 16.7 and 15.8 respectively. Also parents with a first and Master"s degree qualification represented 8.3% and 4.2% respectively. The table clearly shows that the parents are of different educational backgrounds and this will heavily influence the development of children"s eating habits as the former determine the child"s physical and social environment and act as

socialisation agents who influence behaviours, habits, and attitudes (Ritchie, Welk, Styne, Gerstein & Crawford, 2005).

Table 4.6: Results of respondents' father's occupation

Occupation	Frequency	%
Civil/Public Servant	65	54.2
Artisan	20	16.7
Trader	20	16.7
Fish monger	10	8.3
Unemployed	5	4.2
Total	**120**	**100**

Source: Survey Data 2018.

The table above shows that 65 of the respondents" fathers were civil/public servant, constituting a percentage of 54.2. The same number of students responded that their fathers were traders and artisans respectively, which constituted 16.7% (i.e. 20 respondents) for each occupation. The remaining response accounting for 8.3% (fishmongers) and 4.2% (unemployed). Since most of the fathers of the respondents are working in jobs hired on professional merits or set of skills, it can be presumed they can afford to provide nutritious meals for their children.

Table 4.7: Results of respondents' mother's occupation

Occupation	Frequency	%
Trader	40	33.3
Unemployed	30	25.0
Civil/public servant	30	25.0
Artisan	15	12.5
Fish monger	5	4.2
Total	**120**	**100**

Source: Survey Data 2018.

Table 4.7 shows that about 33.3% of the mothers of the respondents were traders. The same number of respondents indicated that their mothers were

civil/public servants and unemployed respectively, which constituted 25% (i.e. 30 respondents) for each occupation. The remaining responded with frequencies 15(12.5%) and 5(4.2%) for mothers who are artisans and fishmongers respectively. Majority of the mothers are working and hence in a good position to support the fathers provide for their children.

Research question 1: What is the nutritional knowledge of students of Obrachire Senior High Technical School?

To ascertain the level of nutritional knowledge of the students, a section of the questionnaire was designed with queries that required nutritional knowledge. Respondents were tested on nutrition and food sources, nutrient deficiency and food and finally on nutrient content. They were also tested on features and causes of obesity and sources of nutritional information.

The nutritional knowledge levels were assigned class marks as follows;

- 45% and below =Low knowledge,
- 46 -59% = Fair knowledge
- 60-70% = Good knowledge,
- 80-100% = Excellent knowledge.

Testing respondents on their knowledge on sources of food nutrients, respondents were asked to mention at least two types of food items that are rich in protein, carbohydrates, iron and vitamins. On the respondents‟ knowledge of nutritional deficiencies and functions of nutrients in the body, some deficiency symptoms of proteins, carbohydrates, vitamin A, iodine, calcium and iron from which respondents were stated and respondents were to answer YES or NO. Respondents

were further made to mention some nutrients found in some common food types in the locality. Records were then taken and compiled to assess respondents‟ level of nutritional knowledge. The results obtained for the test is captured below.

Table 4.8: Nutritional knowledge test results

Marks	Frequency	Percentage (%)	Remarks
0 – 45	61	51	Low
46 – 59	19	16	Fair
60 – 79	28	23	Good
80 – 100	12	10	Excellent

Source: Survey Data 2018

From the table above, a total of 61 respondents scored between 0-45 which constitutes 51% of the respondents indicating that they had low nutritional knowledge. 16%, 23% and 10% of the respondents scored a class mark within the range of 46-59, 60-79 and 80-100 respectively from which we can deduce that 10% of the respondent have an excellent knowledge on nutrition, 23% a good nutritional knowledge and finally 16% having a fair knowledge on nutrition.

As William (2000) posited, the nutritional knowledge of the family affects children's nutritional status. It implies that, students are likely not to seek for food that enhances their nutritional status but would buy whatever they can afford.

The respondents‟ level of knowledge on nutrient deficiency was gathered and a pictorial representation of these results was shown on figure 4.1.

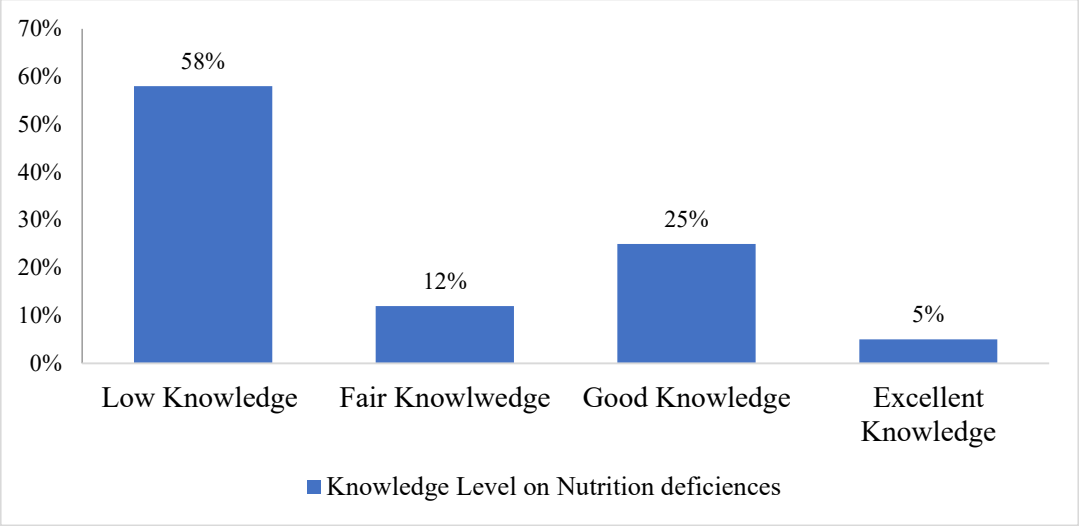

Figure 4.1: Knowledge on Nutritional Deficiency

Source: Survey Data 2018.

Respondents‟ level of knowledge on nutrient deficiencies also revealed that 58% of the respondents had low knowledge about nutrient deficiencies whiles 12% had fair knowledge. About a quarter (25%) showed a good knowledge in nutrient deficiencies whilst 5% showing an excellent knowledge level. An assessment of respondents‟ nutritional knowledge on foods and their nutritional contents was also analysed. The results presented on Table 4.9 below.

Table 4.9: Knowledge on food and their nutritional content

Marks	Frequency	Percentage %	Remarks
0 – 45	66	55	Low
46 – 59	22	18	Fair
60 – 79	18	15	Good
80 – 100	14	12	Excellent

Source: Survey Data, 2018.

The results were that, 55% of respondents had low knowledge and 18% who just had fair knowledge. However, 15% showed good nutritional knowledge and 12% who had excellent knowledge on nutrition with regards to food and their nutritional

content. A good knowledge of food and their nutritional content is expected to guide people on their choice of food in a bid for nutritious food for healthy life (Chopra & Darton, 2006). Low level of nutritional knowledge coupled with low income of respondents in this study can highly influence their poor nutritional diet. Information gathered showed that only a total of 27% of respondents showed appreciable level (good & excellent) of nutritional knowledge in respect of foods and their nutritional contents whilst 73% was very low.

A rather encouraging response was obtained from respondents‟ knowledge about the features and causes of obesity, which happens to be common among children in the study area. The statistical data on respondents‟ knowledge about the features and causes of obesity is presented on Table 4.10.

Table 4.10: Features and causes of obesity

Marks	Frequency	Percentage (%)	Remarks
0 – 45	11	9	Low
46 – 59	28	23	Fair
60 – 79	62	52	Good
80 – 100	19	16	Excellent

Source: Survey Data, 2018.

It was gathered that, 16% had excellent knowledge about Obesity whilst 52% also had a good knowledge about the ill-health condition. Only 23% had a fair knowledge and 9% had a low knowledge about it (Freedman, Dietz, Srinavasan & Berenson, 1999). Poor diet in fact is life threatening. The survey showed that a total of 68% of the respondents had an appreciable level of knowledge about obesity whilst a total of 32% proved not to be knowledgeable enough about Obesity. Poor dietary behaviours resulting in malnutrition especially in children exposes them to health consequences and illness such as Obesity, and that knowledge about the features and

causes of illness might guard against the contraction of such illnesses. This is not surprising because adolescents are very mindful of their body weight.

In summary, respondents‟ nutritional knowledge regarding nutrients and their food sources, nutritional deficiency, food and nutritional content as well as knowledge on obesity was captured on Table 4.11.

Table 4.11: Summary of nutritional knowledge score

Knowledge	Response Score	%	Remarks	Score	%	Remarks
Nutrient and Food source	0-59	67	Low/Fair	60-100	33	Good/Excellent
Nutritional deficiency	0-59	70	Low/Fair	60-100	30	Good/Excellent
Food and nutritional contents	0-59	73	Low/Fair	60-100	27	Good/Excellent
Knowledge about obesity	0-59	32	Low/Fair	60-100	68	Good/Excellent

Source: Survey Data, 2018.

From the table above it is obvious that, respondents showed weak nutritional knowledge based on nutrients and their food sources, nutritional deficiency, food and their nutrient contents but however an appreciable knowledge about obesity as represented by 67%, 70%, 73% and 32% respectively**.** Research has reported that other influential factors on adolescents‟ dietary decisions include their level of nutritional knowledge (Rasanen et al., 2003), and that they are supposed to control their eating behaviours. It should however be noted that people who have good knowledge in food and nutrition lead fundamentally healthy life style (Ivanovic et al., 2004). The nutritional knowledge among respondents was seen as low.

An investigation on the respondents‟ source of nutritional information was also sourced and presented as shown on Table 4.12.

Table 4.12: Results of respondents' source of nutrition information

Variable	Frequency	Percentage %
Media	23	19
Family/Home	20	17
School	19	16
Health centres	28	23
Friends	18	15
Church programmes	7	6
Others	5	4
Total	**120**	**100**

Source: Survey Data, 2018.

An investigation on the respondents‟ source of nutritional information was also relevant to the current study. As gathered from respondents, a decent number of respondents representing 23% traced their source of information on nutrition to health centres. 19% of respondents indicating that they are well educated by the media. Whilst 16% attributed to school education and 6% traced to some church programmes. It could be ascertained from the data that, majority of respondents (23%) had their nutritional information from health centres and very few (6%) sourced it from their church events. None of the other sources was recorded by half of the respondents as their source of nutritional information. According to the survey, respondents obtain their nutritional knowledge from several sources including formal education, families and friends, mass media and health services. Therefore, dissemination of nutritional information should be „all hands on deck‟.

Research Question 2: What are the eating patterns and food intakes of students of Obrachire Senior High Technical School?

Table 4.13: Results of eating patterns and intakes

Eating patterns and food intakes	Yes (%)	No (%)
Once a day	49.2	50.8
Twice a day	82.5	17.5
Eat breakfast	44.2	55.8
Take snacks	75.8	24.2
Eat fruits at least each day	25.0	75.0

Source: Survey Data 2018

The results from table 4.12 above shows respondents" eating pattern and food intakes with 82.5% of respondents eating twice a day i.e. Breakfast-Lunch or Breakfast-Supper or Lunch-Supper, while 75.8% take snacks, 49.2% do skip meals, with 44.2% who eat breakfast and 25% eat fruits at least each day respectively. The findings revealed that majority of the respondents eat between Breakfast-Lunch or Breakfast-Supper or Lunch-Supper, whiles some take snacks as a meal and a few of the respondents eat fruits which is ideal for the body when taken regularly.

Table 4.14: Food Intake

Breakfast	Frequency	Percentage %
Tea/Milo and bread	53	44
Rice porridge/ Tom brown and bread	36	30
Koko with bread or koose	24	20
Waakye	24	20
Rice and stew	24	20
Banku and fried fish/ stew	18	15
Ampesi	6	5

*Multiple responses

For breakfast, 44% take tea/milo and bread followed by 30% who take rice porridge/ tom brown and bread. 20% take koko with bread or koose. Another 20% take waakye

and again another 20% take rice and rice stew. 15% take banku and fried fish or stew. 5% take ampesi.

From the interview, students said that their eating pattern varies according to their activities and time. Sometimes they eat two main meals a day and snacks in between or sometimes three times but generally, they eat twice a day with snacks. Those in the boarding house normally have three meals a day. Some of the boarders said they miss the meal if they do not like the food. The food intake for breakfast include: koko with bread or koose, rice porridge or tom brown with bread. The highest percentage of 44 take beverage with bread and 20% take waakye or rice and stew. A few i.e. 5% take banku and fried fish/ stew. Some of them explain that, if they have Physical Education in the first lesson, then they take beverage in order not to feel heavy. Those who go in for heavy breakfast like ampesi, banku and rice said that they go in for heavy breakfast to sustain them for a longer period of time and then have snack supper.

Lunch	**Frequency**	**Percentage %**
Rice and stew	53	44
Fufu and soup	36	30
Yam, Plantain Ampesi and stew	28	23
Red red (fried plantain and beans stew)	24	20
Banku/ kenkey and stew, pepper and fish	19	16
Gari and soup/ stew	18	15
Fried rice, Jollof	18	15
Gari and beans	7	6

*Multiple responses

For lunch, 44% take rice and stew, 30% take fufu and soup, 23% take yam, plantain ampesi and stew. 20% take red red i.e. fried plantain and beans stew. 16% take banku/ kenkey and stew or pepper and fried fish. 15% take gari and soup or stew. Another 15% take fried rice or jollof and 6% take gari and beans.

Their lunch intake consist of mainly rice and stew which is very popular 44%, followed by fufu and soup 30%, yam, plantain ampesi and stew 23%, red red 20% with the least being gari and beans 6%.

Supper	Frequency	Percentage %
Fufu and soup	88	73
Ampesi and stew	36	30
Banku and fish/ stew	28	23
Rice and stew	24	20

*Multiple responses

For supper, 73% take fufu and soup. 30% take ampesi and stew. 23% take banku and fish/ stew and 20% take rice and stew.

For supper, majority 73% said they eat fufu and soup especially at weekends when they are home, 30% eat ampesi and stew and 23% for banku and fish/ stew as 20% take rice and stew.

Snacks	Frequency	Percentage %
Meat pie (turn overs)	88	73
Drinks	36	30
Doughnuts/ rock buns	36	30
Biscuits	24	20
Yoghurt	7	6
Boiled corn and groundnuts	6	5

*Multiple responses

For snacks, 73% take meat pie i.e. turn overs, 30% take drinks and another 30% take doughnuts/ rock buns, 20% take biscuits, 6% take yoghurt and 5% take boiled corn and groundnuts.

For the snack intake, 90% of the students said they take meat pie and rock buns or doughnuts. 20% said biscuits and only 5% take boiled corn groundnuts. On further questioning, they said meat pie and doughnuts are very popular on campus. They also take yoghurt and drink. Their favorite and most popular drink is Sobolo

because the head master once told them it is good and also cheaper than the other drinks. A few of them said they take ice cream when the ice cream seller comes around with the meat pie.

Research Question 3: What factors affect choice of food among students of Obrachire Senior High Technical School?

Table 4.15: Results of factors that affect the food selection

Factors	Frequency	Percentage (%)
Mood	24	20%
Religious/ethnic taboos	36	30%
Food availability	98	82%
Taste of food	88	73%
Social aspects	6	5%
Food advertisement	53	44%
Cost of food/money available	120	100%
Other	3	3%

Source: Survey Data 2018 *Multiple Response (n=120)

The result from Table 4.15 shows factors affecting food choices. The three major factors that affect food choice as evidenced by our respondents are Cost of food/Money available constituting a percentage of 100% i.e. all respondents considered as a key factor in making a food choice followed by the availability of food with a proportion of 82% and taste of food being the next factor of choice in food selection constituting 73%. Among all the other factors it can be concluded that the major reason for food choice of the students of Obrachire is mainly the cost of food and the means available to get the food.

Research Question 4: What are the effects of poor eating habits/eating behaviour among students of Obrachire Senior High Technical School?

Table 4.16: Results on the effect of poor eating habits of students

Effect	Frequency	Percentage (%)
Stunted growth/development problems	120	100%
Low academic performance	95	79%
Obese/overweight/underweight	112	93%
Frequent sickness/illness/diseases	120	100%
Reduces strength	106	88%
Psychological problems	38	32%

Source: Survey Data, 2018. *Multiple Response (n=120)

Table 4.16 above shows the result on effect of poor eating habits by the respondents.

All the respondents consider stunted growth/development and frequent sickness/illness/disease as the major effect of poor eating habit as evidenced by the percentage of respondents assigned. Following these former effects is obese/overweight/underweight constituting 93% of the total students responds, also about 88% of the respondents associated reduction in strength to poor eating habit.

When asked to suggest ways of improving the eating habits of the students, they all said that the school feeding should include breakfast for the day students as well.

4.2 Summary of Study

Research question 1. Nutritional knowledge of students of Obrachire Senior High School.

Results indicate that nutritional knowledge of students was generally low. As high as 51% scored low marks that is between 0- 45%. Sixteen percent of respondents

scored fair that is 46-59%. Twenty three percent scored good (60-79%) and only 10% of the respondents scored excellent (80-100%).

On knowledge of Nutritional deficiency, 58% of respondents scored low knowledge, 12% fair knowledge, 25% had good knowledge and only 5% had excellent knowledge.

On students‟ knowledge on food and their nutrient content: 55% of respondents scored low, 18% scored fair, 15% scored good and 12% scored excellent.

On knowledge of cause of obesity: 9% of respondents scored low, 23% scored fair, 52% scored good and 16% scored excellent.

The study showed that a total of 68% of the respondents had an appreciable level of knowledge about obesity whiles a total of 32% proved not to be knowledgeable enough about obesity. This is not surprising because adolescents are very mindful of their body weight.

Research question 2 indicated that majority of the students (82.5%) eat two main meals and some snacks. Forty four percent have beverage and porridge for breakfast and some have rice or banku or ampesi. For lunch they eat rice and stew, banku, fufu and kenkey. Supper is usually fufu and soup, rice and stew, banku and stew or fish.

The snacks include turnovers, rockbuns and drinks, boiled corn and groundnut. Factors that affect food choice include mood, price of food, advertisement, food availability, religion and taste of food.

The fourth and final question: effect of poor eating on the students include overweight, frequent illness and poor academic performance.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Overview

This chapter discusses the findings of data collected for this study through an administered questionnaire and corroborated by the interviews conducted and analysed through content analysis.

Good nutrition plays a major role in preventing several chronic diseases including obesity, coronary heart disease, type 2 diabetes and many more as such that affect individual performance academically. The nutritional needs during this age tend to increase because of the increased growth rate and body change composition associated with puberty.

From the study, it appears that a good number of the mothers and even some of the fathers do not have much education that is above Senior High School. A good education will equip the parents to know more about the nutritional needs of their adolescents. Also, the more equipped a mother is as far as nutrition is concerned the better because it is the mother who plans and feeds the family most of the time. The eating habits acquired at home greatly influences the adolescent child in all spheres of his or her life.

This agrees with, William et al. (2012) who agree that there is a correlation between the level of parental education and nutritional knowledge and a higher level of parental education is associated with greater levels of nutritional knowledge. This is naturally passed down to the children.

A total of 75% of the mothers are traders, unemployed artisans and fishmongers. These groups of people do not earn much or nothing to be able to afford

wholesome and nutritious meals for their children. This will also largely influence the eating habits of their adolescents.

Research question one looked at the nutritional knowledge of the students. On their knowledge of sources of food nutrients, only a few 33% scored 60 and above. On knowledge of nutritional deficiencies, about 60% had low knowledge on the basic nutritional deficiencies. On knowledge of food and their nutritional deficiencies, 60% had low knowledge. On knowledge of food and their nutrient content, about 55% had low knowledge. On causes of obesity a total of 68% had adequate knowledge on the cause of disease. These findings were quite interesting, for the three important issues, the student‟s general knowledge on nutrition was low but however on the causes of obesity, they seem to have a decent idea about the disease. Adolescents are very conscious of their looks and figure generally and so they naturally look for ways of controlling their appearance. It is therefore not surprising the scores here are good. The results agree with Worsley (2002) who posited that adolescents‟ nutritional knowledge has been noted as influencing eating habits.

Research question two examined patterns and food intakes among students, the results show that majority of the respondents do eat more than two meals in a day, this shows that at this time high nutritional demands is due to rapid growth and development during puberty. This agrees with Videon and Manning (2003) assertion that it is a time when individuals experience increasing control over their food choices and develop dietary habits that affect their weight status and extend into adulthood (Lien et al., 2002). The results also show that more than two-thirds of the respondents feed on snacks, while almost close to half of the respondents stated that they skip meals, close to halt of them eat breakfast and less take fruits at least each day. Thus, the outcomes of the findings support the fact that during the transition into young

adulthood, adolescents eat away from home more often and with their families usually less (Neumark-Sztainer et al., 2005), they consume a larger percentage of energy intake at fast-food and other restaurants (Nielsen et al., 2002). With fast-food restaurant springing up with swift speed it is particularly common among adolescents to patronize from these places and this has a detrimental impact on their nutrient intake (French et al., 2001). Thus, the effect of home availability on adolescents‟ food choices may be attenuated by their food choices away from home. Besides, breakfast makes an important nutritional contribution to people both children and young, yet breakfast is more commonly missed more than any other meal (Dwyer et al., 2001). This agrees with the results of the study. It is estimated that approximately 20% of the daily energy intake at breakfast is to be consumed (Nicklas et al, 2004). Moreover, this finding confirmed with Wilson et al., (2006) assertion who stated that children and adolescents who miss breakfast consume significantly less of many important nutrients and minerals than those who eat breakfast.

Research Question three on factors affecting the choice of food revealed that availability of food, cost of food/ money availability and taste were considered more to food advertisement, and religious taboo and mood were less in consideration. Thus, the association between television viewing and food intake has been linked to the effect that food advertisements have on subsequent food choices according to Coon and Tucker (2002). The study findings are consistent with Mbhenyane et al. (2008, p.211) assertion that cultural and religious beliefs determine what should be eaten in communities; however, the food chosen in a cultural perspective does not always provide the optimum nutrient intake required. Benavides-Vaello (2005, p.27) also agrees with this finding that culture and religion influence how food is prepared and food taboos exist in many cultural groups that prescribe what is to be eaten

(Mbhenyane et al., 2008, p.209). Further, the outcomes of this study consent with Wardle and Cooke (2008) and Fisher and Birch (2007) study that association sensory of cues of foods with context and consequences of eating certain foods might be developed based on liking and disliking. Again, the findings also agree to the fact that availability of foods through environmental cues and mere exposure as a result of familiarity is attained through accessibility and availability of certain foods (Cullen et al., 2003).

Research question four on the effects of poor eating habits of students, the results show that stunted growth/developmental problems, obese/overweight, frequent sickness/illness/ diseases and strength reduction are major effects. This agrees with MONUPA (2011) submission that many boys and girls in developing countries enter adolescence undernourished, making them more vulnerable to disease and early death. On the other hand, dietary excesses of total fat, saturated fat, cholesterol, sodium and sugar occur leading to overweight and obesity which is another form of malnutrition with serious health consequences increasing among other young people in both low and high-income countries (Adamu, Adjei Naa Kai & Kubuga, 2012). The findings also buttress Chalapati et al. (2006) point in their statement that "the results suggested that malaria, diarrhoea diseases and malnutrition were the leading causes of death among school-age children".

The findings of this study are also consistent with studies that have considered the necessity of nutritional needs during adolescence to increased growth rate and changes in body composition associated to puberty though the nutritional intake is interrupted by a myriad of factors. (Amos, Intiful & Boateng, 2012; Brown & Ogden, 2004; Gedrich, 2003). The finding of this study also shows that there was a relatively significant contribution from religious/ethnics taboos, social factors, and mood and

food availability respectively. Thus, shows that of all the factors, availability of food, taste and cost of food are major consideration that contributed more of the variance. This is consistent with the assertion that culture shapes ideals, identities and roles involved in the concept of food choices (Devine, Sobal, Bisogni & Connors, 1999). Similarly, it also agrees with Debevee and Tivadar (2006) assertion that it is a binding agent that can make connections across geographical and symbolic boundaries. Furthermore, the findings corroborate Shelton (2005) submission that lower socioeconomic status and poverty are strong predictors of unhealthy eating habits. The study findings also agree with Ogungbenro and Akinbile (2003) and Gudam (2002) who attested that people‟s beliefs about food have an important influence on food behaviours.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.0 Overview

This Chapter presents the summary, conclusions and recommendations.

6.1 Summary

The study investigated the eating habits of students of Obrachire Senior High School. A descriptive survey research design was used. One hundred and twenty students were randomly selected as respondents. A questionnaire and semi-structured interview guide were instruments used for data collection. Data was analysed using SPSS version 19.

Results indicate that nutrition knowledge of student was generally low but seemingly high on the related queries on causes of obesity.

On their eating pattern majority, that is 82.5% eat twice a day, and 75.8% take snacks. Unfortunately, only 25% eat fruits at least each day.

The factors that influence food choices include the following: food availability, mood, religious/ethnic taboos, cost of food and money available, the taste of food, advertisement and social factors.

The effects of poor eating habits are stunted growth, low academic retention/performance, obesity and reduced energy and frequent illness.

6.2 Conclusions

From the results, it can be concluded that students‟ nutrition knowledge was relatively low. Most of the students have parents, especially mothers with low educational background. Since it is the mothers who feed the family, the students

acquired their eating habits from the way they were fed by their mothers who do not have adequate nutritional knowledge hence the students‟ low knowledge.

With the second research question, the majority (82.56%) of the students, especially the day students eat two meals a day. They said they eat: late breakfast or brunch and late lunch, or late breakfast and supper or lunch and supper while 75.8% take snacks. Forty-nine percent of them skip some meals and 25% eat fruits everyday. This shows the students are generally not fruit eating people. During the group interview, some of them said they occasionally eat fruits for desert.

On the factors that affect choices, it can be concluded that; the food available, cost of food, advertisement, religion, ethnic taboos and watching of television influence students‟ food choices. With the final question, the conclusion is that students agreed that their eating habits affect them negatively sometimes. This include students growth, low academic performance, obesity/ overweight, frequent illness, reduced strength and energy, students are aware that some of the eating habits are not healthy and needs to be improved.

6.3 Recommendations

From the findings of the study, the following recommendations are suggested:

1. Nutrition and health education programmes should be carried out periodically in the various Senior High schools in the district and this should be incorporated into the educational curricula in the long round.
2. Because students/adolescent are generally very active, they should have more regular meals to be healthy and energetic.
3. Students/adolescent should be educated not to follow or eat everything that is advertised.

4. A food and nutrition agenda among Senior High school should be established by the Ministry of Education, where the key focus is for students to engage in practical activities that promote good eating habit and promote nutritional knowledge.
5. To improve the eating habits of students the school feeding programme should include breakfast for the day students as well if possible, because they leave home early.
6. The existing School lunch programme should be extended to all the schools in the district by government and other benevolent Non-Governmental Organizations to supplement food intake.

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APPENDIX

Questionnaire on Nutrition and Eating Habits Inventory

UNIVERSITY OF EDUCATION, WINNEBA

DEPARTMENT OF HOME ECONOMICS

FACULTY OF SCIENCE EDUCATION

Dear Respondent,

I am Justina Marigold Assan, an MPhil Student of University of Education, Winneba, carrying out a research study on adolescents‟ eating habits and nutritional status. The nutritional inventory is a questionnaire that seeks to assess your eating pattern and reasons for the choice of food. It is an inventory that does not need your name with the assurance that whatever information provided will only be used for the purpose of this research, assuring you of confidentiality of the information given. The inventory provides different patterns of questions that seeks your responses accordingly, kindly read and follow the instructions provided before answering these questions.

Thank you for your participation.

Yours,

Justina.

SECTION A

Demographic information

Instructions: Kindly tick **[√]** the column as appropriate to you.

1. Gender: Male [ ] Female [ ]
2. Age: 12-14 [ ] 15-16 [ ] 17-19 [ ] 19-20 [ ]
3. Class or Form: Form 1 [ ] Form 2 [ ] Form 3 [ ]
4. Religion: Christian [ ] Muslim [ ] Traditional [ ]
   Others [ ]

5. Ethnic Background ----------

6. Education Background of Parents:

JSS	[ ]
SSS	[ ]
Ordinary Level	[ ]
Advance Level	[ ]
HND/Diploma	[ ]
First Degree	[ ]
Masters	[ ]
Others	[ ]

7. Occupation of Father:

Unemployed	[ ]
Trader	[ ]
Fisherman/Fishmonger	[ ]
Artisan	[ ]
Civil Servant/Public/Private	[ ]

Students' Nutritional Knowledge

a. Source of Nutrients			
Nutrient	**Food Source (at least two)**		
Protein			
Carbohydrate			
Iron			
Iodine			
Vitamins			
b. Nutrient Deficiencies		**Yes**	**No**
Protein	Causes Kwashiokor, stunted growth		
Carbohydrate	General weakness, Loss of Appetite		
Vitamin A	Blindness, Weak immune system		
Iodine	Goiter, stillbirth		
Calcium	Weak bones and teeth		
Iron	Anaemia, Susceptible to malaria		

c. Nutrients functioning			
Nutrients	**Functions**	**Yes**	**No**
Protein	Growth of tissue		
Carbohydrate	Good eye sight		
Calcium	Provides energy		
Iodine	Strong bones		
Vitamins	Healthy living		

d. Nutrient contents in common food	
Food item	**Nutrients**
Milk	
Egg	
Cereals e.g. Maize, Wheat, Rice, Millet etc.	
Fish	
Tubers & Roots e.g. Yam, Cocoyam, Potatoes etc.	
Fruits e.g. Water Melon, Oranges, Banana, Pineapples	
Vegetables e.g. Kontomire, Carrots, etc.	

8. What are the features and causes of obesity?

9. What are the sources of your nutrition information? Tick as appropriate.

Knowledge of Nutrition	
Family/home	
Friends	
School	
Media	
Others	
Total	

Eating Patterns and Food Intake

10. How many times or meals do you have a day?

    Once a day [ ] Twice a day [ ] Three times a day [ ] Four/five times a day [ ] More than five times a day [ ]

11. Breakfast, lunch and supper

12. Breakfast, snack, lunch and supper

13. Brunch and supper

14. Brunch, snack and supper

15. Do you eat between breakfast and lunch or lunch and supper? Yes [ ] No [ ]

16. Do you sometimes skip your meals? Yes [ ] No [ ]

17. Do you often eat breakfast? Yes [ ] No [ ]

18. If yes, what do you take for breakfast?

    Kooko with bread or koose [ ]

    Porridge with bread [ ]

    Tea/Milo with bread [ ]

    Waakye

    Rice and stew

    Ampesi

    Banku and fried fish/stew

    Other [indicate] ----------

19. What do you eat for lunch?

    Yam/ampesi and stew [ ] Rice and stew [ ] Gari with soup/stew [ ] Beans and gari [ ] Banku/kenkey with soup/stew/pepper and fish or meat [ ]

    Others [specify] ----------

20. What do you eat for supper?

    Yam and stew [ ] Rice and stew [ ] Gari with soup/stew [ ] Beans and gari [ ] Banku/kenkey with soup/stew/pepper and fish or meat [ ]

    Others [specify] ----------

21. Do you take snacks as meal? Yes [ ] No [ ]

22. If yes, how often do you take snacks?

    Often [ ] Very often [ ] Not often [ ] Rdarely [ ]

23. Do you drink enough water? Yes [ ] No [ ]

24. If yes, how often do you drink water?

Before meal (0nce) [ ] After meal (twice) [ ] Before and after meal (three times) [ ] Any time (five times/six times) [ ]

25. Do you take fruits at least each day? Yes [ ] No [ ]

26. Where do you eat? Home [ ] Outside [ ] Both home and outside [ ]

27. Which of the following factors affect your food? (**tick [√] as appropriate to)**

Factors	**Agree**	**Disagree**
Mood		
Religious/ethnic taboos		
Food availability		
Taste of food		
Social aspects		
Food advertisement		
Cost of food/money available		
Other		

28. Where do you get your nutrition information from? Family [ ] Friends [ ] School [ ] Media Television [ ] Others [specify] ---------- -- Tick ( ) as many as you get information on nutrition

29. What is the effect of poor eating habits? (**tick [√] as many as appropriate to you]**

Effect	**Agree**	**Disagree**
Stunted growth/development problems		
Low academic performance		
Obese/overweight/underweight		

Frequent sickness/illness/diseases		
Reduces strength		
Psychological problems		

30. Suggest ways of improving the eating habits of students in Obrachire Senior High Technical School.
