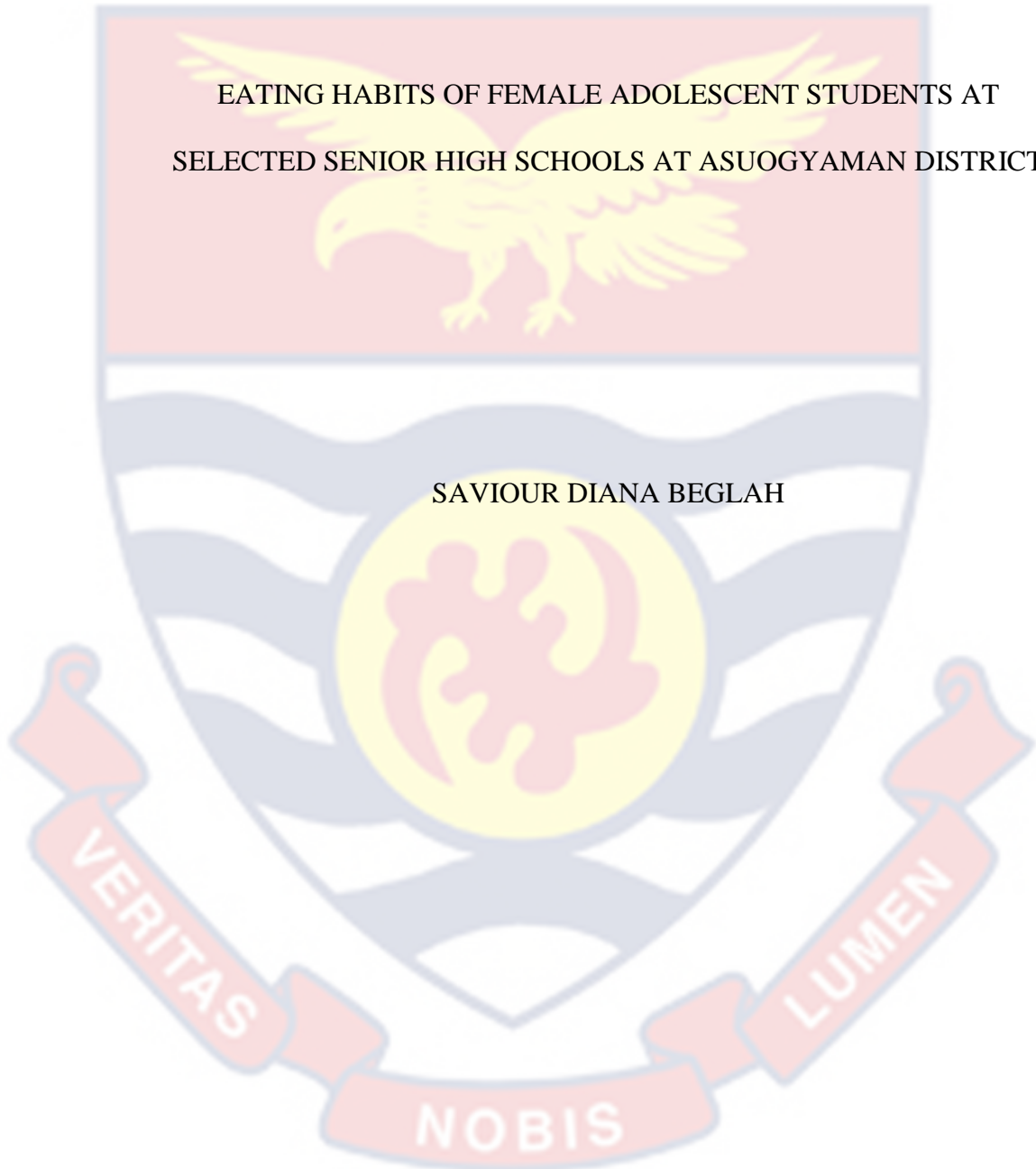


UNIVERSITY OF CAPE COAST

EATING HABITS OF FEMALE ADOLESCENT STUDENTS AT
SELECTED SENIOR HIGH SCHOOLS AT ASUOGYAMAN DISTRICT

SAVIOUR DIANA BEGLAH



2023



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BY

SAVIOUR DIANA BEGLAH

Thesis submitted to the Department of Vocational and Technical Education,
Faculty of Science and Technology Education of the College of Education
Studies, University of Cape Coast in partial fulfillment of the requirements for
the award of Master of Philosophy degree in Home Economics Education

OCTOBER 2023

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this University or elsewhere.

Candidate's Signature: Date:

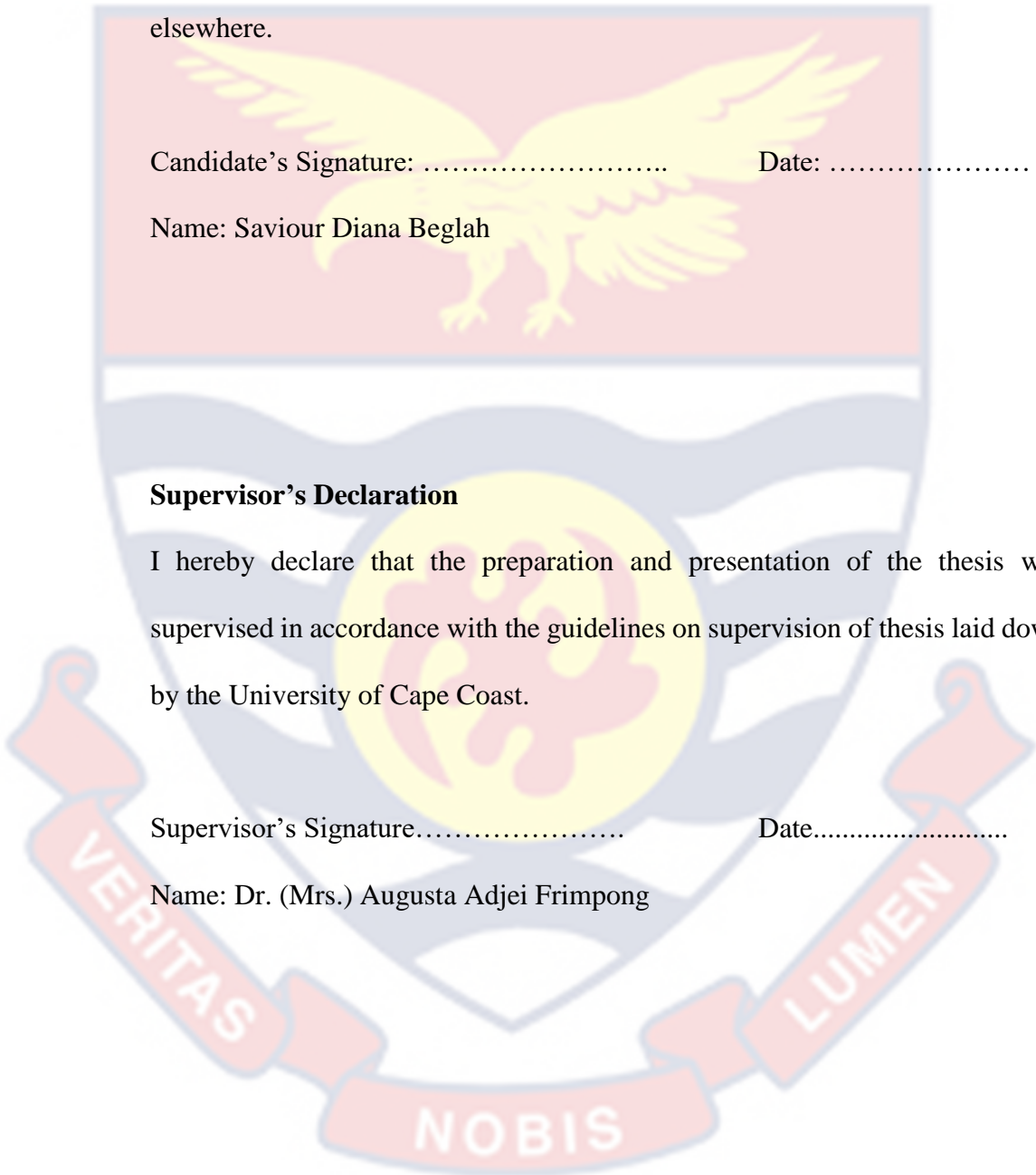
Name: Saviour Diana Beglah

Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis was supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Supervisor's Signature..... Date.....

Name: Dr. (Mrs.) Augusta Adjei Frimpong



ABSTRACT

This study is aimed at exploring eating habits of female adolescent students of some selected schools in the Asuogyaman District. Factors such as individual, environmental, social, and other school related factors impact heavily eating habits of students and these factors could have negative implications on the health of female adolescent students in school and even after their education. The descriptive survey design was adopted for the study. The lottery method under the simple random sampling method was used to select three schools out of six and a sample size of 535 respondents was also chosen through the simple random sampling technique from a population of 1,010 female adolescent students from three selected schools within the district. Generally, the study can conclude that, female adolescent students of Asuogyaman district do not practice good eating habits since majority of them skip their meals. They were also aware poor eating practices could lead to poor academic performance and long-term health complications. Based on the findings, this study recommends that school authorities put in place corrective measures in the form of punishment to discourage the continuation of poor eating practices. Regular nutritional surveillance to monitor meals served in the dining hall to find out whether the quality meets the nutritional requirement and if not measures put in place to correct it and that could significantly be of great help to the female adolescent students. To a large extent this practice will go to highlight all benefits of consuming quality meal to the female adolescent students.

KEYWORDS

Eating Habits

Female Adolescent Students

Senior High Schools

Asuogyaman District



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Again, I extend my greatest appreciation to Mr. Avudzivi Gerhard, Director of Ghana Education Service, Keta Municipality, Mr. Mawuli Tih, Mr. Selorm Wisdom Norgbe who contributed in diverse ways to make this work a success.

DEDICATION

To my beloved and dearest parents, sisters and only brother

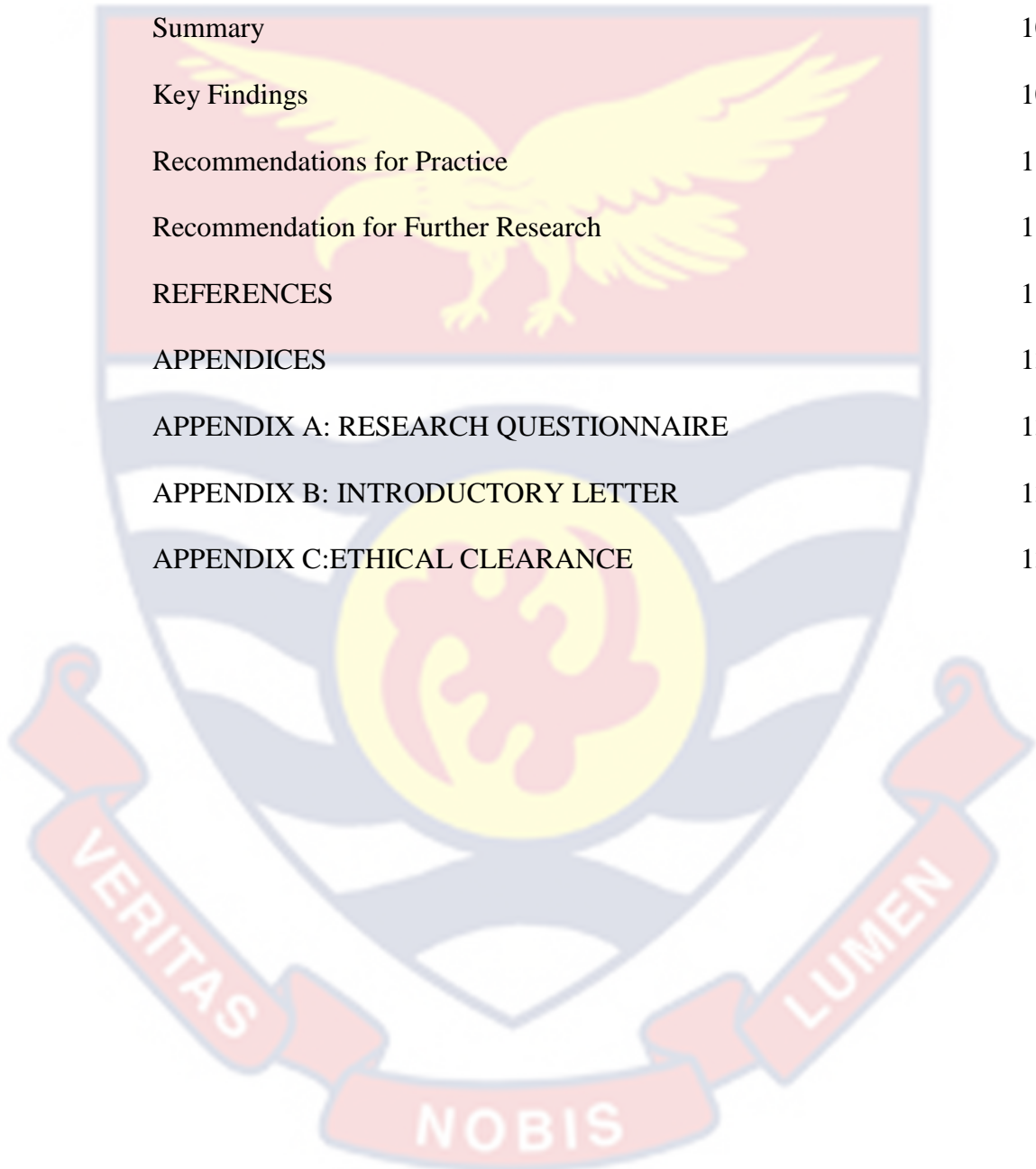


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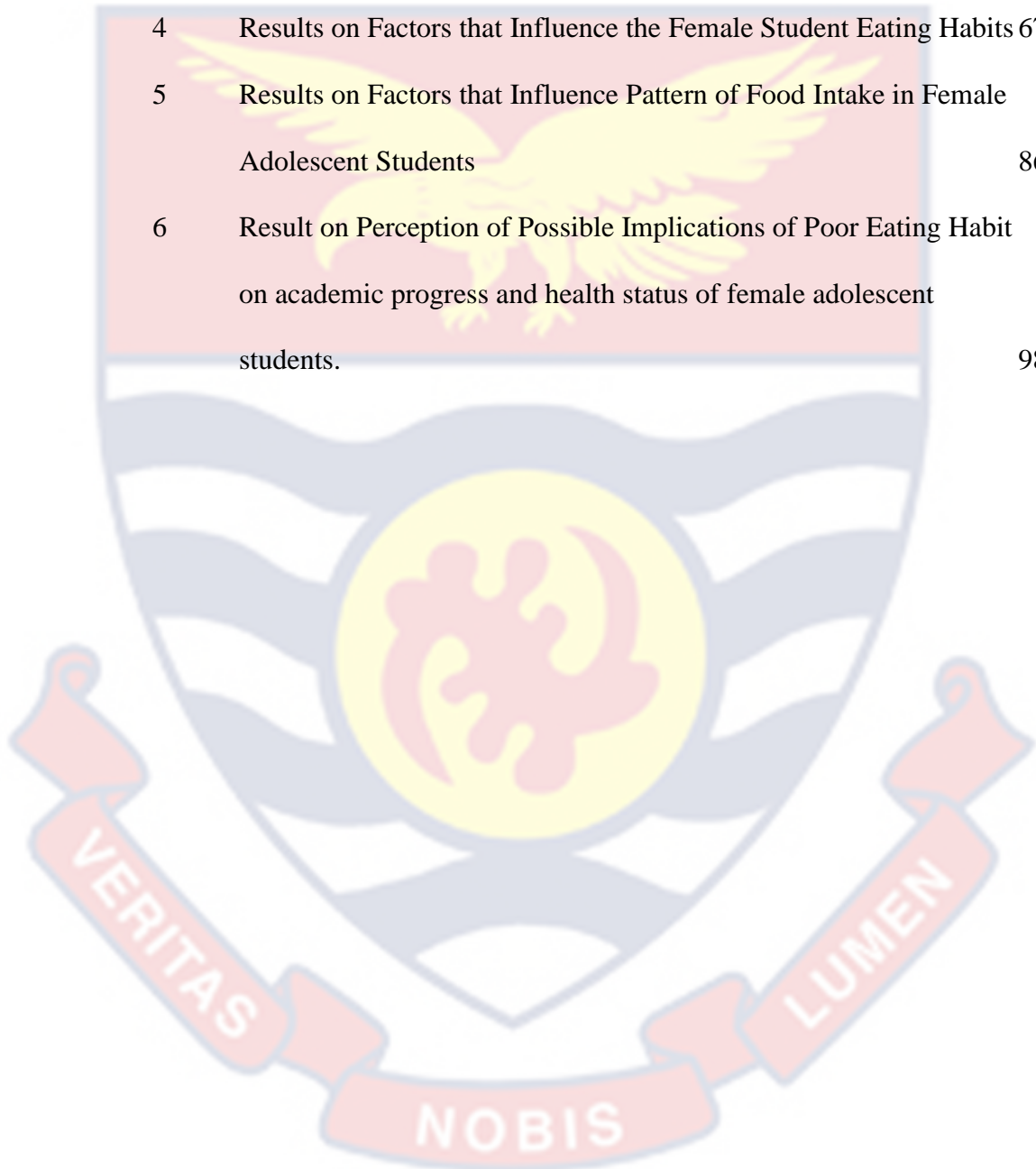
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LIST OF ACRONYMS

W.H.O-	World Health Organizations
USDA-	United State Department of Agriculture
DNA -	Deoxyribonucleic Acid (DNA)
BMI –	Body Mass Index



CHAPTER ONE

INTRODUCTION

Healthy eating habit among adolescents is important in the development of physical and cognitive processes. Eating habit has an important function to perform in the academic achievement of both the female and male adolescent students at the various stages of their education. Adolescents apparently have the greatest freedom and independence in making their own food choices especially when they are away from their families and to a large extent goes to determine their eating habits and food patterns. Perhaps for this reason, adolescents tend to develop and practice unacceptable eating habits; the effects of which may have far-reaching consequences (Amos, Intiful, & Boateng, 2012).

Background to the Study

Adolescence is an important period in the life of every individual and recognized as a transition from childhood to adulthood within which personality differences of the individual are formed and developed and exhibited throughout the life of the individual. The World Health Organization (2021) reported the period witnesses and exhibits swift physical, intellectual, and psychosocial growth that influences the manner in which the individual deals with his or her feelings, thoughts, decision-making processes, and relationship with the world around them. The period usually corresponds with changes in the individual's life and if poorly managed; these transformations could trigger psychological imbalance and social trauma for the adolescents (Valverde, Lyubansky & Achenbach, 2012).

The various changes occurring in their body usually compelled the adolescents to focus more on their physical outlook which for them is a condition or a necessary demand that could promote positions and interest they prefer within the group or community they belong. It is as the result of this difficult moment adolescents go through hence the period is described as 'storms and crises' (Hashmi, 2013). Also, a good number of adolescents do not only gain new knowledge, skills, understanding during this stage of their development but also personal freedom. In effect, many of them develop a new sense of identity, build competences, uniqueness and personality as they transitioned from adolescence to adulthood (Falaye, 2014; Ofole, 2015).

Habits and experiences acquired during adolescence affect various aspects of adult life that are associated to food, health, and psychosocial developmental preferences. This means that healthy eating habits during adolescence remain vital to a healthy productive and reproductive life as well as deterring the spread of non-communicable chronic diseases in life later (Onyiriuka, Ibeawuchi & Onyiriuka, 2013; W.H.O, 2016). The physical and psychological transformations many adolescents experience make them selective in the choice of food, which in turn affects their eating behaviour. Poor eating habits during adolescence can have major consequences for health and well-being later in life. Obviously, a healthy diet at a young age is essentially vital to promoting healthy food choices later in life (Nelson, 2017).

Several factors including feeling of slim body, food preferences, food availability, peer influence and perceptions are among few of the factors that have influenced and to a very large extend determined the eating habit and patterns of many adolescents (Zahroh, Indraswari & Kusumawat 2021). It has

been known generally that eating habits are part of the growing process of children through to their adolescent years. The crucial nature of adolescence therefore triggers different kinds and effects of physiological, emotional and mental conditions that mostly influence dietary requirements and eating habits.

It is as the result of this situation that adolescents are inclined to adopting or practicing specific food choices and eating habits which may not be common to other groups such as younger children and adults.

Undoubtedly, the experiences adolescent students go through on the various school campuses lead to significant changes in the choice of their diet. Even though they may have sufficient knowledge in respect to nutritional requirements, the transition to school life and its attendants' experiences may offer unprecedented freedom to choose the kind or variety of food they consume. According to Aldulaylan (2016) poor eating practices especially among the female adolescent students often emerge during the traditional college years of the growing female adolescents. Research findings have concluded that a number of young female students in second cycle institutions were determined to accomplish a sense of self-discipline and control through self-starvation while describing a low sense of self-efficacy over academic burdens and family conflicts.

Further, studies have indicated that many female adolescent students do not see the need to eat and therefore were pressured by other people to eat because they look too much skinny or otherwise. In a study conducted by Genena and Salama (2017) to determine the impact of poor eating habits on students in second cycle institutions, it was observed that 28.9% of the students were overweight, 11.8 % were obese, while 55.8% were of normal weight, and

49.6% of males compared to 59.1% of females were underweight. The results further indicated that majority (80%) of the students' intake of meals were erratic. In the same study, close to half of students (45.7%) were eating only two meals in a day (44.4% of females as compared to 48.2% males).

Mallick, Susmita, and Subha (2017) also reported in a study that poor eating behaviour styles are more widespread among overweight adolescent girls as compared to their counterparts who were normal weight and underweight. The report concluded that abnormal eating behaviors of adolescents bring greater danger to their health than previously thought. Abdelaziz, Labib, Sedra and Labib (2015) stated that evidences have proved time and again that bad dietary habits and poor eating behaviors among female adolescent students and young adults have gotten to an alarming stage and can no longer be accepted because the practice has gone beyond recommendation.

According to Golden, Schneider and Wood (2016) poor eating habits among female adolescent students have attracted attention from the general public, various health institutions and other major stakeholders and that such issues are no longer rare cases, but rather a serious health challenge. A study conducted by Lipson and Sonnevile (2017) concluded on an observation that there is a greater percentage of poor eating habits and eating disorders among young female students than in males, with estimation ranging from 11% to 17% among female students as compared to 4% of males.

Several factors have been identified to have contributed to poor eating behaviours among female adolescent students. Among them were/are academic stress particularly when students are preparing for their examinations and when overburdened with assignments and homework at the time they were expected

to rest. This situation may force students to stay away from food or consume more than expected (Ackuaku-Dogbe, 2014). Other compelling situations or conditions that affect food selection may include the colour, shape, temperature, aroma and flavour of the food. Food availability and accessibility also to a significant extent may influence the choice of food just as the costs of food could equally play role in that direction since healthy food attracts higher price as compared to fast and processed food or low-quality food. The kind of eating habits many female adolescents in school have practiced may lead to nutritional deficiency with devastating consequences on their reproductive system including delayed sexual maturation, severe abdominal pain as well as other health complications that may occur later in adult life (Amgain & Neupane, 2019).

The situation of unhealthy eating habits among female adolescent students is not different in Ghana from the situation in other parts of the world. In a study conducted by Azizi, Aghae, Ebrahimi and Ranjbar (2011) on nutrition knowledge, meal patterns, and nutritional status of energy drink users in a Ghanaian University, it was discovered that only 24% of students in that University had good nutrition knowledge. This means that adolescents are likely to fall victims to poor eating habits and are more likely to suffer from its ramifications.

Agyarkwaa, Nyantakyiwaai and Amoah (2019) in their study on nutritional knowledge and food consumption of female adolescent students in a Junior High School, discovered that most female adolescents in school fail to practice healthy eating habits and acceptable food patterns; but consistently skip breakfast and also developed a strong craving and interest in diets with high

sugar and fat contents as snacks. In the same study, it was also observed that most students especially the female ones even as young as they remain, were not guided in respect to food selection but were independent in that direction during meal time. Further, majority of them consistently patronize food available within the school environment without the concern of teachers and parental guidance. This situation is likely to compromise the practice of healthy eating habits.

Again, Atsreh Buxton (2017) indicated in a study that eating of fruits and vegetables are completely missing on the menu of female adolescent students in the various second circle institutions in the country. The study further stated that obesity and overweight were pervasive among female adolescent students while irregular intake of meals together with low vegetables and repeated consumption of snacks were among the commonest unhealthy eating habits the student's practice. In the words of Adamu, Adjei and Kubuga (2012) adolescent girls are extensively occupied with academic activities in schools to the extent that the educational environment has become a key component in shaping and determining their food habits. The educational environment therefore presents an opportunity to encourage acquisition of nutritional knowledge to direct dietary intake of adolescents towards healthier options or may lead to poor dietary habits.

It is also observed that the dining facilities provided on the various campuses offer a variety of food choices and this may create a fertile ground for students to develop either quality eating behaviours or otherwise. It has been argued that the current rising trend of reported cases of overweight and obesity and their associated health complications among Ghanaians including female

adolescents and young adults is likely to deteriorate, due to uncontrolled influx of high-energy dense food into the Ghanaian market, coupled with a complete transformation in the dietary habits of people due to an improvement in socio-economic conditions of many workers (Ayisi-Addo, 2006). For many years, the health of adolescent girl has not been a major concern, and consequently, there has been limited research in the area of adolescent nutrition in respect to poor eating habit among adolescent girls, particularly in developing countries such as Ghana.

This is mainly due to the fact that adolescents are less vulnerable to diseases and resistant to fewer life-threatening health complications as compared to children and the aged. The adolescent girl therefore faces the risk of making poor dietary choices that are likely to result into considerable health challenges. The practice where consumption of soft drinks has become common among them is a source of worry to all and sundry (Peart, Velasco Mondragon, Rohm-Young, Bronner & Hossain, 2011).

Statement of the problem

Food consumption is a vital requirement in the life of every person and it is not only a basic biological need but equally considered as a social and cultural activity. Others also see consumption of food as a habit of enjoyment of aesthetic and for other reasons (Cornil & Chandon, 2016). Indeed, it is through the habit of eating that people express their opinions and attitudes with certain principles and rules. For others, food intake is considered as a pleasure. Characteristically, many individuals would attempt to consume new food and discover new flavour or aroma in order to create different perceptions about food and its relevance. Many studies have stated that there is evidence of close

relationship between food habits and underweight/overweight as well as obesity in adolescent girls in school in several communities in Ghana (Agyarkwaa, Nyantakyiwaai and Amoah (2019; Kandiah, Ulaganathan, Sivapathy, 2020).

Manyanga, Sayed Doku and Randall (2014) indicated a decrease of 18.3% points in underweight among schooling adolescent girls in Ghana between 2007 and 2015. The study also observed an increase in overweight and obesity from 8.7% in 2007 to 13% in 2015. According to the authors, the cause of the phenomenon is largely due to poor eating habits that the adolescents have practiced. The effects of poor eating habits among adolescent girls are enormous. It is often argued that menstrual health is greatly affected by the food habit female adolescent students practice and this can trigger diverse menstrual disorders. In a study, Amgain (2019) indicated that poor eating habits are fundamental contributing factors that are closely related to menstrual complications and that positive linkages exist between irregular diet and menstrual irregularities.

Food consumption habits and dietary intakes of these young female adolescent students across the second cycle institutions are characterized by unhealthy choices of food. Thus, the dietary practices adopted by adolescent girls during their school years have been described as appalling and not acceptable. Atsreh-Buxton (2014) in a study on adolescent dietary practices and food preferences discovered that majority of the students skip their breakfast while vegetables and fruits completely absent in their diet. The study further concluded that their diets are completely composed of junk foods.

Again, Amos, Intiful and Boateng (2012) observed that due to traditional belief in some localities in Ghana; the consumption of certain foods

is abhorred. This has certainly influenced the eating habits of female adolescents in school who come from those localities. It is also observed that adolescent girls patronize soft drinks with high sugar content at the expense of solid food which are readily available and sold within the school environments in such attractive manner which encourages the consumption of these beverages (Estima, Philippi, Araki, Leal & Martinez, 2011).

What therefore is the nature of eating habit among the female adolescent students in the Asuogyaman District of Eastern Region? It appears little is known about the causes of poor eating habits among the female adolescent students in the Asougyaman District. It is, therefore, important to consider through empirical study those factors that impact the choice of food and subsequently determining eating habits among the female adolescent students, their possible effects on the academic and health development on these female adolescent students in selected schools in the Asougyaman District in particular.

Objective of the Study

The main objective of the study is to explore the issues concerning eating habits of the female adolescent students at selected schools in the Asougyaman District.

The specific objectives of the study were to:

1. Identify the factors that influence healthy eating habit female adolescent students in Asuogyaman District.
2. Determine the conditions surrounding food intake in the female adolescent students in the selected schools within the district.
3. Explore the students' perception on the implication of poor eating habits on their academic and health status.

Research Questions

1. What are the factors that influence eating habit of female adolescent students in Asuogyaman District?
2. Which conditions surround food intake in female adolescent students?
3. What are the possible implications of poor eating habit on academic progress and health status of the female adolescent students in the Asuogyaman district?

Significance of the Study

The significance of every research is about the importance of the research to stakeholders and other people who are vociferous in knowledge acquisition. It is also about other researchers who would like to continue from where a researcher might end his/her work. For the purpose of this research, the following significance is worthy to note: The study would be of much significant to the educational authorities, counsellors, parents and teachers. This is because they will come to appreciate issues underlying the causes of poor eating behaviours among female adolescent students.

The outcome of the study will again enable the education directorates, non-governmental organizations, opinion leaders, and other interested parties in educational sector to build closer partnership and provide the needed support for victims of poor eating habits in schools. In addition, the health care centers will also understand better the psychological implications of female adolescent students who very often pay little attention to their diet and by that develop a strategic plan to assist them overcome the challenge.

Delimitations

The study was delimited to only female adolescent students. There are equally a lot of male adolescent students in second circle educational institutions who may fall victims to poor eating practices. However, the large number of female adolescent individuals falling prey to poor eating practices remains mind boggling. Thus, the impact of the practice therefore remains more devastating on the female adolescent students than their male counterparts.

It is therefore prudent to know the views of the female students within the selected schools in respect to the factors that influence their food habits as well as food choices. In addition, the study was delimited to only three selected senior high schools within Asuogyaman district even though there are other second circle institutions within the district.

Limitations

The result of the study was observed within the context of several limitations. In the first place, the study was descriptive in nature. Even though the descriptive design has numerous advantages, it is characterized by some problems. The use of the questionnaire, predetermined questions could restrict participants from adding other relevant information to their responses that would be relevant to the study. Also, another limitation was that the questionnaire was not pre-tested. A pre-tested questionnaire is likely to have provided more details into the questionnaire used that would have informed the researcher that the questionnaire may pose some challenges when it comes to analysis.

Definition of Terms

Eating habits refer to the patterns and behaviors surrounding the consumption of food, including what, when, and how much people eat, influenced by factors such as culture, health, personal preferences, and lifestyle (Atsreh Buxton, 2017).

Female adolescent students refer to young girls, typically between the ages of 10 and 19, who are attending school. This period is marked by significant physical, emotional, and social development (Adamu et al., 2012).

Senior high school refers to the final stage of secondary education, typically encompassing Forms 1 to 3.

Organization of the Study

The study is organized into five chapters. The introductory chapter explains the background of the study, the statement of the problem, the research objectives, and the research questions, significant of the study, the scope of the study and the organization of the study. Chapter two focused on a review of a related literature. This includes healthy eating among adolescents, factors that determine choice of food in adolescents, dieting and disordered eating among adolescents. The chapter also covers a relevant theoretical framework for the study. The third chapter presents the methodology of the study which includes data collection techniques and sampling procedures. The empirical results are presented in chapter four and finally the summary, conclusion and recommendations are presented in chapter five.

CHAPTER TWO

LITERATURE REVIEW

This chapter is devoted to the review of related literature. The fundamental aim of this chapter is to provide a conceptual discussion on eating habits among adolescents, importance of nutrition knowledge and food nutrients to the adolescents as well as factors that influence choice of food among the adolescents. The chapter further reviews basic and relevant scholarly thoughts on dietary pattern among adolescent students as well as health consequences of poor eating habits. The chapter also deals with a relevant theoretical framework that underpins the study.

Eating habits among adolescents

Healthy eating and eating habits are primarily considered essentially relevant in the course of physiological and cognitive developmental processes (Ngwenya, 2021). According to FEN Eating habits (FEN) (2019) eating habits are defined as “conscious, collective, and repetitive behaviors, which can direct individuals to select, consume, and utilize certain foods or diets, in response to social and cultural demands. In other words, eating habits explain the reason behind consumption of food, the manner in which food is eaten and the type of food people consume. Eating habits further explain how socially people eat together interactively and the various means by which people acquire food, keep, use, and dispose off food when not needed.

Undoubtedly, every human consumes food as a biological requirement in order to sustain life. People eat food for the various reasons. To Boateng, Intiful Mawusi and Amos, (2012) many people tend to consume food based on behaviours learnt and commonly practiced in respect to etiquette, meal and

snack patterns, acceptable foods, food combinations as well as portion sizes. The components or what constitutes a meal is not the same everywhere across cultures, but in general a meal consist of grains, such as rice; meat or a meat substitute, such as fish; or beans and accompaniments, such as vegetables.

It is as the result of this that various food guidelines provided the needed suggestions on foods to eat, quantity to eat as well as daily intake. Copious studies have proved that a high number of adolescent students very often have poor eating habits (Ngwenya, 2021). Further, adolescents spend considerable periods of their time within the educational environment which significantly determines the direction of their food habits. Their transition into the educational environment usually exacerbates their dietary habits and if not managed carefully could jeopardize their health conditions especially to their weight problems during and later years of life. Thus, unhealthy eating habits among adolescents remain a precarious factor which contributes to numerous illnesses (Kunene & Taukobong, 2017).

It has been reported that many adolescents in school prefer to consume high calories foods and high intake of fats to eating of fruits and vegetables. In support, Gresse, Steenkamp and Pietersen (2015) in a study conducted in a on: eating, drinking and physical activity among young adults, it was observed that 65% of students in a particular faculty consume less than one fruit in a day. Similarly, Jansen (2011) also in a study observed that a sizeable number of adolescent girls engaged in learning and other activities without eating on a regular basis and also without eating fruits. It is a known fact that fruits and vegetables are major components of a balance or healthy diet and responsible for the promotion of optimal health, growth and intellectual development not

observed that a sizeable number of adolescent girls engaged in learning and other activities only during childhood but also during the states of adolescence (World Health Organization, 2012).

Fruits and vegetables are known to have contained large amount of micronutrients, dietary fiber as well as potential bioactive elements. There are different groups of fruits and vegetables that offers significant large amount of vital nutrients that the human body needs for its optimum development and repair (Hala Hazam-Al-Otaibi, 2015). It is also proven that large quantity of fruits and vegetables have a low energy density that is capable of displacing the consumption of energy-dense snacks, which can lead to weight maintenance. Liu (2012) reported that one of the causes of cardiovascular deaths among individuals including adolescents is the failure to consume enough fruits and vegetables to meet the demand of the body.

Healthy eating among adolescents

A healthy and adequate meal is regarded as the best and important to reduce the manifestation of risk of weight-gain that may lead to chronic disease. This means that a healthy diet is the one known to have contained enough or large amount of fiber, little amount of fat with high intake of fruit and vegetables as well as little intake of additional sugar and drastically reducing regular snacking. Joy, Jackson and Numer (2018) argued that some schools of thought labeled certain specific foods as being characteristically good and others as being fundamentally bad, irrespective of the quantity of the food consumed. The authors suggested that in order to avoid labeling any kind of food as better than the other it would be prudent to reflect the wider context of overall diet in

so as to draw conclusion on that subject of what constitute bad food or good food in respect to taking into consideration what is an acceptable food choice.

However, it is holistically accepted that a healthy diet includes a balance of food from the five food groups as well as taking steps to avoid meal skipping and overeating. The fact remains that health is important for students, especially in intermediate school environment. Similarly, Aldulaylan (2016) reinforced the implications and the relevance of healthy eating to the adolescents in schools especially the female students due to menstrual conditions in addition to the strenuous academic work. The concept of healthy eating was generally described in respect to specific diets, actions and attitudes that encouraged the consumption of those categories of foods, the benefits of eating in that particular manner, as well as consumption of balanced diet. The fact remains that adolescence is a period in the life of individuals that clearly recognizes the various stages of development where the minds and bodies of the adolescents are developing rapidly, therefore imperative that healthy eating forms parts of their integral habits (Gustafson, 2015).

Adams (2011) shared a similar opinion that adolescents in particular need to focus on healthy eating due to the fact that they are in a phase of growth and change and that situations demands demonstration of certain specific behaviours. He added that adolescents need more calories and nutrients in their daily diets more than any other age group to support their developing bodies. Further, they need more food during school hours because of the added demands on their energy (Onyiriuka, 2013).

Several studies have indicated that there is a close linkage between health and education and that healthy eating commences right from the school environment. The Centers for Disease Control and Prevention (2015) in a study mentioned that certain issues remain relevant and affect the behaviour of adolescence in schools include eating habits and physical activities. In view of this, it is important for school meals to be included in the educational processes and make provision for students to practice what they learn in the school setting.

Nutrition and lifestyle

A healthy lifestyle is often described as actively involving physical exercise, sports and recreation, as well as the amount and the kind of exercises involved. According to Kumar (2017) healthy lifestyle involves multidimensional measures of behaviours which cannot be limited to only a physical activity. This is because healthy lifestyle is determined by other important behaviours that are closely related to health and also healthy diet. Significantly, when it is connected to diet, it is understood that the essential elements of maintaining quality health; thus, eating natural, whole food and committed to evading high food items in fat and oil. Proper diet and regular physical activity complement each other to determine what is known and forms the foundation of a healthy lifestyle. These include behavioural practices that promote quality health and therefore become imperative to develop and adopt at a tender age.

As the result of intensive government campaigns to drum home the benefits of healthy eating habits, consumers become aware that balance diet is good for them and that is the best for their healthy development. Equally,

important is that many individuals become aware of the risk of excessive calories as well as fats and salt. Studies have reported that consumers still eat too little vegetables and fruit, while consuming too much calories, fat and sugar to the detriment of their health. It is reported that eating healthily is not just a matter of careful personal consideration. Thus, what people eat is also determined by other factors, such as flavour, habit and costs, while the physical and social environment also play a part.

Studies to investigate eating behaviour of people with a lower educational level have shown that other important factors including habitual behaviours equally contributes significantly to what determines what people like to consume. Among them are consumption of food while watching television, erratic or unplanned consumption of food, skipping breakfast especially as well as consuming fatty or oily food late in the night or eating a particular food only at the weekend. Obviously, behavioural practices people exhibit in their daily lives to a large extent have tremendous influence on their own health and on their well-being, on the health and well-being of other family members and neighbors, other groups members as well as institutions which they belong to, and on the society at large (Kumar, 2011).

Factors that determine choice of food in adolescents

Several factors have been identified to have influenced the lifestyles of female adolescents regarding to their food choices and how they react at the presence of food. During adolescents, both biological and social changes have taken a very strong hold of the individual's every day affairs which includes the choice of food. Quality nutrition is needed during the period of adolescence to

support and augment the rapid growth and development of the individual so as to prevent diseases and other health hazard.

Researchers have argued that eating habits of adolescents have been significantly influenced by certain key determinant features such as individual, societal and environmental factors which have contributed largely to health challenges (Kabir, Miah & Islam, 2018). Those factors that are considered as individual factors and have influenced the eating habits of female adolescent students are discussed together with other social factors below.

Sensory properties of food

According to Manhattan (2019) sensory properties of food refer to the taste, smell, appearance and the texture of food. These properties contribute largely in determining the choices of food in the adolescents. Many studies have supported the fact that even though many adolescents have adequate nutritional knowledge, it does not represent the central motivation for food choice in many adolescents. Instead, eating attitudes and behaviours were strongly influenced by those sensory properties of food. Strangely, several adolescents link taste to energy-dense foods such as sweets, chocolates and yoghurts among others (Verstraeten et al., 2014).

In addition, many adolescents based on their perception were not overly attracted to green vegetables as the result of their unpleasant sensory properties. Many studies have confirmed that adolescents favoured fruits over vegetables. Those fruits and vegetables that they preferred in less quantity were those with strong or sour tastes. Studies have also shown that adolescents were much concerned about the taste and familiarity with the food, its appearance or smell,

and how it is prepared or served. These factors undoubtedly influence their food choice decisions (Ngwenya, 2017).

Convenience, availability and cost of foods

Other factors that remain relevant to the adolescents' choice of food are convenience, availability and the cost of food. To many adolescents, time in particular plays a vital and specific role in their food decision making. That is, many of them are concerned about time available to be spent on food (Ngwenya, 2017). Again, convenience in terms of how swiftly or easy it is for food to be ready, and also the movement of the food from one to another to a significant extent influence their food decision. For instance, McKinley et al., (2005) argued in a study that adolescents detest a long queue for food and also abhor food that takes too long time to cook or serve.

In another study Deliens, Clarys, De Bourdeaudhuij and Deforche (2014) observed that fruits and vegetables do not attract adolescents conveniently as other foods, and were also more expensive as compared to other foods. In a similar study conducted by Abunyuwah and Awuah (2014) argued that unwholesome diets have become more common and made available than healthy foods. Then again, the absence of quality diet or inability to access quality foods as well as shopping habits of family members to a very large extent promoted the purchasing of unwholesome food.

Hunger and craving

Hunger and food craving also form an important aspect of determining food choice of the adolescents. Food craving is a strong yearning and passion to consume a specific type of food (Meule, 2020). In fact, food craving can be distinguished from feelings of hunger through its specificity and passion for a

particular food. That is, while food craving can only be satisfied by consumption of a particular food, hunger can be relieved by the intake of any variety of food (Hormes, 2014). In fact, hunger and food craving frequently occur concurrently; however, being hungry is not a precondition for experiencing a food craving (Richard, Meule, Reichenberger & Blechert, 2017).

Many people do not consider their food as sources of energy and nutrients that the body needs as a demand to facilitate and keep the body's functions in use. Instead, they think of eating food is just to satisfy hunger. Naturally, food cravings bring about high increase in food consumption. Kahathuduwa, Binks, Martin and Dawson (2017) observed that overweight and obese individuals comparatively go through higher levels of craving for energy-dense foods. Cravings often accelerate and elicit binge-eating behaviours in both individuals who are overweight and non-obese and even more severe in female individuals (Crowley, Madan, Wedin, Correll, Delustro, Borckardt & Byrne, 2014).

Education and knowledge

Studies have indicated that the level of education in the individual to a very significant extent affects eating habits as well as dietary behaviours not only during adolescence but also during adulthood (Hamulka, Wadoloska, Hoffmann, Kowalkowska & Gutkowska, 2018). However, knowledge of nutrition and good dietary habits are not connected as expected because knowledge about health does not necessarily lead to direct change in behaviour when an individual is not sure on how to apply the knowledge acquired to benefit him or her.

It is also argued that the availability of information on nutrition is so numerous to the extent that individuals become confused and undecided on which source of information to trust and use to their advantage. This means that individuals may be aware of information on a healthy diet, it does not necessarily lead to a change in behaviour on their part. Conclusively, it is therefore important to disseminate the accurate information through the appropriate medium so as to make it more authentic for the individuals to use as the basis to take action concerning their food habits (Kamanu, 2019).

Emotional and mood conditions associated to food

Undeniably, emotional eating also forms part of the factors that determines healthy food habit in the adolescents. In fact, it is not only loneliness and sadness that determine the quality or quantity of food that the adolescents consume but also anxiety that influences food choice to a very significant extent. Thus, a large number of adolescents end up becoming victims of eating disorder when faced with emotional conditions. Several studies also suggested that for some adolescents, the sensory qualities of the food promote a high level of emotional reactions known as mood alteration or disgust (Levine, 2012).

Many other studies have suggested that adolescents also suffer from mindless eating behaviours. That is, they unconsciously consume various types of food without considering their implications on their health (Bahl, Milne, Ross & Chan, 2013). Even though adolescents are very much aware about the health implications of this behaviour, many of them are still heavily involved in it. Staying long hours with the computer or television programmes have also been cited as factors that have affected eating pattern of adolescents.

Stress and eating habits

Psychological stress is one of the commonest features of modern life which can greatly transform behaviours in different ways and that can affect the health and eating behaviour of individuals including the female adolescents. The complexity of stress involved in food choices and habit are enormous. The impact of stress on food consumption depends on the individuals and the conditions leading to that. Studies have indicated that people are tempted or ended up consuming more food or otherwise when they are stressed out (Tahir, 2016). Also, adolescents who go through protracted stress may suffer from adverse dietary changes thereby increasing the probability of increasing their body mass and subsequently cardiovascular risk with its attendant debilitating health challenges (Tomiyama, 2019).

It is obvious that individuals who repeatedly suffer from stress have little time to make a balanced nutrition in the mist of their busy activities. Stress is a major factor that can cause unhealthy eating habits (Araiza & Lobel, 2018; Choi, 2020). Worse of all is the ability of the victims' body to crave for empty foods. This means that in no time the situation may trigger or create more severe stressful conditions for the body, in addition to a situation of nutritional inadequacy that jeopardizes not only the individual's physical but also mental or intellectual capability and condition. It is therefore not surprising to note that one of the major impacts of stress on people is to see them skip or forget their meals.

According to Gonzalez and Miranda-Massari (2014) adolescents under stress have a strong appetite for coffee and other stimulating substances to help such individuals deal with their predicaments. The danger is that the caffeine in

the coffee makes them restless and remains awake when there is an urgent need for relaxation in the form of sleep. Stanley and Burrows (2017) put forward that individuals who become stressful on many occasions fail to consume the correct quantity of food or the right amount of nutrients and the person starts to experience irregularities in their blood sugar and other metabolic reactions. These irregularities can cause health complications with its attendant challenges such as fatigue, short attention span, inability to concentrate and mood swings. Studies have suggested that it is prudent to tackle stressful moments headlong at the right time in order to avert the body running into long term health challenges with more severe consequences.

Social factors influence on food consumption

One of the commonest activities is to see people eating together as friends, family members or colleagues at the work environment. The fact that food consumption occurs within a socially interactive environment means that it is relevant to comprehend the reasons for eating, the method of food consumption as well as the individuals whom we eat together with. Obviously, all these factors affect the food people eat. Indeed, numerous researches have proven that other people to large extent influence food intake and the selection of food in different ways. For instance, one is likely to consume large amount of food if he/she eats with someone who has the habit of consuming large amount of food.

At the same time, one may also end up consuming more than expected if he/she is involved in a group eating rather than eating alone. Again, some individuals also prefer eating a particular type of food with others who are mostly their close relatives in order to keep practicing their family values and

ethics when they meet together as families at the table to eat (Platania, Rapisarda & Rizzo, 2016). Such 'social-facilitation' of food consumption has been well documented with evidence from observational and experimental studies. In fact, the main reason behind why other people influencing peoples eating behaviour or attitude is because of the fact that they set a good example as role models for acceptable eating behaviour (Higgs, 2015).

In addition, a close interest in respect to correlation between societal standards, dietary patterns as well as overweight has been discovered. In other words, social context has a great influence on eating behaviour and practices of many people. Interestingly, people have different ways of eating their food when they eat together with other people and may adopt a different style of eating their food when they eat alone. This explains the fact that dietary choices of many individuals tend to converge or depend on their close associates who in one way or the other may influence all other behaviours of them (Higgs & Thomas, 2016).

Norms or standards of acceptable eating practices have been established by the conduct of individuals who are around us that are reinforced by cultural expectations and environmental factors. Individuals may develop the interest to practice an eating standard if the individual thinks it is appropriate and beneficial based on social comparison. Thus, appropriate standards are instituted by others and those with whom we share those similarities. Vartanian, Spanos, Herman and Polivy (2015) argued that when a norm is appropriate, it may naturally attract corresponding behaviour to that norm however, this may rely on other influencing factors. Example of such factors include the extent to which that particular norm has received attention, how much the individual is

bothered or concerned about its social acceptability, as well as the presence of other competing including personal values/norms.

Cultural factors

The importance of culture in shaping the lifestyle of individuals cannot be underestimated since culture virtually in totality defines the life of every individual. Culture consists of values, attitudes, habits and customs acquired by learning which starts with the earliest experiences of childhood, much of which is deliberately taught by anyone and which so thoroughly internalized that it is unconscious but goes deeply to determine the total life of the individual. Cultural availability is important, because one's culture determines what constitutes food; all cultures reject some edible parts of their environments (Marangoni, Cetin, Verduci, Canzone, Giovannini, Scollo, Corsello & Poli, 2016).

Culture determines what is important to be eaten within the physical and cultural environment of the individual. Thus, cultural availability is crucial since it determines what constitute food. Indeed, it is reported that different cultural practices either encourage or frown upon the consumption or feasting on different kind of foods by the individual who fall within their cultural group. Further, cultural practices also determine the consumption of a particular food at different stages of life on individual. Again, the transformation in the socio-cultural environment has tremendously led to an upsurge in the accessibility and consumption of confectioneries and processed foods as compared to locally prepared meals and meal patterns in the past (Verstraeten, Van Royen, Ochoa-Avilés, Penafiel, Holdsworth, Maes, Donoso & Kolsteren, 2014).

The various cultural factors do not only determine what, when, where and how much of food to be consumed but also how quickly food is likely to be consumed. In Africa especially, certain green plants are mixed together with food or eaten in their raw state to facilitate easy delivery of babies and to prevent the mother becoming anemic. Other reasons for consumption of leafy plants are to promote quality health for the developing foetus before delivery (Towns & Andel, 2014). For instance, most cultures detest the consumption of hard liquor or smoking during pregnancy or lactation due to its negative impact on the production of breast milk. Even though this may have a scientific undertone it is seen and understood through cultural lens.

Further, in some societies within sub-Saharan Africa, women and young children unfortunately are prevented from consuming certain categories of foods as the result of cultural beliefs and taboos which might be rich in micronutrients (Martínez, Pérez, Pascual & García, 2013). Arguably, many people consider food as culturally symbolic and what is regarded as safe to be consumed in one society may be prohibited as edible in another society. Food habits are considered as one of the earliest and most rooted or entrenched practices of many different cultures that cannot easily be changed.

Indeed, any attempt to bring changes to constitute the culture of the people is likely to result into a series of unexpected negative ramifications where the outcome will be devastating on the people. Food and its food habits remain fundamentally part of culture that plays a substantial role as a focus of emotional linkages, a channel of affection, discrimination or disapproval that usually connotes symbolic references. The distribution of food represents a high degree of social intimacy and acceptance which form part of the culture of the

people. Many cultural environments place an enormous importance on food as playing a social or ceremonial role.

Over the years, there are cultural categorizations of what is known as food such as inedible or edible by animals, edible by human but not by one's own kind of human and edible by human such as self and edible by self. In some other cultures, certain foods are regarded as heavy, some are light while some are also known as 'foods for strength' and some referred to as luxury. In the words of Arzoaquoi, Essuman, Gbagbo, Tenkorang and Soyir (2015) food taboos are identified and observed in several cultures or societies as a structured set of rules and regulations in respect to which particular foods or combinations of foods is acceptable to consume in a particular society.

Parental influence on eating behaviours

Parental control equally comes to mind as a key factor in the determination of adolescents' food choices. This is particularly relevant in respect to preparation of food and attitudes of parents when it comes to purchasing of food for the family. Again, the rules and regulations concerning meals, meal pattern of the family, the type of relationship that exists between children and their parents, as well as the culture of that particular society to a very significant extent determine or influence adolescent's food choices (Platania, Rapisarda & Rizzo, 2016). In effects, a large number of adolescents expressed misgivings that their thought or concerns are not sought by their parents when it comes selection or preparation of the family meal.

The authors further indicated that this practice might inhibit the progress needed in self-efficiency in respect to maintaining a healthy diet and may further negatively affects their future food choices and their health. Kahlor, Mackert,

Junker and Tyler, (2011) opined that the practice of unhealthy eating behaviour in adolescents could also mean an attempt by the adolescents to gain freedom from their parents and may end up adopting this behaviour to rebel against parents in order to establish an independent life.

On many occasions' children model people, they see around especially their close relatives. In this, respect's adolescents may take up the same or similar eating pattern or practices they observe their parents or relatives do (Verstraeten, Van Royen, Ochoa-Avilés, Penafiel, Holdsworth, Donoso, Maes & Kolsteren, 2014). In addition, when parents restrict certain delicious meals from their children with the mind that they rather choose healthful alternatives may instead increase their desire for that particular food or meal. This behaviour can lead to the practice where children are forced to eat when they are not hungry.

Dieting and disordered eating among adolescents

The phenomenon of disordered eating behaviour is among the few mental health challenges of adolescents that affect females far more than their male counterparts. The National Institute of Mental Health (2018) emphasized that eating disorders are severe clinical/medical conditions identified as challenges related to an individual's eating conduct. Numerous studies conducted to unearth the impact of eating disorders have attracted the attention from the general public and several other health facilities and call for a multifaceted approach to reduce the canker especially among the female adolescents.

Disordered eating behaviours are known among the several chronic diseases among young adolescent females that causes severe malnutrition, as

well as acute emaciation, as a result of abnormal eating behaviors such as deliberate and purposeful apocleisis, binge-eating, and self-vomiting as the result of an intense fear of obesity (Golden, Katzman & Kreipe, 2003). Interestingly, the manifestations of eating disorders as a health challenge continue to be the most widespread psychiatric disorders afflicting young women. Disordered eating behaviour at the moment is regarded as socio-pathological phenomena that have been documented as a mark of risky conduct with a distinctive and critical phase of addiction to eating of food.

Franko, Debra, Mark, Blais, Anne, Becker, Sherrie, Selwyn, Delinsky, Dara, Greenwood, Andrea, Flores, Elizabeth, Ekeblad, Kamryn, Eddy and David, Herzog (2005) painted a very gloomy picture about the situation that 10-30% of female adolescent students are at risk for eating disorders in many countries. Eating disorder is a conscious and deliberate activity of self-imposed injury in respect to self-destruction of an individual's personality even though not always realized. The ever-increasing incidence of eating disorders raises concern in respect to identifying the possible risk factors and also fish out the immediate causes of these negative practices.

Garner, (1993) shared similar opinion that the phenomenon of disordered eating behaviour is perceived as multifactorial maladjustment with a manifestation of common pattern of symptoms pointing to similar direction or representing a common path, instead of a single-factor contributory assumption. According to Prígl (2008) a number of individuals turn to compensate or sacrifice food by not eating for failures as a way to solve or help to forget the anxiety or stress as well as discomfort they may experience in course of their daily activities. Papežová and Hanusová, (2012) emphatically supported this

opinion that these individuals fashioned out a kind of fantasy or delusion that starvation suppresses traumatic and emotional anxiety however; it is basically an expression of discontent, melancholy and stress. The fact is that individuals who become victims of disordered eating behaviour tend to blame their family members and neighbours for lack of love and inability to appreciate their efforts as close associates and family members.

Consumption of fruits and vegetables among adolescents

Unhealthy dietary habits have been identified as having a close link to non-communicable diseases such as consumption of little amount of fruit and vegetables. This is unacceptable behaviour that remains a common practice among adolescents globally. According to the W.H.O (2011) adolescents must endeavour to eat not less than five servings of fruit and vegetables as part of their daily meals. Fruits and vegetables therefore are indispensable component of a healthy or quality diet and also as a necessity for healthy growth, development and maintenance of life of every individual. This means that regular eating of fruits and vegetables holds central position to reduce cardiovascular diseases, type 2 diabetes as well as certain types of cancers. Indeed, experts have endorsed diets full of fruits and vegetables as part of daily meals due to their immense contributions to make healthy life.

Fruits and vegetables have been part of human race and holds an important place in dietary guidance due to their rich concentration in vitamins, specifically vitamins C and A; minerals, especially electrolytes; and more recently phytochemicals, especially antioxidants (Muraki, Imamura, Manson, Hu, Willett, van Dam & Sun, 2013). However, the Global School-based Student Health Survey indicated that large number of adolescents in many countries eat

little amount of the recommended quantity of fruits and vegetables; but ended up eating more carbonated beverages and lipid-rich ready to-eat processed foods.

Thus, dietary behaviour seems to change as children become adolescents. Similarly, Rasmussen, Krolner, Klepp, Lytle, Brug and Bere, (2006) have reported that consumption of fruits and vegetables have declined tremendously when children are transitioning into adolescence, while energy-dense foods and beverages have equally witnessed an increase. Hala Hazam-Al-Otaibi (2015) reported that preference for tastes is noted as a major key factor that determines fruits and vegetables consumption among adolescents. Several studies reported smell, shape, deliciousness, diversity, color, and good or bad experiences after eating fruits and vegetables as important factors for consumption of fruits and vegetable in adolescents. Stevenson, Doherty, Barnett, Muldoon and Trew (2007) indicated many adolescents consider fresh green vegetables as healthy foods but they abhor it owing to their bland or unpleasant taste. Thus, many of the adolescents associate the intake of fruits and vegetables with unpleasant and negative taste or bad experience and therefore become scared of it.

Health consequences of poor eating behaviours among adolescents

The period of adolescents is an important stage in which the pubertal development and development tasks remain a crucial factor in the determination of a healthy functional adult. The achievement of these developmental tasks to a remarkable extent defines the future personality of the adolescents. Equally, important is the fact that there is no single organ in the human body that is out of danger or safe from the effects of poor eating behaviour. The visible and

observable signs or symptoms of unacceptable eating habit the adolescents go through are sometimes basically associated to weight control behaviours as well as impact of malnutrition (Rome, Ammerman, Rosen & Keller, 2003).

Indeed, many victims of poor eating behaviour suffer from self-starvation thereby denying the individual's body from the very critical nutrients or substances it needs to perform well. This means that the body is compelled to reduce the various processes of conserving energy which can lead to severe medical complications. One of those medical conditions identified is severe dehydration. According to the experts, dehydration leads to loss of body water with or without salt at a rate greater than the ability of the body to do replacement.

There is a direct correlation between dehydration and brain functioning which has been well established (Shaheen, Alqahtani, Assiri, Alkhodair & Hussein, 2018; Benton, Jenkins, Watkins & Young, 2016). To Nathalie (2017) dehydration can lead to kidney problems such as kidney stones, urinary tract infection and the failure of the kidney itself. Other health conditions of dehydration include low blood volume. This leads to the production of less blood pressure and decrease in the amount of oxygen that must reach the tissues and this can result into death of the individual.

Again, seizures as the result of imbalance of electrolytes, osteoporosis leading to dry and brittle bones and muscle loss and weakness are all documented as medical conditions of dehydration. Ahmed and Haboubi (2010) put forward that malnourished especially in pregnant female adolescents in particular; remain highly vulnerable of becoming another set of malnourished mothers, thereby contributing to the intergenerational cycle of malnutrition.

Malnutrition is associated with a reduction in general functional status and reduction in bone mass, immune dysfunction, delayed post-surgery recovery and high hospitalization as well as increased mortality rate.

Psychological consequences of poor eating habits

Besides, the high risks of death or severe medical conditions resulting from untreated or neglected poor eating behaviours, other physical and psychological challenges are also recorded. Depression remains one of the major negative effects of such eating behaviours (Berk, 2013). Thus, evidence from a number of researches indicated that between 50% to 75% of individuals with poor eating symptoms equally have lifetime histories of depression. Undoubtedly, one of the harmful effects of depression is seen in unnecessary self-criticism of weight and shape that clearly depicts how negative thought is closely related with depression and how that can manifest itself in total discontentment of body image.

According to Skinner, et al, (2012) several studies have stated clearly that symptoms of depression excellently predict the beginning and the continuation of bad eating practices especially in the female adolescents and other young women as well. Skinner et al further stated that those symptoms of depression increase astronomically due to the unacceptable eating behaviours that leads to the feeling of not only inferiority complex but guilt and self-isolation. Other associated challenges of depression include impaired relationship, mood swings, perfectionism, and extremist thinking.

Dietary pattern among adolescent students

The unique educational environment that characterizes school or college life to very large extent goes to influence the eating habit of adolescents even

beyond school life. There have been several studies that have shown and confirmed that students in school have a poor nutritional or food intake (Huang et al., 2003). In most of the cases, the eating pattern of students are determined or hindered by lots of homework, class assignments, unplanned quiz as well as inconsistent sleeping patterns (Kabir et al. 2018). Due to these academic activities and other extra curriculum assignments a good number of students inculcate the habit of temporarily taking snack in an attempt to quench hunger irrespective of their effects on the body.

During the same school period many students are left with no choice but to keep on depending on campus convenience shops for snacks and other provisions which remains the source of supply to them (Aldulaylan, 2016). Arguably, these food items available to students on daily basis more often than not are very high in energy but low in nutritional value, this importantly remains one of the major sources of unhealthy diets pattern which has dominated the life of many students. Generally, foods that are common and available on daily basis to students on campus are high in fat and sodium to some extent low whiles vegetables and fruits that are supposed to provide vitamins and minerals are low and expensive beyond the reach of many students (Debate, Topping & Sargent, 2001).

Several studies have indicated that the diets of students do not contain the needed fruits and vegetables that the body needs to function well (Huang et al., 2003). This situation in addition to other poor eating habit does not help matters and may go a long way to aggravate or compromise the health situation later in life. In the words of Anderson and Duncan (2009) an average student on campus eats only one serving of fruit, one and a half servings of vegetable, half

serving of low-fat dairy and 1.4 servings of whole grains daily. Evidence also suggested that many students who do not actively involve themselves in meal plan have minimum or lower intake of fruits, vegetables, meat and milk as compared to those of their friends who always plan their meals ahead (Grimes, 2013). To some extent, students residing outside school campus are likely to suffer from replacing foods from important groups with nutritionally inferior diet readily available in their environment they can purchase without any difficulty.

Many students hold a strong opinion about the perception of what causes weight gain. There have been a number of approaches students have adopted to control or reduce their weight gain through a common nutritional attitude. Some of the strategies many of them employed include limiting calories largely in the form of skipping meals in respect to breakfast. The consumption of obesity provoking diets such as food high in fat and sugar leads to production of energy, inability to concentrate, poorer academic performance, feelings of apathy, lack of motivation, low self-confidence and disruptions of sleeping patterns. As the result of the negative ramifications on the students many of these students try a much as possible to stay away from the consumption of those foods.

Brunt, Rhee and Zhong (2008) also shared similar pinion in a study which explored the link between body mass index (BMI) and meal pattern behaviours. In that study it was revealed that students with higher BMI consume just a little of vegetables and even that are only interested in the green leafy ones, dairy products and more meat products on a daily basis as compared to students with a lower BMI. In the midst of all these it has been postulated that

the disordered eating habit that students practiced should not be encouraged or overlooked because of its ramifications on their health status later in life. This is because studies have proven that the unhealthy eating attitudes taken up by students may end up in the development of a permanent behavioural practice to the detriment and chagrin of their future health and well-being of such individual students.

Many studies have shown that the diet of students in the school environment consist of little variety and this remains a concern to many health professionals and parents since this phenomenon can lead to a considerable loss in vitamin and minerals. According to (Strong, Parks, Anderson, Winett & Davy 2008) evidence abound that students are in the habit of eating large quantity of calorie, food full of fat as well as high intake of alcoholic beverages. Other nutrients that are greatly lacking in the typical diet of a student include fiber, vitamin D, vitamin E, calcium, magnesium, potassium, and iron. This is very common especially in the diets of female adolescent students who normally reside on school campus (Strong et al., 2008).

Consumption of breakfast among adolescent students

One of the major challenges that adolescent students go through is skipping of breakfast. Several writers have indicated that the quality of breakfast adolescent students consume as a meal in the morning varies; those that eat breakfast persistently have a better nutritional profile than those individuals who normally skip their breakfast. From the viewpoint of Rampersaud, Pereira, Girard, Adams and Metz (2005) regular consumption of breakfast is an important factor that determines weight regulation in adolescents. Unfortunately, many of individuals pay little attention to their

breakfast as an important meal of the day that is supposed to kick start the day, but remains the most often forgotten or skipped meal of the day. Evidence suggests that breakfast skipping remains rampant among older children and adolescent females (Monzani, Ricotti, Caputo, Solito, Archero & Bellone, 2019).

Further, research by Suriyaprabha, et al (2017) on food skipping portrayed a high number of teenagers are in the habit of skipping breakfast. Very often the reason assigned to such behaviour is that adolescents very often complain about non availability of time to eat their breakfast or not interested in eating their food. Some also think that taking their breakfast on regular basis will increase their weight. This brings about strange behaviour of skipping meal in the morning increases with age as children grow into adolescents. Regrettably, the danger is that such behaviour renders adolescents deficient in supplying the body with important micronutrients and that may lead to serious health challenges the individuals may grapple with later in life.

Indeed, individuals who eat their breakfast experience greater micronutrient intakes and would definitely have greater chance to meet their nutrient recommendations than individuals who escape it (Rampersaud Pereira & Girard, 2005). A number of studies have confirmed that breakfast is a powerful meal. The reason was that breakfast is highly associated with essential nutrient intakes which enhances academic performance and also positively affect class behaviour in students on campus (Adolphus, et al, 2013).

Again, it has been reported that the intake of breakfast has proven to strengthen the academic performance and achievement of learners and also play a crucial role in promoting a healthy decent lifestyle.

To that effect, daily consumption of breakfast enhances glucose levels with its attendants' advantages such as improvement in memory, immediate recall, attention span, and consequently leading to improved test grades (Adolphus, Lawton & Dye, 2013). For instance, Phillips (2005) documented that learners who consume breakfast prior to examinations have a greater chance of performing far higher than those students who do not. This therefore means eating breakfast contributes to health, education, and wellbeing. Skipping breakfast especially in the morning directly goes to affect the ability to memorize, as well as recall and resulting in poor academic performance.

In connection with the most vital nutrients that are affected by escaping breakfast, it argued that vitamins A, C, calcium, zinc, iron and riboflavin are among the important nutrients the body lost through that practice. The fact is escaping breakfast did not make up nutrient deficiencies at other meals throughout the day. The consumption of breakfast is highly related to an increase wholesome food choices and diet habit in the individuals. That is people who eat their breakfast end up making a quality and better choices of food during the day with its cascading effects of combining fruits and vegetables to balance their diet (Rampersaud, Pereira & Girard, 2005).

Consumption of fast-food among adolescents

Globally, patronage as well as consumption of fast foods have witnessed enormous increase within the past decades as it is being adored by many people since it is relatively less expensive and also availability within the reach of people. Chiang, et al. (2011) and Sharifirad (2013) documented that even though all the age groups are attracted to consume fast food it appears adolescents and young adults are paying more attention and consume more than

others. In a study conducted by All India Institute of Medical Sciences, it was found out that adolescents have developed an insatiable appetite for fast food to the disadvantage of their health (Saranya, et al, 2013).

Fast food symbolizes or represents food that is prepared and served hurriedly at outlets known as food restaurants. Examples of fast food include chips, ice-creams, spaghetti, sandwiches and hamburgers. Other food item that form part of the fast-food group include fried chicken with rice, French fries, chicken nuggets, fish and pizza (Saranya, Shanifa, Shilpa-Susan, Simy Thomas, Umarani, Asha & Shetty, 2016). Seo, et al, (2011) hinted that fast food is greatly processed and prepared to suit industrial style or faction. With a standard that it has carved for itself, fast food is normally served out quickly in plastic bags, cartons and any other container that is portable enough to conveniently convey it.

Indeed, the speed at which fast-food restaurants have grown, developed and expanded is not amazing as it appeals most particularly to the youth especially the adolescents between the ages of 11 and 18 and person below the age of 35 (Saranya, et al, 2016). Nelia et al. (2011) in a study concluded that the number of people including adolescents who patronize fast foods and consume food on the street has gone up astronomically. Naheed (2013) indicated that adolescents are fascinated to eat fast food not only for its taste but also to satisfy the peer group they belong and averagely visit a fast-food restaurant not less than twice in a week.

Fast foods offer a considerable amount of calcium and iron. However, when soft drink or coffee is served to replace milk shake, the calcium component becomes inadequate for the body. In respect to the nutritional value

of fast foods, fastest foods are low in fiber, vitamin A, and C, folacin as well as traces of mineral. Besides, adolescents who normally depend on fast food as their regular food consume more calories than meals they eat at the home. In effect, when fast food is often substituted for wholesome or quality foods and has become a regular diet, there is no doubt that it can lead to poor nutrition and that can compromise one's health. In order to meet the nutritional requirement and provide wider choice for their consumers, many fast-food industries have introduced food items such as break-fast, orange juice, frozen yogurt and salad bars. In addition, they have also resorted to the use of vegetable oils instead of animal fats for frying, an increase in the number of low-fat menu items, and making more fruits and vegetables available at salad bars (Naheed, 2013).

Even though several steps have been taken by the owners of the industry to maximize the nutritional value of fast foods, a lot of concerns have been raised especially from the health professionals in connection to the benefits and value of such meals not only for adolescents for both adults and children. Rapid growth and development characterized the periods of adolescence; therefore, poor diet has a serious ramification on their future health. Food or diet rich in fat or high intake of fat, large amount of cholesterol and salt pose a great danger to the heart and that can lead to cancer, diabetics and even heart disease. This means that inappropriate consumption of food that is lower in nutrients and lack of rigorous exercise may lead to lifelong obesity (Saranya, et al, 2013).

Again, adolescent is least concerned about what they eat. Evidence from a number of studies highlighted the dangers involved in the continuous intake of fast-food ranging from weight gain to heart disease among the youth especially the adolescents (Sharifirad, et al, 2013). For instance, Anderson et

al. (2011) in their study found that the pervasiveness of fast-food intake increased astronomically among adolescents in schools and racial groups leading to obesity.

The importance of food nutrients to the body

The provision of adequate food to meet the body's needs is one surest way to promoting good health which the body needs for everyday functioning and also prevent disease from attacking the body. This is because good health remains essential ingredient to the survival of every society. The food individuals eat and the nutrients gained from the food serve many purposes and not just to meet the requirement of the body system. Thus, the needs of the body are met by supplying it with the essential food nutrients. This includes macronutrients and micronutrients as well as enough phytochemicals needed to satisfy the demand of the body.

Macronutrients are widely known as nutritive component required by the body large amounts to provide the essential substances to the body to function optimally. These include energy yielding nutrients, such as carbohydrates, proteins, lipids and water. Fats and carbohydrates provide the bulk of energy that the body needs, while protein provides a relatively smaller quantity required by the body. These macronutrients; carbohydrates and fats are derived from plants and animals' sources. The American Dietetic Association (2003) estimated that carbohydrate and fats provide nearly 85 percent of energy requirement needed by the humankind.

The above-mentioned nutrients are importantly needed in moderately large quantity by the body to supply enough energy the body needs to function properly. In the work of Liu et al. (2003) it was found that there is a relationship

between the portions of energy yielding nutrients and the sum total of energy consumed for weight control. Healthy ranges of intake for energy yielding nutrients have been established as daily recommended intakes. Rolfes, Pinna, and Whitney (2014) argued that carbohydrates remain a vital and a significant favoured source of energy at any point in time for rigorous physical and aerobic activities.

Indeed, the consumption of carbohydrates was discovered to have contributed immensely to cognitive processes and mental alertness such as memory and attention. This means that human brains greatly rely on carbohydrates as a major source of its energy supply (Fioramonti & Pénicaud, 2019). In addition, protein is equally an important nutrient that the body needs for growth, repair, for substituting worn out tissues and fighting infections. Being an important element of a diet, protein serves to replace amino acids that are broken down to produce energy. The recommended daily intake for protein is five and a half ounce a day (USDA, 2015). Protein provides nearly all of the remaining energy consumed on a daily basis. In addition to their constituent amino acids, proteins are essential because they provide nitrogen that is needed for the synthesis of deoxyribonucleic acid (DNA) and related molecules.

Unlike macronutrients, micronutrients are needed in small quantities each day by the body. Micronutrients are represented by vitamins and minerals. Micronutrients perform importantly specific functions in the metabolic processes. Vitamins are classified as water soluble or fat soluble and they are needed by the body for a huge number of cellular and extracellular chemical reactions. For instance, the vitamins A and D are noted as fat-soluble vitamins.

The Vitamin A plays an important role in the growth processes as well as the vision of the individual (Awuchi, Igwe, Amagwula & Echeta, 2020).

The Vitamin D performs an important function in calcium metabolism is basically acquired from a diet or synthesized when one is exposed to the rays of the sun. Minerals also play an important role in chemical reactions as well as in structural components of cells and tissues in the body (Zoroddu et al., 2019; Awuchi, et al, 2020). They represent an enormous group of micronutrients of which many are regarded as vital nutrients and play major roles in bone health, transport of oxygen, transmission of impulses and many other functions. Minerals are grouped into two classes; macro-minerals and micro-minerals (Gernand, Schulze, Stewart, West & Christian, 2016; Tucker, 2016).

According to Nani (2016) macro-minerals such as calcium and phosphorous are needed in a quantity of 100 mg per day or more, while micro-minerals such as iron and selenium are needed significantly in smaller quantity of less than 15 mg per day. For instance, calcium remains a critical component of hard tissues in the formation of bones and teeth and also performs a variety of functions. Indeed, macro-minerals are highly needed in daily amounts greater than 100 milligrams per day. Micro-minerals are needed in amounts of less than 100 milligrams per day. Water in occasions is considered as part of minerals (Awuchi, et al, 2020).

Nutrient requirements for adolescent girls

The National Institute of Nutrition, (2011) argued that female adolescents naturally are in greater need of nutritional requirement because they lose a lot of energy during monthly menstrual experiences they go through and high metabolic rate due to anxiety that always accompanied the transition. This

has given credence to the fact that even though people of different ages and genders may be confronted with the challenge of eating disorders; the problem seems to have been severe and profound in women, especially the young female adolescents.

One major reason assigned for the increase in bad eating habit in the female adolescents appears to be connected to a high degree of interest in health. In other words, poor eating behaviours are highly associated with food and weight. Obviously, many of these adolescents who become victims of bad eating practices and self-imposed starvations become extremely sensitivity about body weight and physical appearance in order to satisfy societal perception.

Dietary reference intake

The consumption of a wide range of food in its balance form is the surest way by which the dietary needs of the body are ensured. Evidently, food nutrients, energy, and phyto-chemical are important substances needed by the body for excellent functioning and to ensure good health of the individuals in his/her entire life cycle (Ranu, Kavindra & Ruchika, 2010). However, these nutritional substances become critically needed in higher quantity in the individuals during childhood, adolescence, pregnancy and lactation. The very first test or hurdle of the body in its process of growth, development, in addition to functioning of the various organs is its ability to obtain enough quantity of essential nutrients in the early stages of life of the individual. In order for proper functioning and maintenance of matured adult body, there is an urgent need for the body to acquire these essential nutrients (Importance of Good Nutrition,

2020). However, the amount of nutrients requires by the body later in life characteristically reduces.

The fact is that foods are endowed with all nutrients that it supplies to the body; however, it is not all foods that are equal in their nutrient composition. It is to these effects that it is relevant to select a variety of foods daily in order to ensure that all the essential nutrients are consumed in a 24-hour period. Thus, the consumption of different kinds of foods would definitely supply the necessary nutrients (macronutrients and micronutrients) needed by the body cells and tissues at all stages of the life cycle (Chena, Michalakb & Agellona, 2018).

Importance of nutritional education to the adolescents

For excellent human health and well-being, the consumption of quality and nutritional food remains a key factor to determine quality health in that direction. This is because quality nutrition contributes significantly in the growth and development of children and the adolescents. Nutritional intake has a direct effect on the total physiological and intellectual development of individuals. Further, it has been identified to have a long lasting and permanent impact on the total health development or conditions through the practice of positive life-long eating conducts not only in children but also in the adults (Naeeni, Jafari, Fouladgar, Heidari, Farajzadegan, Fakhri, Karami, & Omid, 2014).

In this regard, certain level of nutrition knowledge is relevant in order to make healthy food decisions. Abraham, Noriega, Brooke and Shin (2018) reported that there is enough evidence to prove that a large number of individuals continue to consume large quantity of unhealthy as the result of

absence of nutritional knowledge which leads to wrong choice of food. Thus, there is a positive correlation between greater nutrition knowledge and healthy eating habits.

Nutritional knowledge is all about awareness of health issues and nutrition and that remains a significant factor to influence food habit or pattern in individuals. In effect those food nutrients that are needed must be met in the life time of the individual. The capacity of an individual to respond positively to their nutritional requirements is a surest way to practice healthy food choices which promotes quality health and wellness. By this the individual is able to protect himself/herself from the consumption of excess food nutrients that poses danger to their health (Kamanu, 2019).

In a similar vein Naeeni, et al (2014) argued that nutritional knowledge remains an essential aspect of supporting and encouraging healthier eating behaviour and pattern among people. By that, they end up maintaining the appropriate body weight. Undoubtedly, individuals including adolescents who are privy to nutritional knowledge become enlightened about the negative effects of poor nutrition and certain health conditions definitely would adhere to the guidelines of eating balanced diet in order to prevent unnecessary weight gain. Indeed, people with basic nutritional knowledge are careful of what they select to eat since what they consume have either positive or negative effects on their overall health (Poskitt, 2014).

Numerous evidences have suggested that people who lack adequate knowledge about dietary guidelines are unable to attach the needed importance to their nutrition or diet when making choices of food. It is therefore pertinent to provide the individuals with the relevant nutritional knowledge through

education to avert health crisis in the populace. Kivrak and Altın, (2018) observed that nutrition knowledge has become an important factor that influenced nutritional pattern and status of many individuals, families as well as communities with its attendant advantages. Further, the home through the family members become the first point of transmission of nutritional knowledge and thereafter both teachers and environmental factors ensure the development of the knowledge during and pre-school days.

Chakona and Shackleton (2019) reiterated the fact that nutrition is the core foundation for growth, survival and protection of individual health and that poor health as the result inadequate nutritional requirements impact negatively on individual well-being and human dignity. Baysal (2012) put forward that healthy society is the basic factor that determines the development, peace and development of every society and that the basics of health stands for adequate and balanced nutrition. That, without a sound and healthy individual within every society the rapid development and the progress of those societies are thwarted and retrogressed to the detriment of its citizens.

Obviously, the period of adolescence is full of crisis and therefore remains crucial period to gain knowledge and practice healthy food habits in order to avert unwarranted health and nutritional challenges later in life. Besides, adequate knowledge and practical skills in health and nutrition will naturally play a critical role to manage future family in terms of health and nutrition not only by the female but the male as the head of the family. Headey, et al, (2019) explained that the absence of nutritional knowledge and information leads to the various health challenges such as obesity, overweight as well as underweight.

The consumption of junk food with a large amount of energy with little or no food nutrient and continues intake of soft drinks with a high sugary carbonated content on many occasions leads to health crisis (Ha & Caine-Bish, 2011). The World Health Organisation (2016) stated that the consumption of soft drinks is common and higher in the adolescents more than all other ages. A study conducted in Nigeria indicated that lyrics on nutrition education to very large extent increased adolescents' knowledge, awareness, approach and practice of healthy eating (Ogunsile, & Ogundele, 2019). Also, nutritional knowledge and awareness was created in Ghana through posters and songs to encourage healthy diet and meal planning. The aim was to expand knowledge in the nutrition value of locally available foods and decide the amount or quantity of food stuff to purchase (Fernandes et al, 2016).

Theoretical framework

The significance of theoretical framework in research cannot be over-emphasized. A theoretical framework offers the blue print or guide for a study without which the research would not be contextualized and directed (Grant & Osanloo, 2014; Kumar, 2011). In a similar vein, Lysaght (2011) posit that a theoretical framework provides the structure needed to supports the research rationale, the statement of the problem, the purpose, and significance of the study as well as the basis for adopting a particular procedure for data collection and analysis. Simply put, it provides the foundation for knowledge construction in research

The study is crouched under a theoretical framework developed by Kabir et al. (2018) on healthy eating habits among university students. Kabir et al. (2018) held a theoretical opinion that factors such as individual,

environmental, social, and other university-related factors impact the eating habits of university students and could have negative implications on their health. The authors made a significant contribution in their study and provided a breakdown of the various factors considered to influence the eating habits of students. These subcategories provided the study with a theoretical underpinning, which in turn justified the presence of the challenges of developing healthy eating habits among students, thereby providing the topic under study with a comprehensive understanding of the related issues investigated in the study. This awareness informed both the research questions and objectives clearly stated for the study.

Adom, Adu-Gyamfi, Agyekum, Ayarkwa, Dwumah, Kissi, Osei-Poku, Abass & Obeng-Denteh (2016) observed that a theoretical framework assists in inspiring scientific inquiry at the same time increasing the level of understanding, shedding light to the direction of the study and heighten the practicality and accuracy of a research. The theoretical framework below explains four relevant factors affecting eating habits of students namely: factors related to the school environment, individual, societal and environmental factors related to eating habits of students. Each of the factors is further divided into sub-factors.

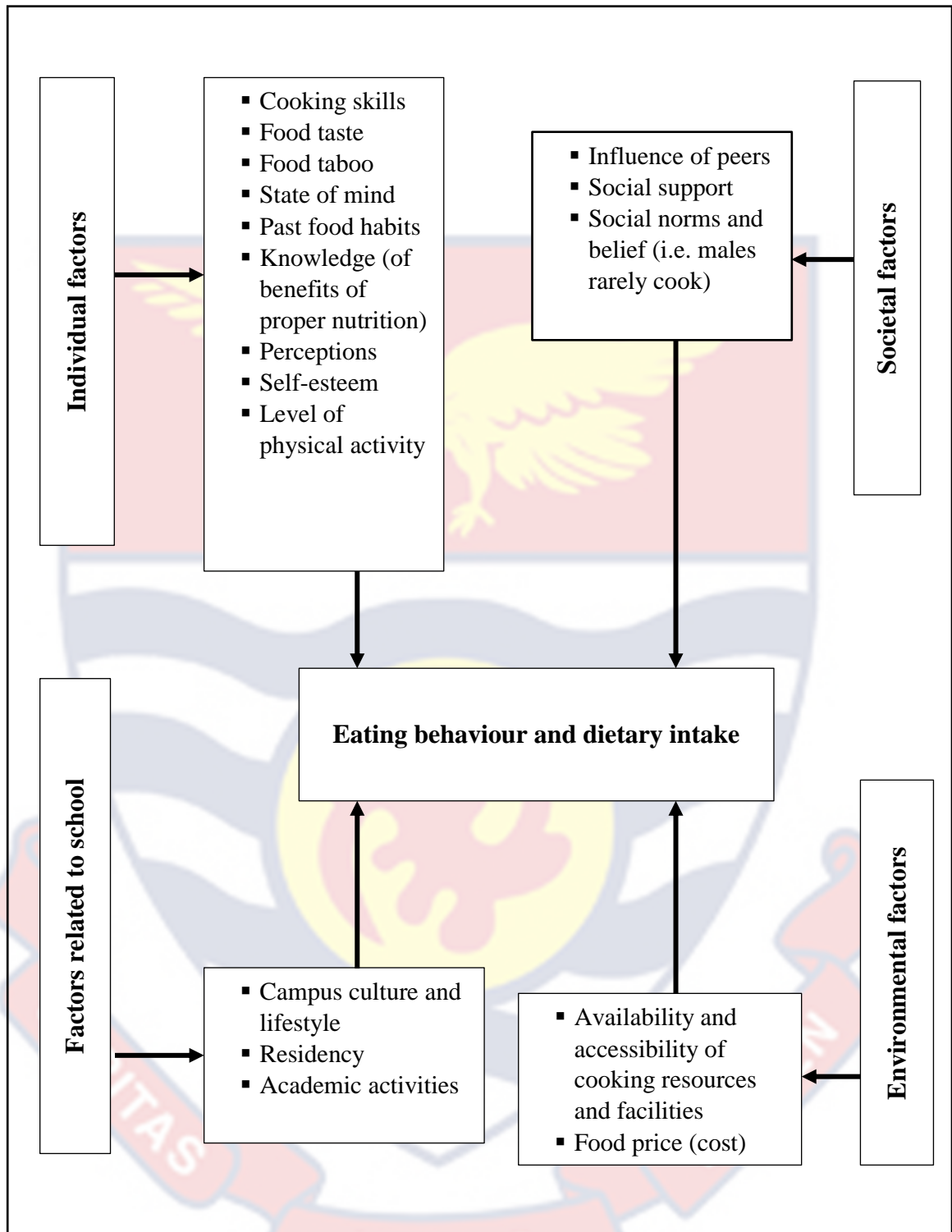


Figure 1: Theoretical framework showing factors influencing healthy eating habits among students. Adapted from Kabir et al., 2018

CHAPTER THREE

RESEARCH METHODS

The previous chapter reviewed the literature that is relevant to the study. This chapter describes the procedures and techniques that were employed to conduct the study. It discussed among others, the research design, the population and sample of the study and the sampling techniques that was adopted for the study. It also described the research instruments, techniques involved in the data collection, and the procedures that were adopted to process and analyze data collected from the field. Again, the chapter discussed the ethical considerations of the study.

Research Design

A research design is the conceptual blueprint within which research is conducted. In other words, it is a plan of the proposed research work (Akhtar, 2016). Thus, an arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy and procedure (Ahuja, 2010). The study employed the descriptive survey method with the primary goal of accessing a sample at one specific. Descriptive research can either be quantitative or qualitative.

According to McCombes (2020) the goal of descriptive research is to accurately and logically describe a population, situation or phenomenon. A descriptive research design can extensively utilize wide-ranging research methods to scrutinize one or more variables involved in a study. In descriptive research, the researcher does not control or manipulate the variables involved, but can just observe and measure them. It is the best or suitable choice when the researcher's intention is to identify the features, frequencies, trends, as well as

the categories involved in the study. Descriptive research therefore becomes relevant especially when not much is known about the topic under study. This is exactly what this research is about and therefore the choice of descriptive research fits the topic under study.

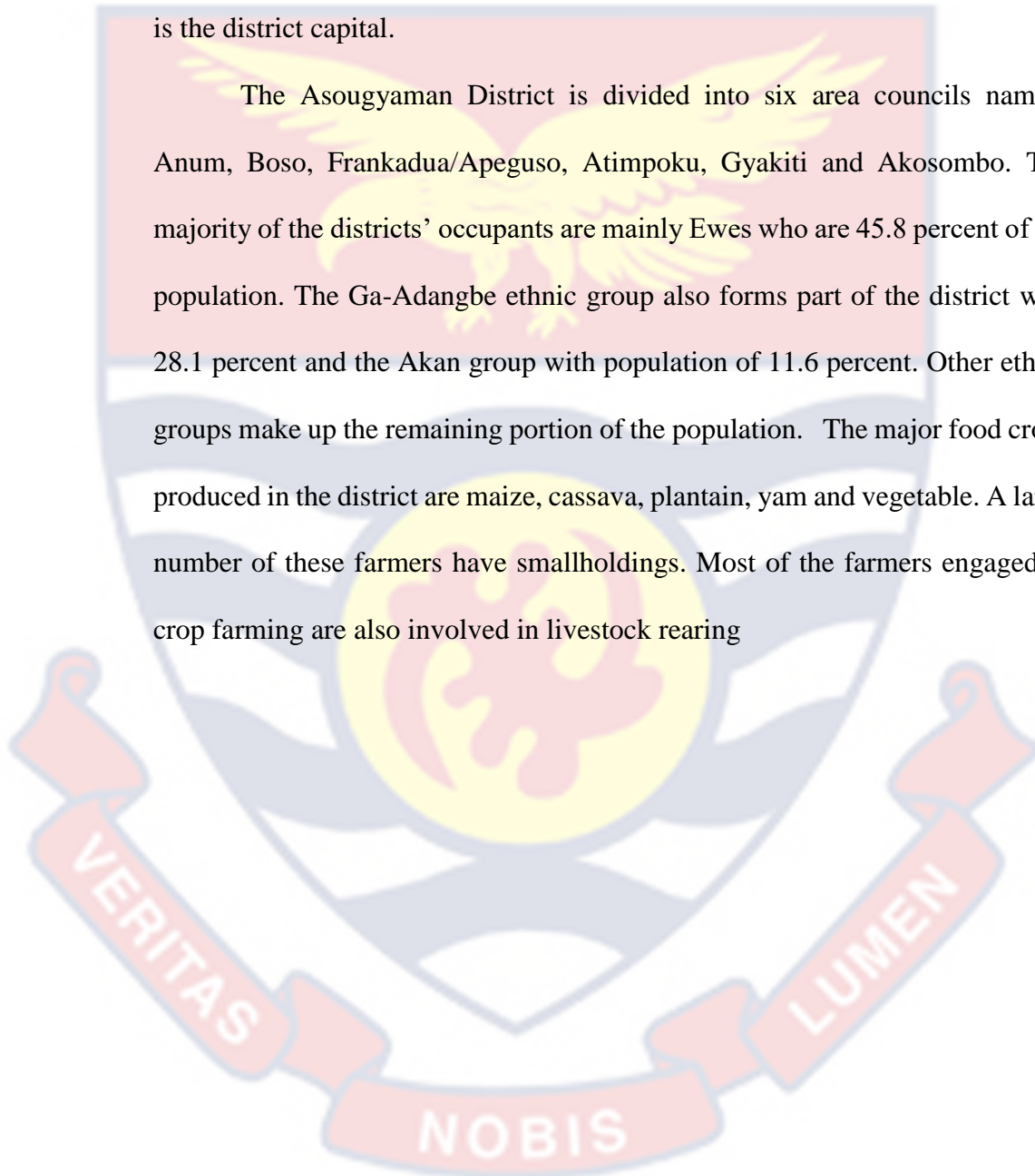
More importantly, the descriptive survey design was specifically adopted to carry out this research for the only reason that it assisted the researcher to describe and interpret the views of the female adolescent students regarding the eating habits they practice in their various schools. Thus, the use of this method allowed the researcher to study and describe systematically, the kind of eating behaviour the female adolescent students have adopted and how those behaviours have influenced their academic progress. Despite the fact that descriptive design is regarded as one of the best practices in this type of research for the only reason that it permits a comprehensive description of phenomenon, it is not without challenges in the form of biases. It is easily influenced by distortions as result of biases in its measuring instruments. Also, errors within the questionnaires for instance might distort the research findings (Amadahe & Asamoah, 2003). In order to avoid such demerits, due diligence must be considered during the preparation of the instruments in order to do away with those preferences or prejudices.

Study Area

Asuogyaman is a traditional district located between the Eastern and the Volta Regions and share borders to the East with North Dayi, and to the North Tongu Districts of the Volta Region. To the North, the District shares borders with Afram Plains South District and to the Upper and Lower Manya districts to the South and West. The Asuogyaman District lies between latitudes $6^{\circ} 34^{\circ}$

N and 6° 10' N and longitudes 0° 1' W and 0°14'E. It is about 5.7 percent of the total area of Eastern Region and covers a total surface area of 469.1 km² area. The number of inhabitants in the district as per 2021 Population and Housing Census remains at 101,256 with males 48,723 and females 52,533. Atimpoku, is the district capital.

The Asougyaman District is divided into six area councils namely Anum, Boso, Frankadua/Apeguso, Atimpoku, Gyakiti and Akosombo. The majority of the districts' occupants are mainly Ewes who are 45.8 percent of the population. The Ga-Adangbe ethnic group also forms part of the district with 28.1 percent and the Akan group with population of 11.6 percent. Other ethnic groups make up the remaining portion of the population. The major food crops produced in the district are maize, cassava, plantain, yam and vegetable. A large number of these farmers have smallholdings. Most of the farmers engaged in crop farming are also involved in livestock rearing



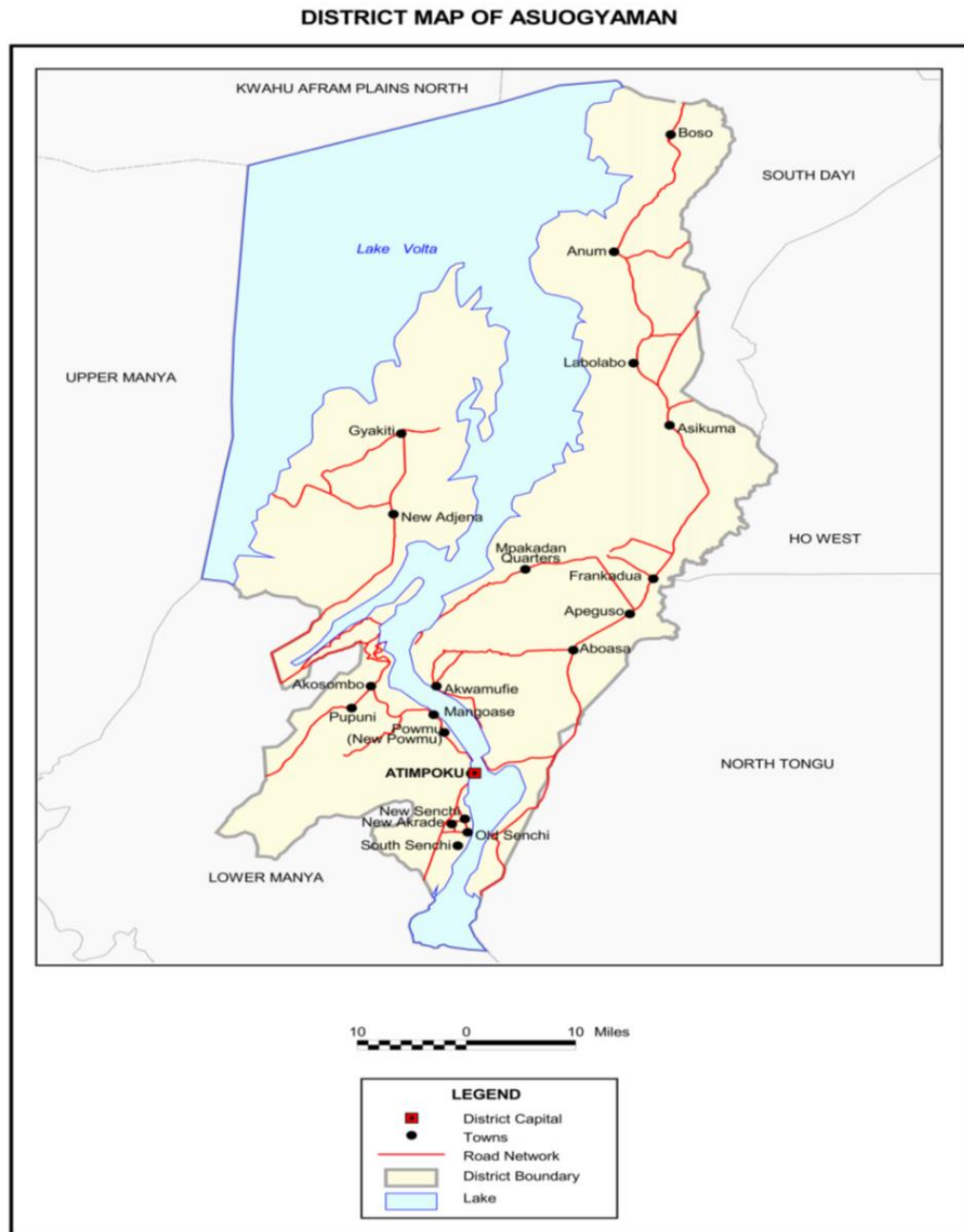


Figure 2: Map of Asuogyam District showing the study area.

Source: G.S. S, 2022

Population

In the words of Shukla (2020) population is a set of all the units which possess variable characteristic under study and for which findings of research can be generalized. In other words, population is the set or group of all the units on which the findings of the research are to be applied. Population is therefore

a comprehensive group of individuals or objects with common characteristics of which the researcher has a common interest in dealing with. For this particular study, the target population consisted of female adolescent students from three Senior High Schools in the Asuogyaman district namely; Akwamuman Senior High, Anum Senior High and Apegusu Senior High.

Sampling Procedure

According to Bhardwaj (2019) sampling is defined as a procedure to select a sample from individual or from a large group of population for certain kind of research purpose. In a similar vein Sarandakos (2005) also documented that sampling is the process of choosing the units of the target population which are to be included in the study. In doing this study, the probability sampling technique was employed. The lottery method under the simple random sampling method was used to select three Schools out of the six for the study to satisfy the topic under study.

According to the records from the three schools, the total population of the student girls in the three schools totaled to 1,010. Thus, Akwamuman Senior High School (370), Anum Senior High School (400) Apegusu Senior High School (240). The simple random sampling technique was further used to select 535 female adolescent students for the study. Fox, Hunn and Mathers (2007) argued that the size of a sample needs to be 278 of a total population of 1,000 to be representative". Similarly, Leedy and Ormond (in Mugo, 2002) argued that the entire population must be surveyed for a population less than one hundred (100). They argued further that if the population is about five hundred (500) then 50 percent should be sampled.

In support of the large sample size for the study, Bolarinwa (2020) argued that sample size should be large enough and that an effect or precision of large sample size remains scientifically significant as well as statistically relevant. Andrade (2020) shared a similar opinion that a sample size that is larger than necessary will be better representative of the population and will therefore provide more precise results. It is this assumption that informed the researcher to select a sample size of 535 since in her mind it is representative enough to make a generalization.

Table 1: Sample Respondents from Study Locations and Schools

Population size	Sample frame	Sample
Akwamuman Senior High School	370	196
Anum Senior High School	400	191
Apegusu Senior High School	240	148
Total	1,010	535

Source: Field Survey, Beglah, (2022).

Data collection instruments

Source of data for the research included primary and secondary sources. The study made use of quantitative data to find answers to research equations and by that a structured questionnaire was the main instrument for primary data collection. The reason for using a structured questionnaire is that questionnaires reduce the tendency for biases or preferences caused by the conduct or presence of the researcher. Sarandakos (2005) indicated that the practice of using questionnaire in research increases the scope of coverage due to the fact that researchers can conveniently come into contact with the respondents at any time. Moreover, questionnaires were considered because of the fact that the

respondents were literates and therefore do not need any assistance from any one to interpret the questionnaire to them.

The structured questionnaire consisted of the various sections. The Section A consisted demographic information about participants' age, year/class and religious background. The Section B was also designed to solicit information on the factors that influence the eating habits of the participants while Section C is made of questions based on the pattern of food intake among the participants. This section assisted the researcher to carefully interpret and comprehend development of the issues emerged from the study. The concluding part of the questionnaire entailed questions based on the perception of possible effects of poor eating habit on academic progress and health development of the participants.

Even though questionnaires are mostly used in many researches, due to its numerous advantages, the use of questionnaire does not exist without challenges. Gay, Mills and Airasian (2006) noted that the use of questionnaires in research have been associated with low response rates. This means that on many occasions' researchers encounter problems of not receiving all completed questionnaires as some respondents do not even see the need of responding to the items on the questionnaire and returning them. In an attempt to avoid this unfortunate situation, the researcher together with a field assistant administered the questionnaires concurrently and also encouraged the respondents to return them in order to obtain high response rate. The questionnaire was administered to 535 female adolescent students in the three senior high schools and were all retrieved from the respondents on the same. The questionnaires were not pre-tested because in the mind of the researcher believed that the questions were

explicit and appropriate enough to solicit the information needed to answer the research questions.

Data Collection Procedures

For precise and reliable evidence to respond to research questions, primary data were mostly utilized for the study. The field data (primary) were gathered by the researcher and field assistance through questionnaires which were given to the female adolescent students in the various senior high schools. Before the researcher visited the field to obtain the data for the study, she obtained a letter of introduction from the Institute of Review Board of University of Cape Coast, Cape Coast. The letter was shown and read to the participants as prove of the research being purely an academic exercise. The researcher discussed the process of using the questionnaire as a means of gathering data with her supervisor to ensure that the correct procedure is followed.

The researcher then obtained permission from the authorities of the schools namely the Headmaster/Headmistress before proceeding to collect the data. The questionnaires were therefore distributed to respondents in their various classrooms after the researcher gave them guidelines in respect to how to complete the instruments. The respondents were allowed to spend enough time to understand the items on the questionnaire before responding to them. The completed questionnaires were carefully checked and collected on the same day. This procedure was repeated through-out the sampled schools until all the participants were covered. Indeed, the strategy ensured a hundred percent return rate for the questionnaire distributed.

Data Processing and Analysis

In processing the questionnaires, the responses were taken through the process of checking, editing, coding, categorizing, transcribing and data cleaning. During the editing process, responses were reviewed in order to increase the level of accuracy and precision, this is done to prevent any incomplete responses. A short list was then prepared from a master list of responses for the open-ended items in order to get the key responses that were given by the respondents. This followed the preparation of a sheet showing the coding scheme. This helped to provide interpretation for the variables in the analysis. A table was therefore prepared and variables such as age range, class, and religion were analyzed in terms of frequency count and percentages. After checking for accuracy, the questionnaires were coded.

The main purpose of the coding was to put responses into format that made it easier for the researcher to use (SPSS Version 21.0). Thus, the responses to the questionnaires were then coded by assigning numbers to the various categories of responses with the aim of analysis. The SPSS software was used because it created an opportunity for the researcher to use a variety of current statistical methods for analysis and also due to the fact that it has a good editing, labeling and ability to produce results in table formats. In this regard, the researcher used simple frequencies tables, percentages graphs and charts to present the data.

Ethical Consideration

Yin (2011) posits that study of a contemporary phenomenon in its real-life context obligates the researcher to follow ethical practices of the highest standard. As such, confidentiality, anonymity, informed consent and power

relation was strongly observed to. Confidentiality involves protecting the privacy and trust of participants to enable them to freely share their experiences with the researcher while taking steps not to divulge to others any unpleasant occurrences or experiences to any other individual made known to the researcher (Bos, 2020). According to Rose (2013) it is a good practice to keep the participants informed about the limits of confidentiality and about how and when such limits come into play so as to honour and keep their responses away from the public consumption.

To that extent, the researcher ensured that the responses of the participants were used only for academic purposes and not for any other parochial interest. Anonymity is where real names of research participants and research locations are not disclosed in reports so as to protect the identity and avert any unexpected destruction of life and property. In other words, researchers who abide by the rules and regulations of anonymity do not record any form of identifying information (Bos, 2020).

Equally important was the designing of the research instrument to ensure that it does not to invade the privacy of the participants in anyway or unnecessarily criticize their actions and experiences. Hence the names of the participants were not included in the study.

Chapter Summary

This section dealt with the methodological approach that was adopted to ensure that the finding of this study was well grounded in the evidence the study is to provide. The study employed a descriptive survey design which assisted in the collection of quantitative data. The population of the study constituted female adolescent students from three different schools within the same district.

A sample of 535 respondents was selected for the study using simple random sampling technique. Finally, the data collected were analysed using frequency table and graphs.



CHAPTER FOUR

RESULTS AND DISCUSSIONS

The purpose of the study was to explore issues concerning the eating habits of female adolescent students at some selected schools in the Asougnyaman District in the Eastern Region of Ghana. In this chapter, the findings from the study are presented and discussed in relation to the research questions. Discussions on these researches were based on quantitative analysis of data collected from the questionnaire. The descriptive survey which specifies the nature of a given phenomenon and determines the way things occur without manipulating data was used. The study gathered data on the eating pattern and the factors that influence the eating habits of the female adolescent students. The analysis and interpretations of the data were carried out based on the result of the research questions of the study.

Background Information of the Respondents

Information about the demographic background of students who were sampled for the purpose of this study covered a wide range of characteristics such as their age, class and religion. The coverage of all these areas was to ascertain if they contributed to the eating habit that has characterized the behaviour of the female adolescent students. The age distribution was specifically aimed at finding out how the age pattern of the female adolescent students plays a role in the choice of food.

Table 2: Age Range of the Respondents

Variable	Frequency (f)	Percentages (%)
Age range		
12- 14yrs	49	9.2
15- 17yrs	174	32.5
18- 20yrs	245	45.8
21 yrs.	67	12.5
Total	535	100
Year (Class)		
S.H.S 1 (Year 1)	135	25.2
S.H.S 2 (Year 2)	155	29.0
S.H.S 3 (Year 3)	245	45.8
Total	535	100

Field Survey, Beglah, 2022

The gender of respondents was all females which were purposively chosen because of their special eating habits as compared to that of the males. The students' ages ranged from 12 to above 21, with the majority being in the range of 18-20 years (45.8%) respondents were at this age. The least age range was 12-14 years (9.2%), an indication that few of the students involved in the study fell within the range lower than adolescent age bracket. However, their inputs were needed in the study since they fall within the target population of the study and were victims of poor eating habits.

Class (year) of the Respondents

Respondents were requested to indicate their classes which highlighted the number of years they have spent in their respective schools. The aim was to

find out how the number of years they stayed in the school environment influenced their food habits and food choice.

Table 4.2 represents the level of students of the respondents, 245 representing (45.8%) was in SHS 3, 155 representing (29.0%) were in SHS 2 and 135 (25.2%) were in SHS 1. These findings imply that majority of the female adolescent students selected for the study have stayed in the school environment long enough to understand the factors that influence their choice of food and can explain the reason behind why they have adopted a particular habit in respect to food choices.

Religious Background of the Respondents

As far religion is concerned, respondents were asked to indicate their religious background. The purpose was to find out how religion plays a part in influencing the choice of food among the female adolescent students since religion is fundamentally a key determinant factor in the choice of what people consider to be clean or otherwise to consume.

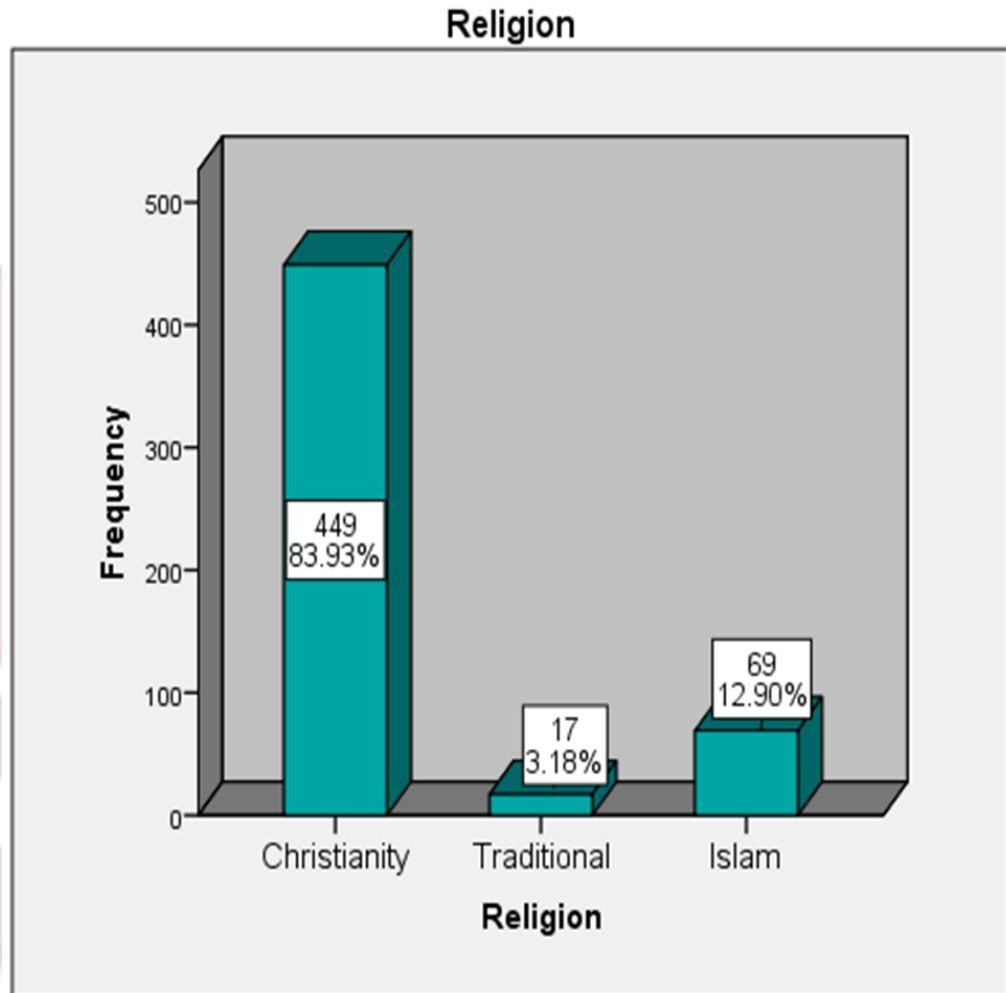


Figure 3: Religious denomination of the respondents

Source: Field work, Beglah, 2022

Figure 3 represents the religious belief of students. Of the respondents, 449(83.93%) were Christians, 69(12.90%) were Muslims and only 17 (3.18%) was traditionalist. It can be concluded that the study was dominated by more Christians than any other denominations.

Summary of the Personal Data

Section A revealed the respondents' age distribution, class and religion. Most of the respondents were between the ages of 18-20 and were mostly Christians. Majority of the respondents were also in their final year.

QUANTITATIVE RESEARCH QUESTION ONE: What are the factors that influence eating habit of female adolescent students in Asuogyaman District?

This question aimed at ascertaining how those factors influenced the eating habits of female adolescent students. This includes the taste of the food, academic work, and quality of food prepared by the school. Other questions were on how the mood or state of minds as a factor affects choice of food, how the school environment affects food choices as well as how weight of the female student become a factor to determine their food choice and eating habits.

Table 3: Results on Factors that Influence the Female Student Eating Habits

Statement	SA	%	A	%	SD	%	D	%
I dislike the taste of food prepared by the school.	162	30.3	179	33.4	78	14.6	116	21.7
Academic stress/pressure occupies me or denied me from eating my food	77	14.4	108	20.2	168	31.4	182	34.0
The quality of food prepared by the school affect my interest in eating from the dining hall	221	41.3	156	29.2	80	14.9	78	14.6
Peer group membership influences my food habit	175	32.7	191	35.7	67	12.5	102	19.1
My family background determines the food I eat in the school	172	32.1	199	37.2	86	16.1	78	14.6
My mood very often affects the choice of food I want to eat	146	27.3	194	36.3	98	18.3	97	18.1

The school environment usually affects my interest in the food I want to eat.	140	26.2	155	28.1	109	20.4	131	24.5
I consider my weight when choosing my food	175	32.7	147	27.5	83	15.5	130	24.3
The cost of healthy food determines the type of food I like to eat	110	20.6	131	24.5	152	28.4	142	26.5
Regular exercise to stay active affects my eating habit and food choice	136	25.4	149	27.9	122	22.8	128	23.1

Source: Field Survey, Beglah (2022)

As far as the taste of food prepared by the school authorities is concerned, it was observed from the table that 162(30.3%) and 179(33.4%) strongly agreed and agreed respectively that they dislike the taste of the food. It is only 45 respondents, representing 14.6% strongly disagreed with statement that they dislike the taste of food prepared by the school. The findings from the study implies that taste of food prepared in the school dining hall remains a major determinant factor to the students' choice of food. Thus, the female adolescent students are likely not to patronize food from the dining hall if they detest the taste of the food.

The fact is that taste is known as consistently major influence on food behaviour. It is the totality of all sensory stimulation that is produced by the absorption of a food and to a very significant extent includes the aroma, appearance, as well as the texture of the food. Indeed, the sensory aspects have a great impact in particularly the choice of food individuals including the female adolescents will like to associate with. Admittedly, from an early age, through

adolescence to adult stage, taste and familiarity influence behaviour concerning food choices. It is therefore regarded as an innate sense or/and an inborn preference for sweets that stimulates the receptors on the tongue for sweet, sour, salty, and bitter flavors.

The fact remains that the familiar aroma for a food can arouse the appetite of the individuals just as an unpleasant smell can also cause dislike for food. These findings agree with Kabir et al. (2018) that, taste of food is an important factor in food choices in adolescence, which is a critical stage of human development, transitioning from childhood to adulthood. This means that a fond for sweetness for a particular food as well as abhorrence for unpalatable food is considered innate human traits existing since birth. This lends credence to Abraham et al. (2018) and Deliens et al. (2014) that, even though many students are aware of the benefits of eating healthy food, large number of them still select food based on taste preference other than its nutritional content.

Taste is essentially an important factor that goes a long way to influence the choice of food in the female adolescent students, compelling them to consume healthy or unhealthy food. In other words, the inclinations to taste and the disgust developed for food as the result of experiences are influenced by conducts, values as well as expectations of individuals. These experiences have become more pronounced in the adolescents especially, due to the dramatic changes that accompany their growth and development. The implication of the finding is that the female adolescent students may continue to stay away from food not only in the school environment but elsewhere, as long as taste is a determinant factor to what they prefer to eat.

The study also sought to find out the extent to which academic stress or pressure occupies the female adolescent students to the extent that it becomes a determinant factor to their food choice. From the table 4 above, it was observed that 168(31.4%) and 182(34.0%) of respondents strongly disagreed and disagreed respectively that academic work prevents them from eating their food. Only a minority of 14.4% of the respondents strongly agreed that academic stress is a factor that hinders them from eating their food. The findings reveal that majority of the female students do not think that academic stress or academic workload plays any significant role in determining their eating habit or behaviour.

First of all, the findings contradict what has been widely reported that academic environment together with an overloaded curriculum has mounted stress and pressure on students to the level where they have little time for other activities including choice of food and therefore tend to cultivate bad eating habits. Writing of examinations has been cited as one of the major stressful moments in the life of every student, and has been identified as a fundamental source of academic stress for many students. This exercise is noted to be characterized by anxiety, fear and desperation, all in an attempt to successfully go through it. During this period, students tend to practice all kinds of behaviours, including staying deep in the night to study and also indulging in inappropriate eating habits.

Indeed, academic stress can lead to a significant influence on dietary habits, such as triggering overeating and/or eating less than recommended. Undoubtedly, cases of poor dietary habits could worsen in many students considering their heightened stress levels as the result of academic pressure or

overloaded curriculum. Thus, the findings therefore oppose the views of Errisuriz, Pasch and Perry (2016) who revealed that academic stress remains fundamentally a determining factor that influences food habits among students. They stated further that such behaviours emanating from poor eating habits characteristically promotes an intake of unhealthy foods, particularly snacks and sweet foods, and therefore reduces the intake of quality foods which includes fruits, vegetables and legumes.

Also, Capone Caso and Donizzetti, (2020) indicated that high levels of academic stress were identified as having a close linkage or connected to apprehension, desperation and mood swing. Other difficulties associated with increased academic stress in adolescents include loss of appetite, sleeping difficulty and above all abysmal academic performance. This collaborates the assertion made by Torres and Nowson, (2007) that in some cases, a dramatic reduction or increase in eating is a response to stressful moments. Conclusively, the implication of the findings therefore points to the fact that female students within the Asuogyamn district, may escape the ravages and the negative ramifications of poor eating habit such as weight gain/obesity and also weight loss as the result of stressful academic pressure or overloaded curriculum since academic work has not mounted pressure on them to practice bad eating habits.

Table 3 further shows the responses by respondents on how the quality of food prepared by the school affects their interest in eating from the schools' dining hall. It was observed that 221(41.3%) and 156(29.2%) strongly agreed and agreed respectively that the quality of food prepared by the school and served at the dining hall affects their interest, and therefore will stay away from eating at the dining hall. The Table 4 further shows that only 14.6%, of the

respondents disagreed that the quality of food prepared by the school affects their interest in eating at the dining hall.

The findings are indications that the female students have full knowledge of what constitute healthy or quality diet and therefore will patronize only those foods that have similar characteristics. Undoubtedly, this situation could result in the improvement of diet the female students will prefer to consume. This is consistent with the study by Miller and Cassady (2015) that, those determining factors of food choices among individuals' knowledge on nutrition, is continuously regarded as a key factor which highly influences eating patterns or habits and intake of food. Food choices as well as nutritional intake are determined by the awareness of individuals about food, and by the self-perception of the benefits of balanced meals.

Quality food is known to have the totality of characteristics of the food that contains all the necessary nutrients with the ability to satisfy stated and implied preferences. Thus, food is safe to eat when it contains all essential nutrients needed for growth and development of the body. Further, quality foods include unrefined, slightly processed foods such as fresh vegetables and fruits, whole grains, healthy fats as well as healthy sources of protein. Parts of quality foods include unprocessed animal and plant foods that can assist in providing vitamins and mineral substances, which are highly needed for the ideal or best healthy development. Healthy or quality foods contain enough quantity of antioxidants, vitamins and mineral, that is responsible for boosting the immune system to keep the skin attractive and looking fresh together.

The implication of this finding points to the fact that the female adolescent students are highly likely to benefit from cognitive and academic

performance, since they are aware of the benefits and have full knowledge of consumption of higher quality food. This is because, quality food or best diet, rich in all the nutrients are major developmental drivers in respect to ideal development, both at the physical level as well as the mental and cognitive level in adolescents.

Observation from the table 3 shows that more of the female students agreed to the statement that peer group membership is another factor that influences their food habits.

As indicated in the table above, it was observed that 175(32.7%) and 191(35.7%) of the respondents strongly agreed and agreed that peer group membership plays a significant role in determining their eating habits. It is only a small minority of 19.1% of the respondents that disagree with the statement that peer group membership plays a role in their eating habits.

This finding is not surprising because it is consistent with the studies of Slaten and Basken (2014); Fortin and Yazbeck (2011) that being part of a peer group is regarded an important factor that defines the quality of social relationships with others, which in turn is highly related with adolescent decision-making processes and consumption choices including food intake. Adolescent peer groups have been known to have influenced not only individuals' health behaviours but also diet and eating habits. During this period, the adolescents eating behaviours are influenced by peer impacts, such as perceived social values and norms that are capable of creating special peer pressures.

The implication of the finding highlights the fact that the female adolescent students are highly susceptible to adopting all kinds of unhealthy or

unacceptable eating habits and behaviours, which may be detrimental to their health. The fact remains that students come from different economic and social backgrounds and taking into consideration the strong influence the group can have on its members, the less economically endowed ones or those with weak economic family background may fall prey to bad eating habits in this context. Therefore, peer influence becomes significant in the context of food choice in determining the individuals especially the adolescents' food preferences and eating behaviour at such an important stage, where friends gradually become an important source of information or role models about acceptable modes of action.

Moreover, attachment among members of the peer group will continue to increase along with increasing interaction frequency among its members. This will be followed up by conformity behaviour which includes adjustment to new norms such as adapting to group eating habits and behaviours. This means that group members will try to adjust and integrate with the group to be accepted by the group which can now be regarded or assumed the position of an institution. Similarly, Davidson, Smith and Wyllie, (2014) are of the view that conformity is one of the principles or requisite demand from peer group for its members and has a strong influence which can cause certain behaviours to occur among the group members. Indeed, the rock-solid influence of peers on the adolescent social life can therefore occur because of the fact that it is a place for the adolescent to learn social skills, and become independently minded so as to try various roles to fit or accepted into the wider society.

As far as the family or home background of the female adolescent students are concerned, it was observed from the table that majority 172(32.1%)

and 199(37.2%) strongly agreed and agreed that their family background or home experience is an important determinant factor of their food habit. The table further indicated that only 14.6% of the respondents disagreed with that assertion that family background plays a role in determining eating habits of the female adolescent students. From the observation of table 3, it can be observed that majority of the respondents have extended their family or home food practice to the school environment and that their eating habit in the school is highly determined by their experiences from their eating practices at home.

The implication is that the female students are largely going to benefit from the numerous advantages associated with family meals practices in respect to quality diet, since the family provides healthy foods and beverages as well as the encouragement to adolescent family members to practice. The findings further, suggest that the female students have seen the essence of learning acceptable eating practices from their parents and therefore exhibited that knowledge outside the home environment. Once children commence schooling, it is believed that majority of them have already developed their food preferences (likes and dislikes) and therefore attainment of behaviour transformation becomes more problematic. This is due to the fact that parents play a crucial role in influencing the lives of their adolescents' food lifestyles established at home, and that becomes part of their eating habits extending into the wider environment including the school.

Parental behaviours forms part of home and family environmental sphere of influence within the social enclave, including all other practices such as making healthy foods available, establishing expectations for healthful food consumption, and setting a good example for the adolescents to emulate. Keski-

Rahkonen, et al, (2003) also indicated that, because of the importance of dietary habits, family mealtime needs to be well represented. According to the authors, mealtime is a major social environment in which all members of the family including the adolescents have the opportunity to eat together with their parents and other close family associates. This situation creates an opportunity for the adolescents (children) to observe and learn certain food habits since they consider parents as their main role-models. Thus, regularly eating together with all other members of the entire family is a surest way of boosting a healthy eating habit and more importantly teaching children to consume healthy or quality meal demonstrates positive effects on eating behaviour.

Adolescents stand the chance of learning the consumption of fruits and vegetables from their parents if parents constantly practice it or makes serving of fruits and vegetables parts of their main meal at home. This assertion is further emphasized by Videon and Manning (2003), on studying the determinants of fruits, vegetables, and dairy products consumption among adolescents and concluded that the presence of parents during evening meals associated positively with increased consumption of fruits, vegetables, and dairy products enhances the chances of their adolescent females practicing the best eating habit.

The study also sought to determine to the extent to which the mood of the respondents affects their eating habit. The findings from the table indicate that 146(27.3%) and 194(36.3%) of respondents have strongly agreed and agreed that their mood affects their eating habits. On the other hand, 97(18.1%) of the respondents disagree that their mood has anything to do with their eating habit. This implies that a negative mood which may often result from

psychological imbalance as a result of academic failure, risky adolescent relationship break-ups, or any other stressful events may lead to a demonstration of poor eating habits. Canetti, Berry, and Bachar (2002) have identified tiredness, boredom, loneliness, anxiety, tension, and stress as triggers to determining and shaping eating habits and behaviours among individuals, especially in women. Thus, it is widely accepted that eating behaviours or habits among individuals varies according to changes in their emotional arousal such as anxiety, anger, joy, depression, sadness and other emotions.

Further, the implications of the finding show that the female adolescent students are vulnerable as the result of changes in their bodies, pressure to do well in examinations, negative feelings and uneasiness about their physical development and that they may adopt poor eating habit to the detriment of their health. In support of these findings, Patel and Schlundt, (2001) revealed that, food consumed in a positive and negative mood were comparatively bigger than meals consumed in a neutral mood and that, positive mood has a greater effect on consumption of food than the state of negative moods. In a study they conducted, it was reported that when people are annoyed, it was observed that there was an increase in impulsive eating. This means that, they eat faster than expected, and also become irregular and careless in eating any kind of food available, and in joyful moment there was an increase of hedonic eating (the tendency to eat because of the pleasant taste of the food or because the consumed food is thought to be healthy).

To explore further how the school environment determines the eating habits among the female students, the table 4 indicates that 140(26.2%) and 155(28.9%) of the respondents strongly agreed and agreed that their school

environment is a factor that determines their food eating habits. The table further, revealed that 109(20.4%) of the respondents strongly disagreed that the school environment plays any significant role or usually affects their interest in the food they want to eat. The finding of the study is the confirmation of the assertion that, the environmental factors within the reach of the students consistently determine the behaviours of the students including their food habits.

These conditions of physical school environment include the space or the environment of which the food is served, the extent to which they can enjoy their privacy at the table and the school rules and regulations that govern eating behaviour during dining time. The implication is that the female students will therefore direct their eating habits to suit the demand or the request of those environmental factors available within the school. This means that, those physical elements which are the causes of noise, lighting, colours as well as temperature contain those important properties that have direct effects on the eating behaviour of the female students. In addition, the decoration of dining environment as well as the dining furniture equally plays a crucial role in determination of food habit of the female students.

The quality of these conditions within the school environment has direct effects on the behaviour and cognitive, as well as the social development of female adolescent students. In other words, the school space is considered as a significant determinant factor that goes a long way to influence the entire development process of the female students in every direction including their behaviour towards food. This finding is also consistent with the studies of Story, Neumark-Sztainer and French, 2002) that, adolescents spend long hours in a

learning environment and that school policies, rules and regulations as well as practices that govern every behaviour and also target nutrition and physical activity are capable of affecting the female students' health, eating pattern and habits. This means that the school environment can have a significant role to play in developing the right eating habits and spreading awareness about the ill effects of unhealthy foods and for the promotion of healthy eating behaviours.

Findings presented in Table 3 showed that most of the respondents 175(32.7%) and 147(27.5%) strongly agreed and agreed that their weight was a factor that determines their eating habit. However, only 83(15.5%) of the female adolescent students strongly disagreed that their weight was considered in their eating habit. Many studies have indicated that skipping meals especially breakfast is particularly common during adolescence and the practice has adverse effects on multiple aspects of adolescent health. This implies that weight gain as alluded by Ganasegeran, et al, (2012) and Wilson (2017) that large number of students practice unhealthy eating habits such as meal skipping, consumption of food in small quantity, as well as engaging in diverse eating styles are all an attempt to reduce their body weight. These practices of unhealthy dietary behaviours result in health implications for many of them later in life.

The findings further suggest that majority of the female adolescent students may indulge in either over eating or eat less in an attempt to control their weight as eating behaviour remains a key factor to determine the individual becoming obese. Supporting the discoveries made in this study, Egner, Oza-Frank and Cunningham, (2014) indicated in a study that overweight and obesity complications are closely connected not only to physical inactivity, but also to

unhealthy dietary patterns. Thus, the implication therefore means that there is a very high tendency that the female students would consciously engage in what is known as dietary restraint, as a way of restricting food intake, either to prevent weight gain or to promote weight loss by controlling both energy intake and types of foods eaten. Indeed, various evidence has emphasized that there is a close linkage between breakfast skipping and excess weight.

The findings equally confirm the fact that the female adolescent students are aware that eating habits are a contributing factor to weight development, and that the kind of food they consume determines their weight. It is this awareness that compels the students to either skip some of their meals or sometimes engage in over eating. These findings are in agreement with Kazi, et al, (2016) that an inconsistent breakfast pattern including breakfast skipping, has been found to increase the risk of excess weight not only in adolescents but among children in several international studies. Conclusively, poor eating habits are major contributors to obesity and other chronic diseases.

The analysis conducted on how the cost of healthy food determines the type of food respondents prefer to consume revealed that 152 representing (28.4%) and 142 also representing (26.5%) of the respondents strongly disagreed and disagreed with the statement that cost of healthy food determines what type of food they eat. However, results also show that as much as 110 representing 20.6% of the respondents strongly agreed that cost of healthy food is influences or determines the type of food they will prefer to eat. This finding implies that the availability of quality food does not mean that the female students will consume quality nutritious food to promote their health but the cost of the food

significantly determines what type of the food they would eat and therefore determining their food habits.

It may be quite difficult for the female students to readily access quality food within the schools' environment and therefore have to spend additional cost by hiring the services of their colleagues who are day students in order to provide them with whatever quality food they want. This means that when food is available, the main hindrance to access is primarily economic; people may find it difficult to afford a nutritious meal/diet, despite the fact that they understand the benefits of eating what foods to consume. It is undeniable fact that cost of food is fundamentally a determinant factor of food choice among many people. The fact remains that a high price or low price of food depends basically on the individuals' income as well as socio-economic status. Thus, low-income earners are exposed or vulnerable to the tendency of consuming low-quality diet that may lead to health challenges with its attendant implications.

Nevertheless, high income earnings equally do not naturally translate into the consumption of better-quality diet however; it is believed that the range of foods from which individuals can make selection inevitably increases. The result further indicates that there is a strong relationship between cost of food and quality food hence eating habits is shaped and influenced greatly by the cost one has to expend in order to acquire food. Choosing a healthy food therefore involves higher cost; thus, requiring more income or expenditure.

With respect to how regular exercise as an attempt to stay active and healthy impacts the eating habits of the female adolescent students, 136 respondents representing 25.4% and 149 representing 27.9% strongly agreed

and agreed with the statement that regular exercise to make their body healthy affects their eating habits. The result implies that, the female adolescent students understand the relevance and the role physical exercises play in promoting quality health to avert challenges associated with overweight and obesity and therefore will resort to all forms of physical activities together with adopting eating habits that will ensure their healthy living.

Female adolescents in particular are much concern about their body size. It is in this connection that physical activity has become an important factor and a tool in their hands to regulate their body size and weight and therefore will strategically resort to using food choices to achieve that objective. More importantly, body dissatisfaction among them triggers unprecedented appetite to embark on rigorous physical activities or exercises that induces and provokes inappropriate eating behaviours in the form of food restriction and skipping meals among others in an attempt to promote weight loss and to stay active and healthy.

Further, the finding again supports the study by Modolo, et al, (2011) who indicated that there is a strong positive relationship between physical activities and body weight that eventually determines food habits of adolescents and that, physical activity may predispose the youth to health-compromising eating behaviours. Thus, systematic practice of physical activities in the form of jogging, brisk walking and running among others in particular promotes physical well-being and undoubtedly influences behaviour towards food thereby determining or establishing specific eating habits.

Conclusively, physical activities and healthy eating practices are central to female adolescents' psychological well-being due to the fact that adolescents

have the ability to witness a transforming performance and improvements in their academic performance. Arguably, by practicing healthy eating habits and regular exercising, adolescents are able to develop quality interpersonal relationship with peers and are also able to comport themselves in acceptably manner during classes hours which will decrease the number of times one may get in trouble.

QUANTITATIVE RESEARCH QUESTION TWO: What are the conditions surrounding food intake in female adolescent students?

Eating pattern among the adolescents determines what they eat and when, as well as all eating occasions. The low intake of dairy products, fruit, green vegetables, protein and iron, and a high intake of sugar, soft drinks are some of the challenges that characterized poor eating habits of majority of adolescent students in school.

These conditions or situations that surround food intake of individuals remain a major concern due to its negative consequences on the health of the female students. Respondents were therefore asked to respond to items on the questionnaire that sought to explore their views on those conditions that surround their food intake among the female adolescent students. They were therefore asked to express their views on whether they eat the three-square meals everyday as recommended by experts. The findings are provided in the figure 4.

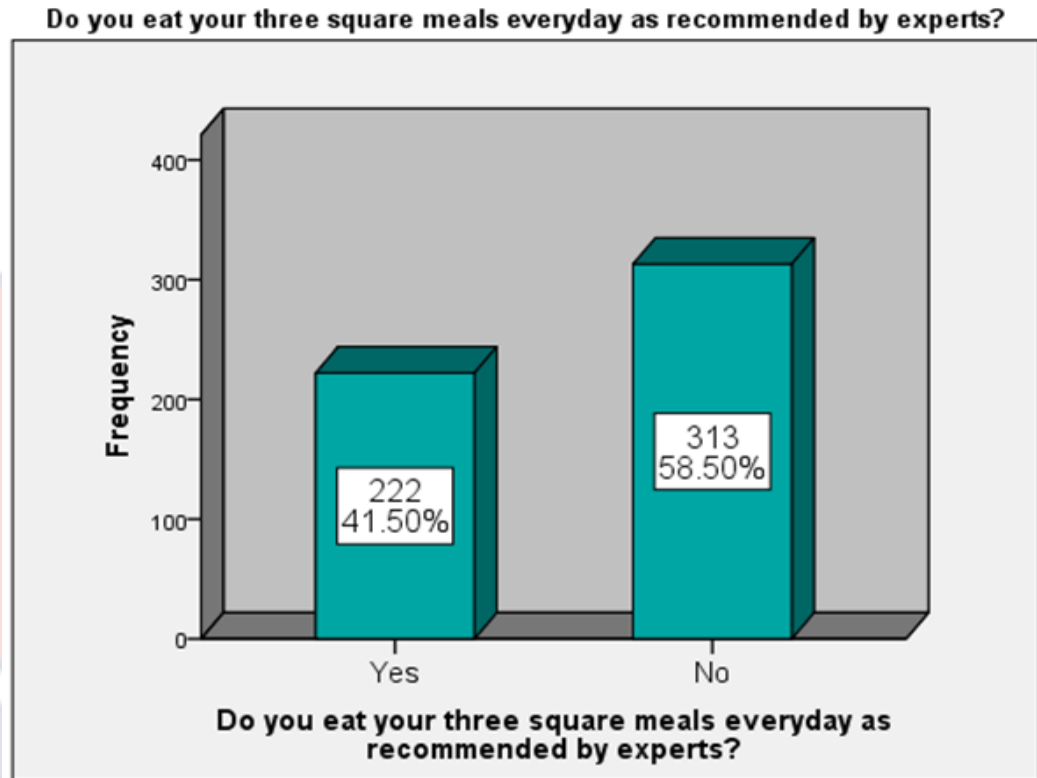


Figure 4: Field Survey: Beglah 2022

Figure 4 reveals the responses from the female adolescent students on whether they often consume their three-square meals as recommended by the experts. The findings indicate that a small majority 313 representing 58.50% of the respondents sampled for the study asserted that they do not eat their three-square meals as recommended by the experts while 222 representing 41.50% affirmed that they do eat the three-square meals as it supposed to be. These findings reveal that most of the respondents sampled for the study were aware of the benefits of eating their three-square meals daily.

De Saint Pol and Ricroch (2012) in a study found out that people who have fewer than three meals in a day were more likely to be obese than others, as their studies indicated that having three meals in a day is a strong signal to preventing obesity and cardiovascular disease among other health complications. The implication therefore points to the fact that the female

adolescent students may develop a strong immune system against overweight or become obese, since they consume the right calories a day. Thus, the consumption of three-square meals will help the female students consume fewer calories and stay on top of their nutritional needs thereby preventing overeating or eating recklessly.

The finding also reveals that the female students are able to control their appetite. This is because, they become aware of when their next meal will be available to be served instead of one or two meals that could offset their cues which might lead to overeating or eating less. In support of these findings, Escalon, Bossard and Beck, (2009) revealed that those adolescents who eat once or twice daily are highly susceptible and exposed to all kinds of health complications including type 2 diabetes, as compared to those who regularly consume their three-square meals daily.

This is also similar to the findings of Martin-Fernandez, et al, (2012) who indicated that adolescents who practice intermittent fasting and eat or skip certain meals such as breakfast and evening meals, subject their bodies to imbalance and unable to control its blood sugar levels. The implications further point to the fact that the female adolescent students will experience lower cholesterol levels, which will consequently lead to reduction in the risk of deadly cardiovascular diseases.

Table 4: Results on Conditions that Surround Food Intake in Female Adolescent Students

Statement	SD	%	D	%	SA	%	A	%
I always skip some of my meals	55	10.3	64	12.0	234	43.7	182	34.0
I regularly eat fruits and vegetables in the school.	245	45.8	169	31.6	58	10.8	63	11.8
I always patronize fast food prepared in the school canteen.	73	13.6	87	16.3	196	36.6	179	33.5
I prefer soft drinks/beverages to solid food with.	119	22.2	156	29.2	146	27.3	114	21.3
I often consume snacks in-between meals	61	11.4	63	11.8	226	42.2	185	34.6
I eat the same kind of food every day	37	6.9	47	8.8	243	45.4	208	38.9
I always consume enough protein food	190	35.5	225	42.1	50	9.3	70	13.1
I eat more when I'm stressed.	193	36.1	186	34.7	72	13.5	84	15.7

Source: Field Survey, Beglah 2022

In terms of skipping meals, majority, 234(43.7%) and 182(34.0) of the respondents strongly agreed and agreed that they do skip their meals. Observation from the table further showed that only 10.3% of the respondents strongly disagreed with the statement that they always skip some of their meals. The finding suggests that majority of the female students may suffer from nutritional deficiency. This is because, skipping a meal means skipping out on the opportunity to nourish the body with the dozens of essential nutrients it needs to thrive.

The implication of the finding therefore is that the female adolescent students may have less energy for all other works including academic work. Undoubtedly, food is the only source of fuel for the body and the main energy source includes carbohydrates as well as fruit, vegetables, whole grains, beans

among others. Once food is consumed, the blood sugar levels rise, that leads to the pancreas releasing insulin into your bloodstream, which delivers glucose to the organs and cells and triggers energy generation. Indeed, intake of foods rich in protein and complex carbohydrates keeps the energy level very high when glucose is released slowly, allowing the body to be energized for all activities which the female students need in their daily activities in the school environment.

In general, findings from the study are certainly the confirmation of the numerous studies that highlighted the alarming rate at which female adolescent girls are skipping their meal to the detriment of their health. This result is consistent with the findings from a systematic review of Anuradha Shekhar (2020) that showed that the rate of meal skipping in the young adult population vary between 24% and 87%, with young adults consistently reporting higher rates of meal skipping with its multiple effects on the various aspects of adolescents' health.

In determining the particular meal, the female adolescent students very often skip, the respondents were required to provide information in that direction. The findings are represented in the Figure 5.

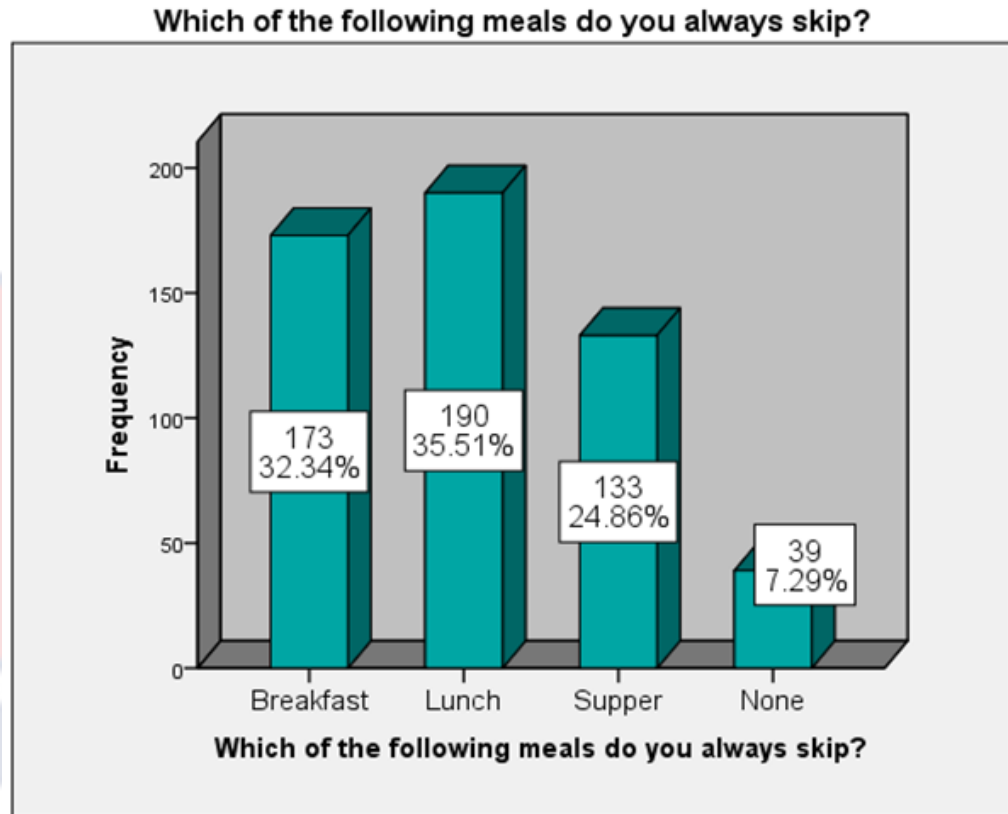


Figure 5: Meals female student skip most
Field Survey: Beglah 2022

Observation from the figure 5 indicates that 190 of the respondents representing 35.51% of the respondents stated that they skip lunch while 173 representing 32.34% stated that they skip breakfast. The study further revealed that 133 of the respondents representing 24.86% stated that they skip supper while only 39 of the respondents representing 7.29% indicated that they do not skip any of the meals. However, the findings of this study sharply contradict the views of Adesola, et al, (2014) and other several studies that breakfast is the most common meal that many individuals including adolescents skip. Obviously, skipping breakfast has become more widespread than other meals among school-age children and female adolescent students among others. The implication therefore means that more of the female students prefer to eat their

breakfast and by that feel satisfied and therefore do not see the need to consider their lunch as important to consume.

Lunch is responsible for the provision of energy and nutrients that makes the body and the brain active and working throughout the afternoon to the evening. Equally, consumption of lunch provides a break or rest from the busy schedule or activities of the day and adds up to energy needed for the rest of the afternoon's activities. The finding therefore implies that, the female students are losing out on the nourishment provided to the body and the brain which is needed to reduce stress from the rigorous academic work they constantly embark on.

Studies have indicated that younger people, especially female adolescents in school environment tend to eat less at regular meal time or do not eat at all if they frequently consume large number of snacks with low nutrient quality prior to their lunch time. High intake of snacks may therefore be closely related with less frequent consumption of meals or skipping meals, especially lunch and that practice remains injurious to their health since regular meal patterns are associated with greater dietary diversity and healthier food choices. The findings are therefore a confirmation of the fact that there is a high consumption of snacks among the female students hence they disregard the need to consume their lunch.

With regards to the regularity of the respondent's consumption of fruits and vegetables, it was realized that 245(45.8%) strongly disagreed whereas 169(31.6%) disagreed respectively that they regularly eat fruits and vegetable. Observation from the table 4 further indicated that only 11.8% of the female adolescent students agreed with statement that they regularly eat fruits and

vegetables in their various schools. The implication of the findings is an indication that serving of fruits and vegetables in addition to food consumed at the dining hall is not made a priority by the school authorities. By this practice, it is obvious that the female students are denied the health benefits of consuming fruits and vegetables. This finding is consistent with a study by Msambichaka, et al, (2017) that consumption of fruits and vegetables is a challenge not only in the developing countries but also in the developed world.

Fruits and vegetables are rich sources of vitamins A, C, E and K and other minerals such as potassium, magnesium as well as calcium which the female adolescent students need in their daily food. The academic workload in addition to extra curriculum activities which characterize students' life is an indication that fruits and vegetable must remain essential components of their daily food. Fruits and vegetables are comprehensively considered as healthy. They help regulate blood pressure and blood glucose and also have a favourable effect on lipid profile. Also, important is the fact that fruits and vegetables prevent myocardial damage; modulate enzyme activities, regulate gene expression, and signaling pathways associated with cardiovascular diseases. Tang, et al. (2017) is of the view that green leafy vegetables and coloured fruits contain carotenoids which increases the eye's visual performance and helps to prevent age-related eye diseases. They added that depression is less likely in people who consume a variety of fruit and vegetables.

The low consumption of fruits and vegetables by the female adolescent students as revealed in the findings apparently is an indication that the female students are vulnerable to the dangers of the major non-communicable diseases especially cardiovascular diseases, cancer, obesity and type 2 diabetes mellitus,

heart diseases and stroke. This therefore implies that the majority of the female students may fall victims to the complications of those health hazards.

With respect to the patronage of fast foods in the school environment, a small majority 196(36.6%) and 179(33.5%) of respondents strongly agreed and agreed that they patronize fast food a lot in the school. It is only 13.6% of the respondents strongly disagreed with the assertion that they always patronize consumption of fast food prepared within their school environments. This result is consistent with the findings from a systematic review by Jahan, et al, (2020) that fast food is particularly common among adolescents and its consumption has witnessed a dramatic increase since the 1970s and has affected the social health of many young adults.

The findings therefore point to the fact that the upsurge in eating fast foods at the school canteen means that the female adolescent girls are getting a larger proportion of their foods and nutrients far away from the school kitchen which serves as a home source. This could trigger health complications to the students since consumption of fast foods is associated with increased risk of early development of diet-related non-communicable diseases. In other words, this is an indication that majority of the female students stay away from food prepared for them and made available at the dining hall for them to consume.

The number of adolescents eating fast foods have seen a rise. Most of these female adolescent girls found on the various campuses are regular consumers of fast foods full of energy-dense soft drinks, fried and jollof rice with fried chicken, noodles and nutrient-dense fruits and vegetables. The implication of regular intake of this fast food of these students is that, they tend to eat without paying attention to the quality of what they consume and this may

not satisfy the requirement of eating a balanced diet that their body need at that development stage of their life.

As far as preferences of soft drinks/beverages to solid foods are concerned, 119(22.2%) and 156(29.2%) of the respondents strongly disagreed and disagreed with the assertion that they prefer soft drinks and beverages to solid food. However, a small minority 21.3% of the respondents have stated and agreed that they prefer soft drinks and beverages to solid food. The findings of this study contradict the views of Despina, Goussia-Rizou and Vassiliki-Costarelli (2017) that high level consumption of sugar-containing soft drinks and other beverages by adolescents are on the increase, especially among female adolescent girls in schools as it takes just a little effort to access it. They indicated that the high intake of these soft drinks is highly linked with increased risk of obesity, hyperactivity and mental health complications during adolescence.

The findings confirm that Chi and Scott (2019) in their studies have suggested that soft drinks have a harmful effect on the dental and general health of people including children and adolescents. Deducing from the findings, one can infer that the female students may be aware of these dangers and therefore decided to stay away from consumption of some of these soft drinks. This implies that the female students are likely not to suffer from the increased severity of dental erosion since majority of them prefer the consumption of solid food to soft drinks or beverages. The implications of the findings point out to the fact that the female students sampled for the study stand a greater chance of escaping the dangers involved in the consumption of soft drinks or beverages.

Table 4 further disclosed the views of the female adolescent students on how often they consume snacks in-between meals. The results indicate that a large majority 226(42.2%) and 185(34.6%) of the respondents strongly agreed and agreed to the statement that they consume snacks between meals. On the same statement, a small number of 61 representing 11.4% of the respondents strongly disagreed that they often consume snacks. The findings confirm studies by World Health Organization (2002) that adolescents snacking may reduce and diminish their sense and feeling of hunger thereby increasing their possibility of skipping breakfast and other meals. This may be the reason behind why the majority of the female adolescent students reported in the earlier findings skip their breakfast.

The implication of this finding is that the female students are replacing not only their breakfast but also lunch and dinner with snacks that could lead to reduction in intake of those local diets which play crucial role in the supply of vitamins, minerals and fibers. Ultimately, this practice could spell doom for the female students and may lead to future health challenges especially when local or traditional foods are substituted with foods with high energy density.

In general, the evidence from the findings is as the result of the fact that the female students have less control over the food prepared by the school even though they may have their concern about the quantity, taste, quality and the environment where the food is served but have greater control over food eaten away hence, they resort to eating snacks to compensate the food they have lost in the public space.

According to Wardlaw and Smith (2009) the pervasiveness of high intake of snacks among female adolescent students ranges from 60-98 percent

and that eating of snack in itself does not pose any health challenge, however, the indiscriminate selection of snacks (food) in respect to type and quantity remain a serious concern. In summing up, observing the large number of the female adolescent girls in school resorting to snacks may imply that they indulge in a consumption dietary pattern that is highly linked with undesirable health consequences that may pose greater challenges in the near future.

As indicated in Table 4 above, majority 243(45.4%) and 108(38.9%) of respondents strongly agreed and agreed respectively that they eat the same kind of food every day whereas only 8.8% of the respondents disagreed that they do not eat the same kind of food every day. These findings confirm the previous findings in respect to the large number of the female students patronizing fast food within their school's environment. This is because of the fact that the same kind of foods made available to the students put them off hence, the large number of them ended up patronizing fast foods to satisfy their hunger. It is monotonous to keep feeding from the same category of food and that such practices only lead to consumption of excess of certain foods and therefore, the individuals might be going overboard with some nutrients that can lead to health complications.

The implication is that the female students may suffer from selective eating disorder or an avoidant-restrictive eating disorder; a condition where the female students will develop a resistance to consume specific foods due to their colour, taste, texture or aroma. Certainly, this might lead to malnutrition and unhealthy weight loss. Eating the same food continuously even if it is healthy is a recipe for nutrient deficiency that the female students are exposed to. The findings suggest that they are likely to have a nutrient deficiency due to a

restrictive diet that the school authorities have subjected them to. This means that the students are restricted to the same category of food and therefore not getting a well-balanced variety of nutrients that their bodies need at that stage of their development. In conclusion, the findings suggest that the female students are equally not challenging their gut micro biome, which is important for immunity and proper nutrition absorption. This is because, the students eat the same food every day and this is not a healthy condition for the development of the gut micro biome. Of course, a wide variety of different kinds of food offers precisely the corresponding quantity of nutrients for quality health growth and development.

The respondents were further questioned on the frequency of protein consumption in their daily meal. In that respect, information from the table 4 indicates that majority 190 representing 35.5% and 225 also representing 42.1% of respondents strongly disagreed and disagreed with the assertion that they always consume protein food in their diets. This means that large number of the female students is fed on food without enough protein. The implication of this unfortunate situation is that the female students who are in their critical stage of their physical and mental development and needed more protein in their diets will suffer from protein–energy malnutrition which will lead to stunted growth and development.

Protein is essentially relevant for growth, maintenance and protection of the human body. The fact is that both the sufficiency of protein quantity and protein quality in every diet is highly beneficial to ensure the availability and usage of all the essential amino acids. Adequate protein consumption is very beneficial in particularly for toddlers, children and adolescents. This is due to

the fact that these individuals have reached an important stage in their life which witness rapid increases in height, weight, brain development and function maturation all of which necessitate demand for greater intake of protein. Then again, it is further; disappointing and unacceptable that protein is lacking in the daily diets of no other individuals but females who are in their adolescence and needed protein more than ever due to menstrual experience they go through in every month and also getting ready for pregnancy and lactating.

The finding further suggests that, the female adolescent students have become highly susceptible and exposed to all kinds of sicknesses since they have no protection from protein substances against infectious sicknesses and diseases. Animal protein sources such as dairy products, beef, chicken and eggs are important protein source or foods known for long time to be such an exceptional protein sources to protect the body from illness and other form of diseases. Proteins do not only have regulatory and catalytic functions but also safeguards the body against infections and can also serve as important sources of energy needed for the daily activities.

The study also sought to confirm the statement that female adolescent students tend to consume more food when they are stressed out. To that effects, the analysis conducted on the statement revealed that majority 193(36.1%) and 186(34.7%) of the respondents strongly disagreed and disagreed with the statement that they eat more when they are stressed. It was also observed that, only 13.5% of the respondents strongly agreed with the statement that they consume more when they are stressed. Stress is highly connected to changes in eating behaviours; that the female students consume less when they are stressed as indicated the study. Surprising, the findings goes contrary to the observation

made by Qamar, et al, (2021) in their study that students eat more when feeling stressed. Literature review on stress and eating habits in this study also support their findings that people tend to consume more food when they are stressed up.

The effects of the finding are similar to what the female students go through when they skip meals as explained earlier in the study such as suffering from nutritional deficiency. Thus, person's system is unable to receive enough of specific nutrients to maintain a healthy immune system to fight and prevent diseases. Then again, the implications are that, the female students are liable to suffer from the reduction in the desire for sexual activities and this can interrupt their reproductive processes since eating less leads to the impairment of sex hormones. The fact is that, when someone is eating less than the recommendations due to stress, the person's conditions becomes more complicated to the extent that the individual consume few calories than their body needs to function properly. This can have a severe impact on energy levels, causing feelings of physical tiredness and mental fatigue, which may impair a person's daily functioning.

QUANTITATIVE RESEARCH QUESTION THREE: What are the implications of poor eating habit on academic progress and health status of the female adolescent students in the Asougyaman district?

Perception is about how individuals see or understand the world they dwell in. It involves the manner an individual considers something or the belief one holds about how the world looks like. Thus, the perception of an individual is the person's capability to identify and comprehend those things which are not known to other people. One of the specific objectives of this research is to explore the perception of possible implications of poor eating habit on academic progress and health status of the respondents. To investigate the possible implications of bad eating habit of the students, respondents were asked to answer questions regarding their perception on how the practice can have effects on their academic and health progress.

Table 5: Result on Perception of Implications of Poor Eating Habit on Academic Progress and Health Status of Female Adolescent Students

Statement	SD	%	D	%	SA	%	A	%
I think I have food habit that does not promote academic progress	90	16.8	113	21.1	156	29.2	176	32.9
I believe looking for food during class hours can have effect on my academic work	44	8.2	57	10.7	208	38.9	226	42.2
My concentration on lessons is poor if I skip any of my meals	50	9.3	64	12	242	45.2	179	33.5
I am much concerned about the choice of food I make because of my health	156	29.2	173	32.3	100	18.7	106	19.8
I feel I have health challenges due to poor eating habits	130	24.3	139	26	129	24.1	137	25.6
I believe poor eating practices can lead to long-term health complications.	42	7.8	45	8.4	232	43.4	216	40.4

Source: Field Survey, Beglah 2022

The result in respect to the food habits the students have cultivated which do not promote academic progress shows that 156(29.2%) and 176(32.9%) of the female adolescent students strongly agreed and agreed that they believe they have food habit that do not promote academic progress. Only a small minority of 16.8% strongly disagreed that they do not think food habit they practice do not thwart their academic progress. The finding is an indication that the female adolescent students believe and understand that bad eating behaviour is a recipe for academic disaster, and therefore would rather prefer adopting eating habit that will bring about a tremendous academic advancement.

Eating healthy diet and academic performance are two sides of the same coin and are inextricably linked in the sense that consumption of healthy diet promotes students understanding of academic exercises, helps to cope with academic stress and becomes psychologically stable hence; perform better during all academic exercises. The finding is therefore an indication that the female students were practicing the kind of eating habits that do not auger well for the development of their brain by denying it those substances such as vitamins and minerals for its proper functioning. The dietary components, involving micronutrients in the form of folate, iron, and omega 3, have crucial responsibility to perform in the development and functioning of the human brain. Again, the brain needs a regular supply of energy to operate or perform properly to support the functioning of the entire system. Thus, when student engage in unhealthy eating practices, they deny the body the full capacity to function properly and excellently for quality academic work.

These findings agree with Carroll, (2014) and Ross (2010) that among the numerous poor eating habits many students practice routinely in school

includes skipping of breakfast, nocturnal food consumption, drinking less water, eating large quantity of foods and eating during activities, and that these negative behaviours tend to worsen further as students' progress through their education. This is an indication that the students are not oblivious of the fact that they may definitely miss out on scholastic achievements. Finally, the finding is an indication that the practice may weaken the female adolescent students' intellectual development; hinder their concentration ability during teaching and learning sessions. In addition to that, they may also suffer from inability to recollect and analyse information more speedily, unable to undertake academic work excellently to expectations as well as a short attention span not only in the classroom but during extra-curricular activities.

Observation from Table 5 indicates the responses of the participants in respect to looking for food during classes hours and its negative effects on their academic work. It was realized that a large majority 208(38.9%) and 226(42.2%) of the respondents strongly agreed and agreed by affirming the fact that searching for food during classes hours can actually affect their academic achievements. However, only 11 representing (8.2%) of the sampled students strongly disagreed that searching for food at the time class is in session would not affect their academic work. The high number of the female adolescent students who understand that taking time off from physical space_or classroom in order to search for food affects their academic work; is the confirmation of a study carried out by Hidayat,et al, (2012) that there is a close relationship between students' academic performance and hours of absence in their courses.

Students who are regular in class stand a better chance of academic performance as compared to truant students. Indeed, one major factor which has

been identified to have a close connection or linkage to quality academic performance is absenteeism or irregular class attendance. Absenteeism is identified as a key factor linked to the reduction of academic performance. This finding is similar to that of Strand and Granlund (2014) who postulated that recalcitrant learners who frequently absented themselves from classes perform abysmally poor in the various disciplines, especially mathematics, and find it difficult to understand other technical subjects. In effect, their academic performances in these subject areas keep on deteriorating. Again, it is reported that learners who found academic work more challenging and perform badly academically, tend to absent themselves more often in class than their counterparts who do better and are always present.

With regards to concentration on lessons during classes hours if the female students skip meals, an equally a large majority 242(45.2%) and 179(33.5%) of the respondents strongly agreed and agreed on the statement that they do not concentrate during lessons when they skip their meals. However, it was also realized that only 9.3% of the respondents strongly disagreed that their concentration during lesson is poor when they skip meals. Eating patterns that involve skipping meals have been reported to contribute extensively to shorten attention span, reduce perception, cause difficulty in learning, induce behavioural disorders and absenteeism which reduces overall scholastic success. In other words, food is essential to academic performance because, it provides the energy necessary for cognition.

With this in mind, it is also important to note that the female adolescent students who are in the habit of skipping their meals including breakfast do not consume adequate amounts of key nutrients, including calcium, potassium and

vitamin C may not be able to work to their full potential at school, since it is reported that their concentration or attention span may reduce. The finding therefore implies that, the students may not only suffer from abysmal academic performance but also, become victims or exposed to all kinds of illnesses which can result in school absence with its devastating consequences.

Respondents were also asked to respond to items on the questionnaire that sought to explore their opinion on the choice of food in respect to their health. That is, whether they were concerned about the choice of food they make. In that regard, information from the table 5 indicated that a small majority 156(29.2%) and 173(32.3%) of the respondents strongly disagreed and disagreed that they are much concerned about the choice of food they make in respect to their health. It was also realized that a small minority 100 of female students representing 18.7% strongly agreed that they are much concerned about the food they choose to eat in respect to their health. The large number of the female students who are not bothered about the choice of food they make without reference to their health is contradictory to Patel, Saikia and Upadhyaya (2018).

The authors reported that a major determinant factor that influences the food choice of individuals including adolescents is the fact that female students in school fear gaining weight and therefore tend to skip most of their meals. Indeed, unhealthy food habits of adolescents, especially the female students, tend to have an incredible health impact. Consumption of food has increasingly become a source of concern in many individuals, including the female adolescent students due to its potential consequences for their ill health, and

therefore the female students cannot afford to disregard the concern for their food selection.

The findings imply that majority of the female students disregard the food group recommendations and not only skip meals but also consume inappropriate snacks and sweets to the detriment of their health. This means that the female students are missing out on diet containing different categories of foods rich in certain quantities and proportions they need in order to meet the various requirements for calories, proteins, minerals and vitamins since their choice of food is not informed by the health implications of what they tend to consume. Supporting the discoveries made in this study, Mann, De Ridder, and Fujita, (2013) were of the view that the female students cannot afford to eat what is available or what they prefer to consume but have to base their food choices in consideration of their health consequences in respect to their weight status. In other words, they have to choose their food in the face of short-term or long-term health consequences.

The educational environment the female students have found themselves remains the reason why they were not bothered or concerned about the type of food they consume. The fact is that majority of the female students eat at the school dining facilities with limited healthy food options. They have little or no control over what food they consume in the dining hall since their food is supplied directly by the government and made available to them. They are compelled to consume what is provided and therefore cannot be bothered so much since their grievances will yield no result. Those of them who buy food from the school canteen equally have no say over what they eat because those

are the only foods made available for sale daily and therefore, they have no choice but to purchase what is available to satisfy their hunger.

Furthermore, the results from table 6 on how the female students feel about their health conditions in relation to their food habits revealed that 50% of the of students disagree with the statement while 50% also agreed with the statement. Thus, 130(24.3%) and 139(26%) of the respondents strongly disagreed and disagreed that they feel or believe they have health challenges due to bad eating habits. Equally, from the table it was observed that 129(24.1%) and 137(25.6%) of the respondents strongly agreed and agreed that they feel they do not have any health challenges triggered by bad eating habits to the best of their knowledge. Literature reviewed on the health consequences of poor eating behaviours confirmed that, there is no single organ in the human body that is out of danger from the effects of poor eating behaviour. Poor eating habits such as insufficient intake or high intake of food and skipping meals have negative influence on the health of the growing female adolescents. Thus, insufficient consumption of meals or the practice of poor diet behaviour negatively takes a toll on the functional capacity of the body.

This finding therefore implies that the female students may be victims of weak immune system, severity of illness and difficulty to recover from illnesses. The finding further means that the poor eating habits the female students have adopted may lead to failure of various body mechanisms that can lead to lower core strength, as well as slower problem-solving ability. Brown, Beardslee and Prothrow-Stith (2008) also indicate that individuals including female adolescents who practice unhealthy eating behaviours are susceptible to illnesses that lead to unwanted headaches and stomachaches. This further

implies that the female adolescent students may suffer the consequences of developing some illnesses and other health problems, including challenges of weight management, as well as high blood pressure at that embryonic stage of their life.

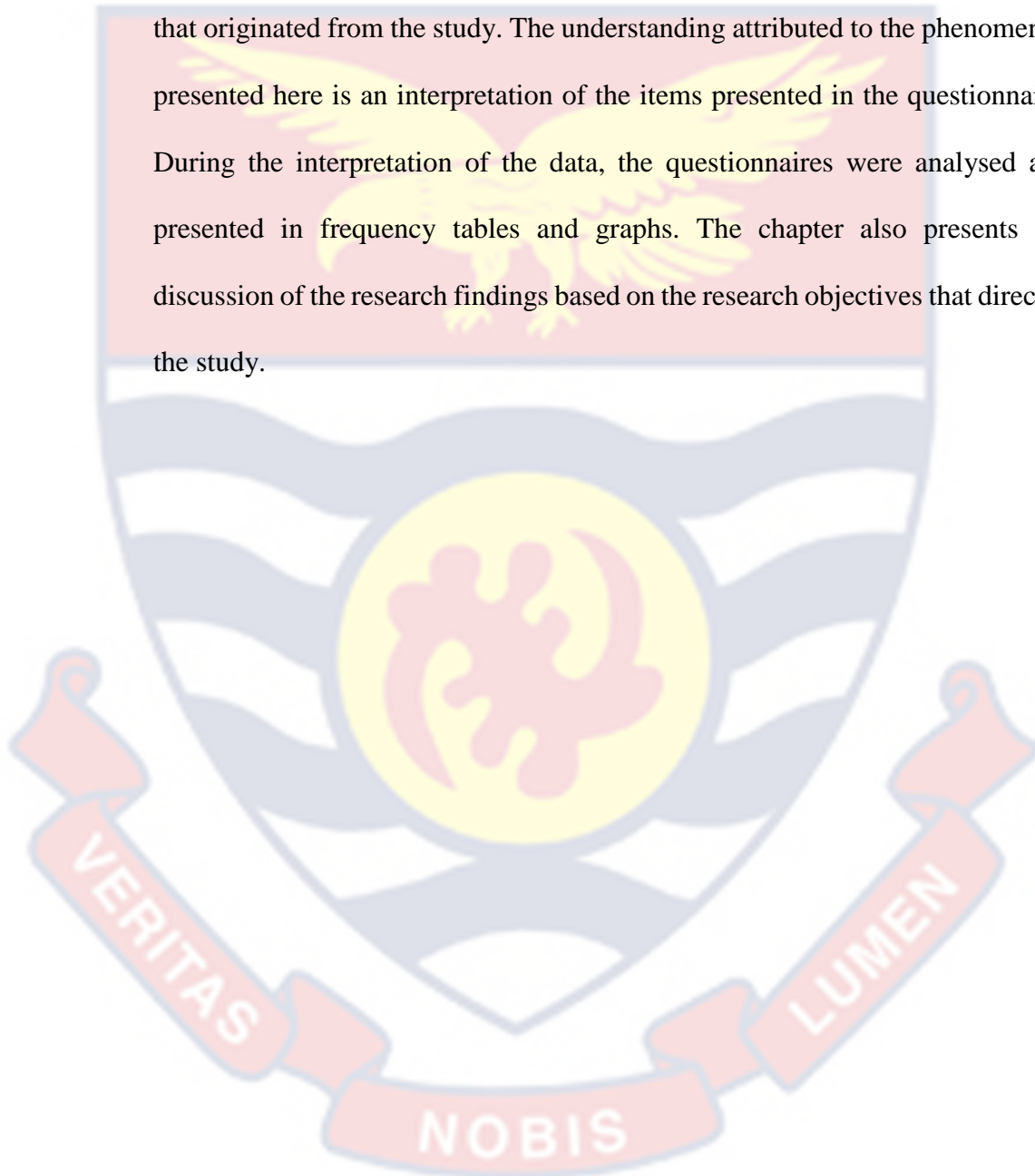
To investigate whether the students were aware of the long-term health consequences of poor eating practices, 232(43.4%) and 216(40.4%) strongly agreed and agreed that they were very much aware and believed that poor eating practices could lead to long term health consequences. Observation from the table also shows that only 7.8% of the respondents strongly disagreed that poor eating practices could lead to long term health consequences. The implication is that majority of the students are very much aware of the long-term dangers involved in the practices of poor eating behaviours. This confirms a study conducted by Saskia, et al, (2009) that people are more aware of the impact of poor eating habits that they practice, thereby making them more vulnerable to developing long-term health complications including heart disease, osteoporosis and cancers, if they do not desist from the practice.

One of the key contributing factors to death, illness as well as permanent disability among individuals, including children and adolescents of which diet and nutrition irregularity play crucial role include heart disease, stroke, hypertension and dementia, as well as nutritional anemia. However, the difficulty is that even though the majority of the female students understand the long-term effects of poor eating habits, they remain vulnerable to how to deal with the challenge since they have little or no control over what they consume in the school environment. The implication is that the female students at the

time of their stay in the school may contract a life-threatening health condition that if not dealt with can easily lead to death.

Chapter Summary

This chapter presents an interpretation and discussion of the findings that originated from the study. The understanding attributed to the phenomenon presented here is an interpretation of the items presented in the questionnaire. During the interpretation of the data, the questionnaires were analysed and presented in frequency tables and graphs. The chapter also presents the discussion of the research findings based on the research objectives that directed the study.



CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This study sought to explore the issues concerning eating habits of the female adolescent students at selected schools in the Asougyaman District. By that, the study tries to identify the factors that influence healthy eating habit of female adolescent students in some selected schools within the district. The study further explored the pattern of food intake in the female adolescent students and finally explored the students' perception on the possible implications of poor eating habits on their academic and health status.

This chapter of the study summarizes the findings of the research. The chapter also indicates how the purpose of the study was achieved. Moreover, it provides useful recommendations that address the issues raised in the analysis with respect to the topic understudy.

Summary

The study was a descriptive survey which was basically employed to find out the eating habits of the female adolescent students at selected schools in the Asougyaman District. The following were the specific research objectives:

1. To identify the factors that influence healthy eating habit of female adolescent students in Asougyaman District.
2. To determine the conditions surrounding food intake in the female adolescent students in the selected schools within the district.
3. To explore the students' perception on the implication of poor eating habits on their academic and health status.

The study targeted female adolescent students from three selected schools within Asuogyaman district in the Eastern Region. The simple random sampling technique was adopted to select 535 female adolescent students for the study. Questionnaires were designed as the main instrument for data collection. The questionnaires were validated through expert judgment and used as the main instruments for data collection. Due to the descriptive nature of the study, descriptive statistics (frequencies, percentages and graphs) were used to analyse the quantitative data which was gathered.

Key Findings

The essential findings of this study are summarized as follows:

1. It was revealed from the study that one of the major factors that influenced the choice of food and further goes to determine healthy eating habits among the female adolescent students within Asuogyaman district is the taste of food. In fact, majority of the female adolescent students would not consume their food if they detest the taste. Indeed, the students will not have anything to do with the food if they are not comfortable with the taste of the food that is available for consumption.
2. Again, other factors that influenced the choice of food and go a long way to shape the eating behaviour of the female adolescent students include academic work/pressure, the quality of food prepared within the schools environment as well as the influence of peer friends. More so, the perception that food has influence on their weight gain remains a factor that affects their eating habits.
3. Further, the study also examined the conditions surrounding food intake among the female adolescent students. In this regard, the study found

out that majority of the female adolescent students skipped their meals especially lunch and also failed to make consumption of fruits and vegetables as part of their daily meals. It also came to light that the female adolescent students are guilty of consuming snacks before their main meals.

4. The study again revealed that the female adolescent students heavily depended on the consumption of fast food available within their school environments and also failed to adhere to the three-square meals per day recommendation. In addition, it is discovered that majority of the female adolescent students did not replace their solid food with liquid foods as in the case of many adolescent girls.
5. Regarding the effects of poor eating habits on academic work, it was discovered that the female adolescent students were aware they practice a food habit that do not promote a progressive academic work since skipping of food makes it difficult for them to concentrate during lessons.
6. Finally, concerning the perception on the possible implication of poor eating habits on health status, it was revealed that the female students believed searching for food during classes hours could actually affects their academic accomplishments and that they could also suffer some health complications which were also attributed to practicing bad eating habits. Again, the female students were aware such unhealthy practices of food behaviour could lead long-term health challenges.

Conclusions

The objective of the study was to explore the issues concerning eating habits of the female adolescent students at selected schools in the Asougyaman District. Based on the key findings, the research concludes that:

First and foremost, the findings obtained from this study are enough evidence to conclude that the female adolescent students in Asougyaman district practiced poor eating habit to the detriment of their health. Again, it is evident from the study that the school environment plays a crucial role in determining what the female students consume on daily basis. Also, based on findings of this study, it can be concluded that the female adolescent students in selected schools in Asougyaman district skip their meals. Lunch was particularly skipped most in contrast to breakfast as the most skipped meal by many students indicated in several studies. This confirms unhealthy eating habits the adolescent girl's practice. Again, it is also clear that the female students have low intake of fruits and vegetables.

Secondly, the various series of inter-related activities within the context of economic, physical, and the socio-cultural environment have influenced the food practices and attitudes the female students have adopted. It is clear from the study that the female students do not follow or have access to any recommendations from experts on food safety and guidelines which would equip them with adequate knowledge and skills to assist them adopt healthy eating attitudes to their advantage.

Finally, it is obvious that the female adolescent students are aware of the dangers involved in poor eating practices on their academic development as

well as on their health status however; they find it difficult to change the situation because of the kind of educational environment they found themselves.

Recommendations for Practice

From the findings and conclusions of the study, the researcher recommended the following:

The fact that the female students were found to constantly skip their meals particularly lunch, means that the school authorities must ensure that adequate punitive measures are instituted to serve as a deterrent to those recalcitrant students who indulge in the practice. This measure if implemented very well will nib the practice in the bud.

In view of the fact that, the female adolescent students were guilty of low intake of fruits and vegetables as observed in the study, it therefore behoves on the school authorities to plan their menu in such a manner to include fresh fruits and vegetables. This will go a long way to boost their health status.

The school authorities as a matter of urgency must embark on regular nutrition surveillance as part of routine activities to monitor meals served in the dining hall to find out if the quality meets the nutritional requirement and if not measures put in place to correct that.

The expert knowledge of Home Economics departments of the various schools should be tapped where the personnel from those departments engaged to provide the knowledge on food practices and preferences to expand the horizon of the female students in that direction. This is because nutritional knowledge and its application in food choice determination play a crucial role to shape health care attitudes and behaviours of adolescents.

The school authorities must adopt strategies to bring on board specific health interventions and health campaigns to instill not only healthy eating habits in the female adolescent students but also knowledge needed to avert adverse nutritional deficiencies and complications on their menstrual health.

This will promote a healthy and sustainable food practices among the female adolescent students which will allow them to make informed choices about their dietary habits.

Also, the school authorities must ensure that food vendors within the schools' environment who ply their trade provide only wholesome food to the students. By that they should be taken through the necessary documentation and examination from a qualified medical officer to prove that they qualify to provide those services.

Recommendation for Further Research

From the findings, the researcher recommends the following for further research;

1. Similar study of this nature should be conducted in other second circle institutions in other District to explore the prevalence of the phenomenon among female students.
2. It is also suggested that the scope of future studies on the topic should be broadened to include male adolescent students in other schools.

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APPENDICES**APPENDIX A****RESEARCH QUESTIONNAIRE**

I am a student from University of Cape Coast. I am conducting a study on eating habits among female adolescent students at selected S.H.S at Asougyaman District. The information is for academic purposes only and will be treated with the strictest confidentiality. Any information you provide will be treated with strictest confidence and would only be used for the purpose of this research without mentioning your name. This survey will take about 15 to 20 minutes. Answer the questions to the best of your knowledge.

Thank you for your participation and assistance

(A) Background characteristics

- 1 Age: 12-14[] 15-17 [] 18-20 [] 21 and above []
2. Which class are you? SHS 1[] SHS 2 [] SHS 3[]
3. Religion: Christianity [] Traditional [] Islam [] others

(B) Factors that influence eating habit of female adolescent students

Please indicate how much you agree with the statements

4. I dislike the taste of the food prepared for us by the school.
Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []
5. Academic work/ pressure occupy me or denied me from eating my food.
Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []
6. The quality of food prepared by the school affects my interest in eating from the dining hall?
Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []
7. Peer group membership influences my food habit.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

8. My family background determines the food I eat in the school.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

9. My mood very often affects the choice of food I want to eat.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

10. The school environment usually affects my interest in the food I want to eat.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

11. I consider my weight when choosing my food.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

12. The cost of healthy food determines the type of food I like to eat.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

13. Regular exercise to stay active affects my eating habit and food choice.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

(B) Conditions surrounding food intake in the female adolescent students.

Please read the statement and tick against the relevant box

14. Do you eat your three square meals every day as recommended by the experts? Yes [] No []

15. I always skip some of my meals.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

16. Which of the following meals do you skip most?

Breakfast [] Lunch [] Super []

17. I regularly eat fruits and vegetables in the school

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

18. I always patronize fast food prepared in the school canteen.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

19. I prefer soft drinks/beverages to solid food with.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

20. I often consume snacks in-between meals

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

21. I eat the same kind of food every day

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

22. I always consume enough protein food.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

23. I eat more when I'm stressed.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

(D) Implications of poor eating habit on academic progress and health status.

To what degree do these statements described the pattern of food intake in the female adolescent students.

24. I think I have food habit that does not promote academic progress.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

25. I believe looking for food during class hours can have effect on my academic work.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

26. My concentration on lessons is poor if I skip any of my meals.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

27. I am much concerned about the choice of food I make because of my health.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

28. I feel I have health challenges due to poor eating habits.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

29. I believe poor eating practices can lead to a long term health complications.

Strongly Agreed [] Agree [] Strongly Disagree [] Disagree []

APPENDIX B

INTRODUCTORY LETTER

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF SCIENCE AND TECHNOLOGY EDUCATION
DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION

Direct: 03320-91097

Telegrams & Cables: University, Cape Coast

University of Cape Coast
Cape Coast

Our Ref: VTE/IAP/V.1/154

22nd March, 2021The Chairperson
Institutional Review Board
UCC

Dear Sir

INTRODUCTORY LETTER

We have the pleasure of introducing to you **Saviour Beglah Dianawho** is an M.Phil student of this Department and working on the thesis topic **“Assessing eating disorder among female adolosents students at selected Senior High Schools in Asougjaman District”**

Currently, she is at the data collection stage of her research work and is requesting for ethical clearance for the research understudy.

We would be most grateful if you could give her the necessary assistance.

Thank you.

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'Dr. Augustina Araba Amissah'.


Dr. Augustina Araba Amissah
HEAD OF DEPARTMENT

APPENDIX C

ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST
INSTITUTIONAL REVIEW BOARD SECRETARIAT

TEL: 0558093143 / 0508878309
E-MAIL: irb@ucc.edu.gh
OUR REF: UCC/IRB/A/2016/1434
YOUR REF:
OMB NO: 0990-0279
IORG #: IORG0009096



5TH JULY, 2022

Ms. Saviour Diana Beglah
Department of Vocational and Technical Education
University of Cape Coast

Dear Ms. Beglah,

ETHICAL CLEARANCE – ID (UCCIRB/CES/2022/19)


The University of Cape Coast Institutional Review Board (UCCIRB) has granted Provisional Approval for the implementation of your research **Survey for Eating Habits among Female Adolescents’ Students at Selected Senior High Schools at Asuogyaman District**. This approval is valid from 5th July, 2022 to 4th July, 2023. You may apply for a renewal subject to submission of all the required documents that will be prescribed by the UCCIRB.

Please note that any modification to the project must be submitted to the UCCIRB for review and approval before its implementation. You are required to submit periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours faithfully,


Samuel Asiedu Owusu, PhD
UCCIRB Administrator

