ENSIGN GLOBAL UNIVERSITY

KPONG, EASTERN REGION, GHANA

FACULTY OF PUBLIC HEALTH

DEPARTMENT OF COMMUNITY HEALTH

EXPLORING NUTRITION KNOWLEDGE AND DIETARY CHOICES OF UNDERGRADUATE STUDENTS AT THE UNIVERSITY OF GHANA BUSINESS SCHOOL – LEGON, GREATER ACCRA REGION

BY

IRENE DZIEDZORM AHIAKPOR

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A THESIS SUBMITTED TO THE DEPARTMENT OF COMMUNITY HEALTH, FACULTY OF PUBLIC HEALTH, ENSIGN GLOBAL UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE MASTER OF PUBLIC HEALTH DEGREE

NOVEMBER, 2025

DECLARATION

I hereby certify that, except for references to other people's work, which I have duly cited, this project submitted to the Department of Community Health, Ensign Global University, Kpong, is the result of my own investigation and has not been presented for any other degree elsewhere.

IRENE DZIEDZORM AHIAKPOR ……. **Date:** 06/10/2025
(ID – 247100296) Signature
(STUDENT)

(Certified by)
PROF. STEPHEN MANORTEY …… **Date:** 06/10/2025
(Supervisor) Signature

(Certified by)
PROF. STEPHEN MANORTEY …… **Date:** 06/10/2025
(Head of Academic Program) Signature

DEDICATION

I dedicate this work to the almighty God for enlightening me and planting within me a deep passion for health and nutrition, and giving me the courage to pursue my MPH degree. This journey has been a blessing and full of important lessons that will remain invaluable as I advance my career in nutrition.

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ABSTRACT

Background: Nutrition and diet play a critical role in promoting health and preventing chronic diseases, particularly among young adults. Recent trends show a rise in non-communicable diseases (NCDs) such as diabetes and cardiovascular diseases, and their associated risk factors. These developments have brought attention to the importance of nutrition knowledge and healthy dietary practices among younger populations. This study explores the nutrition knowledge and dietary choices of undergraduate students at the University of Ghana Business School (UGBS), in order to understand the factors that shape their food choices.

Methodology: This study adopted a qualitative approach to explore nutrition knowledge and dietary choices among undergraduate students of UGBS. Data were collected from a sample size of 32 purposively selected students through in-depth interviews guided by the Food Choice Process Model (FCPM). Data was thematically analysed on ATLAS.ti.

Results: Findings reveal that most students at UGBS had a fair understanding of nutrition concepts such as healthy eating, balanced diet, and nutrient-rich foods. However, their dietary choices and behaviours were inconsistent with their knowledge levels. Analysis revealed that students' dietary choices were significantly influenced by convenience, taste preferences, and affordability. Social influences, such as peers, social media, and upbringing, also played significant roles in shaping their dietary behaviours.

Conclusion: This study highlighted the gap between students' nutrition knowledge and dietary choices and practices. This emphasizes the need for interventions beyond education to address environmental factors and social pressures that shape their dietary choices. Both institutional and national policy reforms are necessary to promote healthy food choices among students.

Keywords: Undergraduate students, nutrition knowledge, dietary choices, non-communicable diseases, nutrition interventions.

LIST OF ABBREVIATIONS

AI	Artificial Intelligence
CDs	Communicable Diseases
CKD	Chronic Kidney Disease
ECH	Ethics Committee for Humanities
FBDG	Food-Based Dietary Guidelines
FCPM	Food Choice Process Model
GDHS	Ghana Demographic and Health Survey
GHS	Ghana Health Service
GNKQ-R	General Nutrition Knowledge Questionnaire-Revised
GPA	Grade Point Average
HiAP	Health in All Policies
HSM	Health Services Management
ICF	Informed Consent Form
IRB	Institutional Review Board
ISSER	Institution of Statistical Social and Economic Research
JHS	Junior High School
MD	Mediterranean Diets
NCDs	Non-Communicable Diseases
ND	Nutrition and Dietetics
NK	Nutrition Knowledge
OMIS	Operations and Management Information Systems
PE	Physical Education
PIS	Participant Information Sheet

R	Respondent
SHS	Senior High School
SSBs	Sugar-Sweetened Beverages
TTU	Takoradi Technical University
UG	University of Ghana
UGBS	University of Ghana Business School
UK	United Kingdom
UPFs	Ultra-Processed Foods
WHO	World Health Organisation

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Nutrition is the science of food and its health benefits. It is a multidisciplinary concept that integrates and applies a diverse pool of knowledge about the foods and diets of different cultures and their effects on the human body (Roberfroid, 2011). Humans consume many varieties of foods and beverages every day for nourishment. The nutrients obtained from food support growth and development throughout a person's life course; thus, ensuring proper nutrition is an effective and economical approach to preventing many diseases and their risk factors (Ohlhorst et al., 2013).

It is believed by many that certain diseases come with old age. However, there are certain factors, such as a person's daily dietary intake, that over time predispose them to degenerative diseases in their old age. This brings to light the importance of paying attention to the nutrition of young adults, a nutritionally vulnerable group that acquires lifelong eating behaviors during this period of life (Buyuktuncer et al., 2018). Understanding their knowledge of the subject and its impact on their dietary choices is important for developing communication strategies that promote proper nutrition among young adults.

An important group of young adults is those between the ages of 18 and 25, undertaking their undergraduate studies. This is a critical phase of character development and habit formation. Promoting healthy dietary practices among these students is a way to ensure that they build lasting habits that protect them from developing risky health conditions such as overweight and obesity, particularly in an era of global epidemiological shift in disease patterns from communicable diseases (CDs) to non-communicable diseases (NCDs) (Adogu et al., 2015).

Studies indicate that malnutrition, which comprises nutritional deficiencies and over-nutrition, is a result of poor diets aided by urbanization. A poor diet is one that lacks the essential nutrients needed for the proper functioning of the body. This overtime leads to inflammatory dysfunctions, overweight, and obesity, which are risk factors of NCDs (Tokunaga et al., 2012). Young adults need to be encouraged to eat properly to prevent these conditions and to reduce the burden of NCDs such as cancers, type 2 diabetes, and cardiovascular diseases (Oti & Eshun, 2020). In encouraging them, we must first understand their perspective on diet and explore their knowledge of nutrition in order to develop effective health promotion interventions.

Most undergraduate students, particularly those at the University of Ghana Business School (UGBS), are living away from home for the first time, managing their own schedules, and making major decisions independently, such as their food decisions (Belogianni et al., 2021). In this new environment, students are often left to rely on their own knowledge and beliefs when it comes to nutrition. Without proper guidance on the knowledge of food and its impact on health, they tend to lean towards unhealthy food habits such as low or no intake of fruits and vegetables, and increased consumption of fast food and sugar-sweetened beverages (SSBs), which contribute to the development of risky health conditions over time (Oti & Eshun, 2020).

While past studies have often looked at the dietary habits and nutrition status of students, less attention has been given to how students understand and perceive nutrition. What does “eating healthy” mean to them? What is their level of nutrition knowledge? And how does their knowledge of nutrition shape their everyday food choices? This study seeks to explore these questions.

Poor dietary practices among undergraduate students have been aided by the westernization of the food environment, where ultra-processed foods (UPFs) such as cakes, pastries, cookies,

chips, deep-fried foods, biscuits, sandwiches, instant noodles, and soft drinks are more popular and accessible than fruits, vegetables, and nutritious home-cooked meals made with local staples (Mockshell et al., 2022). These UPFs are low in essential nutrients and high in trans fats, added sugar, and salt, all of which experts recommend individuals consume less of or avoid (Pipoyan et al., 2021). However, juggling academic and social pressures often leaves students with limited time to reflect on nutrition before making food choices; convenience and taste preferences become the priority (Mensah & Oyebode, 2022).

The benefits of a healthy diet cannot be overemphasized, as it was found that poor nutrition can adversely affect the academic performance, physical health, and well-being of students (Hamdan & Alijarrah, 2024).

Despite these findings, there is limited research that focuses on exploring nutrition knowledge and how it translates to dietary choices among students, particularly students from non-health faculties like UGBS. This study aimed to fill the gap by exploring students' knowledge and personal perspectives on nutrition and diet. This study has provided valuable insights for designing realistic, student-informed strategies that can improve nutrition knowledge and support healthier eating habits among undergraduate students of UGBS and the general university population.

1.2 Problem Statement

Poor dietary habits and limited nutrition knowledge among university students have become a growing public health concern, particularly as they contribute to the rising burden of non-communicable diseases (NCDs) in Ghana and globally. Young adults in higher education are increasingly adopting unhealthy eating behaviours—skipping meals, consuming ultra-processed foods (UPFs), and relying on fast foods high in sugar, salt, and fat, placing them at elevated risk of obesity and related chronic conditions. This issue is especially relevant in

academic environments where health education is not prioritized, such as the University of Ghana Business School (UGBS).

The UGBS, one of the largest faculties within the University of Ghana (UG), comprises students from diverse socio-economic and cultural backgrounds who pursue business-related disciplines with no formal nutrition training. Without structured nutrition education in their curriculum, these students are likely to possess limited knowledge about healthy eating and its role in disease prevention. This knowledge gap, if unaddressed, may predispose them to poor dietary choices and increase their vulnerability to NCDs and other nutrition-related health issues.

Globally, NCDs such as cardiovascular diseases, diabetes, and kidney disease account for 7 of the top 10 causes of death, an increase from 4 of 10 in 2000 (WHO, 2024). Ghana also contributed to the global statistics, with NCDs emerging as a leading cause of morbidity and mortality (Ministry of Health, Ghana, 2022). The Ghana Demographic and Health Survey (GDHS) report estimated overall hypertension prevalence in Ghana at 13%, and up to 54.6% in some urban communities (DHS, 2014; Addo *et al.,* 2012). Other NCDs of concern in Ghana are diabetes and chronic kidney disease (CKD), with diabetes affecting 3.3% to 8.3% of adults in Ghana (Lule et al., 2024), and CKD, which often results from the progression of diabetes and hypertension, affecting 13% of Ghanaians (Tannor et al., 2023). These findings underscore the need for urgent health promotion initiatives to address poor dietary choices and improve the knowledge of nutrition among younger populations.

Within the UGBS environment, students are exposed to an obesogenic campus food setting dominated by fast-food outlets, sugary beverages, and other convenience foods that prioritize taste and affordability over nutritional value. Heavy academic workloads and sedentary

routines further exacerbate poor dietary practices and limit opportunities for meal planning and physical activity.

Empirical evidence supports these patterns. A recent study reported that most university students exhibited irregular meal patterns, low fruit and vegetable intake, and frequent fast-food consumption, with parental separation also linked to unhealthy eating habits (Bayomy et al., 2024). Similar trends persist beyond university life: among Ghanaian financial sector workers, overweight and obesity prevalence reached approximately 32% and 31%, respectively, attributed to low awareness and poor nutrition knowledge (Jonathan et al., 2024). These parallels suggest that business students, if not guided early, may replicate such behaviours in their professional lives, further burdening Ghana's NCD profile (Sandu & Pescaru, 2024).

This highlights the need for timely, targeted health-promotion interventions to improve nutrition knowledge, dietary choices, and health awareness among business students. Exploring how UGBS undergraduates perceive nutrition and the factors shaping their food decisions is therefore critical to designing evidence-based interventions that foster lifelong healthy eating habits.

1.3 Rationale of the Study

Nutrition research is essential for understanding and addressing the underlying causes of obesity and related comorbidities (Ohlhorst et al., 2013). In Ghana, where the burden of non-communicable diseases (NCDs) continues to rise, understanding how young adults make dietary choices has significant implications for health promotion and disease prevention. This study therefore goes beyond describing student dietary habits, it provides actionable insights that contribute to public health practice, and nutrition education.

This study offers evidence to guide the design of health promotion interventions tailored to university settings. By exploring the nutrition knowledge and dietary choices of non-health students, particularly those at the University of Ghana Business School (UGBS), the study identifies behavioural and environmental gaps that health practitioners can address through campus-based nutrition programs, peer-led initiatives, and digital health campaigns. Such interventions can strengthen preventive health efforts and foster lifelong healthy eating habits among young adults, a key population for early intervention.

This study also fills an important methodological and contextual gap in Ghana's nutrition literature. While most prior studies have focused on quantitative assessments among high school or health-related university students, this research employs a qualitative design to uncover the subjective meanings, motivations, and constraints that influence food choices among business students. The study therefore contributes new qualitative evidence to the growing field of nutrition behaviour research and supports the fifth global nutrition research priority of "understanding nutrition behaviours" (Ohlhorst et al., 2013).

The findings align with Ghana's Health in All Policies (HiAP) framework by emphasizing the need to integrate nutrition and health considerations into higher education policies. The study underscores the importance of embedding nutrition education and healthy food environments within educational institutions such as UGBS. Insights from this research can inform national strategies that link education, youth development, and health promotion, thereby advancing Sustainable Development Goal 3, Good Health and Well-being.

The study also highlights the relevance of nutrition literacy as a transferable life skill. The findings advocate for incorporating basic nutrition awareness into university curricula and extracurricular programs, enabling students, the future business leaders and policymakers to make informed decisions about diet and health. Enhancing nutrition education at the tertiary

level will not only improve student well-being but also promote a culture of health-conscious leadership across sectors.

In essence, this study provides a deeper, context-specific understanding of how business students perceive and practice nutrition within the Ghanaian university environment. Its findings will inform evidence-based interventions, support intersectoral policy dialogue, and strengthen the integration of nutrition education and health promotion within higher learning institutions.

1.4 Conceptual Framework

This study is guided by the Food Choice Process Model (FCPM) developed by Furst et al. (Furst et al., 1996). The model is representative of the essential parts of the process through which people select foods. The components of the FCPM explained how a student's past experiences, social influences, and personal values interact to influence nutrition knowledge and food choices within the university setting. The three interconnected components of the model include: life course, influences, and personal food systems. The life course includes past food experiences, family food culture, personal values, and knowledge that shape how students perceive nutrition and value food. These factors influence their health ideals, taste preferences, cooking skills, and their relationship with peers in terms of food. This, in turn, shapes their personal food systems, that is, how they balance trade-offs such as convenience, health, and cost when making food choices (Fernqvist et al., 2024).

The model is particularly well-suited for qualitative research, as it allowed for the exploration of subjective meanings and narratives around food behavior. The model was used to develop the interview guide and key themes for analyzing data and presenting results.

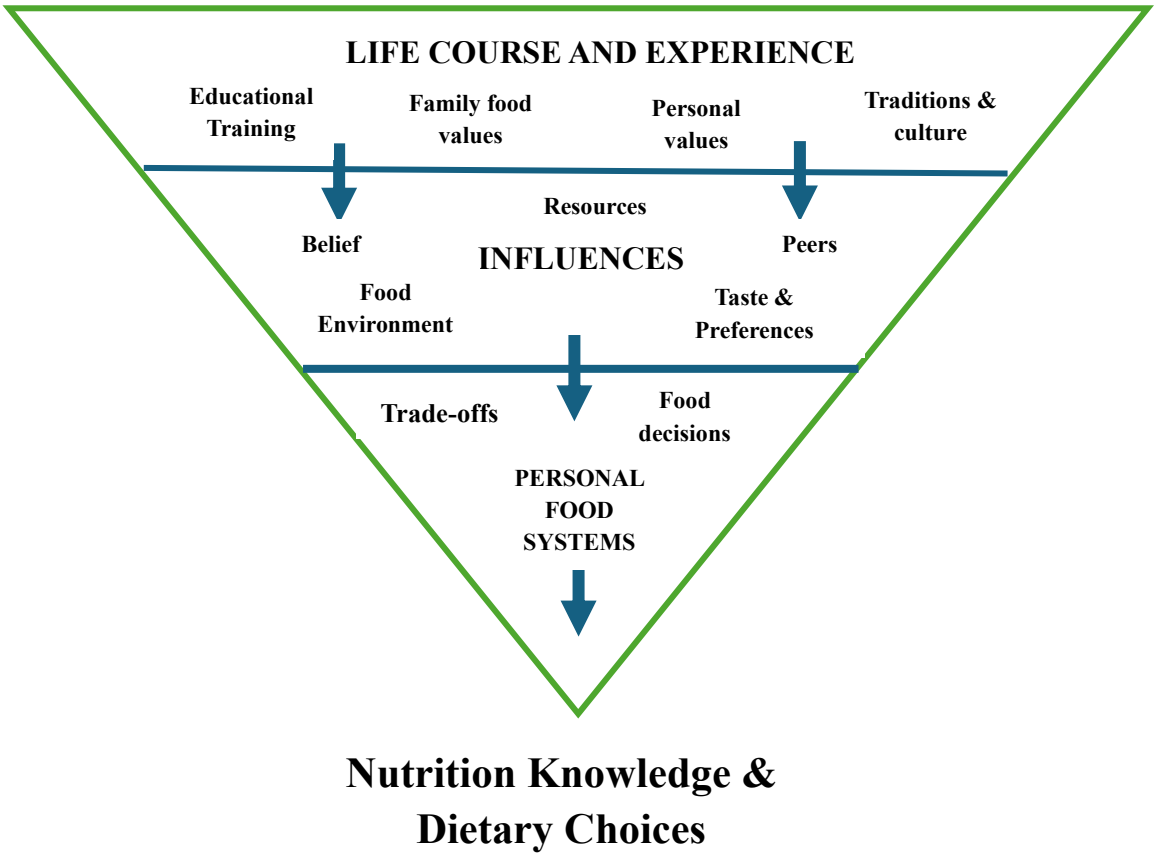

Figure 1: Conceptual framework. An adaptation of the FCPM by the author.

1.5 Research Questions

1. What do undergraduate students of UGBS know about nutrition?
2. What are the dietary choices among undergraduate students at UGBS?
3. What factors influence the dietary choices of undergraduate students at UGBS?

1.6 General Objective

To explore the nutrition knowledge and dietary choices of undergraduate students at the University of Ghana Business School.

1.7 Specific Objectives

1. To assess the knowledge of basic nutrition concepts among undergraduate students at UGBS.
2. To determine the dietary choices among undergraduate students at UGBS.
3. To identify the factors that influence the dietary choices of undergraduate students at UGBS.

1.8 Profile of Study Area

The University of Ghana Business School (UGBS) is the premier and largest business school in Ghana, located on the main campus of the University of Ghana in Legon, Accra. UGBS offers undergraduate, graduate, and doctoral programmes across various business disciplines, including accounting, finance, marketing, operations and management information systems (OMIS), human resource management, and public administration (UGBS, 2018).

UGBS serves a diverse student population from different parts of Ghana and Africa, making it an ideal environment for multidisciplinary research. The school is focused on developing world-class human resources and capabilities to meet national development needs and global challenges. At the undergraduate level, students typically range in age from 18 to 25 years, representing an important population of young adults for public health research.

Located in one of the Greater Accra Region's prime urban areas, students at UGBS are exposed to a fast-paced lifestyle, with access to a variety of food options, including campus canteens, street food vendors, and fast-food outlets. This food environment brings forth nutritional challenges, such as increased consumption of high-calorie, nutrient-poor foods, low intake of fruits and vegetables, and low motivation or limited time for meal planning and preparation. The persistence of these eating habits over time leads to the development of risky health conditions such as overweight and obesity among students. The combined prevalence of

overweight and obesity (30.3% and 17.7%) among university students in Accra and Kumasi, respectively, provides evidence of poor dietary habits and low nutrition knowledge among students (Obirikorang *et al.,* 2017; Agyei *et al.,* 2022).

Exploring the contextual aspect of nutrition knowledge and dietary choices among students of UGBS contributes to efforts aimed at promoting healthy dietary practices among young adults in higher education institutions.

Figure 2: UGBS main campus https://ugbs.ug.edu.gh/

1.9 Scope of Study

This study focused on exploring nutrition knowledge and dietary choices among undergraduate students at UGBS to gain deeper insights and provide a contextual understanding of the knowledge levels and factors that shape their dietary behaviors. This study is limited to UGBS and does not extend to other departments within UG or other universities. This study provided in-depth insights that set a precedent for further research in other departments and other university populations and a basis for impactful nutrition interventions.

1.10 Organization of Report

This research paper is organized into six chapters. Chapter One is the introduction. It outlines the background of the study, the problem statement, the rationale of the study, the conceptual framework, the research questions, and the objectives of the study.

Chapter Two provides a review of the related literature concerning the study. Chapter Three provides the study design and the research methods used in carrying out the study.

Chapter Four presents the research findings and results generated from the data analysis.

Chapter Five discusses the key findings, bringing it into context with the study' objectives and conceptual framework.

Chapter Six presents the conclusions and recommendations based on findings from the study.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This study aims to contribute to nutrition research by examining the understanding of nutrition and dietary choices among students from a non-health discipline. This chapter highlights relevant literature and global trends that justify the need for this study and how it can improve public health initiatives.

2.2 Overview of Nutrition Knowledge

Nutrition knowledge refers to an individual's understanding of the concepts and processes related to nutrition and health, including the relationships between diet and health, diet and disease, as well as dietary guidelines and recommendations (Huang et al., 2021). Another study highlighted three essential components of nutrition knowledge that are crucial for improving dietary habits. These components include an individual's understanding of the relationship between diet and disease, the nutrient content of various foods, and awareness of dietary recommendations (McKinnon et al., 2013). The first objective of this study is to investigate these key components of nutrition knowledge among UGBS students to test their understanding of the relationship between diet and disease, as well as their awareness of food nutrients and dietary recommendations.

A study on the relationship between nutrition knowledge and the reading of food labels found that nutrition knowledge positively influenced an individual's attention to nutrition information, thereby improving their nutrition literacy and helping them make healthier food choices (Huang et al., 2021). Another study conducted to assess the nutrition knowledge of university students in the UK using the General Nutrition Knowledge Questionnaire-Revised (GNKQ-R) revealed that students had good nutrition knowledge, with an overall median score

of 64 points; good nutrition knowledge was defined as having an overall median GNKQ-R score of greater than or equal to 64 points. However, sections of nutrition knowledge measured showed that students' knowledge of nutrient content of foods and the diet-disease relationship was inadequate, as gaps in knowledge were found regarding the intake of fats and salts and good weight management practices (Belogianni et al., 2021).

Results of a study conducted to assess nutrition knowledge, attitudes, and food habits of college students showed a higher nutrition knowledge score in physical education students than in business management students. The correct response rate for nutrition knowledge among PE students was 60.95% and 55.86% for business management students (Barzegari et al., 2011). The recent study (Belogianni et al., 2021) provides further proof of this point, as results show a higher overall median GNKQ-R score in healthcare students compared to non-healthcare students. The scores were 66 points and 62 points, respectively. This same study recommended that researchers apply qualitative methods in future research to investigate nutrition knowledge among university students to provide more context for understanding their dietary choices and behaviours.

Nutrition research in Ghana covers a wide range of topics, such as maternal nutrition knowledge (Adjei-Banuah et al., 2021), the impact of nutrition education on nutrition knowledge among primary school children (Antwi et al., 2020), sources of nutrition information among young adults (Quaidoo et al., 2018)(Quaidoo et al., 2018), nutritional status of undergraduate students (Oti & Eshun, 2020), nutrition knowledge and attitude of caregivers (Christian et al., 2016), diet patterns of persons living with HIV (Nti et al., 2012), and nutrition literacy and its impact on food choices (Darkwa, 2014). Also, nutrition and dietary behaviour studies conducted in Ghanaian student and young adult populations tend to focus on middle and high school students as well as general university populations. A study of food literacy and dietary behaviour conducted among day students of a Senior High School (SHS) in the Central

Region of Ghana found inappropriate dietary behavior, as a greater proportion of day students skipped breakfast, practiced excessive snacking, and did not consume fruits and vegetables regularly (Oti, 2020). In another study that assessed the dietary habits and nutritional status of undergraduate students at the University of Education, Winneba, it was discovered that although most students were of normal weight, they had moderate consumption of proteins such as fish, meat, eggs, and dairy products, low consumption of fruits and vegetables, and high consmption of energy-dense foods and fast-foods such as cakes, pastries, deep-fried foods, instant noodles, cookies, sandwiches, and soft drinks (Oti & Eshun, 2020). These dietary habits are not ideal and can lead to the students developing NCD risk factors such as overweight and obesity.

Additionally, a study conducted among young adults in Accra found that most of them relied on online resources and traditional media as their go-to source of nutrition information, among other sources of information such as healthcare professionals, family members, and peers (Quaidoo et al., 2018). Healthcare professionals, such as dieticians, although rated as the most reliable source of nutrition information, were the least used source among young adults. In this same study, the basic nutrition knowledge scores among a sample of 192 participants showed that 52.6% scored high on basic nutrition knowledge and 47.4% scored low on basic nutrition knowledge. These findings indicate that healthcare professionals should utilize both online channels and traditional media to disseminate reliable nutrition information to further increase nutrition knowledge among this age group.

The studies referenced in the context of Ghana indicate that the country is making progress in enhancing nutrition interventions to achieve better health outcomes. However, there is still a lack of understanding regarding the nutrition knowledge levels among non-health students, particularly those at UGBS. This will aid the development of student-informed initiatives to empower non-health students with nutrition knowledge, enabling them to make informed

choices despite external influences like advertisements and food environments (Edin et al., 2024).

2.3 Factors Influencing Dietary Choices

Dietary choices can be referred to as the decisions and behaviours related to food selection, meal patterns, and consumption practices (Sogari et al., 2018). In other words, they are decisions individuals make regarding what to eat and drink, influenced by factors such as personal experiences, culture, social context, and other considerations such as health, taste, convenience, cost, and ethical concerns (Santos & Assunção, 2025). The variety of available food products has made dietary choices complex for consumers. For university students, particularly those at the undergraduate level, dietary choices are shaped by a combination of variables such as personal preferences, self-discipline, time and financial constraints, campus food environment, and peer influence (Deliens et al., 2014).

An individual's health and nutritional status are a reflection of their food choices. According to the WHO (WHO, 2020), recommended dietary practices such as daily intake of fruits and vegetables, limited intake of added sugars and excess salt, increased consumption of whole foods such as whole grains, tubers, fish, eggs, and fresh poultry, and limited consumption of UPFs are protective against all forms of malnutrition and NCDs such as such as type 2 diabetes, cardiovascular diseases, and certain cancers. Similarly, a special issue article discussing the effects of diet and exercise on human health indicated that maintaining a healthy lifestyle, that is, regular exercise, a balanced diet, and avoiding alcohol consumption, is beneficial for health and leads to lower dependence on medication across an individual's lifespan (Moradell et al., 2023). It was, however, noted that maintaining a healthy diet and lifestyle can be challenging due to the competing demands of modern life. More so for undergraduate students facing academic and social pressures.

The FCPM offers a valuable framework for understanding how the various dynamics influence students' dietary choices. It allows for an exploration of how factors such as a student's knowledge, upbringing, experiences, personal values, societal influences, and economic resources contribute to their food choices and eating habits. Most existing studies are quantitative, cross-sectional studies that are reliant on self-report tools, leaving many questions, such as the subjective meanings students attach to healthy eating and the trade-offs they navigate in their daily lives, unanswered. This is evident in (Yun et al., 2018) and (Sprake et al., 2018). Both studies were conducted to assess dietary habits and dietary patterns of university students in the UK and in Brunei, respectively. However, both studies were subject to a number of limitations, such as the inability to explore the psychological factors associated with overweight and obesity, and the inability to explore social, cultural, and ethical factors that influence the adoption of certain dietary patterns by students. The FCPM is adopted in this study to address these limitations in the Ghanaian context by providing in-depth data on factors that influence students' dietary choices.

Research indicates that university students often exhibit unhealthy dietary patterns, characterized by irregular meal times, a high consumption of processed foods, and insufficient intake of fruits and vegetables (Almoraie et al., 2025). This study aims to understand the factors contributing to these dietary choices and to clarify preferences for processed versus whole foods. These choices not only increase students' vulnerability to NCDs later in life but also affect their immediate health, energy levels, and academic performance (Kabir et al., 2018). Studies across Europe, North America, and Asia have identified several factors that contribute to unhealthy dietary choices among university students. A study conducted in Universidad Autónoma Benito Juárez de Oaxaca, a Mexican University, to identify the barriers and enablers of healthy eating among students found that the key barriers that contributed to the decline of diet quality included academic stress, time constraints, low cooking self-efficacy, limited

nutrition knowledge, peer pressure, and negative social norms (Jurado-Gonzalez et al., 2025). Another study conducted in a Hawaiian university identified these same barriers, including an unsupportive food environment and the high cost of healthy foods (Amore et al., 2019). A cross-sectional study in Australia identified that university students who frequently purchased food and beverages on the university campus had a higher intake of energy-dense, nutrient-poor foods, and hence concluded that the university food environment negatively influenced students' dietary choices (Whatnall et al., 2021). The researchers recommended that changes be made to the university food environment as a strategy to improve dietary intake among university students.

In African contexts, literature shows similar influences but reveals distinct social and cultural dynamics. A systematic mapping review of thirty-nine literature studies on urban food environments in Africa demonstrated that while most African studies focus on individual determinants such as self-esteem, dieting behaviours, and knowledge, there is also clear evidence of social and environmental pressures (Osei-Kwasi et al., 2020). Peer norms, sharing of meals, and campus or urban food environments strongly shape food decisions. The review also highlighted the under-exploration of macro-level influences such as advertising and food pricing. A recent study from Eswatini highlights factors such as academic stress, economic hardship, family background, low nutrition knowledge, peer pressure, and social media influences in shaping unhealthy food practices among university students (Ngwenya et al., 2024). This indicates that insufficient income and high stress levels among students often intersect to push them towards cheaper, calorie-dense foods, while social media and peer dynamics reinforce these dietary decisions.

Research in Ethiopia also demonstrates how the built food environment, particularly food outlets around schools, narrows the dietary diversity of adolescent students and reduces their access to nutritious meals (Trübswasser et al., 2022). The study revealed that 89.9% of food

advertisements around schools were of UPFs, mostly SSBs, which were positioned at 89.1% food outlets. SSBs and other sweets were visibly on display in 26.3% of the outlets, and fresh fruits and vegetables in 17.9% of the outlets, leading to the majority of adolescents spending their pocket money on SSBs, sweets, and fried foods. These findings indicate that African students face similar challenges seen globally.

Some studies have been conducted to identify determinants of dietary habits among university students in Ghana. In an explorative study to identify the factors that influence the decision-making process for food outlet choices among university students in Ghana, food prices, spatial accessibility, food quantity, hygiene, variety of foods, food quality, and taste preferences were identified as some of the influencers for the choice of food outlet (Mensah & Oyebode, 2022). Another Ghanaian study analysing the relationship between physical exercise and healthy diet among adults found a positive correlation between the two lifestyle choices (Agyemang et al., 2022). Other determinants of a healthy diet identified in the study include marital status, self-reported good health status, high income, and attitudes toward being overweight. It was also found that men were more physically active but less likely to maintain a healthy diet.

A consumer behaviour study among Ghanaians aged 18 to 75 years revealed cost, convenience, adverts, and food labels to be key determinants of food choice among consumers (Hayford et al., 2015). It was also found that females were more influenced by nutrition and diet books compared to male respondents, and respondents with less or no formal education were more influenced by advertisements and mass media. This led to the conclusion that gender, socio-economic status, and educational level are key influencing factors of dietary choices.

Additionally, a campus-based study at Takoradi Technical University (TTU) on breakfast consumption identified factors such as affordability, time pressures, and perceptions of breakfast importance as significant in shaping dietary decisions (Adonu et al., 2023).

Collectively, these findings demonstrate that while Ghanaian students face similar challenges as their global counterparts. The problem of cost and time pressures is present in both local and global settings, reinforced by the lack of awareness about the relationship between diet and health, food environments, and other social pressures.

2.4 Health Implications of Poor Nutrition among University Students

It is evident that poor dietary choices among young adults can be detrimental to both immediate and long-term health. In the short term, (Burrows et al., 2017) and (Antonopoulou et al., 2020) revealed that poor diets can impair concentration, mental health, academic performance, and energy levels. The former study, which is a systematic review of seven studies, noted that five out of the seven studies found positive associations between diet and academic achievement, including for breakfast, regular meal consumption, and meeting national recommendations for fruit intake. The latter study, which evaluated the impact of students' adherence to Mediterranean Diets (MD) on academic performance and mental health, revealed that lower adherence to MD is associated with poor health status among students, and higher MD adherence was correlated with lower depression risk.

An MD diet is a diet inspired by the traditional cuisine of countries bordering the Mediterranean Sea. It emphasizes the consumption of whole foods like fruits, vegetables, nuts, cereals, whole grains, legumes, and extra virgin olive oil as the primary source of fat. It also includes a moderate consumption of fish and poultry, and a limited intake of red meat, sweets, UPFs, and dairy products. MD proves to be one of the healthiest dietary patterns for tackling obesity and the prevention of several NCDs, such as cardiovascular disease and type 2 diabetes (Muscogiuri et al., 2022). Higher grade point average (GPA) was also found to be associated with high diet quality among students in an Australian University (Whatnall et al., 2019).

The long-term consequences of poor eating habits can be detrimental to both health and socio-economic development. This matter of global concern has compelled organisations to implement workplace interventions to address nutrient adequacy, micronutrient deficiencies, weight management, and stress reduction to improve productivity and prevent NCDs among workers (Drewnowski, 2020). The health authority of Sudan has been urged not only to focus on the prevention of malnutrition among children but also to implement initiatives to promote healthy eating and lifestyles among the youth to prevent the risk factors for chronic diseases (Musaiger et al., 2016).

CHAPTER THREE

3.0 METHODOLOGY

3.1 Study Design

This study employed a phenomenological qualitative research design to explore and describe the lived experiences of undergraduate students at UGBS regarding their knowledge of nutrition, dietary choices, and the factors influencing them. Phenomenology seeks to understand how individuals perceive, interpret, and make meaning of their everyday experiences within a specific context (Creswell & Poth, 2018). It was therefore appropriate for this study, which aimed to uncover how students personally understand nutrition and how these meanings shape their eating behaviours.

The phenomenological approach enabled this study to capture participants' subjective experiences and the essence of their daily food-related decisions. It emphasized understanding how and why students make certain dietary choices based on their personal, social, and environmental contexts rather than simply describing what those choices are. Through this approach, this study was able to interpret the meanings students attach to food, health, and nutrition knowledge within the broader university environment.

3.1.1 Study Site

The study was conducted at the University of Ghana Business School (UGBS), located on the main Legon campus of the University of Ghana in Accra. UGBS is the largest business faculty in the country, and has a diverse population of undergraduate students from across Ghana and beyond. Its urban setting provides students with access to a wide range of food outlets, making it an ideal environment for examining dietary choices.

3.1.2 Study Population

The target population comprises full-time undergraduate students, from level 100 to level 400, currently enrolled in any of the Bachelor's programmes at UGBS.

3.2 Inclusion Criteria

Participants were selected based on the following inclusion criteria.

1. Must be a full-time matriculated undergraduate student of UGBS.
2. Must be between the ages of 18 and 25 years at the time of the study.
3. Must be enrolled in the first year (Level 100) through the fourth year (Level 400) of study.
4. Must be available and willing to participate in a 30 – 40 minute recorded in-depth interview session.
5. Students who do not have a formal background in nutrition or dietetics or have not taken a university-level course in nutrition.
6. Individuals currently not on a student exchange or visiting programme.
7. Students who do not have any medical condition requiring a specialized diet.

3.3 Exclusion Criteria

Participants were excluded based of the following criteria. If:

1. They are part-time, distance learning, or graduate students.
2. They are under 18 or over 25 years of age.
3. Students not enrolled in the first year (Level 100) through the fourth year (Level 400) of study.
4. They are unable or unwilling to participate in a recorded interview.

5. They have a formal background in nutrition or dietetics or have taken a university-level course in nutrition, as this could bias responses.
6. They are currently on a student exchange or visiting programme.
7. They have any medical condition requiring a specialized diet.

3.4 Sample Size

Thirty-two (32) undergraduate students of UGBS were selected. Non-probability purposive sampling was used to select participants who could provide relevant and diverse information regarding their nutrition knowledge and dietary choices. The selection aimed for a varied range of UGBS students in terms of age, year of study, and residency status.

3.5 Data Collection Methods and Instruments

In-depth interviews were conducted to collect data for this study. It proved to be an effective tool for learning about students' experiences, knowledge, beliefs, and practices regarding nutrition and diet without bias as compared to focus group discussions (Milena et al., 2008).

A semi-structured interview guide was developed and used based on the research questions and components of the FCPM. It contained open-ended questions organized into key areas such as general nutrition knowledge, dietary practices, and influences.

Under general nutrition knowledge, respondents were assessed on their understanding of basic nutrition concepts such as a balanced diet and healthy eating. Their sources of nutrition information, awareness of dietary guidelines, and the relationship between diet and disease were also explored.

Under dietary choices, respondents were asked to recall their daily and weekly food and drink intake, as well as the sources of their meals, whether they were self-prepared or purchased from food vendors. Finally, respondents were assessed on how their academic life, family food

habits, food environments, and individual factors, such as financial constraints and taste preferences, influenced their dietary choices.

3.5.1 Pre-testing

The interview guide was pretested among three (3) undergraduate students at UGBS to evaluate the appropriateness and effectiveness of the interview guide in eliciting responses that are suitable for the study. These students were not included in the study.

3.5.2 Data Analysis

The recorded interview sessions were transcribed word for word and analysed using thematic analysis. Thematic analysis is the method of analysing and identifying patterns within qualitative data. It involves coding data, searching for themes, refining themes, and reporting findings (Naeem et al., 2023). Both deductive and inductive themes are used to code and analyze the data collected. Data analysis was done using ATLAS.ti.

3.5.3 Data Handling

Confidentiality and integrity are key ethical values that are upheld in this research. Data obtained from participants was used solely for research purposes. All interviews were recorded using a password-secured digital audio recorder, and all transcripts were double-checked for accuracy. Digital audio files and transcripts have been stored on a password-protected laptop within encrypted folders and backed up on Google Drive with two-factor authentication.

The laptop, including hard copies of the participant information sheets, informed consent forms, participant screening checklist, and field notes, are securely kept in a locked drawer in the researcher's private study area at the researcher's residence.

Participants' real names and other personal information are not included in transcripts, notes, reports, or the research paper. Each participant was given a unique code name to ensure confidentiality.

3.6 Ethical Considerations

Ethical clearance and administrative clearance were obtained from the Institutional Review Board (IRB) of Ensign Global University and UGBS, respectively, before the commencement of this study. Informed consent was obtained from all participants, and the anonymity of participants was ensured using a unique identifier code to replace participant names. Participation in the study was voluntary, and participants were informed of their right to withdraw from the study at any point without penalty.

3.7 Limitations of the study

This study has some limitations that must be acknowledged. The study allowed the exploration of nutrition knowledge and dietary choices only among undergraduate students of UGBS; this may limit the generalizability of the findings to undergraduate students in other non-health faculties. The study also relied on self-reported data during interviews may introduce recall bias as participants' responses may have been influenced by recall difficulties and social desirability bias.

Additionally, the qualitative study design allowed for in-depth exploration of the topic, but could not measure the levels of nutrition knowledge or dietary patterns, limiting the ability to measure the prevalence of good or poor dietary choices and nutrition knowledge among UGBS students.

3.8 Assumption

The study was based on the assumption that:

1. Participants would provide truthful and accurate accounts of their nutrition knowledge and dietary practices during the in-depth interviews.
2. Participants would reliably recall and describe their typical daily and weekly eating behaviors and influences on their food choices.
3. The study's sample size was a reasonable representation of the undergraduate student population of UGBS.
4. The FCPM was an appropriate theoretical framework to explain the factors influencing students' dietary choices.

CHAPTER FOUR

4.0 RESULTS

4.1 Introduction

This chapter presents findings from thirty-two (32) in-depth interviews conducted among undergraduate students at UGBS. The findings are presented under four themes: 1) Nutrition knowledge among undergraduate students at UGBS; 2) Dietary choices among undergraduate students at UGBS; 3) Factors influencing dietary choices of undergraduate students at UGBS; and 4) Suggestions for interventions to promote healthy dietary choices among students. Table 1 presents the four (4) main themes and nineteen (19) sub-themes or code groups. The results are presented in descending order, from dominating codes to minority codes in each code group. Quotes that best capture the theme are presented for illustration. Respondents are identified by numbers corresponding to the order in which they were interviewed.

4.1.1 Socio-demographic characteristics of respondents

Table 1 shows a summary of the socio-demographic characteristics of the 32 undergraduate UGBS students who consented to be interviewed. The appendix provides the spread of the demographic characteristics of all the participants.

Variable	Category	Frequency (n=32)	Percentage
Age	18 - 20	7	22%
	21 - 23	23	72%
	24 - 25	2	6%
Sex	Male	13	41%
	Female	19	59%
Level	L200	1	3%
	L300	19	59%
	L400	12	38%

Residency type	Resident	26	81%
	Non-resident	6	19%

Table 1: Socio-demographic characteristics

4.1.2 Themes and Sub-themes

Main themes	Sub-themes
1. Nutrition knowledge (NK)	1. Diet-related diseases 2. Dietary guidelines and recommendations 3. Food nutrients 4. General knowledge & sources of nutrition information 5. Misconceptions & poor NK
2. Dietary choices	6. Dietary intake 7. Cooking practices 8. Meal patterns
3. Factors influencing dietary choices	9. Family food habits 10. Mood 11. Food choice strategies 12. Food environment 13. Health goals 14. Impact of food on well-being 15. Knowledge and attitude 16. Peer influence 17. Resources
4. Suggestions for improving healthy dietary choices	18. Interventions 19. Healthy lifestyle adjustments

Table 2: Main themes and sub-themes

4.2 Nutrition Knowledge

This theme presents participants' knowledge of nutrition and its related concepts. Participants' definitions of nutrition, healthy eating, diet-related diseases, knowledge and awareness of

dietary recommendations, as well as misconceptions, were captured in this section. This theme consists of five code groups presented in Figure three below.

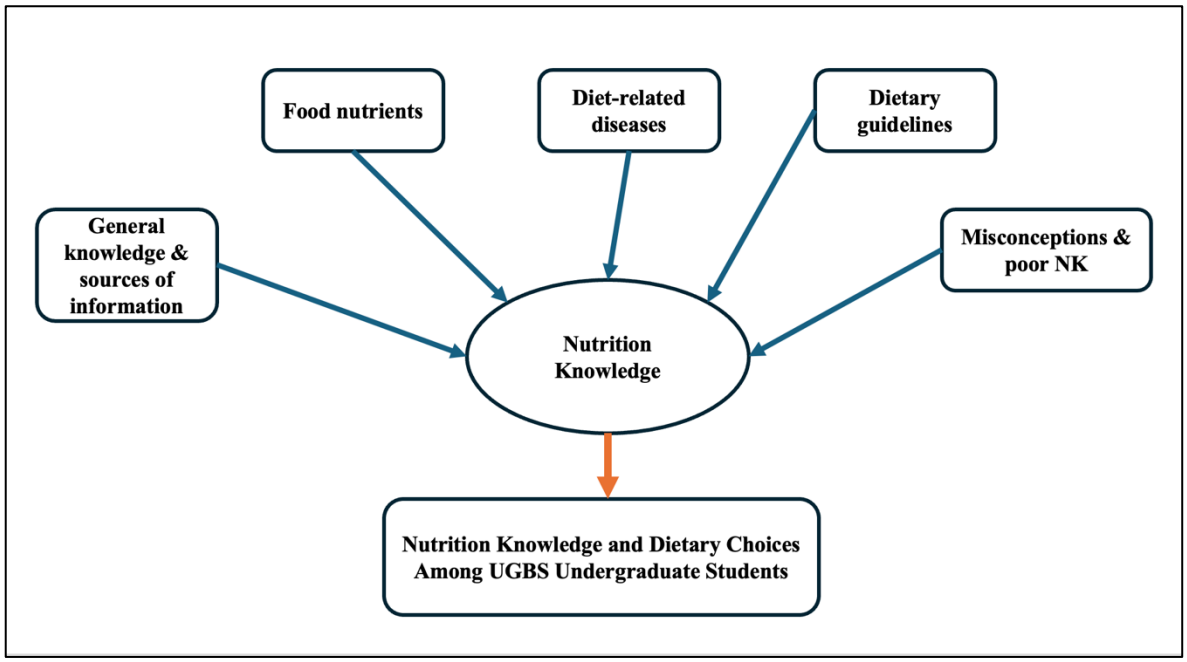

Figure 3: Thematic network showing the code groups for nutrition knowledge

4.2.1 General Knowledge and Sources of Nutrition Information

Respondents talked about the components and effects of food on the body when asked the question, "What comes to mind when you hear the word nutrition?"

- *"Okay, so, what comes to mind when I hear nutrition is food and its related components, or all other things regarding food, and also, so anything concerning food, whether the health, whether the consumption, whether the – anything relating to food, I think."* (R21)

Other respondents described nutrition as eating a balanced diet.

- *"Nutrition. Okay, so what comes to my mind is eating a balanced diet. And most importantly, what happens to our body when we eat the balanced diet or how our body uses the food to maybe generate energy."* (R28)

Majority of the respondents reported basic education, specifically Junior High School (JHS) as the source of their nutrition information.

- *"Back in JHS, home economics class. Yeah, I mean, that was where I really started to get intrigued by the whole idea of nutrition and healthy eating."* (R6)

Other sources of nutrition information reported were internet blogs, newsletters, social media, radio, television programs, church programs, self-reseacrh, movies, family, Artificial Intelligence (AI), health professionals, and friends.

- *"I learned this from the media, and then I wanted to know, like the food that I eat, what I actually gain from it, like the nutrients that I gain from food. So, I googled, I researched about this when I was in the primary, when I was in the JHS, so that I don't just eat, but I eat a healthy meal."* (R26)

- *"First, it was through a television program on Kantanka. Kantanka used to educate us on those topics, so that's where I heard about it."* (R5)

Some respondents highlighted the benefits of a healthy diet when asked whether nutrition was important to them. Some benefits highlighted were mental resilience, productivity, protection against diseases, weight management, long life, and healthy aging.

- *"To me, nutrition is very important because... It's very important because if you don't eat well, you might develop certain health problems. And then also, if you're eating*

healthy too, it actually reflects in your daily activities. You are very active. You are very productive." (R30)

4.2.2 Food Nutrients

Most respondents demonstrated good knowledge of both macronutrients and micronutrients and their sources.

- *"Okay. Carbohydrates like rice, cassava, and, for protein, eggs are common. Eggs, fish, meat. For the vitamins, there are different types of vitamins, like vitamin A, K, B, C, and D. Yes. But we get them from fruits and grains, too. If I get all the vitamins from grains, like legumes, vegetables, and fruits, it's easier to get the vitamins. But I can't remember the specific one right here. Okay. I think vitamin A is the eye-sight one. That one, I know carrots. The one for strong teeth is vitamin C and K, I've forgotten."* (R32)
- *"Okay, so I can remember vitamin A. And vitamin A is gotten from palm oil, and you can get some from carrots. Okay. Yes, and then also vitamin C from oranges and I think citric fruits as well. Yes, and then vitamin D. That one we usually say morning sunlight gives us vitamin D. And then iron. Okay, yes. Iron, yes. Iron from I can see beans or anything from meat too. I think you get iron from it."* (R28)

4.2.3 Diet-related Diseases

In this section, students were tested on their knowledge of the relationship between food and disease. While some respondents were able to identify diet-related NCDs and NCD risk factors, others were unable to mention any, and the majority talked about child malnutrition deficiencies like kwashiorkor and beriberi.

- *"Okay, so, as a child, I heard that if you do a lot of carbohydrates, you end up becoming what we call kwashiorkor. Like, as a child, you have a big tummy with a small body*

behind you. And then, I think, yeah, there were some funny diseases like that. Sometimes, you even lose your hair. Sometimes, you don't grow as you expected to grow." (R6)

- *"So, for instance, you see when you don't have enough vitamins, they tell you that you get scurvy. When you don't take in more iodine, then it's goiter, this iodine salt, this goiter, and stuff."* (R18)

- *"For example, sometimes eating too much sweets and sugary food can give you diabetes. And too much high-fatty food can give you high cholesterol."* (R10)

4.2.4 Dietary Guidelines

This sub-theme contains responses provided by students when they were asked about their awareness and knowledge of recommended dietary practices. Some responses provided highlighted proper hydration, daily fruit and vegetable intake, and reducing sugar and alcohol intake.

- *"Oh, yeah, like drinking water and then eating fruits like they say, an apple a day. Yes, but not much of it."* (R22)

- *"Okay, yes, so fruits – an apple a day keeps the doctor away. That's what I know, and eat enough vegetables and water. I think four sachets of water every single day."* (R18)

- *"I think what I know is your protein is supposed to be the biggest portion on your plate, and then everything else should be a little less, and then you're also supposed to eat more fruits and vegetables and stay hydrated."* (R25)

- *"Avoid taking too much sugar. Avoid taking alcohol and those things."* (R24)

- *"They're not supposed to take fatty, fatty foods or, like, eat late. Alcohol consumption."* (R17)

4.2.5 Misconceptions and Poor Nutrition Knowledge

This sub-theme contains responses that highlight low levels of nutrition knowledge and misinformation among participants.

- *"Yes, I mean in advertisements – these radio advertisements. Diabetes is portrayed as a result of too much intake of salt."* (R5)

- *"Yes, it's very important to me because I've been where I used to think eating a lot is what's good for our body."* (R28)

- *"No, please. I have heard of chronic diseases, but I don't know what it is."* (R4)

- *"I don't know any nutrients or their sources."* (R8)

- *"Some of my mates don't necessarily know the essence of eating healthy; they are not motivated to do it. They like to buy food too much; that's what they are used to. I think their knowledge about healthy living is not really there, else they wouldn't be eating heavy food at 12 midnight."* (R32)

4.3 Dietary Choices

This theme presents findings on the food choices, meal patterns, and cooking practices that shape the lives of undergraduate students at UGBS. This theme also contains five sub-themes as illustrated in the figure below.

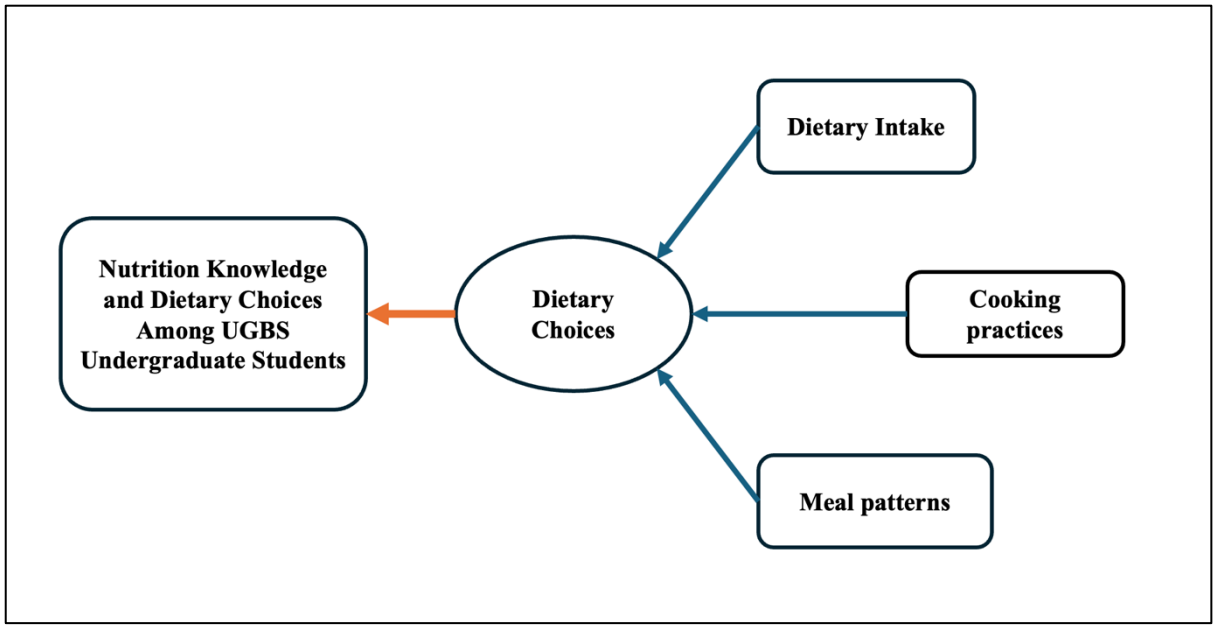

Figure 4: Thematic network showing code groups for dietary choices

4.3.1 Dietary Intake

Findings on dietary intake include students' breakfast, lunch, and dinner food choices, fast-food intake, snacking habits, and the variety of fruits and vegetables consumed. Some of the daily breakfast, lunch, and dinner food choices reported are presented below.

- *"For breakfast, I like oats. I take Lipton too. This semester, I've been drinking Lipton and Milo, too. And Hausa Koko too."* (R32)

Most students prefer local staples such as banku, fufu, waakye, beans and plantain, ampesi, and kenkey for lunch or dinner. Others lean toward fast and convenience foods such as instant noodles and ultra-processed snacks.

- *"I would take some rice and stew with eggs. And then because usually my classes are scheduled between 11am to 5pm, within those periods, I don't eat anything. So when I come back from class, that is after 6pm. And then I come in, cook something to eat. So*

with that, I can take anything like yam, ampesi with maybe tomato stew, or I do indomie, or I buy fried rice or jollof." (R28)

- *"Indomie, spaghetti, rice. Maybe I'll randomly go and buy kenkey, or maybe I'll eat waakye. Maybe the rice, I'll spice it up a bit. Maybe jollof, plain rice, vermicelli rice, any type of rice."* (R12)

Most students had the habit of snacking daily, and others had snacks as their main meals. Some snack varieties consumed among students are biscuits, cheese balls, kalypo, pastries, fizzy drinks, sweetened yogurts, chocolate, and ice cream.

- *"Okay, I take a lot of biscuits and drinks. I like biscuits personally. I take a lot of anything."* (R12)

Fruits and vegetables were not popular food choices among UGBS students. However, a small group of students demonstrated adequate fruit and vegetable intake.

- *"I have nothing to do with fruits. It's just it's been a long time."* (R7)

4.3.2 Cooking Practices

This sub-theme represents quotes from students in response to their cooking habits. Some students reported not cooking at all, and others reported adopting healthy cooking practices such as cooking with less salt and less oil.

- *"Oh, okay. I buy food. I don't really cook once in a while."* (R15)

- *"So, when I'm frying egg, I'm particular about the oil. When I'm making stew too, I don't use too much oil because of healthy living. I also don't like too much meat, and I always want to add fresh stuff to my food, let's say onions. If I don't have any greens,*

I'll add onions or garlic. And this semester, I have done well with salads. Even today, I took some carrots and cucumber. Yes, I'm particular about that one. If I take rice and stew, there should be some fresh onions on it." (R32)

- *"To an extent. So my house, we usually eat soup. But I'm not able to get it here. But if it comes to the way my mother cooks, how she does the food, it affects me. So we don't use so much salt. And we also don't use so much spices. We do more of the natural. So it affects the food I eat and my diet in general."* (R29)

4.3.3 Meal Patterns

This sub-theme presents findings that correspond with meal patterns such as late eating, skipping breakfast, and meal frequency among UGBS undergraduate students.

- *"Oh, yeah, in school I eat very late. Like very, very, very late."* (R21)

- *"Yes, unfortunately. But yes, sometimes I spend a lot of time on campus, so I come back up in the evening and have made my first meal. It does impact the frequency of my meals and how many meals. Sometimes I have once a day, sometimes twice a day. I don't think "I've done three times a day since I came to school."* (R25)

- *"Sometimes when I have class, I can't eat breakfast."* (R17)

- *"Yeah, because of morning classes. I don't eat in the morning; I just come straight to class. So, I'll have water, kalypoo, or a snack to hold me till I go back to my dorm."* (R10)

4.4 Factors Influencing Dietary Choices

This theme provides insights into the various factors that interact to determine the dietary choices of undergraduate students at UGBS. Some of the sub-themes under this section include family food habits, mood, food environment, time constraints, and financial constraints.

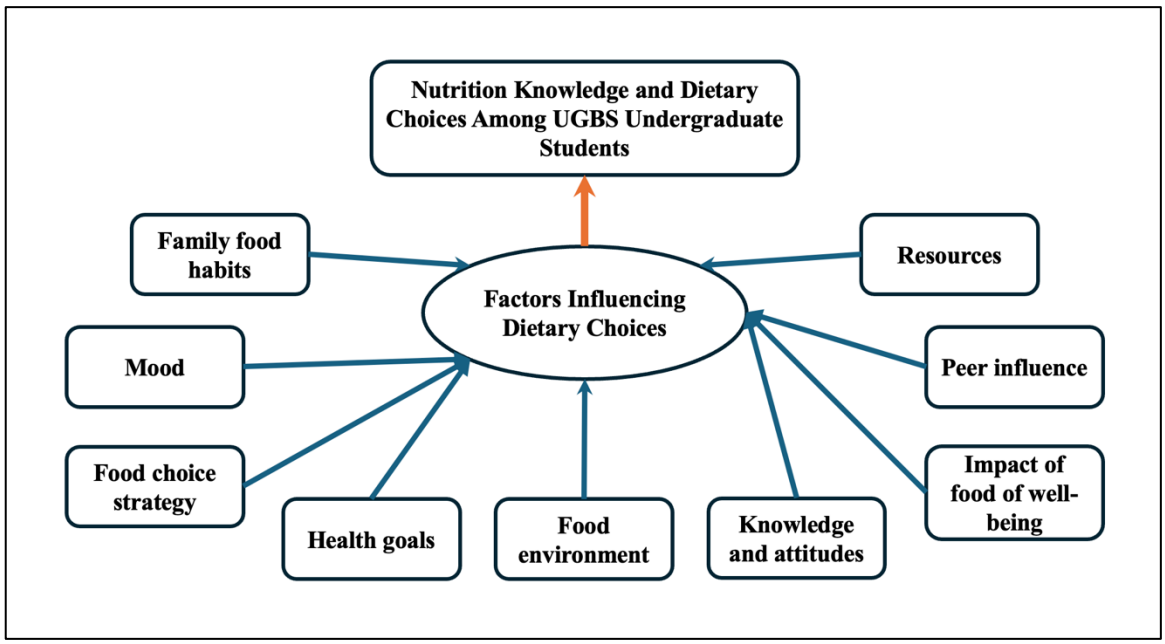

Figure 5: Thematic network of factors influencing dietary choices

4.4.1 Family Food Habits

This sub-theme shows us how the early stages of a student's life cycle interact with other factors to influence their nutrition knowledge and food choices.

- *"So, on Sundays, we usually eat fufu, so I make sure to eat fufu on Sundays when I'm on campus."* (R3)

- *"Yes, because at home we don't buy outside food, we always cook at home, so I prepare. Because of that, when I come to campus, I like to prepare my own food; I just buy the kenkey outside."* (R23)

4.4.2 Mood

This sub-theme contains quotations that tell us how feelings of stress, food cravings, and taste preferences impact a students food choices.

- *"The thing is that sometimes I crave for it, like, it's that bad, so I forget about, like, I forget about how to, like, manage it."* (R24)

- *"I know I'm supposed to pay attention, but sometimes, I just buy because I feel like eating it, and I have to satisfy my cravings."* (R4)

- *"To be honest, school is stressful, sometimes you don't get time to eat, so it's just the normal Fanta, Malt, then once in a while rice, like basically snacks. I know it's not good, but snacks…."* (R1)

- *"What makes me – yeah sometimes maybe you are craving for it. Or sometimes that's what your money can afford. That's what your money can buy. You have no option. So, you just have to buy it. But if you are craving for it and you have the money, yeah, you will buy it."* (R16)

4.4.3 Food Choice Strategy

This sub-theme presents findings on how students' personal food systems affect their food choices. The quotations in this section tell us how strategies like budgeting, menu development, and self-management guide the dietary choices of a UGBS student.

- *"So, in school, I have a menu from Monday to Sunday"* (R1)

- *"That's because I'm training myself. It's not like I cannot afford it. I can actually afford it, but I'm training myself. So I don't satisfy any cravings that just come. I can afford it, but I just don't buy it. That kind of thing."* (R29)

- *"Honestly, it's very important to me. But, as I've been mentioning, you know, you are not in that situation where you can buy whatever you want to buy. So, because of that, you sometimes tend to ignore or forgo certain things just to meet our pockets."* (R6)

4.4.4 Health Goals

Students reported how the desire to gain or lose weight influenced their dietary choices.

- *"I reached my weight target, so I just maintain my weight now. So, I don't really cut my diet and my meals as I used to."* (R10)

- *"Adding more proteins, because I think I'm underweight."* (R1)

One student is on a protective diet to avoid certain diseases.

- *"Because I'm trying to maintain weight. And also, there are some diseases in my family that I'm trying to avoid – like high cholesterol and diabetes. So, I have to watch what I eat so that it doesn't get passed on to me."* (R10)

4.4.5 Food Environment

This sub-theme explores how the campus food environment influences the dietary habits and choices of UGBS students. It highlights how food accessibility and availability impact their dietary choices.

- *"Not like it's my favorite food. That's the only thing I take. That's mostly what's It's what's available."* (R11)

- *"When I come to school, mostly drinks, meat pie, once in a while I'll go and buy waakye."* (R2)

- *"So definitely cravings, and also how much money I have, and then how far where am I going to get the food is – the distance, because I don't like fighting for my food. I want the food, the location to be close, to be accessible."* (R25)

- *"I only take the snacks when I'm at the business school and there's no way I can come back to my hostel. Then I'll just get some malt and pie or malt and Rockies."* (R32)

4.4.6 Knowledge and Attitudes

This sub-theme provides insights into how a student's knowledge, health beliefs, and attitude towards food influence their dietary choices.

- *"Because I know that, for example, Coca-Cola is not good for the human body, it's not good for our health, but I do take them, though, so I'd like to change that."* (R2)

- *"The kind of food I take in. Doctors have warned me severally, but I'm too stubborn."* (R16)

Some respondent talked about how their colleagues at UGBS pay less attention to their diets.

- *"Maybe people are careless too, because I don't know. Maybe they feel they are very young, so they have time to enjoy anything they want to eat. But me, I'm just, I don't want to fall sick, so I'm just careful about whatever is happening inside me, any small change, I need to change what I'm eating."* (R11)

Some respondents provided some insights into how their program of study impacted their nutrition knowledge and dietary behaviours when asked about how they would rate the nutrition knowledge levels as UGBS students.

- *"No. First, yes. But as we came here and then we diverted to various courses, it just became so hard to track."* (R7)

- *"No, maybe just health students, but accounting, finance students, I doubt."* (R1)

4.4.7 Resources

This section provides insights into how resources such as time and money can influence the dietary choices of students at UGBS.

For time resources, students spoke about how their class schedules, academic workload, and balancing school with extracurricular activities influence their dietary choices.

- *"Oh, yeah. Especially eating in the evening. It affects it because sometimes you close from class late and then you are hungry. Like I said, I don't like buying, so I have to start cooking. So, by the time I'm done cooking then it's so late."* (R22)

- *"Okay, so because of my class time, sometimes the time I close, 3:30 – 5:30, Wednesdays like this I have, midweek to go for, even on other weekdays I have some meetings to join and all that, so I just tend to eat what is available."* (R23)

For financial resources, students reported on how the cost of food, low purchasing power, and food storage issues negatively impacted their consumption of healthy food options.

- *".... I don't know, maybe I'll add more fruits. More fruits and vegetables but they are quite expensive and the storage too is some way if you don't store them well, they go bad."* (R21)

4.4.8 Peer Influence

This sub-theme provides quotations that show how peers; friends, roommates, and social media followings influence the dietary choices of students.

- *"It's taste, and sometimes because of my friends. It's not peer pressure, but maybe, I don't really want to buy it, but because we're all going to buy it, I also want to buy it, because at the end I'll feel like eating some."* (R4)

- *"Okay, for the foods I eat, sometimes... Okay, so let's say maybe my roommate prepares this food. Yes. And maybe I'm also craving for it. I can actually cook the same thing, but then at times, maybe when I watch videos on social media and I see nice foods, I crave for it, and I sometimes prepare the same thing."* (R24)

4.4.9 Impact of Food on Well-being

Some respondents revealed additional factors influencing their dietary choices beyond food environment, knowledge, time, and money. They reported on how certain meals impact their health and make them feel.

- *"It has become a part of me. If I eat breakfast early and it's very hot, my stomach will pain me and I'll have stomach upset."* (R20)

- *"So, I'll take the carbonated drinks out because they don't help. After taking it, I feel this burning sensation in my tummy, but I still take them because I just feel like taking them."* (R3)

4.5 Suggestions For Improving Healthy Dietary Choices

This theme helped explore nutrition interventions and health-promoting dietary adjustments from a student's point of view.

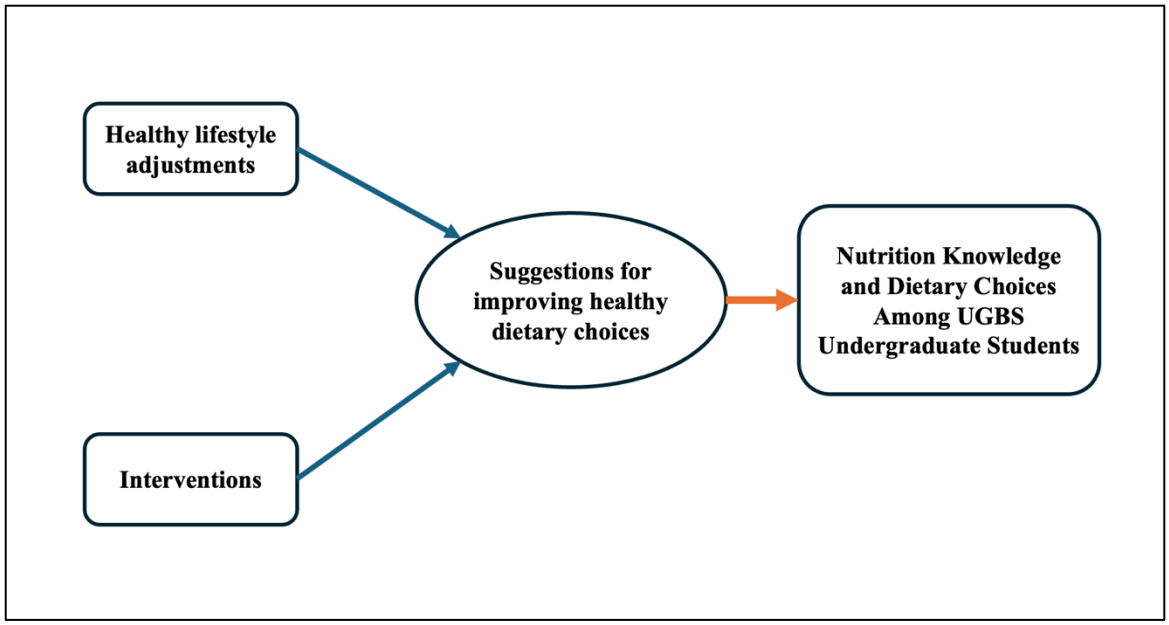

Figure 6: Thematic network for suggestions

4.5.1 Interventions

The most suggested nutrition interventions were nutrition education, awareness programs, institutional and national health policy reforms, and social media publicity.

- *"I would say when maybe we have an educational seminar on what to eat and what not to eat and how to eat, whatever we eat, what it does to our body. I think students would really love it if there were seminars being organized to teach us these things."* (R28)

- *"When there is a reduction in the prices of fruits and stuff on campus, that will be the best option. Yes, it will make individuals buy more."* (R7)

Some students also suggested the provision of online nutrition resources and tailored health messages to promote behavioural change.

- *"I would like to know how to get access to nutritional tips, maybe online, every day you get a message about a health talk, about how to improve your diet."* (R31)

- *"I think first of all, you could try to meet them where they are by modeling how they eat and approach their schedule. So if it's like a campaign, the campaign should feature the students, what they do in their day-to-day, how they eat. Just so that in the beginning the students can connect and say, ah this is what I also do when I'm back at my place. Then the small but important changes, because you can't make a drastic change straightaway. So, small changes that the student could implement or could consider implementing can come into the campaign. Just so that it's not a lot all at once. Else, they are likely to not change their behavior."* (R25)

4.5.2 Healthy Lifestyle Adjustment

This section explored students' ideas of how they would improve their dietary choices given the right conditions.

- *"Okay. I would make sure the food groups that I've just talked about, that is the carbohydrates, minerals, vitamins, all of this, they are present in whatever I'm eating. Not just taking diet, just eating. But eating for a specific reason. So, I would make sure that whatever I'm eating has the right proportion of food nutrients."* (R26)

- *"So, probably add to my daily schedule to eat more fruits. Yes, and then to eat actually on time, and then how we all say to eat a three-square meal in a day. Yes, that's what I would have to do."* (R28)

- *"I'm going to eat a balanced diet. And I'm not going to eat late. Well, I've cut down on my fizzy drinks and all of that."* (R29)

- *"Okay, so, like, I'm not going to take a lot of sugar. And I'll reduce my intake of, like, fries and those things, those oily foods. Fries, those, like, pancakes and those things. Pizza and the rest, fatty foods, I'll reduce it."* (R24)

CHAPTER FIVE

5.0 DISCUSSION

5.0 Introduction

This study focused on three objectives: 1) nutrition knowledge; 2) dietary choices; and 3) factors influencing dietary choices using the FCPM as a guiding framework. This chapter is organized around these three objectives.

5.1 Knowledge of Basic Nutrition Concepts

Nutrition knowledge encompasses three main concepts: the nutrient content of food, the relationship between diet and disease, and dietary guidelines (McKinnon et al., 2013), which were explored in this study. Respondents mostly associated nutrition with food and its components, rather than food and its association with health outcomes. While many respondents could identify common nutrients such as carbohydrates, proteins, and vitamins, and their sources, a deeper understanding of their role in supporting normal body functions varied among respondents. Common descriptions of healthy eating among students were eating a balanced diet, eating at the right time, eating a variety of meals, and following recommended dietary practices.

Not many respondents could clearly spell out the diet-related diseases unless probed; even with that, some responses covered childhood malnutrition deficiency diseases, such as kwashiorkor and beriberi, even though the desired response was to be centered around adult lifestyle diseases or chronic NCDs, such as type 2 diabetes and hypertension. Gaps were identified in their understanding of how food nutrients promote health, as some students sought to understand the causal pathways of excess fat and disease, and how vitamins and proteins affect the body. While some respondents were able to give examples of dietary advice, such as an apple a day, proper hydration, and avoiding late eating, others were unaware of any. Showing

a lack of in-depth awareness of dietary guidelines and recommendations among undergraduate students at UGBS.

There was a noticeable relation between students' nutrition knowledge and their family upbringing, as students who exhibited adequate levels of nutrition knowledge mentioned family as their source of nutrition information. Most of these students picked up healthy dietary and lifestyle practices, such as cooking with natural spices, avoiding late eating, and frequent fruit and vegetable intake from their parents. Other sources of nutrition information reported by respondents included basic education, internet blogs, traditional media, social media, and movies, with the most common among these options being basic education, specifically at the JHS level.

Some students also revealed that they were ignorant about how their daily dietary habits affected their health. They reported that their level of awareness of the diet-disease relationship was not "scary" enough to prompt a behavioural change. Others felt like they were young, hence safe from the negative impact of poor dietary choices on their health. Some students attributed their lack of awareness and knowledge of nutrition to their field of study, acknowledging that they had forgotten most of what they learned about nutrition back in basic school, since they have now taken on new areas of focus like accounting and finance.

Despite the varying levels of nutrition knowledge among students, most of them did not prioritize nutrition in their daily food decisions, nor did they follow recommended dietary practices. Respondents revealed that they did not pay attention to nutrition information or read food labels. "I eat when I'm hungry, so I do not give much attention to the nutritional value", one respondent said. This reveals low levels of both nutrition knowledge and nutrition literacy among undergraduate students at UGBS. It was also found that female students were more intentional about their food choices and habits, as they had higher concern for their body image

and health. Some female students mentioned weight loss and preventing bloating as motivations for following particular diets.

Within the FCPM, these findings are consistent with the influence of life course factors such as education, personal ideals, and family upbringing on students' nutrition knowledge (Fernqvist et al., 2024).

These findings also support the evidence provided by existing studies that nutrition interventions implemented through education, media awareness programs, nutrition policies, and online resources were necessary to improve nutrition knowledge and positively impact dietary choices among university students (Deliens *et al.*, 2016; Lua & Wan Putri Elena, 2012). These interventions will increase their awareness of the diet-disease relationship, prompting the necessary health-promoting behavioural adjustments to improve both immediate and future health outcomes of students.

5.2 Content of Dietary Choices and Consumption Practices

The daily food choices of students were mostly characterized by quick meals, energy-dense snacks, and late eating. These dietary choices and consumption practices did not align with the Ghana National Food-Based Dietary Guidelines (FBDG). The national FBDG consists of thirteen (13) recommendations, which include daily intake of: a diverse and varied diet from the six food groups, a variety of fruits, a variety of vegetables, a variety of legumes, pulses, and nuts, a variety of animal-source foods, and a variety of whole grains, cereals, and tubers. The other half of the recommendations includes: the use of healthy fats and oils in moderation, less intake of foods high in fat, sugar, and salt, regular physical activity, reading food labels, ensuring food safety, regular hydration, and limited alcohol intake (Ministry of Food and Agriculture & University of Ghana School of Public Health, 2023).

Few students reported regular consumption of fruits and vegetables. Students also enjoyed the local staple foods such as banku, kenkey, fufu, waakye, ampesi, beans, rice-based dishes, and corn or millet porridges. However, these meals were often imbalanced as the carbohydrate content was often greater than the protein content. Respondents expressed their desire to add more protein to their meals while reducing carbohydrates.

Frequent consumption of fast foods such as bread and fried eggs, pizza, instant noodles, and fried rice was also common among students. They reported daily intake of snacks high in fat, sugar, and salt, such as cakes, fizzy drinks, milk drinks, sweetened yogurts, ice cream, cookies, biscuits, flour chips, pastries, and candies. These foods and snacks are highly refined and do not meet the national FBDG requirement of daily whole food consumption. They are also high in calories and can affect students' energy balance, as these students have a sedentary lifestyle and hardly engage in any physical exercise. With the exception of one respondent who mentioned keeping a regular exercise routine for weight maintenance, the remaining thirty-one (31) respondents did not report regular or intentional physical activity. Students hardly read food labels and often make food choices without a proper assessment of the nutrient content of packaged snacks and drinks, and how these foods can impact their health. One student reported taking fizzy drinks as a way of coping with the stress from her busy lecture schedules, as she believed that the fizzy drinks could boost her energy levels. Other female students reported that their daily dietary choices were sometimes based on their moods. This finding aligns with the result of a previous study that found that negative moods led to the preference for high-calorie foods that please the taste buds over healthy meals (Gardner et al., 2014).

Students also reported late eating, missing breakfast, and eating highly processed snacks as main meals, mainly due to their busy academic schedules. One respondent revealed that students are unable to prioritize healthy, balanced meals because they do not understand the health implications of their current dietary intake. This implies that increased efforts to promote

nutrition awareness among students will help drive a gradual shift to the recommended dietary intake and practices.

Within the FCPM, these findings reflect the role of situational influences, where immediate factors such as time, money, stress, and food availability are prioritized over long-term health considerations (Fernqvist et al., 2024).

5.3 Interconnected Factors Influencing Dietary Choices

Influencers of dietary choices found among UGBS undergraduate students matched the three stages of the FCPM: life course and experiences, influences, and personal food systems.

Some life course factors reported by respondents include their sources of nutrition information and family food values. A source of information, like family, reflects the role of upbringing and culture in students' dietary choices. Basic education, movies, and media sources reflect the role of education and experiences in shaping knowledge and dietary choices. Family food values like cooking with natural spices and eating vegetables with meals were still practiced by some respondents even while they stayed on campus. It was also found that the dietary choices of students who demonstrated good levels of knowledge and awareness of nutrition were more aligned with the recommended practices outlined in the national FBDG. This finding matches that of a cross-sectional Japanese study, which concluded that university students with higher nutrition knowledge exhibited healthier dietary habits and higher adequacy of nutrient intake (Yanagihara & Narumi-Hyakutake, 2025). The same study also found that students studying in non-health disciplines represented a lower proportion of students who possessed high nutrition knowledge compared to students studying health-related courses.

Situational influences such as time constraints, financial limitations, and campus food environments also showed how a student's immediate conditions shape their dietary choices. Some students demonstrated discipline in prioritizing healthy family food practices like regular

fruit and vegetable intake and healthy cooking methods, despite time and money resources limitations and the food temptations of their current environment, while other respondents simply succumbed to their situation and unconsciously made unhealthy food choices. The pressures of pressures, stress, and financial limitations outweighed health considerations even when students tried to plan their meals. One student who reported that she often bought her meals from fast-food joints and campus restaurants revealed that, although she always planned to cook her own meals, her academic workload and busy schedules often left her in a position where she had to satisfy her hunger with a quick meal.

While some students reported unstructured meal patterns and food choices, others developed personal food systems and strategies to control their food choices and dietary intake. Examples of such strategies are budgeting, forgoing food cravings, menu development, and goal setting. This group of students knew what they wanted and worked towards it. They either budgeted for meals to save money, followed certain diets as a means to gain, lose, or maintain weight, fasted as a religious practice, or followed a weekly food menu to ensure meal variety. One female student who follows a diet with a regular exercise routine reported that she was doing so to prevent heart disease and diabetes, which run in her family. This reflects how students managed trade-offs in making food decisions.

Social pressures, such as the influence of roommates, friends, and social media, also impacted students' dietary choices. Students reported that their meal choices on some days were dictated by communal decisions with friends and roommates. This occurs on days when they share meals together and therefore do not have full control over the food decision. Some students also reported developing food cravings as a result of watching social media videos of their peers displaying certain kinds of foods.

These findings clearly show that while some students possess low knowledge and therefore are reckless in their dietary choices, others were more knowledgeable and exhibited intentionality in their food decisions. Students' dietary choices were based on constant negotiations between family values, campus food environment, health goals, and social pressures. The interconnection between these factors highlights the need for the development of interventions that positively impact health promotion across the three stages of the FCPM. Interventions should target both knowledge development and the realities of student life.

Analysis of both verbal and non-verbal cues, such as facial expressions, hand gestures, tone, and body language, revealed that female students of UGBS exhibited more intentionality over the dietary choices, even though they were not perfectly aligned with dietary recommendations. Female students were more likely to reference weight maintenance, concern for unhealthy eating, maintain family food habits, and establish self-regulating strategies. In contrast, male students were indifferent about their meal choices; they prioritized satiety and were less concerned about the diet-disease relationship. Most male students did not read food labels and did not pay attention to their diets. One male student who reported a daily intake of snacks like fizzy drinks and biscuits mentioned that he had a perfect dietary intake and was not willing to change or improve it. There was no significant difference in nutrition knowledge and dietary choices among students across the different year groups of students who participated in the study.

Some student-suggested interventions to improve nutrition knowledge and dietary choices among UGBS students include: student-led awareness programs, price reduction of healthy food options on and around campus, social media publicity, nutrition seminars, provision of health meeting refreshments at UGBS, availability of online nutrition resources, and improved access to nutrition professionals for specialized attention.

CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

This study provided in-depth insights and contextual understanding of the knowledge levels of nutrition concepts and factors that influence the dietary choices of undergraduate students at UGBS. Findings reveal that students possessed lay knowledge of nutrition concepts, particularly regarding food groups, food nutrients, balanced diets, and dietary guidelines. Most students were not very conversant with knowledge on the relationship between diet and disease, leading to various misconceptions being formed. Students who demonstrated good levels of nutrition knowledge made efforts to maintain healthy diets while on campus.

Findings on dietary choices revealed that students enjoyed the various healthy local staple foods; however, they mostly resorted to the consumption of convenience foods such as instant noodles, fast foods, SSBs, and highly processed snacks for nourishment due to their busy academic schedules, high cost and limited availability of healthy food options, and the obesogenic nature of their food environment. These conditions reinforce unhealthy eating behaviours in unconscious individuals and make it challenging for health-conscious individuals to keep up with recommended dietary practices.

6.2 Recommendations

Based on the study's findings, the following recommendations are proposed to help improve public health nutrition outcomes among current and future students.

1. Integrating basic nutrition education into general university courses. The university should incorporate short modules or seminars on healthy eating and dietary guidelines into general studies or orientation programmes. This will ensure that all students, regardless of their discipline, gain foundational knowledge in nutrition and health

literacy. This aligns directly with the study's rationale to improve nutrition knowledge among non-health students.

2. Organising annual university-wide nutrition awareness campaigns. The UG School of Public Health, in collaboration with the Nutrition and Dietetics department, should lead yearly awareness campaigns focused on Ghana's FBDG. Activities could include interactive booths, quizzes, and exhibits showcasing healthy food to promote practical nutrition awareness in a relatable way.
3. Strengthening food environment policies on campus. University authorities, in partnership with the Ministry of Health and the Food and Drugs Authority, should develop policies to promote the availability and affordability of healthy meals in cafeterias and food outlets. For instance, vendors could be incentivised to offer fruit, vegetable, and low-sugar options, while restrictions could be placed on high-fat, energy-dense snacks.
4. Conduct further mixed-method studies. Future research should explore the determinants of healthy eating behaviours across multiple universities, including both health and non-health disciplines, to strengthen comparative evidence and inform policy.

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APPENDICES

APPENDIX I: ETHICAL CLEARANCE LETTER

ENSIGN GLOBAL
UNIVERSITY

OUR REF: ENSIGN/IRB/EL/SN-296/03
YOUR REF:

August 4, 2025

INSTITUTIONAL REVIEW BOARD SECRETARIAT

Irene Dziedzorm Ahiakpor
Ensign Global University
Kpong.

Dear Irene,

ETHICAL CLEARANCE TO UNDERTAKE POSTGRADUATE RESEARCH

At the General Research Proposals Review Meeting of the *INSTITUTIONAL REVIEW BOARD (IRB)* of Ensign Global University held on Friday, August 1, 2025, your research proposal entitled **"Exploring Nutrition Knowledge and Dietary Choices of Undergraduate Students at the University of Ghana Business School, Legon-Greater Accra Region"** was considered.

You have been granted Ethical Clearance to collect data for the said research under academic supervision within the IRB's specified frameworks and guidelines.

We wish you all the best.

Sincerely,

Dr. (Mrs.) Rebecca Acquaah-Arhin
IRB Chairperson

P.O. Box AK 136 | Tema-Akosombo Highway, Kpong, Eastern Region, Ghana|
https://www.ensign.edu.gh |+233 245 762 229

APPENDIX II: INTERVIEW GUIDE

TITLE OF STUDY: EXPLORING NUTRITION KNOWLEDGE AND DIETARY CHOICES OF UNDERGRADUATE STUDENTS OF THE UNIVERSITY OF GHANA BUSINESS SCHOOL – LEGON, GREATER ACCRA REGION.

Section A: General Nutrition Knowledge and Understanding

1. What comes to mind when you hear the word "nutrition"?
2. What does eating healthy mean to you?
3. Where did you learn most of what you know about nutrition (e.g., school, media, family)?
4. Can you describe what a balanced diet is? Are you aware of any dietary guidelines or recommendations for young adults? If yes, what are they??
5. What are some important nutrients and their sources?
6. Is there a link between the food people eat and diseases? Can you give some examples?

Section B: Dietary Practices and Food Choices

7. What types of foods and drinks do you consume frequently on a regular school day/week?
8. How do you decide on what to eat?
9. Where do you usually get your meals and beverages? (campus canteens, fast-food restaurants, restaurants, street food vendors, self-prepared meals)

10. Do you pay attention to the nutritional value of the food you eat/drink? Why or why not?

Section C: Influences on Dietary Choices

11. What influences your meal choices (e.g., taste, cost, availability, peer influence)?
12. Do your family's eating habits still affect your diet at the university?
13. How does your class schedule and academic workload affect your food choices?

Section D: Reflections on Nutrition and Diet

14. If you could change anything about the way you eat, what would it be and why?
15. How important is nutrition to you personally and to students in general?
16. In your opinion, do students at UGBS have enough knowledge about nutrition?
17. What do you think will help students make healthier food choices?
18. Is there anything else you want to share about your experience with food and nutrition as a student of UGBS?

APPENDIX III: INFORMED CONSENT FORM

TITLE OF STUDY: EXPLORING NUTRITION KNOWLEDGE AND DIETARY CHOICES OF UNDERGRADUATE STUDENTS OF THE UNIVERSITY OF GHANA BUSINESS SCHOOL – LEGON, GREATER ACCRA REGION.

Researcher:

Irene Dziedzorm Ahiakpor (MPH Candidate)

Department of Community Health

Ensign Global University

Kpong, Ghana.

Introduction:

You are invited to participate in a research study conducted by a student of Ensign Global University in fulfillment of the requirements for the award of the Master of Public Health (MPH) degree. This research seeks to find out about your knowledge of nutrition and dietary practices as undergraduate students of UGBS.

Purpose of the Study:

The purpose of this study is to explore nutrition knowledge and dietary practices among undergraduate students of UGBS. The information obtained from this study will help guide public health interventions in order to improve health outcomes among students.

Procedures:

If you agree to participate in this study, you will be required to take part in an in-depth interview session that will last approximately 30 – 40 minutes. During this session, you will be asked questions about your nutrition knowledge, opinions on diet and health, and eating habits. The interview session will be audio-recorded for transcription and analysis.

Risks and Benefits:

There are no foreseeable direct risks associated with your participation in this study. There are no immediate direct benefits to be received from participating; however, your contributions will help inform strategies to improve student health and nutrition.

Confidentiality:

All information collected will be kept confidential. Your responses will be used solely for research purposes, and your identity will be kept anonymous as no names or identifying information will appear in any reports or publications resulting from this study.

Voluntary Participation:

Participation in this study is entirely voluntary. You have the right to withdraw from the discussion at any time without any consequences.

Contact Information:

In case of any issues or concerns about this research, contact:

Irene Dziedzorm Ahiakpor

0260705635

irene.ahiakpor@st.ensign.edu.gh

Consent Statement:

I have read the information above and understand the nature and purpose of this study. I agree to participate voluntarily in this research.

Participant's Name: ……..

Participant's Signature: …… Date: …….

Researcher's Signature: …… Date: ……..

APPENDIX IV: DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Respondent (R)	Sex	Age Range	Level	Residency Type
R1	Female	18 - 20	300	Resident
R2	Male	21-23	400	Non-resident
R3	Female	21-23	400	Resident
R4	Female	21-23	300	Resident
R5	Male	21-23	300	Resident
R6	Male	21-23	300	Resident
R7	Male	21-23	300	Non-resident
R8	Male	18-20	300	Resident
R9	Male	18-20	300	Resident
R10	Female	21-23	300	Resident
R11	Male	21-23	400	Resident
R12	Female	18-20	300	Resident
R13	Male	21-23	300	Resident
R14	Male	18-20	300	Resident
R15	Male	21-23	300	Resident
R16	Female	21-23	300	Non-resident
R17	Female	21-23	400	Resident
R18	Female	21-23	400	Resident
R19	Female	21-23	400	Resident
R20	Female	21-23	400	Resident
R21	Female	21-23	400	Resident
R22	Female	21-23	400	Resident
R23	Female	18-20	300	Resident
R24	Female	18-20	200	Resident
R25	Female	18-20	400	Resident
R26	Male	24-25	300	Non-resident
R27	Male	21-23	300	Resident
R28	Female	21-23	300	Resident
R29	Female	21-23	400	Resident
R30	Female	21-23	300	Non-resident
R31	Male	24-25	300	Non-resident
R32	Female	21-23	400	Resident

APPENDIX V: CODING FRAME

Codes	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	Sum
Diet-related Diseases																																	
Diabetes					X			X	X	X	X	X	X	X					X			X		X	X		X			X		X	15
Hypertension					X					X				X			X				X	X		X			X			X			9
Cancer													X					X			X												3
Obesity	X											X					X			X	X	X		X				X					8
Poor knowledge of diet-related diseases		X	X	X	X	X	X	X	X						X	X		X	X						X					X		14

Codes	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	Sum
Dietary Guidelines																																	
Eat more fruits and vegetables																		X				X			X								3
Stay hydrated														X				X		X		X			X	X							6
Reduce sugar intake		X											X			X								X							X		5
Avoid late eating														X			X																2

Codes	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	Sum
Food Nutrients																																	
Macronutrients	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	31
Micronutrients	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	31
Sources of nutrients	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	31

Codes	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	Sum
General Knowledge																																	
Healthy eating		X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X		28
Balanced diet	X	X		X	X	X	X		X	X	X	X		X	X	X	X	X	X	X		X	X	X		X	X	X	X	X	X	X	27
Benefits of good nutrition							X															X									X		3
Sources of information	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	32

Codes	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	Sum
Misconceptions																																	
Misinformation				X	X											X									X			X		X	X		7
Poor nutrition knowledge		X		X	X					X	X	X		X	X		X	X	X						X	X					X	X	15

Codes	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	Sum
Dietary Intake																																	
Local staples	X	X	X	X		X	X				X	X	X	X		X	X	X	X		X		X	X	X	X	X	X	X	X	X	25
Snacks	X	X	X	X	X	x		X	X	X		X			X	X		X		X			X	X	X	X	X	X	X	X	X	X	24
Fast-foods	X			X	X				X	X	X	X						X						X	X			X					11
Self-prepared meals	X		X					X	X	X		X		X				X				X	X	X		X		X	X	X		X	16
Buys meals	X		X	X					X				X	X	X		X						X	X	X	X					X		13

Codes	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	Sum
Meal Patterns																																	
Late eating	X	X	X	X									X					X	X		X	X			X		X		X		X		13

Codes	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	Sum
Food Choice Strategies																																	
Budgeting													X									X									X		3
Health goals	X									X																							2

Codes	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	Sum
Food Environment																																	
Food availability and access										X	X	X					X	X	X	X	X	X	X						X	X			12
Expensive healthy options									X	X			X																				3
Lack of healthy options								X	X	X																							3

Codes	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	Sum
Peer Influence																																	
Friends				X																											X		2
Roommates				X																				X				X					3

Codes	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	Sum
Resources																																	
Financial limitaions				X	X	X	X	X	X	X	X	X	X	X		X				X	X	X		X	X	X	X		X		X		21
Busy schedules	X			X	X					X	X	X	X					X	X	X	X	X			X			X	X	X	X	X	18