

**KNOWLEDGE, ATTITUDE AND PRACTICE OF NUTRITION AND HEALTHY
EATING HABITS AMONG STUDENTS OF A TERTIARY INSTITUTION IN BENIN
CITY, EDO STATE**

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UNIVERSITY OF BENIN

BENIN CITY

NOVEMBER, 2025

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**IN PARTIAL FULFILLMENT OF THE AWARD OF BACHELOR OF NURSING
SCIENCE (BNSC), SCHOOL OF MEDICAL SCIENCES
UNIVERSITY OF BENIN, BENIN CITY**

NOVEMBER, 2025

DECLARATION

This is to declare that this research project titled "**KNOWLEDGE, ATTITUDE AND PRACTICE OF NUTRITION AND HEALTHY EATING HABITS AMONG STUDENTS OF A TERTIARY INSTITUTION IN BENIN CITY, EDO STATE.**" was solely carried out by GLORY-POTOKRI OGHENERHUNO. It was solely the result of my work except stated otherwise by reference or acknowledgement as being derived from other person(s) or resources.

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CERTIFICATION

This is to certify that this research project was titled **KNOWLEDGE, ATTITUDE AND PEACTICE OF NUTRITION AND HEALTHY EATING HABITS AMONG STUDENTS OF A TERTIARY INSTITUTION IN BENIN CITY, EDO STATE** was carried out by **GLORY-POTOKRI OGHENERHUNO** with **Mat No. BM2001215** and has been certified and approved for the award of the **BACHELOR OF NURSING SCIENCE (BNSC) CERTIFICATE.**

SR. J.N. CHUKWURAH

Supervisor's name

Sign & Date

PROF. (MRS) C.E OMORUGBE

HOD of Department (MED-SURG)

Sign & Date

DEDICATION

This project work is dedicated to the ALMIGHTY GOD who has been my constant source of help and strength in my academic journey.

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I wish to express my profound gratitude to the ALMIGHTY GOD, whose grace, wisdom, and strength guided and sustained me throughout the course of this research.

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ABSTRACT

This study examined the knowledge, attitude, and practice of nutrition and healthy eating habits among students of a tertiary institution in Benin City, Edo State. Poor nutrition and unhealthy eating behaviours among young adults have been recognized as major public health concerns, contributing to the rising incidence of non-communicable diseases such as obesity, diabetes, and hypertension. The study adopted a descriptive cross-sectional design and utilized a stratified sampling technique with convenience sampling to select 200 participants from different academic levels and faculties. A total of 200 structured questionnaires were distributed and duly completed, yielding a 100% response rate. Data were analysed using the Statistical Package for the Social Sciences (SPSS) version 26.0, and results were presented in tables, charts, and figures using descriptive and inferential statistics. The results revealed that the majority of the students possessed good knowledge of nutrition and healthy eating habits, as indicated by a grand mean score of 1.8. Most respondents also exhibited positive attitudes toward proper nutrition, recognizing the importance of balanced diets, regular meals, and adequate hydration. However, despite their awareness, many students demonstrated poor eating practices, often skipping meals, consuming fast foods, and taking sugary beverages due to time constraints, limited finances, and the easy availability of junk foods. Hypothesis testing showed a significant relationship between students' nutritional knowledge, attitudes, and their actual eating behaviours ($p < 0.05$). The study concludes that while students have good knowledge and favourable attitudes toward nutrition, these do not always translate into healthy dietary practices due to various socioeconomic and environmental barriers. It is therefore recommended that tertiary institutions organize regular nutrition education programs and create healthier food environments within campuses. Nurses and other health professionals should take active roles in promoting nutrition awareness, counselling students, and advocating for supportive policies that encourage healthy eating among young adults.

Keywords: nutrition, attitude, knowledge, eating habits, students, Benin City, Edo state.

TABLE OF CONTENTS

Cover page	i
Title Page	ii
Declaration	iii
Certification	iv
Dedication	v
Acknowledgement	vi
Abstract	vii
Table of Contents	viii
List of table	xii
List of Figure	xiii
CHAPTER ONE: INTRODUCTION	
1.1 Background to the Study	1
1.2 Statement of the Problem	3
1.3 Objectives of the Study	4
1.4 Research Questions	5
1.5 Hypothesis	5
1.6 Significance of the Study	5
1.7 Scope of the Study	6
1.8 Operational Definition of Terms	7

CHAPTER TWO: LITERATURE REVIEW

2.1	Conceptual Review	9
2.1.1	Concept of Nutrition and Healthy Eating Habits	9
2.1.2	Knowledge of Nutrition	13
2.1.3	Attitude toward Nutrition and Healthy Eating	16
2.1.4	Practice of Nutrition and Dietary Habits	19
2.1.5	Barriers to Healthy Eating	22
2.1.6	Strategies for Promoting Healthy Eating	25
2.2	Theoretical Review	27
2.2.1	Origins and Application of the KAP Model	28
2.2.2	Key Components of the KAP Model	29
2.2.3	Diagrammatic Representation of the KAP Model	30
2.2.4	Strengths of the KAP Model	30
2.2.5	Limitations of the KAP Model	31
2.2.6	Application of the KAP Model to this study	32
2.3	Empirical Review	33
2.3.1	Students' Knowledge of Proper Nutrition and Dietary Guidelines	33
2.3.2	Students' Attitudes toward Healthy Eating and Dietary Choices	35
2.3.3	Students' Actual Dietary Practices and Eating Habits	37

2.3.4	Factors Influencing Student’s Dietary Choices	40
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2.4	Summary of Literature Review	44
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CHAPTER THREE: METHODOLOGY

3.0	Introduction	46
-----	--------------	----

3.1	Research Design	46
-----	-----------------	----

3.2	Research Setting	47
-----	------------------	----

3.3	Target Population	47
-----	-------------------	----

3.4	Sample Size	47
-----	-------------	----

3.5	Sampling Technique	48
-----	--------------------	----

3.6	Instrument of Data Collection	49
-----	-------------------------------	----

3.7	Validity of Instrument	49
-----	------------------------	----

3.8	Reliability of Instrument	49
-----	---------------------------	----

3.9	Method of Data Collection	50
-----	---------------------------	----

3.10	Method of Data Analysis	50
------	-------------------------	----

3.11	Ethical Consideration	52
------	-----------------------	----

CHAPTER FOUR: RESULTS

4.1	Socio-Demographic Data of Respondents	53
-----	---------------------------------------	----

4.2	Descriptive Statistics of the level of Knowledge of Nutrition and Healthy Eating Habits among Undergraduate Students	55
-----	--	----

4.3	Descriptive Statistics of the Attitudes of Undergraduate Students toward Nutrition and Healthy Eating Habits	60
4.4	Descriptive Statistics of the Actual Dietary Practices and Eating Habits among Undergraduate Students	64
4.5	Descriptive Statistics of Factors Influencing the Choices of Nutrition and Healthy Eating Habits among Undergraduate Students	67
4.6	Hypothesis Testing	70
CHAPTER FIVE: DISCUSSION OF FINDINGS		
5.1	Discussion of Findings	72
5.2	Implications to Nursing Practice	82
5.3	Summary	84
5.4	Conclusion	85
5.5	Limitations of the Study	86
5.6	Recommendations	87
5.7	Suggestions for Further Studies	89
	References	90
Appendix I:	Questionnaire	97
Appendix II:	Reliability of Instrument	102
Appendix III:	Ethical Approval	106

LIST OF TABLES

- Table 3.1: Number of undergraduate students in the Faculty of Education
- Table 3.2: The allocation of sample within each stratum
- Table 4.1 Socio-demographic data of respondents
- Table 4.2 Knowledge of nutrition and healthy eating habits among undergraduate students
- Table 4.3: Attitude toward nutrition and healthy eating habits
- Table 4.4: Actual dietary practices and eating habits among undergraduate students
- Table 4.5: Factors influencing the choices of nutrition and healthy eating habits
- Table 4.6: Relationship between students' attitudes toward nutrition do not significantly influence their dietary choices
- Table 4.7: Relationship between students' knowledge of nutrition and their actual dietary practices

LIST OF FIGURES

- Fig 2.1: Knowledge, Attitude and Practice Theory
- Fig 4.1: Pie chart showing the knowledge of nutrition and healthy eating habits among undergraduates
- Fig 4.2: Bar chart showing undergraduate students' attitudes towards nutrition and healthy eating habits
- Fig 4.3: Pie chart showing the actual dietary practices and eating habits among undergraduate students
- Fig 4.4: Bar chart showing the factors influencing the choices of nutrition and healthy eating habits among undergraduates.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The rising prevalence of poor dietary patterns among university students, particularly in Nigeria, poses serious risks to their health, academic performance, and long-term well-being. Adebilero-Iwari (2024) emphasized the widespread nutritional challenges facing this group, underscoring the urgent need for interventions. The transition to university life marked by increased autonomy, financial management, and lifestyle adjustments creates particular vulnerability to unhealthy eating behaviors.

Nutrition plays a central role in supporting cognitive, physical, and emotional health. Samson et al. (2022) highlighted its importance for concentration, learning, and resilience, while Kennedy (2022) emphasized the significance of B vitamins for brain function, noting that deficiencies can lead to fatigue and poor academic performance. Reuter et al. (2021) further demonstrated that healthier dietary patterns are associated with improved cognitive outcomes. Similarly, Lopez et al. (2021) stressed the importance of omega-3 fatty acids in maintaining neuronal health, and Kennedy (2022) linked iron deficiency to impaired concentration. Adequate hydration also remains essential for sustaining memory and attention.

Nutrition is equally critical for mental health. Gombart et al. (2022) identified the role of micronutrients such as vitamin D, magnesium, and zinc in regulating mood and stress responses, while Lavelle et al. (2022) highlighted how psychological and emotional factors influence students' food choices. Poor diets characterized by high consumption of processed foods and sugary drinks have been shown to worsen stress, anxiety, and depression among students.

Beyond short-term consequences, unhealthy eating in young adulthood carries long-term risks, including obesity, diabetes, and cardiovascular disease. Hall et al. (2022) warned of the impact of ultra-processed foods on chronic disease development, while Arendt and Zannini (2022) advocated the inclusion of whole grains to support long-term health. The university years, therefore, represent a critical window for establishing dietary habits that can shape both immediate academic outcomes and lifelong well-being.

Despite its importance, students face multiple barriers to healthy eating. Time pressures from academic schedules, part-time jobs, and extracurricular activities often lead to meal skipping or reliance on fast foods. Lavelle et al. (2022) identified time constraints, limited cooking skills, and inadequate cooking facilities as significant barriers, further compounded by financial limitations that push students toward cheap, calorie-dense but nutrient-poor foods.

Knowledge gaps also contribute to poor dietary practices. Liu et al. (2021) noted the role of family influence in shaping early eating habits, but inadequate nutritional knowledge often leaves students vulnerable to misinformation, particularly from peers and social media (Määttä et al., 2022). Social settings and the widespread availability of fast-food outlets around campuses further promote unhealthy consumption patterns (Lavelle et al., 2022).

In Nigeria, cultural, religious, and economic factors further complicate dietary behaviors. Traditional diets, often high in carbohydrates but low in protein and fiber, sometimes conflict with modern food trends. Oluwatosin et al. (2024) highlighted these cultural and regional practices, noting how globalization and urbanization have accelerated a shift toward Westernized, processed diets, contributing to obesity and diet-related chronic diseases among youth. Regional variations in food preferences, such as millet and sorghum in the North versus yam and cassava in the South, as well as practices like Ramadan fasting, also shape eating habits (Oluwatosin et

al., 2024). Economic barriers further restrict access to healthier foods, underscoring the need for culturally sensitive nutrition interventions.

The rising burden of non-communicable diseases (NCDs), strongly linked to poor diets and high consumption of processed foods, sugary drinks, and unhealthy fats, has become a pressing public health issue in Nigeria (Oluwaseun et al., 2022). Although national initiatives such as the National Strategic Plan of Action for Nutrition (NSPAN) aim to improve population nutrition, these programs often fail to address the specific needs of university students, who face unique dietary challenges shaped by time, financial pressures, and social environments.

A clear research gap exists, as few studies focus specifically on the nutritional challenges of Nigerian university students. The Knowledge, Attitude, and Practice (KAP) framework offers a valuable lens to examine how these factors align or diverge in this population, yet its application has been limited. Understanding these dynamics is essential for designing culturally relevant and student-focused interventions that promote sustainable healthy eating.

Building on this background, this study aims to investigate the knowledge, attitudes, and practices of nutrition among undergraduate students of the Faculty of Education, University of Benin, Benin City, Nigeria. By exploring the interplay of these factors, the study seeks to provide a comprehensive understanding of their dietary challenges and contribute to the development of effective interventions tailored to this demographic.

1.2 Statement of the Problem

Despite the well-documented benefits of proper nutrition, many students in tertiary institutions struggle to maintain healthy eating habits (Reuter et al., 2022). Studies suggest that while some students possess basic knowledge of nutrition, this knowledge does not always translate into

healthy dietary practices. Factors such as academic workload, financial limitations, social influences, and the availability of unhealthy food options contribute to poor nutrition choices (Lavelle et al., 2022).

Poor eating habits among students have been linked to various health problems, including obesity, malnutrition, decreased immunity, and poor academic performance. Many students tend to skip meals, rely on processed or fast foods, and consume inadequate fruits and vegetables, leading to nutritional deficiencies. Additionally, there is limited research specifically assessing the interplay between knowledge, attitude, and practice regarding healthy eating in tertiary institutions (Liu et al., 2021).

This study seeks to examine the level of knowledge, attitudes, and actual dietary practices among students in a tertiary institution. By identifying gaps between awareness and behavior, the research will provide insights into the factors influencing students' dietary choices and suggest strategies for promoting healthier eating habits within the academic environment.

1.3 Objectives of the Study

General Objective:

To assess the knowledge, attitude, and practice of nutrition and healthy eating habits among undergraduate students of the Faculty of Education, University of Benin, Benin City, Edo State.

Specific Objectives:

1. To evaluate the knowledge of nutrition and healthy eating habits among undergraduates.
2. To determine attitudes toward nutrition and healthy eating habits among undergraduates.
3. To examine the actual dietary practices and eating habits among undergraduate students.

4. To identify factors influencing the choices of nutrition and healthy eating habits among undergraduates.

1.4 Research Questions

1. What is the level of knowledge undergraduate students have about nutrition and healthy eating habits?
2. What are undergraduate students' attitudes toward nutrition and healthy eating habits?
3. What are actual dietary practices and eating habits among undergraduate students?
4. What are the factors influencing the choices of nutrition and healthy eating habits among undergraduates?

1.5 Hypotheses

1. Students' attitudes toward nutrition do not significantly influence their dietary choices.
2. There is no significant relationship between students' knowledge of nutrition and their actual dietary practices.

1.6 Significance of the Study

This research holds significant value within nursing, as nurses are central to health education and disease prevention. By understanding student dietary habits, nurses can create more effective strategies to encourage healthy eating. The findings also strengthen the focus on nutrition in nursing education, particularly for holistic patient care. Community health nurses can apply this information to design targeted programs that address poor eating habits among young adults, thereby promoting healthier lifestyles.

For other healthcare professionals, including doctors, dietitians, and public health experts, this study offers key insights into the dietary challenges students face. By identifying gaps in

nutritional knowledge and obstacles to healthy eating, these professionals can develop improved counseling programs to promote better food choices. The study also emphasizes the connection between knowledge, attitudes, and actual eating behaviors, which can inform evidence-based interventions to enhance student nutrition. Furthermore, understanding these dietary patterns helps healthcare providers advocate for policy changes that ensure healthier food options are available in universities.

On a broader societal level, the study's findings have wide-ranging implications for public health. Proper nutrition is crucial for reducing diet-related health problems like obesity, malnutrition, and chronic diseases. By promoting healthier eating habits among students, this research contributes to a healthier and more productive population. Additionally, the research can influence policies concerning nutrition education and food availability in universities, ensuring students receive the necessary support to make informed dietary choices. This will be achieved by identifying the barriers and facilitators of healthy eating among university students, providing valuable insights for designing effective interventions. A well-nourished student population leads to enhanced academic performance, improved workforce productivity, and decreased healthcare costs related to poor nutrition.

1.7 Scope of the Study

This research delves into the knowledge, attitudes, and practices (KAP) related to nutrition and healthy eating habits among students within a specific faculty of a university. Its purpose is to evaluate the students' comprehension of nutritional principles, their perspectives on healthy dietary choices, and their real-world eating patterns, as well as to pinpoint the factors that shape their selections. The research will be conducted specifically among students enrolled in the Faculty of Education at the University of Benin, Benin city, Nigeria. The study will evaluate

their understanding of nutritional concepts, their viewpoints regarding healthy eating, and their dietary behaviors, encompassing meal frequency, food preferences, and typical obstacles to maintaining a healthy diet.

1.8 Operational Definition of Terms

Nutrition refers to the process by which the body takes in and utilizes food substances essential for growth, energy, and overall health. In this study, it pertains to students' understanding and application of dietary principles in their daily lives.

Healthy Eating Habits describe a pattern of food consumption that includes a balanced diet rich in essential nutrients such as carbohydrates, proteins, vitamins, and minerals. It involves regular meal consumption, portion control, and the avoidance of excessive processed or unhealthy foods.

Knowledge of Nutrition is the level of awareness and understanding students have about the importance of nutrition, food groups, dietary guidelines, and the impact of food choices on health. This will be assessed through questionnaire responses measuring students' familiarity with basic nutrition concepts.

Attitude Toward Nutrition refers to the personal beliefs, perceptions, and mindset students have about nutrition and healthy eating. This includes their willingness to adopt and maintain a healthy diet based on their understanding of its benefits or challenges.

Practice of Nutrition encompasses the actual dietary behaviors and habits exhibited by students, including the types of food they consume, meal frequency, eating patterns, and adherence to nutritional guidelines.

Tertiary Institution is an institution of higher education. In this study, it refers to the University of Benin where the research is conducted.

Faculty refers to a specific academic division within the tertiary institution where students belong. In this study, it is the Faculty of Education.

Student in this research denotes any individual enrolled and actively involved in first degree or undergraduate academic activities within the Faculty of Education, University of Benin.

Barriers to Healthy Eating are factors that prevent students from making nutritious food choices, such as financial constraints, time limitations, peer influence, availability of healthy food, and personal preferences.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviewed related literature on the knowledge, attitude and practice of nutrition and healthy eating habits among undergraduate students of the Faculty of Education, University of Benin under the following sub-headings: conceptual review, theoretical framework, and empirical review.

2.1 Conceptual Review

2.1.1 *Concept of Nutrition and Healthy Eating Habits*

For young adults and students, nutrition extends beyond the simple act of food consumption; it represents a fundamental determinant of academic and physiological performance. The consistent intake of a balanced dietary regimen, characterized by adequate nutrient provision, is essential during this critical developmental period (World Health Organization, 2022). The confluence of rigorous academic demands and significant physiological transformations necessitates a robust nutritional foundation to support optimal well-being.

A well-structured dietary pattern, encompassing sufficient micronutrient intake and dietary diversity, is of paramount importance. A balanced diet ensures the provision of essential nutrients in appropriate proportions, thereby supporting diverse physiological functions, including immune regulation, cognitive processing, and physical performance. Macronutrients, such as carbohydrates, proteins, and lipids, serve as primary energy substrates, while micronutrients, comprising vitamins and minerals, function as critical cofactors in metabolic processes and cellular homeostasis. The adoption of dietary diversity, characterized by the consumption of a broad spectrum of foods from diverse food groups, ensures comprehensive

nutrient acquisition, thereby mitigating the risk of nutrient deficiencies and promoting overall health. For example, dietary fiber, abundant in whole grains, fruits, and vegetables, facilitates optimal gastrointestinal function and offers numerous protective health benefits (Anderson et al., 2022). Similarly, vitamin C, prevalent in citrus fruits and leafy greens, plays a significant role in immune function (Carr & Maggini, 2022).

Conversely, suboptimal nutritional practices, characterized by insufficient nutrient intake and excessive consumption of processed foods, sugary beverages, and deleterious fats, pose significant adverse effects on young adults and students. Empirical evidence demonstrates a robust correlation between poor dietary habits and diminished cognitive function, manifesting as impaired concentration, memory deficits, and reduced problem-solving abilities (Reuter et al., 2021). For example, iron deficiency, a prevalent nutritional deficit in this demographic, has been implicated in cognitive impairments and reduced academic achievement (Lopez & Martinez-Gonzalez, 2022). Furthermore, dehydration, frequently resulting from inadequate fluid intake, can significantly impair cognitive performance and academic outcomes (Lieberman, 2022).

The cognitive deficits stemming from nutritional inadequacy extend beyond immediate academic ramifications, impacting long-term neurological health. Inadequate nutrient provision during this critical developmental period can precipitate enduring cognitive impairments. For instance, essential fatty acids, such as omega-3 polyunsaturated fatty acids, are crucial for optimal brain development and cognitive function; deficiencies in these nutrients can impair neurodevelopment and increase the risk of neurodegenerative diseases later in life (Heymsfield & Shapses, 2024). Moreover, excessive consumption of refined carbohydrates and processed

foods has been associated with increased neuroinflammation and oxidative stress, further contributing to cognitive dysfunction (Jo & Park, 2023).

The long-term physiological sequelae associated with suboptimal nutrition during young adulthood are substantial. Chronic diseases, including obesity, hypertension, and type 2 diabetes mellitus, are increasingly prevalent in this demographic, with poor dietary habits serving as a primary etiological factor (Ambroselli et al., 2023). Obesity, characterized by excessive adiposity, frequently results from high-calorie diets rich in processed foods and sugary beverages, significantly elevating the risk of cardiovascular disease, cerebrovascular accidents, and specific malignancies. Hypertension, or elevated blood pressure, is closely associated with excessive sodium intake, commonly found in processed and fast foods. Similarly, type 2 diabetes mellitus, characterized by insulin resistance and hyperglycemia, is strongly correlated with dietary patterns high in refined carbohydrates and sugary beverages.

Furthermore, nutritional inadequacy can contribute to metabolic syndrome, a constellation of metabolic derangements that increase the risk of cardiovascular disease, cerebrovascular accidents, and diabetes mellitus (Ambroselli et al., 2023). This syndrome, often characterized by abdominal obesity, hypertension, dyslipidemia, and hyperglycemia, is significantly influenced by dietary choices. Inadequate consumption of fruits and vegetables, which are rich in antioxidants and phytochemicals, further increases the risk of chronic disease development (Slavin & Lloyd, 2022). Similarly, insufficient zinc intake can impair wound healing and compromise immune function (Wapnir & Balkin, 2022).

University students face unique challenges in adhering to healthy dietary practices, including temporal constraints, financial limitations, and the ubiquitous availability of unhealthy food

options on campus (Lavelle et al., 2022). Reliance on fast food and processed snacks, while convenient and affordable, frequently results in nutrient deficiencies and increased risk of chronic diseases due to their high caloric density, deleterious fat content, and excessive sodium levels. The prevalence of sugary beverages on campus further exacerbates the issue, contributing to excessive caloric intake and weight gain (de Moraes Prata Gaspar et al., 2024).

Sociocultural determinants also significantly influence dietary behaviors among young adults and students. In many cultural contexts, food serves as a central component of social gatherings and celebrations, often leading to the consumption of high-calorie, high-fat foods. Moreover, the increasing adoption of Western dietary patterns, characterized by high consumption of processed foods and sugary beverages, further contributes to nutritional inadequacy (Oluwaseun et al., 2022). Understanding these sociocultural dynamics is crucial for developing effective nutrition interventions that promote healthy dietary practices in this demographic.

The significance of optimal nutrition and healthy dietary habits during young adulthood and student life cannot be overstated. A balanced dietary regimen, encompassing adequate micronutrient intake and dietary diversity, is essential for supporting cognitive function and physiological development, and mitigating the risk of long-term health sequelae. Nutritional inadequacy, characterized by nutrient deficiencies and excessive consumption of unhealthy foods, can lead to cognitive impairments, physiological dysfunctions, and an increased risk of chronic disease development. Therefore, the promotion of healthy dietary practices among young adults and students is imperative for their holistic well-being and long-term health outcomes.

2.1.2 Knowledge of Nutrition

Nutrition knowledge, a complex construct encompassing an understanding of dietary guidelines, essential nutrients, food groups, and the relationship between diet and health, forms the cornerstone of informed food choices and healthy eating behaviors. It extends beyond mere awareness of nutritional facts to include the ability to apply this knowledge in practical, everyday settings, enabling individuals to make informed decisions about their dietary intake (Ilić et al., 2024). This knowledge base includes understanding the composition of foods, the functions of various nutrients, the recommended daily allowances, and the potential health consequences of dietary imbalances. For young adults and students, a demographic characterized by significant developmental transitions and heightened academic demands, nutrition knowledge plays a pivotal role in shaping dietary habits and influencing overall well-being.

The acquisition of nutrition knowledge occurs through a variety of sources, each contributing uniquely to an individual's understanding of dietary principles. Formal education, particularly within academic settings, provides a structured framework for learning about nutrition, often through courses in health sciences, nutrition, or related disciplines (Ibrahim & Aldawsari, 2024). These educational experiences equip students with foundational knowledge regarding nutrient functions, dietary guidelines, and the physiological impact of food choices. However, nutrition knowledge is not solely derived from formal education. Family influences also play a significant role, particularly during formative years, shaping dietary preferences and establishing patterns that may persist into adulthood (Liu et al., 2021). Parental dietary habits, food preparation practices, and family meals contribute to the development of an individual's understanding of food and nutrition. Furthermore, media sources, including television, internet, and social media

platforms, exert a substantial influence on nutrition knowledge, albeit with varying degrees of accuracy. While some media outlets provide evidence-based information, others may disseminate misinformation or promote fad diets, leading to confusion and misconceptions. Peer influence, particularly among adolescents and young adults, also shapes dietary habits and nutrition knowledge. Social norms, peer pressure, and shared eating experiences can influence food choices and dietary behaviors.

Despite the diverse sources of nutrition knowledge, common knowledge gaps persist among students, often resulting in suboptimal dietary practices. A prevalent gap concerns the understanding of macronutrient balance, with many students struggling to accurately assess their intake of carbohydrates, proteins, and fats (Heymsfield & Shapses, 2024). Misconceptions regarding the role of carbohydrates in weight management, the importance of protein for muscle synthesis, and the health implications of different types of fats are frequently observed. Furthermore, micronutrient deficiencies, particularly those related to iron, vitamin D, and calcium, remain common, indicating a lack of understanding regarding the importance of these nutrients for overall health (Lopez & Martinez-Gonzalez, 2022). Knowledge gaps also extend to the interpretation of food labels and the assessment of serving sizes, leading to inaccurate estimations of caloric intake and nutrient content (Gaspar et al., 2024). Additionally, many students lack awareness regarding the health implications of processed foods, sugary beverages, and excessive sodium intake, contributing to the development of chronic diseases (Jo & Park, 2023).

The impact of nutrition knowledge on dietary practices is multifaceted. Individuals with higher levels of nutrition knowledge are more likely to adhere to recommended dietary guidelines,

consume a variety of nutrient-dense foods, and engage in healthy eating behaviors. They are better equipped to make informed food choices, interpret food labels, and assess the nutritional value of different foods (Özenoğlu et al., 2024). Conversely, individuals with limited nutrition knowledge are more susceptible to misinformation, fad diets, and unhealthy eating patterns. They may struggle to identify nutrient-rich foods, assess serving sizes, and understand the relationship between diet and health. This lack of knowledge can lead to nutrient deficiencies, weight gain, and an increased risk of chronic diseases (Ambroselli et al., 2023).

Several studies have highlighted the significance of nutrition knowledge in promoting healthy dietary practices among students. For instance, research has demonstrated a positive correlation between nutrition knowledge and fruit and vegetable consumption, fiber intake, and adherence to dietary guidelines (Anderson et al., 2022). Students with higher levels of nutrition knowledge are more likely to incorporate diverse food groups into their diets, including whole grains, lean proteins, and healthy fats. Conversely, students with limited nutrition knowledge are more likely to consume processed foods, sugary beverages, and high-fat snacks, contributing to an increased risk of obesity and chronic diseases. Furthermore, nutrition knowledge has been shown to influence food preparation practices, with students who possess a greater understanding of nutrition being more likely to prepare meals at home and utilize healthy cooking methods (Ebert, 2022).

The development of effective nutrition interventions for students requires a comprehensive understanding of their nutrition knowledge levels and the factors that influence their dietary choices. Educational programs, community-based initiatives, and media campaigns can play a crucial role in disseminating accurate nutrition information and promoting healthy eating

behaviors. These interventions should address common knowledge gaps, provide practical strategies for meal planning and food preparation, and utilize culturally sensitive approaches to accommodate diverse dietary preferences and cultural backgrounds (Oluwaseun et al., 2022). Additionally, the integration of technology, such as mobile apps and online resources, can enhance the accessibility and effectiveness of nutrition interventions. These tools can provide personalized dietary recommendations, track food intake, and offer educational materials in an engaging and interactive format.

Furthermore, the role of socioeconomic factors in shaping nutrition knowledge and dietary practices must be acknowledged. Students from disadvantaged backgrounds may face limited access to nutritious foods, lack of cooking facilities, and exposure to unhealthy food environments (Fismen et al., 2021). These factors can contribute to nutritional disparities and exacerbate existing knowledge gaps. Nutrition interventions should address these socioeconomic barriers by providing access to affordable nutritious foods, offering cooking demonstrations, and promoting healthy food environments within educational settings and communities. Additionally, the role of family influences and cultural norms in shaping dietary habits should be considered when developing nutrition interventions. Culturally sensitive approaches that respect diverse food traditions and preferences are more likely to be effective in promoting sustainable dietary changes (Oluwatosin et al., 2024).

2.1.3 Attitude toward Nutrition and Healthy Eating

Attitude, or personal beliefs, significantly shape the food choices of young adults and students. These beliefs encompass their individual perspectives on food, body image, and overall health. They are not merely passive reflections of knowledge but active drivers of behavior, influencing

how individuals perceive and interact with food. These beliefs are shaped by personal experiences, cultural norms, social pressures, and psychological factors. For students, especially those navigating significant life transitions and diverse social environments, these attitudes are crucial in determining their dietary habits.

Developing positive attitudes toward food, body image, and health is essential for promoting healthy eating. When individuals perceive healthy food as beneficial and enjoyable, they are more likely to consume it. For example, appreciating the health benefits and sensory experiences of fruits and vegetables increases their consumption (Slavin & Lloyd, 2022). Similarly, a positive body image, characterized by self-acceptance and a realistic perception of one's physical appearance, fosters healthy eating habits by reducing the inclination towards restrictive diets and disordered eating patterns. Furthermore, valuing health and recognizing the long-term benefits of healthy lifestyle choices motivate individuals to prioritize nutritious foods and engage in regular physical activity. Research indicates that positive attitudes toward healthy nutrition correlate with mindful eating and physical activity, leading to improved academic performance (Özenoğlu et al., 2024).

The relationship between attitudes and dietary intentions is influenced by psychological factors, including perceived control, social norms, and self-belief. Perceived control refers to an individual's belief in their ability to adhere to healthy eating, despite potential challenges. Social norms involve the perceived social pressure from others, such as family and peers, to eat in a certain way (Liu et al., 2021). Self-belief, or self-efficacy, is crucial for translating good intentions into actual dietary changes. Students who believe they can consistently make healthy

food choices, even in environments with readily available unhealthy options, are more likely to do so (Lavelle et al., 2022).

In the Nigerian context, cultural and religious beliefs significantly influence food attitudes. Nigeria's diverse cultural landscape, with its numerous ethnic groups and distinct food traditions, determines the availability, preparation, and consumption of food. Specific ethnic groups may prioritize certain foods based on cultural significance or traditional beliefs about their health benefits. Religious practices, such as fasting and abstaining from certain foods, also shape dietary habits. Understanding these cultural and religious influences is essential for developing culturally sensitive nutrition interventions that resonate with the target population and promote sustainable dietary changes (Oluwaseun et al., 2022).

Socioeconomic factors in Nigeria also play a substantial role in shaping food attitudes. Limited access to nutritious foods, inadequate cooking facilities, and exposure to unhealthy food environments in disadvantaged communities contribute to negative attitudes toward healthy eating. These factors exacerbate existing knowledge gaps and lead to nutritional disparities (Fismen et al., 2021). Nutrition interventions should address these socioeconomic barriers by improving access to affordable nutritious foods, providing cooking demonstrations, and promoting healthy food environments in educational settings and communities. Additionally, the role of familial influences and cultural norms in shaping dietary patterns should be considered when developing nutrition interventions. Culturally sensitive approaches that respect diverse food traditions and preferences are more likely to be effective in promoting sustainable dietary changes (Oluwatosin et al., 2024).

The influence of media and peer groups on food and body image attitudes is significant. The increasing prevalence of social media and the dissemination of unrealistic beauty standards contribute to negative body image and unhealthy eating patterns among young adults and students. Media literacy and critical thinking skills are essential for navigating these influences and promoting positive attitudes toward food and body image. Peer influences, particularly among adolescents and young adults, also shape dietary behaviors and attitudes. Social norms, peer pressure, and shared dietary experiences influence food choices and dietary patterns. Educational programs that promote healthy body image and critical evaluation of media messages can help mitigate the negative impact of these influences.

Furthermore, the interplay between attitudes, nutritional knowledge, and dietary practices highlights the importance of comprehensive nutrition education. Individuals with higher levels of nutritional knowledge are more likely to possess positive attitudes toward healthy eating and engage in informed food choices. For instance, understanding the health benefits of dietary fiber enhances attitudes toward fruits, vegetables, and whole grains, thereby increasing their consumption (Anderson et al., 2022). Conversely, knowledge gaps regarding macronutrient balance, micronutrient deficiencies, and the detrimental health implications of processed foods contribute to negative attitudes and suboptimal dietary practices (Heymsfield & Shapses, 2024). Therefore, educational interventions should aim to enhance both nutritional knowledge and attitudes, promoting a holistic approach to dietary behavior change.

2.1.4 Practice of Nutrition and Dietary Habits

Dietary practices, in the context of this review, refer to the observable eating behaviors exhibited by individuals, encompassing meal frequency, food choices, snacking patterns, and beverage

consumption. These practices are the tangible manifestations of underlying attitudes, nutritional knowledge, and environmental influences, and they play a crucial role in determining an individual's nutritional status and overall health. For tertiary students, a demographic characterized by significant lifestyle changes, academic pressures, and evolving social dynamics, dietary practices are particularly salient. The transition to higher education often involves increased autonomy in food choices, coupled with time constraints and financial limitations, which can significantly impact eating behaviors.

Several common unhealthy eating patterns prevail among university students. A prominent issue is meal skipping, especially breakfast. Academic schedules, late-night study sessions, and social activities often disrupt regular meal times (Reuter et al., 2021). This can lead to nutrient deficiencies, reduced energy levels, and impaired cognitive function, ultimately affecting academic performance (Lieberman, 2022). Furthermore, skipping meals can lead to compensatory overeating later in the day, contributing to weight gain and metabolic imbalances (Ambroselli et al., 2023).

Another prevalent unhealthy habit is the preference for fast food and processed snacks. The accessibility, affordability, and convenience of these options make them attractive to students with limited time and resources. These foods are typically high in calories, unhealthy fats, sodium, and added sugars, while lacking essential nutrients (Gaspar et al., 2024). Regular consumption can increase the risk of obesity, cardiovascular disease, and other chronic health problems (Jo & Park, 2023). Additionally, reliance on fast food often displaces healthier food choices, further compromising nutritional intake.

Insufficient fruit and vegetable consumption is also a significant concern among university students. Despite the well-documented health benefits, many students fail to meet recommended daily intakes (Slavin & Lloyd, 2022). Contributing factors include limited access to fresh produce, inadequate cooking facilities, and perceived inconvenience in preparing these foods. Inadequate consumption can lead to deficiencies in essential vitamins, minerals, and dietary fiber, crucial for maintaining optimal health (Carr & Maggini, 2022). Dietary fiber, for instance, is vital for digestive health and helps prevent various chronic diseases (Anderson et al., 2022).

The consumption of sugary drinks, such as sodas, fruit juices, and energy drinks, is another common unhealthy practice. These beverages are high in added sugars and offer minimal nutritional value. Regular consumption contributes to excessive calorie intake, weight gain, and increased risk of type 2 diabetes and dental problems (WHO, 2022). Moreover, these drinks often displace healthier beverages, such as water, essential for hydration and cognitive function (Popkin et al., 2022). Adequate hydration is critical for cognitive performance, and dehydration can impair mental function (Lieberman, 2022).

Various factors contribute to these unhealthy eating patterns among university students. Nutritional knowledge plays a crucial role in shaping food choices. Studies indicate that students with limited nutritional knowledge are more likely to engage in unhealthy dietary practices (Belogianni et al., 2021). For example, students with poor nutrition literacy may struggle to interpret food labels, estimate serving sizes, and understand the health implications of various food choices (Gao et al., 2023). Therefore, enhancing nutritional knowledge through educational interventions is crucial for promoting healthy eating habits.

Socioeconomic factors also significantly influence dietary behaviors. Students from disadvantaged backgrounds may face limited access to nutritious foods, inadequate cooking facilities, and exposure to unhealthy food environments (Fismen et al., 2021). These factors can exacerbate nutritional disparities and promote unhealthy eating patterns. Financial constraints may lead students to prioritize cheap, processed foods over nutritious options, while limited cooking facilities may discourage home-cooked meals.

Psychological factors, such as stress, anxiety, and depression, can also impact dietary behaviors. Academic pressures, social adjustments, and financial concerns can contribute to psychological distress, which may lead to emotional eating and unhealthy food choices (Lavelle et al., 2022). Stress-induced eating often involves consuming high-calorie, high-fat foods, which provide temporary comfort but have long-term negative health consequences.

Cultural and social influences also play a significant role in shaping dietary behaviors. Peer pressure, social norms, and cultural food traditions can influence food choices. For instance, students may adopt unhealthy eating habits to conform to peer expectations or participate in social events (Liu et al., 2021). Understanding these cultural and social influences is essential for developing culturally appropriate nutrition interventions that promote sustainable dietary changes (Oluwaseun et al., 2022).

2.1.5 Barriers to Healthy Eating

University students often struggle to maintain healthy eating patterns, which are essential for both physical and mental well-being, particularly given the academic pressures and lifestyle changes they face. Numerous obstacles hinder their ability to make consistently healthy food

choices. Identifying these challenges is crucial for developing effective strategies to promote better dietary practices within this population.

A primary challenge is the severe time constraints students face. Balancing academic workloads, extracurricular activities, and social lives often leaves little room for thoughtful meal planning and preparation. This frequently leads to reliance on convenient, but nutritionally poor, options like fast food and processed snacks (Lavelle et al., 2022). The ease of access to these foods often outweighs the desire to consume healthier meals, establishing a pattern of poor dietary choices. This time crunch also disrupts regular meal schedules, often resulting in skipped meals, especially breakfast, which negatively impacts cognitive function and academic performance (Reuter et al., 2021).

Financial limitations also present a significant barrier. The cost of nutritious foods, such as fresh produce and lean proteins, can be prohibitively high for students operating on tight budgets (Fismen et al., 2021). Consequently, students may opt for cheaper, processed foods, which are typically high in calories, unhealthy fats, and added sugars, but low in essential nutrients. These economic constraints can create nutritional disparities, with students from lower socioeconomic backgrounds facing a higher risk of nutritional deficiencies and associated health problems.

The campus food environment plays a substantial role in influencing students' dietary behaviors. The widespread availability of fast-food outlets, vending machines stocked with sugary drinks and snacks, and limited access to affordable, healthy food options creates an environment that encourages unhealthy eating (Gaspar et al., 2024). This environment reinforces poor dietary habits, making it difficult for students to adhere to recommended dietary guidelines. The

accessibility and affordability of unhealthy options, combined with peer pressure, further compounds this problem (Liu et al., 2021).

Psychological factors, such as stress, anxiety, and depression, significantly impact students' food choices. Academic pressures, social adjustments, and financial worries contribute to psychological distress, leading to emotional eating and unhealthy food cravings (Lavelle et al., 2022). Stress-induced eating often involves consuming high-calorie, high-fat foods, which provide temporary comfort but have long-term negative health consequences. Moreover, psychological distress can disrupt regular meal patterns and reduce the motivation to prepare healthy meals.

Nutritional knowledge and literacy are also crucial determinants of dietary behaviors. Students with limited nutritional knowledge struggle to make informed food choices, interpret food labels, and understand the health implications of various food options (Gao et al., 2023). Misconceptions about nutrition and dietary guidelines can lead to the adoption of unhealthy eating habits. For example, students may believe that skipping meals is an effective way to lose weight or that consuming energy drinks enhances cognitive performance, despite evidence to the contrary.

Cultural and social influences also act as barriers to healthy eating. Peer pressure, social norms, and cultural food traditions influence food choices and eating behaviors. Students may adopt unhealthy dietary practices to conform to peer expectations or participate in social events that involve high-calorie, low-nutrient foods (Oluwaseun et al., 2022). Cultural food traditions, while often rich in heritage, may not always align with recommended dietary guidelines, leading to the consumption of high-fat, high-sodium, or high-sugar foods.

Furthermore, a lack of cooking skills and facilities hinders students' ability to prepare healthy meals. Many students living in dormitories or shared accommodations have limited access to cooking equipment and lack the culinary skills necessary to prepare nutritious meals from scratch. This leads to a reliance on processed foods and takeout options, which are often high in calories and low in essential nutrients (Ebert, 2022).

The consumption of sugary drinks, including sodas, fruit juices, and energy drinks, is another significant barrier to healthy eating. These beverages are high in added sugars and provide minimal nutritional value, contributing to excessive calorie intake and an increased risk of obesity and related health problems (WHO, 2022). The widespread availability and affordability of sugary drinks on campus further exacerbate this issue.

2.1.6 Strategies for Promoting Healthy Eating

Fostering healthy dietary patterns among university students is paramount for their overall well-being and academic success. Considering the diverse challenges they encounter in making sound food choices, a comprehensive and multi-faceted strategy is indispensable.

A cornerstone strategy involves bolstering nutritional knowledge and literacy. Educational programs designed to enhance students' comprehension of nutritional principles, food labeling, and the health implications of dietary choices are vital. These programs can encompass various formats, including workshops, online modules, and the integration of nutrition education into academic curricula (Ilić et al., 2024). By equipping students with the knowledge and skills to make informed food selections, these programs can cultivate a sense of autonomy and self-efficacy in adopting healthier eating habits. Furthermore, educating students about the

importance of dietary fiber, vitamins, and minerals, and their contribution to overall health, can promote the consumption of nutrient-rich foods (Carr & Maggini, 2022).

Creating a supportive campus food environment is another crucial strategy. This entails increasing the availability and affordability of healthy food options on campus, such as fresh fruits and vegetables, whole grains, and lean proteins (Gaspar et al., 2024). Universities can collaborate with local farmers and suppliers to provide fresh produce at accessible prices and establish on-campus farmers' markets. Additionally, implementing policies that limit the availability of unhealthy food options, such as sugary drinks and processed snacks, in vending machines and cafeterias can promote healthier choices. Providing cooking facilities and promoting cooking workshops can also empower students to prepare their own healthy meals, reducing their reliance on fast food and takeout options (Ebert, 2022).

Addressing the financial constraints that often restrict students' access to nutritious foods is essential. Universities can implement programs that provide food assistance to students from low-income backgrounds, such as food pantries or meal vouchers. Partnering with local grocery stores to offer student discounts on healthy food items can also alleviate the financial burden of nutritious eating (Fisman et al., 2021). Furthermore, promoting budget-friendly meal planning and cooking strategies can empower students to prepare healthy meals on a limited budget.

Addressing psychological factors that contribute to unhealthy eating behaviors is also critical. Providing access to mental health services, such as counseling and stress management workshops, can help students manage academic pressures and social adjustments, reducing the likelihood of emotional eating (Lavelle et al., 2022). Promoting mindfulness and mindful eating practices can help students develop a healthier relationship with food and make more conscious

food choices (Rezende et al., 2024). Integrating physical activity into campus life can also enhance overall well-being and reduce stress, indirectly promoting healthier eating habits (Özenoğlu et al., 2024).

Leveraging social and cultural influences to promote healthy eating is another effective strategy. Peer-led interventions, such as cooking clubs and healthy eating challenges, can foster a sense of community and support among students. Social marketing campaigns that promote healthy eating as a desirable social norm can also influence students' food choices (Liu et al., 2021). Incorporating cultural food traditions into campus dining options, while ensuring they align with recommended dietary guidelines, can also promote healthier eating among students from diverse cultural backgrounds (Oluwaseun et al., 2022).

Promoting proper hydration is also an important aspect of fostering healthy eating habits. Universities can install water fountains throughout campus and educate students on the importance of water consumption for cognitive function and overall health (Popkin et al., 2022). Encouraging students to carry reusable water bottles and providing access to filtered water can further promote hydration.

Integrating technology into nutrition interventions can also enhance their effectiveness. Mobile apps and online platforms can provide students with personalized nutrition information, meal planning tools, and tracking features. Gamified approaches to nutrition education can also increase student engagement and motivation.

Finally, policy changes at the university level can create a more supportive environment for healthy eating. Implementing policies that regulate the availability of unhealthy food options on

campus, promote healthy food procurement practices, and support sustainable food systems can create a culture of health and well-being.

2.2 Theoretical Framework

The Knowledge, Attitude, and Practice (KAP) Model (Kang & Bagaoisan, 2024) will be used in this study. It is a theoretical framework used to assess how knowledge (awareness and understanding) influences attitudes (beliefs and perceptions) and how these, in turn, shape practices (behaviors and actions). The KAP model stands as a foundational model within health and nutrition behavioral studies, offering a structured approach to evaluating the intricate relationship between what individuals comprehend, how they perceive, and how they act in relation to a specific issue. By systematically examining these three interconnected components, researchers can achieve a comprehensive understanding of the multifaceted factors that shape and influence behavior, particularly in the context of dietary habits and health-related practices.

2.2.1 Origins and Application of the KAP Model

Originating in the mid-20th century, particularly during the 1950s and 1960s, the Knowledge, Attitude, and Practice (KAP) model was developed by American sociologist Everett M. Rogers, whose work in the diffusion of innovations laid the groundwork for understanding how individuals adopt new behaviors through stages of awareness and acceptance (Kang & Bagaoisan, 2024). Initially applied in the field of public health to support family planning and disease prevention efforts, the KAP model was grounded in foundational theories such as Learning Theory, the Health Belief Model, the Theory of Reasoned Action, and Social Cognitive Theory. Over time, the model's broad applicability extended to other fields, including

environmental sustainability, antibiotic usage, and cancer prevention (Liao et al., 2022; Wang et al., 2023).

In the context of nutrition, the KAP model has proven particularly effective in identifying gaps between what individuals know, believe, and practice, thereby guiding the design of educational and behavioral interventions. Its use in diverse populations—including students, adolescents, and rural communities has enhanced understanding of dietary habits and informed strategies to promote healthier behaviors globally and across African regions, including Nigeria (Yusni et al., 2023).

2.2.2 Key Components of the KAP Model

Knowledge, the first component, refers to the information and awareness individuals possess about a particular subject. In the context of health and nutrition, this includes understanding dietary guidelines, food safety, nutritional values, and the health implications of eating habits. It forms the foundational basis upon which individuals can make informed health decisions. According to Yusni et al. (2023), nutritional knowledge among university students significantly contributes to their dietary choices and health outcomes.

Attitudes, the second component, encompass the values, perceptions, and emotional responses individuals develop in relation to the knowledge they have acquired. These attitudes may be shaped by cultural, social, or personal beliefs, and they strongly influence whether individuals choose to act on their knowledge. Kang and Bagaoisan (2024) emphasize that a positive attitude towards preventive health behaviors is a crucial intermediary factor between knowledge and consistent health practices.

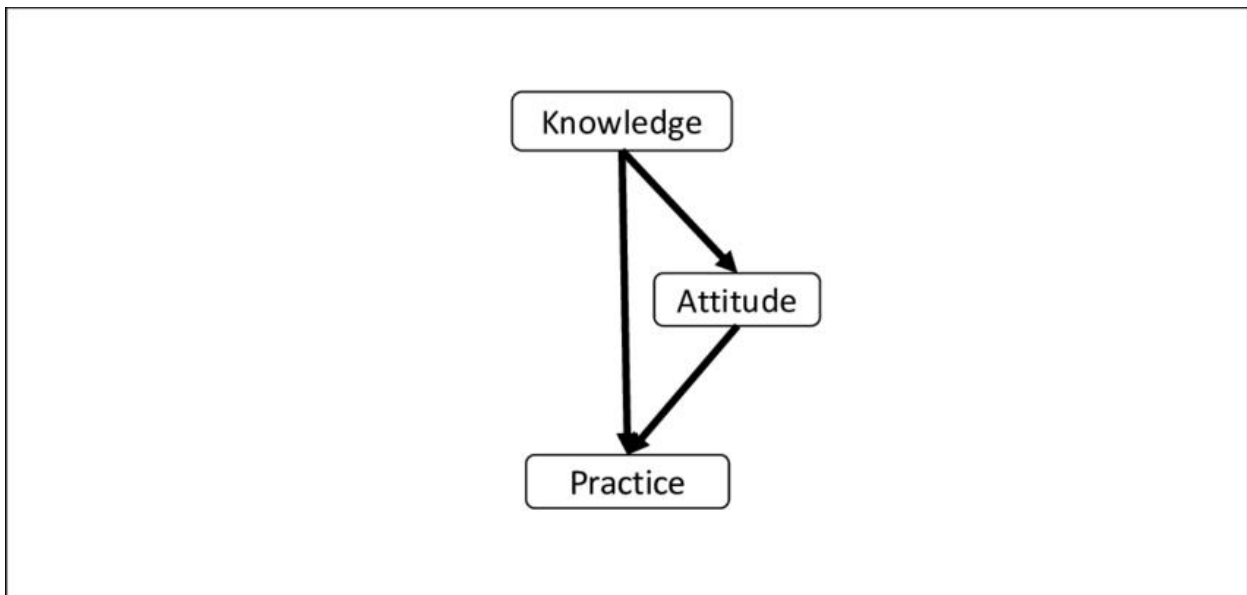
Practice, the third component, refers to the actual behaviors or actions individuals take based on their knowledge and attitudes. This may involve adopting healthier dietary habits, avoiding harmful foods, or making consistent lifestyle changes. In their study, Liao et al. (2022) demonstrate how knowledge and attitude collectively influence sustainable practices in agriculture, a pattern mirrored in health behaviors as well.

The KAP model posits that these three components are interconnected, often in a linear sequence knowledge influences attitudes, which then shape practices. However, recent research suggests this relationship is dynamic, with behavior also reinforcing or altering existing knowledge and attitudes over time (Wang et al., 2023). This cyclical feedback underscores the model's value in designing interventions and evaluating behavioral outcomes in health education, nutrition, and broader public health initiatives.

2.2.3 Diagrammatic Representation of the KAP Model

Figure 2.1

Knowledge, Attitude and Practice Theory (Kundu et al., 2022)



2.2.4 Strengths of the KAP Model

The model's strengths include:

- **Clarity and Simplicity:** The model's tripartite structure encompassing knowledge, attitude, and practice affords a high degree of simplicity in its application, interpretation, and communication. This conceptual clarity is particularly well-suited for field-based investigations and survey research, as it enables the efficient collection and analysis of data (Liao et al., 2022).
- **Diagnostic Utility:** The model possesses a strong diagnostic capacity, enabling the identification of incongruities between what individuals know, how they feel, and what they actually do. This feature is instrumental in pinpointing specific domains that necessitate intervention, as empirically demonstrated by Yusni et al. (2023) in their analysis of student nutritional behavior.
- **Informing Program Design:** The insights gleaned from KAP studies provide a valuable empirical foundation for the development of targeted interventions and educational programs that are meticulously aligned with the specific knowledge and behavioral needs of a given population (Wang et al., 2023).
- **Comparative Analysis:** The model serves as an effective instrument for conducting comparative analyses of KAP profiles across diverse demographic cohorts or over time, a function that is vital for monitoring changes and evaluating the overall effectiveness of implemented programs.
- **Interdisciplinary Applicability:** Although initially formulated within the domain of public health, the KAP model has proven to be an efficacious framework across various other disciplines, including agriculture, education, and environmental research (Kang & Bagaoisan, 2024; Liao et al., 2022).

2.2.5 *Limitations of the KAP Model*

- **Assumption of Linear Causality:** The KAP model posits a sequential, unidirectional relationship wherein knowledge precipitates attitude change, which, in turn, leads to behavioral modification. This assumption of linear causality, however, often oversimplifies the complex nature of human behavior, which is frequently influenced by a multitude of interacting variables (Wang et al., 2023).
- **Neglect of Structural Impediments:** The model tends to focus predominantly on individual-level factors while failing to adequately account for broader socioeconomic, cultural, and institutional barriers that can prevent individuals from translating knowledge into concrete action (Liao et al., 2022).
- **Limited Predictive Power:** While the model is proficient at describing extant behaviors, it exhibits limitations in its capacity to predict them, particularly in complex contexts where emotional, habitual, or societal factors exert a significant influence (Kang & Bagaoisan, 2024).
- **Oversimplification of Behavior Change:** When contrasted with more comprehensive behavioral frameworks, the KAP model provides a less nuanced account of the psychological and social dynamics that underpin the formation of attitudes and actions (Wang et al., 2023).
- **Challenges in Measurement:** The accurate and valid measurement of attitudes and practices presents significant challenges, as these constructs are inherently subjective and may not be reported consistently, which can potentially compromise the model's overall reliability.

2.2.6 *Applicability of the KAP Model to this Study*

The Knowledge, Attitude, and Practice (KAP) model is highly applicable to this study as it offers a systematic framework for examining how students' nutritional knowledge influences their attitudes and shapes their dietary behaviors. The model operates on the premise that knowledge is foundational, forming the basis upon which attitudes develop, and that these attitudes subsequently inform actual health practices. As demonstrated in studies such as Yusni et al. (2023), understanding students' level of nutritional awareness and how this translates into behavior provides valuable insight into health outcomes and intervention design. The KAP framework enables the identification of discrepancies between what individuals know, what they believe, and what they actually do thus offering a diagnostic lens for evaluating behavioral change gaps (Wang et al., 2023). While knowledge may be present, factors such as socio-economic status, cultural norms, or personal preferences may inhibit corresponding behavior, underscoring the complexity of health decision-making (Liao et al., 2022). By employing the KAP model, this study will structure its data collection and analysis to comprehensively assess students' nutrition knowledge, their attitudes toward healthy eating, and the extent to which these influence their actual dietary practices. This approach is expected to inform context-specific strategies that can strengthen nutrition education and behavior change interventions among students in tertiary institutions.

2.3 Empirical Review

2.3.1. Students' Knowledge of Proper Nutrition and Healthy Eating Habits.

A cross-sectional study by Belogianni et al. (2021) conducted in the United Kingdom assessed the level of nutrition knowledge among university students using the revised General Nutrition Knowledge Questionnaire (GNKQ-R). The study involved 193 participants from various academic disciplines and revealed a moderate average knowledge level of 67.1%. Students in

nutrition or health-related fields scored significantly higher than their non-health peers ($p < 0.001$), particularly in domains related to dietary guidelines and nutrient functions. However, major misconceptions persisted, especially regarding the link between saturated fats and cardiovascular risk only 52% answered this correctly. The authors emphasized the need for broader curricular inclusion of nutrition education to ensure that students across all disciplines are equipped to make informed food choices.

In a Turkish study by Bektas et al. (2023), the relationship between university students' nutrition knowledge, dietary habits, and BMI was examined using data from 1,754 students aged 18–25. A 40-item validated nutrition knowledge test revealed that only 37.2% of students demonstrated adequate understanding of nutrition, with significant gender differences in favor of female participants. The study found a strong inverse correlation between nutrition knowledge and BMI ($p < 0.001$), suggesting that students with better knowledge had healthier weights. Additionally, those with higher knowledge were more likely to consume fruits and vegetables regularly, while only 41% consistently read food labels. These findings underscore the need to strengthen nutrition literacy to curb obesity and promote healthier lifestyles.

In Spain, Vázquez-Espino et al. (2022) conducted a comparative study on nutritional knowledge and dietary habits among 1,244 university students 628 athletes and 616 non-athletes. The researchers used a 16-item nutrition questionnaire and found that athletes outperformed non-athletes, scoring 12.14 ± 2.05 compared to 10.78 ± 2.56 ($p < 0.001$). Athletes demonstrated a better understanding of macronutrients and hydration, although both groups lacked knowledge in micronutrients and food processing. Despite higher scores among athletes, only 47.3% had consulted a dietitian, revealing a general gap in professional nutritional guidance. The study

concluded that while athletic participation may enhance exposure to nutrition information, formal education is essential for both groups to close existing knowledge gaps.

Adeoya et al. (2023) assessed the impact of a structured nutrition education intervention among secondary school pupils in Ibadan, Nigeria, offering insight into the potential of early education to influence nutritional knowledge. Though the setting involved younger students, the implications are relevant to tertiary education. Using a pre-test/post-test design with 120 participants, the study found a significant increase in knowledge scores from 46.8% to 77.4% following the intervention ($p < 0.001$). Attitudinal improvements were also noted, with 92.5% of students expressing willingness to include more vegetables in their meals. These results demonstrate the value of targeted nutrition education programs and support their adaptation and application within university settings to address foundational knowledge deficits.

Lai et al. (2021) explored the mediating role of nutrition literacy in shaping college students' healthy eating behaviors in Taiwan. Drawing from a sample of 439 students and using a nutrition literacy scale covering functional, interactive, and critical dimensions, the study found that nutrition literacy significantly predicted healthy eating practices ($\beta = 0.32, p < 0.01$). It also mediated the effects of parental influence, peer norms, and use of food labels. Students with strong parental encouragement had 23% higher nutrition literacy scores, which translated into healthier food choices. However, only 18.9% of students demonstrated high critical literacy, highlighting a gap in their ability to critically evaluate health claims. The study recommends the incorporation of literacy-based nutrition education in university curricula to improve decision-making and reduce susceptibility to misinformation.

2.3.2 Students' Attitudes toward Nutrition and Healthy Eating

In a cross-sectional study conducted in Italy, Sogari et al. (2022) examined the role of nutrition knowledge, attitudes, and perceived barriers on students' eating behaviors. Surveying 544 university students using a structured questionnaire, the researchers found that although students had a fair understanding of nutritional concepts, attitudes toward healthy eating were often shaped more by convenience, cost, and time constraints than by knowledge alone. Notably, over 60% of students agreed that fast food was a time-saver, even if unhealthy, and only 43% consistently prioritized nutrition when choosing meals. Gender differences emerged, with female students more inclined toward healthy food choices and more likely to express guilt over unhealthy eating. The study concluded that positive attitudes toward healthy eating do not always translate into action unless supported by enabling environments and behavioral reinforcements, highlighting the disconnect between knowledge and practice.

Almoraie et al. (2024) presented a narrative review synthesizing findings from multiple studies on university students' eating behaviors in Saudi Arabia and globally. They emphasized that many students hold conflicting attitudes toward nutrition: while acknowledging the importance of healthy eating, they frequently succumb to habits like skipping meals, consuming sugary drinks, and relying on processed food. Cultural beliefs and social media heavily influenced these attitudes. The review highlighted that nearly 70% of surveyed students preferred taste and price over nutritional value. Interestingly, awareness of diet-related diseases did not consistently improve food choices. The authors emphasized the urgent need for psychosocial interventions and campus-based policies that reshape food environments to encourage healthier attitudes and reduce cognitive dissonance between health beliefs and actual behavior.

A study by Akah et al. (2022) focused on the influence of psychological variables on healthy meal consumption among students in Calabar, Nigeria. Using a correlational survey design and

data from 310 first-cycle students, the researchers found that positive attitudes toward food were significantly predicted by self-esteem ($r = 0.57$, $p < 0.01$) and intrinsic motivation ($r = 0.61$, $p < 0.01$). Students with a strong self-concept about health tended to be more mindful about their food choices, showing preference for fruits, vegetables, and homemade meals. However, social influence and peer modeling emerged as significant moderators, often leading students to compromise on health in favor of social conformity. The study concluded that fostering positive psychological traits and promoting self-driven motivation are key strategies to encourage health-conscious attitudes in developing contexts.

In Southern Italy, Moscatelli et al. (2023) assessed the effectiveness of a university-based nutritional education program on students' lifestyle and eating habits. Conducted among 527 undergraduate students, the study used pre- and post-intervention surveys. Before the intervention, only 35% of students expressed confidence in their understanding of healthy diets, and just 42% reported having a positive attitude toward balanced meals. After the educational intervention, these figures rose to 68% and 71%, respectively ($p < 0.001$). Additionally, the proportion of students expressing willingness to reduce sugary drink consumption increased from 29% to 58%. The study demonstrated that attitudes toward healthy eating can be significantly reshaped through well-structured education initiatives, especially when combined with interactive learning tools such as food diaries and peer discussion groups.

A study by Al-Awwad et al. (2021) in Jordan examined how students' attitudes varied across different academic years. Using a stratified sample of 679 students and a self-administered questionnaire, the authors found that first-year students were more likely to have positive attitudes toward healthy eating, with 61.3% expressing concern about food quality. However, this attitude declined progressively with each academic year, with only 38.2% of fourth-year

students maintaining such concern. Stress, academic workload, and lifestyle changes were cited as contributing factors. The authors concluded that while incoming students may begin with favorable attitudes, institutional support is necessary to sustain them across their academic journey.

2.3.3 Students' Actual Dietary Practices and Eating Habits

In Spain, Ramón-Arбуés et al. (2021) conducted a large cross-sectional study to explore dietary patterns and their associated determinants among 1,055 university students aged 18–25. Using the Healthy Eating Index and a self-administered questionnaire, the study found that only 32.1% of students had diets classified as “healthy,” while 43.7% were “needs improvement,” and 24.2% were “poor.” Female students were more likely to meet fruit and vegetable intake recommendations ($p < 0.01$), whereas males reported higher fast-food consumption. Skipping breakfast was common, especially among students living independently. Additionally, alcohol and snack consumption were associated with social events and stress. The study concluded that students' dietary practices are largely suboptimal and shaped by lifestyle factors such as autonomy, housing, and academic demands, underscoring the need for tailored nutrition education and behavioral interventions.

In a cross-sectional study conducted in the United Arab Emirates, Faris et al. (2021) investigated the relationship between eating habits and subjective sleep quality among 1,018 university students. Using a validated food frequency questionnaire and the Pittsburgh Sleep Quality Index (PSQI), the study found that late-night eating, frequent fast-food consumption, and skipping breakfast were significantly associated with poor sleep quality ($p < 0.05$). Specifically, students who skipped breakfast more than three times a week had a 1.8-fold increased risk of poor sleep, while frequent consumption of energy drinks correlated with sleep latency and disturbance.

These findings revealed how irregular eating patterns may disrupt circadian rhythms and overall well-being. The authors called for health promotion initiatives linking diet and sleep hygiene as part of comprehensive student wellness programs.

In a comparative study by Vázquez-Espino et al. (2022), differences in dietary habits were examined between student athletes and non-athletes at Spanish universities. Among the 1,244 respondents, athletes were more likely to consume regular meals, including breakfast and post-workout snacks, and had higher intakes of fruits, vegetables, and lean proteins. In contrast, non-athletes exhibited inconsistent meal timing, higher intake of processed foods, and lower water consumption. Despite this, both groups fell short of meeting daily recommended fiber intake. Athletes' dietary habits were influenced by training schedules and coaching advice, whereas non-athletes reported time constraints and lack of meal planning as major barriers. This study highlighted the protective role of structured physical activity in supporting healthier dietary routines and recommended broader strategies to encourage regular, balanced eating among all students.

Clerkin et al. (2021) examined the influence of food pantry usage on students' dietary habits in a U.S. college setting. Their study involved 285 students, of whom 138 had used the campus food pantry at least once. Data were collected using a 45-item dietary recall tool. Pantry users were more likely to consume fruits, vegetables, and whole grains than their non-user counterparts ($p = 0.002$), suggesting improved dietary quality. However, frequent users also reported higher intake of sodium-rich canned foods and fewer dairy servings. Students highlighted that the availability of healthier food options in the pantry influenced their food selection positively. The study concluded that food insecurity interventions like food pantries can improve dietary quality, but efforts should be made to optimize the nutritional value of available foods.

A regional study from Jordan by Al-Awwad et al. (2021) also offered insights into students' daily eating habits across four academic levels. It revealed that nearly 49% of students skipped breakfast regularly, with the highest prevalence (57.2%) among third- and fourth-year students. Dinner was often the heaviest meal of the day, especially for male students. Only 26% of the participants reported daily fruit intake, and fast food was consumed at least three times per week by 39.5% of students. Factors such as living away from family and increased academic pressure were strongly correlated with irregular eating patterns. The researchers emphasized the cumulative deterioration of dietary practices as students progressed in their academic careers and recommended campus-wide strategies to promote structured and mindful eating habits.

2.3.4 Factors Influencing Students' Nutrition and Healthy Eating Habits

A cross-sectional study by Ogundele et al. (2023) examined the drivers of food choice, meal patterns, and lifestyle habits among undergraduate students at Lead City University in Ibadan, Nigeria. Using a structured questionnaire administered to 400 students, the authors identified key determinants such as taste preferences (72%), cost (65%), availability (60%), and peer influence (54%) as dominant factors shaping food choices. Gender differences emerged—female students were more influenced by weight control and nutritional value, while males prioritized convenience and satiety. The study also found that only 28% of students considered health benefits when selecting meals. Furthermore, the consumption of energy-dense snacks was high, particularly during late-night study sessions. The authors concluded that economic and social variables, rather than nutritional awareness, significantly dictated students' eating behaviors, and emphasized the need for institutional policies and peer-led interventions that reshape food environments and affordability.

In Taiwan, Lai et al. (2021) explored how multi-level factors influenced college students' healthy eating behaviors through the mediating role of nutrition literacy. Surveying 439 students, the study used a validated nutrition literacy scale and found that parental modeling, peer dietary norms, and media exposure significantly affected students' food choices. For instance, students reporting strong parental encouragement had 23% higher nutrition literacy scores, which translated into more frequent consumption of vegetables and reduced intake of sugary snacks. Peer influence also emerged as a critical determinant those surrounded by friends with healthy habits were 1.7 times more likely to adopt similar behaviors. The study emphasized that nutrition literacy not only predicts healthier eating but also mediates the impact of environmental and social variables. These findings suggest that addressing literacy gaps could strengthen resilience to negative external influences and support sustained behavior change.

Bawazeer et al. (2024) conducted a cross-sectional study in Riyadh, Saudi Arabia, to examine the association between social media use and dietary habits among 879 college students. Using a self-developed survey tool, they found that 64.3% of students reported trying new food items based on social media content, and 52% admitted that influencers shaped their snack choices. Instagram and TikTok were identified as the most influential platforms. Students exposed to health-related content were more likely to report attempts at dieting, while those following food vloggers consumed higher amounts of processed and sugary foods. Interestingly, students who frequently engaged with nutrition-related posts were also more likely to exhibit dietary restraint and read food labels. The study concluded that social media functions as both a facilitator and barrier to healthy eating, depending on the nature of content consumed. The authors called for media literacy programs and partnerships with influencers to promote healthier online food environments.

Tan et al. (2024) explored the influence of food-related social media content on the eating habits of 411 Malaysian undergraduate students. Using a mixed-methods approach, the authors found that students often viewed food images and videos as stress relievers and sources of inspiration. However, this visual stimulation frequently led to increased cravings and impulsive eating—especially for fast food and desserts. Around 58.2% of students admitted to ordering food within 30 minutes of viewing appetizing content online. The qualitative phase of the study revealed that students were aware of the unhealthy influence of such content but felt it was difficult to resist due to stress and peer trends. The researchers concluded that while digital platforms offer opportunities for nutrition promotion, without critical media engagement skills, students are vulnerable to adopting poor eating behaviors based on social influence.

In a study involving five sub-Saharan African countries, Noor et al. (2024) assessed school health and nutrition environments through a multi-country survey in Burkina Faso, Ethiopia, South Africa, Sudan, and Tanzania. Though largely focused on adolescent populations, findings provided relevant insight into contextual determinants of food choice. Among the key barriers to healthy food choices were limited school canteen services, poor food availability, and inadequate nutrition education policies. For example, in Tanzania, only 28% of surveyed schools had guidelines for promoting healthy food environments. Students cited affordability and cultural food preferences as dominant factors influencing their meals. The study emphasized the structural and systemic gaps that shape food choices across educational settings and recommended multi-sectoral collaboration to ensure healthier and more accessible options on and around campuses.

In summary, the empirical review synthesized findings from a diverse range of studies examining the knowledge, attitudes, dietary practices, and influencing factors related to nutrition

among university students in both developed and developing countries. Overall, the studies revealed that while students generally possessed a moderate level of nutrition knowledge, this understanding often varied based on academic discipline, year of study, and gender. Health-related students consistently demonstrated higher knowledge levels, as reported in studies such as those by Belogianni et al. (2021) and Lai et al. (2021). In contrast, students from non-health disciplines showed limited familiarity with dietary guidelines and misconceptions about nutrient sources. Studies conducted in Turkey and Nigeria further indicated a link between higher nutrition knowledge and healthier BMI levels, suggesting that knowledge may influence physical health outcomes when paired with positive behaviors.

However, positive attitudes toward healthy eating were not always aligned with actual dietary behavior. Despite acknowledging the importance of balanced meals, many students preferred fast food and sugary drinks due to convenience, taste, and affordability, as found in studies by Sogari et al. (2022) and Almoraie et al. (2024). Cultural beliefs and psychological variables, including self-esteem and motivation, were also significant in shaping students' attitudes, especially in developing contexts such as Nigeria (Akah et al., 2022). Encouragingly, interventions such as structured nutrition education programs were shown to positively shift students' attitudes toward healthier choices (Moscatelli et al., 2023).

In terms of actual dietary practices, the majority of students reported irregular meal patterns, frequent skipping of breakfast, low intake of fruits and vegetables, and reliance on processed foods. These trends were consistent across countries and academic levels, as highlighted in studies from Spain, Jordan, and the UAE. For example, Ramón-Arbués et al. (2021) found that only one-third of students maintained healthy diets, while Faris et al. (2021) established a

connection between poor eating habits and disrupted sleep quality. Nonetheless, structured settings—such as student athletic programs and food pantries were associated with improved meal regularity and better food choices (Vázquez-Espino et al., 2022; Clerkin et al., 2021), suggesting the importance of institutional support.

Lastly, multiple factors were identified as influential in determining students' food choices. These included economic constraints, peer and parental influence, social media exposure, academic stress, and campus food environments. Notably, studies by Ogundele et al. (2023) and Bawazeer et al. (2024) showed that affordability and social media trends significantly shaped what students consumed, sometimes overriding health considerations. Furthermore, Lai et al. (2021) demonstrated that nutrition literacy mediated the effects of these external factors, highlighting the potential of targeted education to empower students to make healthier choices. Broader structural issues such as food insecurity and lack of school nutrition policies were also reported in multi-country studies like Noor et al. (2024), reinforcing the need for systemic reforms.

In conclusion, the empirical review underscores a complex interplay between knowledge, attitude, practice, and environmental influences in shaping the nutritional behavior of university students. While knowledge and awareness are essential, they must be supported by conducive environments, accessible healthy options, and culturally appropriate interventions to produce meaningful and sustained behavioral change.

2.4 Summary of Literature Review

The literature review examined nutrition-related knowledge, attitudes, and practices among university students, focusing on how these influence food choices and health outcomes. It

defined core concepts such as nutrition, healthy eating, and dietary habits, while noting the prevalence of poor practices like meal skipping, fast-food reliance, and low fruit and vegetable intake, all of which can negatively impact academic and physical well-being.

The review adopted the Knowledge, Attitude, and Practice (KAP) model as its theoretical framework, highlighting how knowledge shapes attitudes and practices but also recognizing that social, financial, and environmental barriers often prevent healthy behaviors. This framework helped identify gaps between what students know about nutrition and how they actually eat.

Empirical evidence showed that while students generally display moderate nutrition knowledge and positive attitudes, their practices remain poor due to time constraints, financial limitations, cultural influences, and lack of cooking skills. Overall, the review highlighted a persistent gap between knowledge and practice, calling for integrated interventions that combine education with supportive environments to foster healthier dietary habits among students.

CHAPTER THREE

METHODOLOGY

This chapter focused on the research methods adopted for this study.

3.1 Research Design

The study adopted a descriptive cross-sectional survey design. A cross-sectional study is an observational research design in which data are collected from a population, or a representative subset, at one specific point in time (Zuleika & Legiran, 2022). It was useful for measuring prevalence and for examining associations between variables without following participants over time. It enabled the gathering of data from students of the Faculty of Education, University of Benin, thus providing a glimpse of students' dietary knowledge, attitudes, and behaviors. The descriptive nature of the study allowed for the observation and reporting of natural occurrences within the sample population, while the cross-sectional format facilitated efficient data collection within a limited time frame.

3.2 Research Setting

The study was conducted at the University of Benin, located in Benin City, Edo State, in the southern region of Nigeria. Established in 1970, the University of Benin is one of Nigeria's foremost federal universities and is recognized for its robust academic programs and diverse student population. The study specifically targeted the Faculty of Education, which is situated at the Ugbowo Campus of the university. This setting provided an appropriate population for assessing nutrition-related knowledge, attitudes, and practices, as university students often experience dietary challenges due to academic stress, financial constraints, and lifestyle changes.

3.3 Target Population

The target population of the study consisted of undergraduate students from 100 to 400 levels of the Faculty of Education at the University of Benin. According to faculty records (Student Affairs), the student population was distributed as follows:

Table 3.1

Number of undergraduate students in the Faculty of Education

LEVEL	MALE	FEMALE	TOTAL
100 LEVEL	403	917	1320
200 LEVEL	365	938	1303
300 LEVEL	419	905	1324
400 LEVEL	483	1026	1509
TOTAL	1670	3786	5456

This gave a total population of 5,456 students, with 1,670 males and 3,786 females across all four levels.

3.4 Sample Size

Sample size refers to the number of participants included in a study, and it influences how reliably the findings can generalize to the population (Althubaiti, 2022). The sample size was determined using Yamane's formula (1967):

$$n = \frac{N}{1 + N(e^2)}$$

Where:

- n = sample size
- N = total population = 5,456
- e = margin of error = 0.05 (for 95% confidence level)

$$n = \frac{5456}{1 + 5456(0.05^2)} = \frac{5456}{1 + 13.64} = \frac{5456}{14.64} \approx 373$$

Although Yamane’s formula yielded a sample size of 373 (for a population of 5,456 at 95% confidence level), due to practical constraints the study adopted a smaller, feasible sample size of 200 undergraduate students while maintaining representativeness.

3.5 Sampling Technique

The study utilized a stratified sampling technique with convenience sampling applied within each stratum to recruit participants. The total sample of 200 undergraduate students was allocated proportionally using the formula:

$$\text{Stratum sample} = \frac{\text{Population of Stratum}}{\text{Total Population}} \times 200$$

The breakdown is presented below:

Table 3.2

The allocation of sample within each stratum

Level	Males	Females	Total	Sample	Male Sample	Female Sample
100 level	403	917	1,320	48	15	33
200 level	365	938	1,303	48	13	35
300 level	419	905	1,324	49	16	33
400 level	483	1,026	1,509	55	18	37
Total	1,670	3,786	5,456	200	62	138

Inclusion Criteria: Students enrolled in the faculty at the time of data collection and willing to participate by providing informed consent.

Exclusion Criteria: Students absent or unavailable during the data collection period and those who declined participation.

3.6 Instruments for Data Collection

The primary instrument for data collection was a structured self-administered questionnaire (Appendix I) consisting of four sections:

- **Section A:** Demographic information (age, gender, academic level, etc.).
- **Section B:** Knowledge of nutrition and healthy eating habits (10 items).
- **Section C:** Attitude toward nutrition and healthy eating (10 items).
- **Section D:** Dietary practices and barriers to healthy eating (10 items).

The questionnaire was designed based on validated tools from previous studies on nutrition knowledge, attitudes, and dietary habits.

3.7 Validity of the Instrument

The validity of the instrument, which refers to the extent to which it accurately assessed its intended parameters (Gültürk, 2024), was ensured by the project supervisor through face and content validity assessment. Necessary corrections were made in line with the supervisor's advice and inputs before it was considered valid.

3.8 Reliability of the Instrument

Reliability reflects the consistency and stability of measurement over repeated applications (internal consistency, test-retest) (Gültürk, 2024). The internal consistency (how well items within a scale correlate) was assessed using Cronbach's alpha, a commonly used measure for reliability (Gültürk, 2024). A pilot test with 30 students (excluded from the main sample) was conducted to compute this reliability coefficient, with an alpha of 0.70 or higher considered acceptable.

3.9 Method of Data Collection

Data were collected through the administration of the questionnaire to selected participants. Before distribution, students were briefed on the study objectives and assured of voluntary participation. Questionnaires were distributed in classrooms, lecture halls, and other student areas, and participants were given 20–30 minutes to complete them. Completed questionnaires were collected immediately to ensure a high response rate. Data collection took place over a two-week period.

3.10 Method of Data Analysis

The data collected were reviewed for completeness, coded, and analyzed using the Statistical Package for the Social Sciences (SPSS) version 26.0. Both descriptive and inferential statistics were employed to address the objectives of the study and to analyze responses based on the structure of the research instrument.

Section A: Demographic Data

Responses were analyzed using frequencies and percentages to describe the socio-demographic characteristics of the respondents.

Section B: Knowledge of Nutrition and Dietary Guidelines

Students' responses on nutrition knowledge were scored and summarized using means, standard deviations, and percentages. Knowledge levels were categorized using the mean score as the threshold, whereby respondents scoring below the mean were considered to have lower knowledge, while those at or above the mean were regarded as having higher knowledge. This approach has been widely applied in KAP studies to classify knowledge levels (Alghamdi et al., 2021). Chi-square tests were used to assess associations between knowledge level and variables such as gender or year of study. Independent t-tests or ANOVA were applied to compare mean knowledge scores across groups.

Section C: Attitudes Toward Healthy Eating

Attitudinal responses measured on a Likert scale were also analyzed using the mean score as the dividing line. Respondents scoring below the mean were categorized as having less favorable attitudes, while those at or above the mean were categorized as having more favorable attitudes. The relationship between students' attitudes and demographic variables was assessed using Chi-square tests, and where appropriate, t-tests or ANOVA were conducted to compare mean attitude scores.

Section D: Dietary Practices and Eating Habits

Data on dietary behavior were analyzed using frequencies and percentages to determine common eating patterns. Associations between dietary practices and other variables such as knowledge level or academic year were tested using Chi-square statistics.

All statistical tests were conducted at a 95% confidence level, and a p-value of less than 0.05 was considered statistically significant. This threshold is a standard convention in health-related studies to determine whether observed associations were meaningful (Hojati et al., 2023).

3.11 Ethical Considerations

Ethical approval for the study was obtained from the Ethics and Research Committee of the University of Benin (Appendix III). This ensured that the study complied with institutional guidelines and international ethical standards for research involving human participants. Data collection commenced only after receiving formal approval.

Informed consent was obtained from all participants prior to their inclusion in the study. Each participant was provided with an explanation of the study's purpose, procedures, voluntary nature of participation, and the right to withdraw at any time without penalty. It was also explained that no risks or physical harm were associated with participation in the study.

To ensure confidentiality and anonymity, the questionnaire did not request any identifying personal information such as names, matriculation numbers, or contact details. All responses were kept strictly confidential and used solely for academic and research purposes. Data were securely stored, and access was limited to the researcher and academic supervisors.

The principle of respect for persons guided the study, ensuring that participants' autonomy was protected and their dignity upheld throughout the research process. Participation was completely voluntary, and no form of coercion or undue influence was applied.

CHAPTER FOUR

RESULTS

This chapter dealt with the representation of data collected regarding the the knowledge, attitude and practice of nutrition and healthy eating habits among students of a tertiary institution in Benin City, Edo State. A total of 200 questionnaires were distributed to undergraduate students of the Faculty of Education, University of Benin, Benin City, Edo State during the period of this study. The 200 questionnaires were properly filled and valid for data analysis, giving a response rate of 100%.

4.1 Socio-Demographic Data of Respondents

Table 4.1

Socio-demographic data of respondents

Items	Frequency (n=200)	Percent (%)
Age (on last birthday)		
Below 18	11	5.5
18–22	97	48.5
23–27	68	34.0
Above 27	24	12.0
Gender		
Male	94	47.0

Table 4.1 (continued)

Items	Frequency (n=200)	Percent (%)
Female	106	53.0
Academic Level		
First-year	48	24.0
Second-year	48	24.0
Third-year	49	24.5
Final-year	55	27.5
Monthly Allowance for Food		
Below ₦20,000	76	38.0
₦20,000–₦30,000	88	44.0
Above ₦30,000	36	18.0
Formal Education on Nutrition		
Yes	73	36.5
No	127	63.5

Table 4.1 shows the socio-demographic characteristics of the 200 respondents. The data reveal that nearly half of the participants (48.5%) were aged between 18 and 22 years, followed by 34.0% who were between 23 and 27 years, while only 5.5% were below 18. In terms of gender distribution, females (53.0%) slightly outnumbered males (47.0%). Regarding academic level, the respondents were fairly evenly distributed across all levels, with final-year students constituting the highest proportion (27.5%), while first- and second-year students each accounted for 24.0%. On monthly food allowance, the majority (44.0%) received between ₦20,000 and

₦30,000, 38.0% received below ₦20,000, and only 18.0% had more than ₦30,000. Concerning formal education on nutrition, a larger proportion (63.5%) had not received any formal instruction, compared to 36.5% who had.

4.2 Descriptive Statistics of the level of Knowledge of Nutrition and Healthy Eating Habits among Undergraduate Students

Research Question 1: What is the level of knowledge undergraduate students have about nutrition and healthy eating habits?

Table 4.2

Knowledge of Nutrition and healthy eating habits among Undergraduate Students (n = 200)

Items	Frequency	Correct n (%)	Wrong n (%)	Mean	Remark
A balanced diet contains carbohydrates, proteins, fats, vitamins, and minerals.		183 (91.5)	17 (8.5)	1.9	Good
True	183 (91.5)				
False	11 (5.5)				
I Don't Know	6 (3.0)				

Table 4.2 (continued)

Items	Frequency	Correct n (%)	Wrong n (%)	Mean	Remark
Fruits and vegetables should make up half of a healthy meal.		167 (83.5)	33 (16.5)	1.8	Good
True	167 (83.5)				
False	18 (9.0)				
I Don't Know	15 (7.5)				
Skipping meals regularly has no negative effect on health.		121 (60.5)	79 (39.5)	1.6	Good
False	121 (60.5)				
True	49 (24.5)				
I Don't Know	30 (15.0)				
Excessive consumption of processed and fast foods increases the risk of obesity and chronic diseases.		182 (91.0)	18 (9.0)	1.9	Good
True	182 (91.0)				
False	10 (5.0)				
I Don't Know	8 (4.0)				

Table 4.2 (continued)

Items	Frequency	Correct n (%)	Wrong n (%)	Mean	Remark
Drinking at least 2 liters of water daily is necessary for good health.		153 (76.5)	47 (23.5)	1.8	Good
True	153 (76.5)				
False	27 (13.5)				
I Don't Know	20 (10.0)				
Protein is only found in animal-based foods.		137 (68.5)	63 (31.5)	1.7	Good
False	137 (68.5)				
True	43 (21.5)				
I Don't Know	20 (10.0)				
Whole grains (e.g., brown rice, whole wheat bread) are healthier than refined grains (e.g., white rice, white bread).		159 (79.5)	41 (20.5)	1.8	Good
True	159 (79.5)				
False	25 (12.5)				
I Don't Know	16 (8.0)				

Table 4.2 (continued)

Items	Frequency	Correct n (%)	Wrong n (%)	Mean	Remark
Too much sugar intake can lead to diabetes, even in young people.		146 (73.0)	54 (27.0)	1.7	Good
True	146 (73.0)				
False	32 (16.0)				
I Don't Know	22 (11.0)				
Cooking methods such as boiling and steaming are healthier than frying.		178 (89.0)	22 (11.0)	1.9	Good
True	178 (89.0)				
False	12 (6.0)				
I Don't Know	10 (5.0)				
Eating late at night has no impact on weight gain.		117 (58.5)	83 (41.5)	1.6	Good
False	117 (58.5)				
True	55 (27.5)				
I Don't Know	28 (14.0)				
		Grand Mean		1.8	Good

Mean cut-off = 1.5

Table 4.2 shows the knowledge of nutrition and healthy eating habits among undergraduate students. The highest mean value of 1.9 was recorded for the statements “A balanced diet contains carbohydrates, proteins, fats, vitamins, and minerals,” “Excessive consumption of

processed and fast foods increases the risk of obesity and chronic diseases,” and “Cooking methods such as boiling and steaming are healthier than frying.” This was followed by a mean value of 1.8 for “Fruits and vegetables should make up half of a healthy meal,” “Drinking at least 2 litres of water daily is necessary for good health,” and “Whole grains are healthier than refined grains.” The mean value of 1.7 was obtained for “Protein is only found in animal-based foods” and “Too much sugar intake can lead to diabetes, even in young people,” while the lowest mean value of 1.6 was recorded for “Skipping meals regularly has no negative effect on health” and “Eating late at night has no impact on weight gain.” The grand mean of 1.8 indicates that the respondents possessed good overall knowledge of nutrition and healthy eating habits.

Figure 4.1

Pie-chart showing the knowledge of nutrition and healthy eating habits among undergraduates.

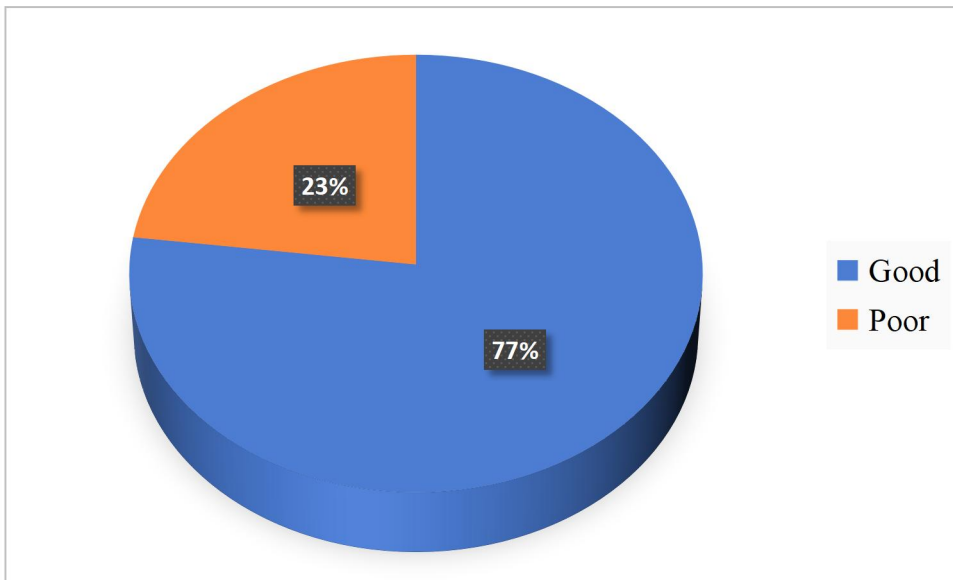


Figure 4.1 shows the knowledge of nutrition and healthy eating habits among undergraduates. The chart reveals that 77% (154 respondents) had good knowledge, while 23% (46 respondents) had poor knowledge. This indicates that most undergraduates possess a sound understanding of nutrition and healthy eating habits.

4.3 Descriptive Statistics of the Attitudes of Undergraduate Students Toward Nutrition and Healthy Eating Habits

Research Question 2: What are undergraduate students' attitudes toward nutrition and healthy eating habits?

Table 4.3

Attitude Toward Nutrition and Healthy Eating habits (n = 200)

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Remark
16. Eating a balanced diet is important for maintaining good health.	86 (43.0)	62 (31.0)	24 (12.0)	18 (9.0)	10 (5.0)	4.0	Positive
17. I am conscious about the nutritional value of the food I eat.	74 (37.0)	70 (35.0)	26 (13.0)	18 (9.0)	12 (6.0)	3.9	Positive
18. Healthy food is too expensive for students.	68 (34.0)	64 (32.0)	22 (11.0)	26 (13.0)	20 (10.0)	3.7	Positive
19. Unhealthy eating habits during school years may lead to health problems later in life.	92 (46.0)	58 (29.0)	20 (10.0)	18 (9.0)	12 (6.0)	4.0	Positive

Table 4.3 (continued)

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Remark
20. I would be willing to change my eating habits if I had more nutrition education.	84 (42.0)	66 (33.0)	22 (11.0)	16 (8.0)	12 (6.0)	4.0	Positive
21. Eating healthy is time-consuming and inconvenient for students.	52 (26.0)	58 (29.0)	34 (17.0)	32 (16.0)	24 (12.0)	3.4	Positive
22. I prefer eating fast food over home-cooked meals.	46 (23.0)	60 (30.0)	30 (15.0)	38 (19.0)	26 (13.0)	2.7	Negative
23. The availability of healthy food on campus influences my eating choices.	80 (40.0)	66 (33.0)	24 (12.0)	18 (9.0)	12 (6.0)	3.9	Positive
24. I believe that nutrition education should be included in university courses.	90 (45.0)	68 (34.0)	20 (10.0)	14 (7.0)	8 (4.0)	4.1	Positive

Table 4.3 (continued)

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Remark
25. I think eating healthy is only necessary for people with medical conditions.	34 (17.0)	44 (22.0)	36 (18.0)	52 (26.0)	34 (17.0)	3.0	Positive
Grand Mean						3.7	Positive

Mean Cut-off = 3.0

Table 4.3 shows the attitude toward nutrition and healthy eating habits among undergraduate students. The highest mean value of 4.1 was recorded for the statement “I believe that nutrition education should be included in university courses,” followed by a mean value of 4.0 for “Eating a balanced diet is important for maintaining good health,” “Unhealthy eating habits during school years may lead to health problems later in life,” and “I would be willing to change my eating habits if I had more nutrition education.” A mean value of 3.9 was obtained for “I am conscious about the nutritional value of the food I eat” and “The availability of healthy food on campus influences my eating choices,” while “Healthy food is too expensive for students” had a mean of 3.7. The statement “Eating healthy is time-consuming and inconvenient for students” had a mean value of 3.4, followed by “I think eating healthy is only necessary for people with medical conditions” with a mean of 3.0, and the lowest mean value of 2.7 was recorded for “I prefer eating fast food over home-cooked meals.” The grand mean of 3.7 indicates an overall positive attitude toward nutrition and healthy eating habits among the respondents.

Figure 4.2

Bar chart showing undergraduate students' attitudes toward nutrition and healthy eating habits.

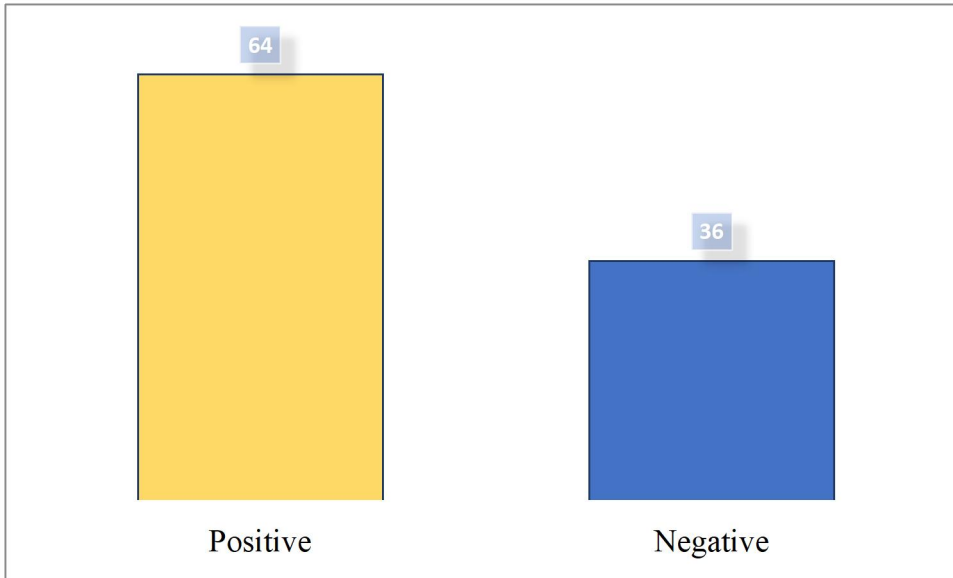


Figure 4.2 shows undergraduate students' attitudes toward nutrition and healthy eating habits. The chart indicates that 64% (129 respondents) displayed a positive attitude, while 36% (71 respondents) exhibited a negative attitude. This shows that the majority of the students hold favourable attitudes toward nutrition and healthy eating.

4.4 Descriptive Statistics of the Actual Dietary Practices and Eating Habits among Undergraduate Students

Research question 3: What are actual dietary practices and eating habits among undergraduate students?

Table 4.4

Actual Dietary Practices and eating habits among Undergraduate Students (n = 200)

Item	Always	Sometimes	Rarely	Never	Mean	Remark
26. How often do you eat breakfast?	77 (38.5)	64 (32.0)	38 (19.0)	21 (10.5)	3.0	Good
27. How often do you include fruits & vegetables in your meals?	61 (30.5)	75 (37.5)	38 (19.0)	26 (13.0)	2.9	Good
28. How often do you consume fast food (e.g., burgers, pastries)?	47 (23.5)	69 (34.5)	54 (27.0)	30 (15.0)	2.3	Bad
29. How often do you drink sugary beverages (e.g., soda)?	57 (28.5)	69 (34.5)	44 (22.0)	30 (15.0)	2.2	Bad
30. How often do you eat home-cooked meals as opposed to eating out?	95 (47.5)	59 (29.5)	30 (15.0)	16 (8.0)	3.2	Good
31. How often do you eat snacks between meals?	71 (35.5)	63 (31.5)	36 (18.0)	30 (15.0)	2.1	Bad

Table 4.4 (continued)

Item	Always	Sometimes	Rarely	Never	Mean	Remark
32. How often do you drink water throughout the day?	87 (43.5)	69 (34.5)	26 (13.0)	18 (9.0)	3.1	Good
33. How often do you pay attention to the nutritional content of the food you eat?	53 (26.5)	75 (37.5)	42 (21.0)	30 (15.0)	2.8	Good
34. How often do you skip meals due to academic schedule/commitments?	41 (20.5)	65 (32.5)	56 (28.0)	38 (19.0)	2.5	Good
35. How often do you avoid processed or packaged foods?	49 (24.5)	79 (39.5)	44 (22.0)	28 (14.0)	2.7	Good
Grand Mean					2.7	Good

Mean Cut-off = 2.5

Table 4.4 shows the actual dietary practices and eating habits among undergraduate students. The highest mean value of 3.2 was recorded for the statement “How often do you eat home-cooked meals as opposed to eating out,” followed by a mean value of 3.1 for “How often do you drink water throughout the day” and 3.0 for “How often do you eat breakfast.” A mean value of 2.9 was obtained for “How often do you include fruits and vegetables in your meals,” while “How often do you pay attention to the nutritional content of the food you eat” and “How often do you avoid processed or packaged foods” had mean values of 2.8 and 2.7 respectively. The statement “How often do you skip meals due to academic schedule/commitments” recorded a mean of 2.5, followed by “How often do you consume fast food” with 2.3, “How often do you drink sugary beverages” with 2.2, and the lowest mean value of 2.1 was recorded for “How often

do you eat snacks between meals.” The grand mean of 2.7 indicates that the respondents demonstrated generally good dietary practices and eating habits.

Fig 4.3

Pie chart showing the actual Dietary Practices and eating habits among Undergraduate Students.

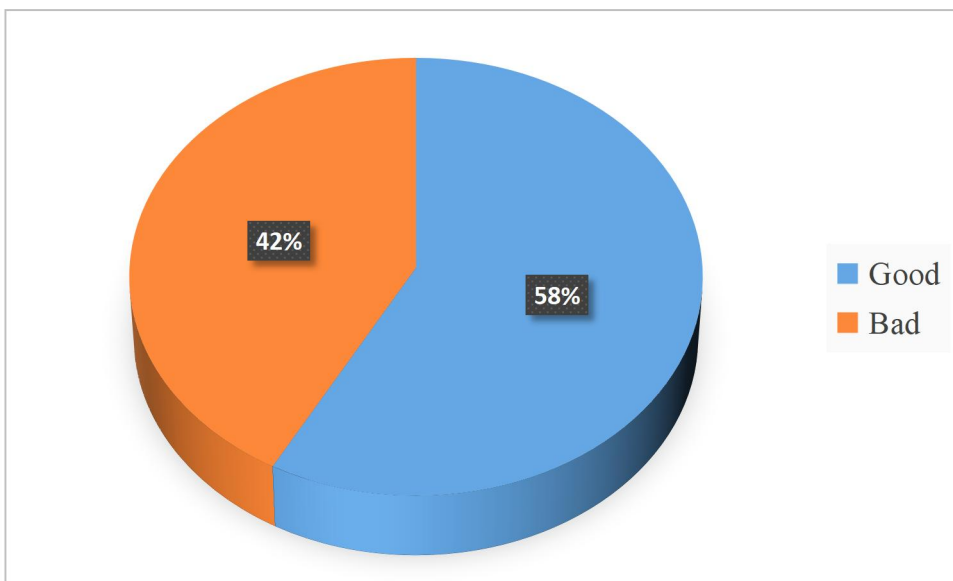


Figure 4.3 shows the actual dietary practices and eating habits among undergraduate students. The chart reveals that 58% (116 respondents) exhibited good dietary practices, while 42% (84 respondents) demonstrated poor dietary habits. This indicates that more than half of the students maintain relatively healthy eating behaviours.

4.5 Descriptive Statistics of Factors Influencing the Choices of Nutrition and Healthy Eating Habits among Undergraduate Students

Research Question 4: What are the factors influencing the choices of nutrition and healthy eating habits among undergraduates?

Table 4.5

Factors influencing the choices of nutrition and healthy eating habits (n = 200)

Item	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Remark
36. The availability of healthy food options on campus influences my dietary choices.	86 (43.0)	68 (34.0)	30 (15.0)	16 (8.0)	3.1	Factor
37. My budget plays a significant role in the types of food I choose to eat.	90 (45.0)	70 (35.0)	24 (12.0)	16 (8.0)	3.2	Factor
38. Peer influence affects my food choices (e.g., what friends or classmates eat).	78 (39.0)	66 (33.0)	36 (18.0)	20 (10.0)	3	Factor
39. I make food choices based on convenience rather than nutritional value.	82 (41.0)	64 (32.0)	34 (17.0)	20 (10.0)	3	Factor

Table 4.5 (continued)

Item	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Remark
40. I rely on advertisements or food promotions when deciding what to eat.	70 (35.0)	66 (33.0)	38 (19.0)	26 (13.0)	2.9	Factor
41. I choose food based on its taste rather than its nutritional content.	88 (44.0)	62 (31.0)	28 (14.0)	22 (11.0)	3.1	Factor
42. I often follow food trends or popular eating habits among students.	60 (30.0)	72 (36.0)	40 (20.0)	28 (14.0)	2.8	Factor
43. My family background and upbringing influence my dietary choices.	80 (40.0)	68 (34.0)	28 (14.0)	24 (12.0)	3	Factor
44. Time constraints (e.g., between classes) affect my ability to eat healthy.	92 (46.0)	60 (30.0)	28 (14.0)	20 (10.0)	3.1	Factor
45. I feel that my cultural or ethnic background influences the types of food I choose to eat.	76 (38.0)	70 (35.0)	28 (14.0)	26 (13.0)	3	Factor
Grand Mean					3.0	Factor

Mean Cut-off = 2.5

Table 4.5 shows the factors influencing the choices of nutrition and healthy eating habits among undergraduate students. The highest mean value of 3.2 was recorded for the statement “My budget plays a significant role in the types of food I choose to eat,” followed by a mean value of 3.1 for “The availability of healthy food options on campus influences my dietary choices,” “I choose food based on its taste rather than its nutritional content,” and “Time constraints affect

my ability to eat healthy.” A mean value of 3.0 was obtained for “Peer influence affects my food choices,” “I make food choices based on convenience rather than nutritional value,” “My family background and upbringing influence my dietary choices,” and “I feel that my cultural or ethnic background influences the types of food I choose to eat.” The statement “I rely on advertisements or food promotions when deciding what to eat” had a mean value of 2.9, while the lowest mean value of 2.8 was recorded for “I often follow food trends or popular eating habits among students.” The grand mean of 3.0 indicates that these factors significantly influence students’ nutrition and healthy eating habits.

Fig 4.4

Bar chart showing the factors influencing the choices of nutrition and healthy eating habits among undergraduates.

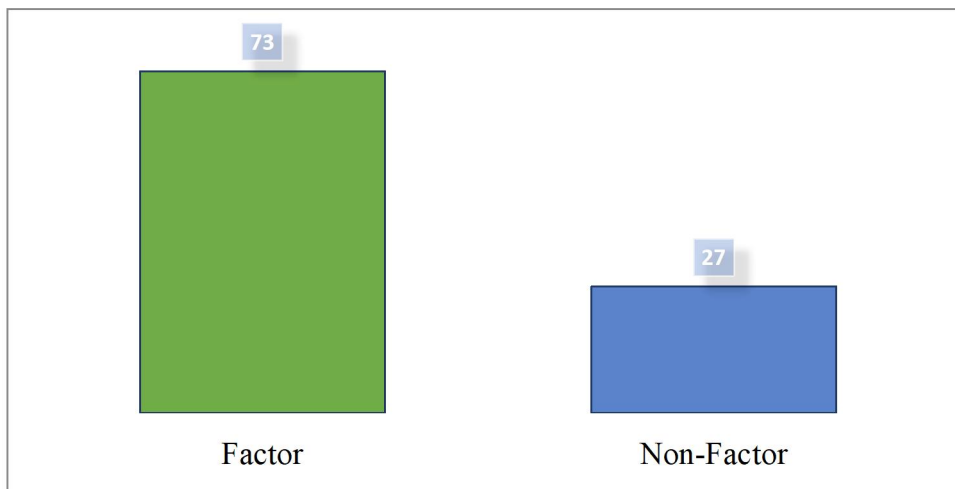


Figure 4.1 shows the factors influencing the choices of nutrition and healthy eating habits among undergraduates. The chart indicates that a majority, 73% (147 respondents), identified various factors as influencing their nutritional and eating choices, while 27% (53 respondents) reported no such influence. This suggests that most students’ eating habits are shaped by identifiable factors.

4.6 Hypothesis Testing.

1. Students' attitudes toward nutrition do not significantly influence their dietary choices.

Table 4.6

Relationship between Students' attitudes toward nutrition do not significantly influence their dietary choices.

Attitude		Practices		Test Statistics (χ^2)	df	P value	Decision
		Good	Bad				
Positive	129(64)	116(58)	84(42)	6.785	1	0.01	Rejected
Negative	71(36)						

Table 4.6 shows the relationship between students' attitudes toward nutrition and their dietary choices. The chi-square (χ^2) value of 6.785 with 1 degree of freedom and a p-value of 0.01 indicates a significant relationship between the two variables. Since the p-value (0.01) is less than the 0.05 level of significance, the null hypothesis stating that students' attitudes toward nutrition do not significantly influence their dietary choices is rejected. This implies that students' attitudes toward nutrition significantly influence their dietary choices.

2. There is no significant relationship between students' knowledge of nutrition and their actual dietary practices.

Table 4.7*Relationship between students' knowledge of nutrition and their actual dietary practices.*

Knowledge		Practices		Test Statistics (χ^2)	df	P value	Decision
		Good	Bad				
Good	154(77)	116(58)	84(42)	5.776	1	0.023	Rejected
Poor	46(23)						

Table 4.7 shows the relationship between students' knowledge of nutrition and their actual dietary practices. The chi-square (χ^2) value of 5.776 with 1 degree of freedom and a p-value of 0.023 indicates a significant association between the two variables. Since the p-value (0.023) is less than the 0.05 level of significance, the null hypothesis stating that there is no significant relationship between students' knowledge of nutrition and their actual dietary practices is rejected. This means that students' knowledge of nutrition significantly influences their dietary practices.

CHAPTER FIVE

DISCUSSION OF FINDINGS

This chapter discussed the major findings of the research compared with the literature reviewed, the implication for nursing, summary, conclusion, recommendations and suggestions for further studies.

5.1. Discussion of Findings

The study assessed the knowledge, attitude and practice of nutrition and healthy eating habits among students of a tertiary institution in Benin City, Edo State.

The socio-demographic profile of the 200 respondents reveals several patterns that both align with and diverge from prior research on university students' nutritional behaviors. Most participants fell within the traditional university age range: 48.5% were aged 18–22 years and 34.0% aged 23–27 years. This concentration of young adult mirrors findings by Ramón-Arbués et al. (2021) and Bektas et al. (2023), who studied students aged 18–25. The inclusion of older students (12.0% above 27 years) suggests participation by mature learners an increasingly common but underrepresented group in Nigerian tertiary institutions due to flexible admission policies and career advancement goals. Gender distribution was nearly balanced, with females comprising 53.0% and males 47.0% of the sample. This parity enhances the generalizability of results and contrasts with studies showing pronounced female dominance, such as Sogari et al. (2022) in Italy. The balanced representation enables more reliable exploration of gender-based differences in nutritional knowledge, attitudes, and practices. Prior studies consistently show females exhibit greater nutrition knowledge and healthier attitudes (Bektas et al., 2023; Akah et al., 2022). The study thus provides a basis for assessing whether these differences persist within

the socio-cultural context of Ibadan. Respondents were evenly distributed across academic levels: 24.0% in first year, 24.0% in second, 24.5% in third, and 27.5% in final year. This even spread strengthens the study methodologically and supports comparison across cohorts. In contrast, Al-Awad et al. (2021) in Jordan found declining positive attitudes toward healthy eating with advancing academic years, attributed to rising stress and lifestyle changes. The study design allows assessment of whether similar patterns occur among Nigerian students. Monthly food allowances revealed substantial economic constraints: 38.0% of students had less than ₦20,000, 44.0% between ₦20,000 ₦30,000, and only 18.0% above ₦30,000. Such figures echo findings by Ogundele et al. (2023), who reported cost as a major determinant of food choice, and Almoraie et al. (2024), who noted global prioritization of taste and price over nutrition. The limited budgets observed here likely restrict access to nutrient-rich foods such as fruits, vegetables, and proteins an issue consistent with broader concerns about student food insecurity (Clerkin et al., 2021; Noor et al., 2024). Notably, only 36.5% of respondents reported receiving formal nutrition education, while 63.5% had not. This reveals a significant literacy gap with implications for dietary behaviors. Belogianni et al. (2021) emphasized the importance of integrating nutrition education across disciplines, while Vázquez-Espino et al. (2022) found limited engagement with dietitians even among knowledgeable students. The low exposure to formal nutrition education in this study suggests that many students make dietary decisions without foundational knowledge a concerning finding given that Lai et al. (2021) demonstrated nutrition literacy as a key predictor of healthy eating. Evidence from prior interventions underscores the potential benefits of structured education. Adeoya et al. (2023) found that a nutrition program raised knowledge scores among Ibadan secondary students from 46.8% to 77.4%, while Moscatelli et al. (2023) in Italy reported similar improvements in knowledge and

attitudes following a university-based program. These outcomes highlight the missed opportunity within Nigerian tertiary institutions to enhance students' nutritional awareness through curriculum-based interventions.

Knowledge of nutrition and healthy eating habits among undergraduates.

The study found that 77% of undergraduate respondents demonstrated good knowledge of nutrition and healthy eating, while 23% exhibited poor knowledge. This result is notably higher than levels reported in comparable studies. Bektas et al. (2023) in Turkey found only 37.2% of students had adequate nutritional understanding, and Belogianni et al. (2021) in the UK reported a mean knowledge score of 67.1%. The higher performance observed here may reflect differences in sampling, assessment methods, or rising nutrition awareness among young Nigerians due to health campaigns and social media exposure (Bawazeer et al., 2024). Students showed particularly strong knowledge in foundational areas. Nearly all respondents (91.5%) correctly identified the components of a balanced diet, and 91.0% recognized that excessive processed food consumption increases risks of obesity and chronic disease. Similarly, 89.0% knew that boiling and steaming are healthier cooking methods than frying, and 83.5% understood that fruits and vegetables should comprise half of a healthy meal. These results indicate strong grasp of basic dietary principles, contrasting with findings from Vázquez-Espino et al. (2022) in Spain, where even athletes displayed gaps in micronutrient knowledge. The data suggest students possess the cognitive foundation for healthy choices, though as global evidence shows—knowledge does not always translate into behavior (Sogari et al., 2022). Knowledge of whole grains and hydration was also good: 79.5% identified whole grains as healthier, and 76.5% acknowledged the need for at least two liters of water daily. Awareness of the link between excessive sugar intake and diabetes was moderately strong (73%), though below other

domains. This supports Almoraie et al.'s (2024) observation that disease risk awareness alone rarely drives healthier choices without supportive environments. However, notable gaps persist. Only 68.5% correctly rejected the misconception that protein comes solely from animal sources, suggesting limited understanding of plant-based proteins. This misunderstanding may discourage consumption of affordable, nutritious legumes and nuts—an important consideration given the economic constraints reported earlier. Knowledge of meal timing was also weaker: 60.5% recognized that skipping meals harms health, and 58.5% understood that late-night eating contributes to weight gain. These misconceptions may reflect normalized university routines such as meal skipping or late-night study eating, echoing trends identified by Al-Awwad et al. (2021) and Faris et al. (2021). The overall mean knowledge score of 1.8 (above the 1.5 cut-off) confirms generally strong nutritional literacy but uneven comprehension across topics. Students understood core dietary principles but showed weaker grasp of nuanced issues like protein sources and meal timing. This suggests that while basic nutrition information is reaching students through formal or informal channels, more complex concepts remain underdeveloped.

Attitudes toward nutrition and healthy eating habits among undergraduates.

The study found that 64% of undergraduate students displayed positive attitudes toward nutrition and healthy eating, while 36% held negative attitudes. The overall mean score of 3.7 (above the 3.0 cutoff) indicates a generally favourable orientation toward healthy eating, though a substantial minority remain less motivated to adopt healthy habits. These results compare favourably with findings from Moscatelli et al. (2023) in Southern Italy, where only 42% of students initially reported positive attitudes toward balanced meals, though cultural and methodological differences should be considered. Students expressed the strongest agreement (mean = 4.1; 79%) with the statement that nutrition education should be included in university

courses a notable result given that 63.5% reported having received no formal nutrition instruction. This support aligns with Belogianni et al. (2021), who advocated integrating nutrition education into higher education curricula, and mirrors the post-intervention improvements reported by Moscatelli et al. (2023), where positive attitudes rose from 42% to 71%. Similarly, students strongly agreed that eating a balanced diet promotes good health (mean = 4.0; 74%) and that unhealthy habits can cause long-term health problems (mean = 4.0; 75%). These findings indicate health consciousness and recognition of preventive nutrition, consistent with Almoraie et al. (2024), who found that students often value healthy eating even when their behaviours do not reflect it. This persistent gap between awareness and behaviour underscores that attitudes alone are insufficient without addressing financial, environmental, and social constraints. Encouragingly, 75% of respondents indicated willingness to change their eating habits if given more nutrition education (mean = 4.0), reflecting openness to behaviour change. Similar patterns were reported by Adeoya et al. (2023), whose educational intervention in Ibadan improved both knowledge and willingness to eat more vegetables. Students also acknowledged both internal and external influences on diet: 72% reported being conscious of the nutritional value of their food, and 73% agreed that the availability of healthy food on campus affects their choices (both mean = 3.9). These findings echo Ogundele et al. (2023) and Noor et al. (2024), who identified food availability as a key determinant of student eating habits across African universities. However, several attitudinal barriers emerged. Two-thirds (66%) agreed that healthy food is too expensive (mean = 3.7), a perception supported by socioeconomic data from this study and consistent with Ogundele et al. (2023) and Almoraie et al. (2024), who found that cost often outweighs health considerations. Over half (55%) also viewed healthy eating as time-consuming and inconvenient (mean = 3.4), echoing Sogari et al. (2022), who noted that

convenience and time constraints heavily shape food choices among students. These beliefs suggest that limited resources, cooking skills, and time management skills reinforce unhealthy eating patterns. A further concern is that 53% of students preferred fast food over home-cooked meals (mean = 2.7) the only negatively scored item. This preference reflects findings from Al-Awwad et al. (2021) and Ramón-Arbués et al. (2021), who documented high fast-food consumption among university populations. Social and emotional factors, such as taste preference and stress relief through comfort eating (Tan et al., 2024), may also contribute. Attitudes toward preventive nutrition revealed uncertainty: 39% agreed and 43% disagreed with the statement that healthy eating is only necessary for those with medical conditions (mean = 3.0). This ambivalence indicates limited appreciation of the role of nutrition in disease prevention, suggesting the need for educational messages emphasizing proactive health maintenance.

Actual dietary practices and eating habits among undergraduate students.

The study found that 58% of undergraduate students exhibited good dietary practices, while 42% demonstrated poor habits. With a grand mean of 2.7 slightly above the cut-off of 2.5 overall dietary behaviour was classified as good, though the narrow margin and substantial proportion of students with poor practices indicate that healthy eating remains a challenge. This result presents a more favourable picture than many international studies. For example, Ramón-Arbués et al. (2021) in Spain reported that only 32.1% of students had healthy diets, suggesting comparatively better outcomes among the current sample, possibly reflecting cultural, economic, or measurement differences. At the individual behaviour level, breakfast consumption emerged as a relatively strong practice, with 38.5% of students reporting that they always eat breakfast and another 32% doing so occasionally. This contrasts with the widespread breakfast skipping

observed elsewhere, such as the 49% reported by Al-Awwad et al. (2021) among Jordanian students. Although the pattern in the present study is encouraging, nearly one-third of students rarely or never eat breakfast, underscoring persistent gaps in translating nutritional knowledge into consistent behaviour. The most positive finding was the high frequency of home-cooked meal consumption, with 47.5% of students always and 29.5% sometimes eating meals prepared at home. This likely reflects economic realities 38% of students had monthly food allowances below ₦20,000 as well as cultural norms that favor home-prepared foods. Interestingly, while more than half of students expressed a preference for fast food in the attitude assessment, their actual reliance on home-cooked meals suggests that financial constraints and practicality may drive healthier choices even when preferences lean otherwise. Water intake was also relatively strong, with 43.5% of students always and 34.5% sometimes drinking water throughout the day. This aligns with their knowledge of hydration's importance and may be influenced by Nigeria's warm climate, which naturally increases awareness of fluid needs. In contrast, fruit and vegetable intake remained moderate and below recommended levels. Only 30.5% of students always included fruits and vegetables in their meals, while nearly one-third rarely or never did. This reflects the persistent global trend of low fruit and vegetable consumption among university students, attributed to factors such as cost, taste preferences, and availability (Ogundele et al., 2023). Attention to nutritional content was inconsistent, with only 26.5% of students always considering it when making food choices and over one-third rarely doing so. This behavioural gap contrasts with the attitudinal finding that 72% claimed to be conscious of nutrition, reinforcing that awareness does not necessarily translate into action (Almoraie et al., 2024). Similarly, avoidance of processed foods was only moderate, suggesting that affordability and convenience continue to outweigh nutritional considerations for many students—a challenge

noted globally (Vázquez-Espino et al., 2022). Certain dietary behaviours were distinctly problematic. Fast food consumption was high, with 58% of students reporting that they eat fast food always or sometimes, despite widespread awareness of its health risks. This mirrors findings from other contexts, where convenience, taste, and social factors make fast food highly appealing (Al-Awwad et al., 2021; Tan et al., 2024). Sugary beverage consumption was even more concerning, recording the lowest mean score of 2.2, as 63% of students consumed them regularly despite knowing their link to obesity and diabetes. Such findings demonstrate the strong knowledge–practice gap that characterizes much of students’ dietary behaviour. Frequent snacking was also observed, with over two-thirds of students reporting that they snack between meals. While snacking can contribute positively to diet quality when healthy options are chosen, the high prevalence of energy-dense, processed snacks reported in related studies (Ogundele et al., 2023) suggests that this practice often undermines nutritional health. Meal skipping due to academic workload further complicates the picture, as more than half of students reported occasionally missing meals for study or class commitments. This pattern, consistent with findings from Faris et al. (2021) and Al-Awwad et al. (2021), indicates that academic pressures act as structural barriers to regular eating and highlight the need for university-level interventions such as improved scheduling and accessible campus food options.

Factors influencing the choices of nutrition and healthy eating habits among undergraduates.

The study revealed that 73% of undergraduate students identified various factors influencing their nutritional and eating choices, while 27% reported no such influence. With a grand mean of 3.0—above the cut-off of 2.5 the findings confirm that multiple contextual, social, economic, and personal factors shape students’ dietary decisions. This aligns with the socio-ecological

framework commonly used in nutrition research, which emphasizes that food choices emerge from interactions between individual preferences, environmental constraints, and social contexts (Lai et al., 2021). Economic limitations were the most prominent influence, with 80% of respondents acknowledging that their budgets determined what they ate. This is unsurprising given that 82% of students had monthly food allowances below ₦30,000. Similar findings by Ogundele et al. (2023) and Almoraie et al. (2024) highlight cost as a dominant determinant of student diets, often forcing them toward inexpensive, energy-dense foods at the expense of nutritional quality. Economic constraints thus represent a structural barrier that prioritizes affordability over health, driving dependence on refined carbohydrates, processed snacks, and sugary drinks. Time constraints were also highly influential, with 76% of students reporting that academic schedules limited their ability to eat healthily. This finding echoes the attitudinal data showing that 55% perceived healthy eating as time-consuming, and the practice data where 53% admitted skipping meals due to academic workload. Similar trends have been reported internationally (Sogari et al., 2022; Vázquez-Espino et al., 2022), where students' busy schedules promote convenience-driven choices and discourage meal planning or home cooking. In many cases, institutional timetables and inadequate campus food services exacerbate these barriers by offering little flexibility for regular, healthy meals. Taste preferences ranked nearly as high, influencing 75% of respondents. As Ogundele et al. (2023) similarly reported, taste often outweighs nutritional value in food selection. The preference for palatable foods frequently high in fat, sugar, and salt reflects both human hedonic tendencies and targeted food industry marketing. Tan et al. (2024) found that exposure to appetizing food imagery on social media can intensify cravings and impulsive eating, illustrating how environmental cues amplify taste-driven decisions even among nutrition-literate students. Campus food availability was another strong

determinant, acknowledged by 77% of students. The association between limited healthy options and poor dietary quality has been consistently demonstrated (Noor et al., 2024). When nutritious foods are scarce, costly, or less appealing than fast food alternatives, unhealthy eating becomes the default choice. This finding highlights the centrality of food environments students' diets are shaped not just by what they know or prefer but by what is accessible and affordable. Convenience similarly influenced 73% of respondents, reflecting the practical pressures of student life. The demand for quick, ready-to-eat meals often supersedes nutritional concerns, reinforcing reliance on fast food and processed snacks. Ramón-Arbués et al. (2021) observed that students living independently were especially prone to such habits, suggesting that lifestyle factors and limited cooking facilities compound the influence of convenience. Peer influence affected 72% of students, underscoring the social dimension of eating behaviour. As Lai et al. (2021) found, peers can model both healthy and unhealthy habits, amplifying social norms around food choices. Akah et al. (2022) further showed that students often compromise health for social conformity, particularly when shared meals or social outings revolve around fast food. Given the communal nature of eating in Nigerian culture, these influences may be especially pronounced. Family background also shaped eating patterns for 74% of respondents. Early dietary socialization through parental modelling, cooking practices, and household food norms appears to persist into university life. Lai et al. (2021) reported that parental encouragement correlated with higher nutrition literacy and healthier eating, suggesting that family influence can either reinforce or undermine healthy behaviours depending on the values and resources within the household. Cultural background influenced the choices of 73% of students. Traditional food preferences and ethnic dietary customs can serve as protective or risk factors depending on their nutritional composition. As Noor et al. (2024) and Almoraie et al. (2024) observed, cultural

attachment to certain dishes or preparation methods can either promote nutrient-rich local foods or perpetuate energy-dense diets. Hence, effective interventions must align with cultural norms, promoting healthier versions of traditional meals rather than advocating radical change. Food trends and advertising were somewhat less dominant but still influential, with 66% and 68% of students acknowledging their effects, respectively. Although these means (2.8 and 2.9) were the lowest among factors assessed, they remain notable. Bawazeer et al. (2024) found that over half of Saudi students tried foods advertised on social media, underscoring how digital marketing shapes consumption. Students' moderate acknowledgment of this influence may indicate partial unawareness of its subtle effects. Developing critical media literacy could help mitigate these marketing-driven dietary decisions.

5.2 Implications to Nursing Practice

The findings of this study have important implications for nursing practice, particularly in the areas of health promotion, preventive care, and patient education. Nurses play a vital role in promoting optimal nutrition and healthy eating habits across all levels of healthcare. The study revealed that while most students demonstrated good knowledge and a positive attitude toward nutrition, gaps still exist in translating knowledge into consistent healthy practices. This underscores the need for nurses to strengthen their roles as educators and advocates for lifestyle modification, especially within university and community health settings. Through regular health education programs, workshops, and peer-led initiatives, nurses can help bridge the gap between knowledge and practice, empowering young adults to make informed dietary choices.

Furthermore, the study highlights the influence of socioeconomic and environmental factors such as limited budgets, time constraints, and food availability on students' eating habits. This has significant implications for community health nurses, who must adopt a holistic approach when

addressing nutrition-related issues. Beyond individual counselling, nurses should advocate for supportive food environments in tertiary institutions by collaborating with policymakers, school administrators, and nutritionists to ensure the availability of affordable and nutritious food options on campus. Integrating nutrition education into university orientation and wellness programs, led by nurses, could also enhance students' ability to maintain healthy dietary behaviours despite financial or academic pressures.

In addition, the results emphasize the importance of incorporating nutrition and lifestyle education into nursing curricula and continuing professional development. Since nurses serve as role models and health educators, their personal knowledge and attitudes toward nutrition significantly influence their effectiveness in promoting healthy eating among the public. Nursing education programs should therefore place greater emphasis on applied nutrition, behavioural change communication, and culturally sensitive dietary counselling. This will better equip nurses to address the complex interplay of knowledge, attitude, and practice identified in this study.

Finally, the findings reinforce the preventive and public health role of nurses in tackling diet-related non-communicable diseases such as obesity, diabetes, and hypertension. By integrating routine nutrition screening, counselling, and follow-up into nursing practice, particularly in student health centres and community clinics, nurses can help identify at-risk individuals early and implement effective interventions. In this way, the nursing profession can contribute significantly to building a health-conscious generation that values nutrition as a foundation for lifelong wellbeing.

5.3 Summary

This study assessed the knowledge, attitude, and practice of nutrition and healthy eating habits among undergraduate students of a tertiary institution in Benin City, Edo State. The research aimed to determine students' level of nutritional knowledge, their attitudes toward healthy eating, their actual dietary practices, and the factors influencing their food choices. A descriptive cross-sectional design was employed, and data were collected using structured questionnaires administered to 200 students across different academic levels. All distributed questionnaires were duly completed and analysed, giving a 100% response rate. The data were presented in tables, charts, and figures, and analysed using descriptive statistics and chi-square tests to test the stated hypotheses.

Findings from the study revealed that most students possessed good knowledge of nutrition and healthy eating habits, with a grand mean of 1.8, indicating a generally sound understanding of the components of a balanced diet, the importance of fruits and vegetables, the dangers of excessive processed food consumption, and the benefits of proper hydration. Despite this, some knowledge gaps existed, particularly concerning plant-based protein sources and the effects of meal timing. In terms of attitude, the study showed that 64% of the respondents demonstrated positive attitudes toward nutrition and healthy eating, reflected in their recognition of the importance of balanced diets and willingness to change eating habits when provided with more nutrition education. However, financial and time-related constraints remained barriers to maintaining these positive attitudes consistently.

Regarding actual dietary practices, 58% of the respondents exhibited good eating habits, while 42% displayed poor habits. Although most students reported eating home-cooked meals and drinking adequate water, many still engaged in unhealthy practices such as frequent fast-food

and sugary beverage consumption, irregular meal patterns, and inadequate fruit and vegetable intake. The study further identified several key factors influencing students' nutrition choices, including budget limitations, time constraints, food availability, taste preferences, convenience, and peer influence. Economic factors emerged as the most significant determinant of students' food choices.

The results of the hypothesis testing showed a statistically significant relationship between students' attitudes and their dietary choices, as well as between their nutritional knowledge and actual dietary practices. This indicates that both knowledge and attitude play crucial roles in shaping students' eating behaviours.

5.4 Conclusion

The findings of this study revealed that students of a tertiary institution in Benin City possess a generally good level of knowledge and positive attitudes toward nutrition and healthy eating habits. Most respondents demonstrated awareness of the importance of balanced diets, regular meals, adequate hydration, and the consumption of fruits and vegetables. However, it was also observed that this knowledge and attitude do not always translate into healthy eating practices. Many students still engage in unhealthy dietary behaviours, such as skipping meals, consuming processed foods, eating late at night, and relying on fast foods due to convenience, cost, and time constraints.

The study further established that socioeconomic and environmental factors—particularly financial limitations, tight academic schedules, and the easy accessibility of junk foods—play a significant role in shaping students' dietary practices. These findings emphasize that nutritional behaviour is not solely determined by knowledge and attitude but also by external influences that

affect food choices and eating patterns. The results from hypothesis testing confirmed a significant relationship between students' attitudes and their dietary choices, and between their nutritional knowledge and practices, indicating that improving awareness and attitudes can positively influence eating behaviours if supported by an enabling environment.

The study underscores the need for a comprehensive approach to promoting healthy eating among university students. Health professionals, especially nurses, educators, and policymakers, must work collaboratively to design and implement effective nutrition education programs, create supportive food environments on campuses, and provide counselling services that address both the informational and practical barriers to healthy living. By fostering a culture of nutrition awareness and healthy lifestyle habits, students can be better equipped to make informed dietary choices that will enhance their academic performance, physical health, and overall well-being.

5.5 Limitations of the Study

Although this study achieved its objectives and provided valuable insights into the knowledge, attitude, and practice of nutrition and healthy eating habits among students of a tertiary institution in Benin City, it was not without limitations. Firstly, the study relied on self-administered questionnaires, which are subject to response bias. Some participants may have provided socially desirable answers rather than reflecting their true behaviours or dietary habits, thereby influencing the accuracy of the findings.

Secondly, the study was limited to one tertiary institution in Benin City, which restricts the generalizability of the results to other institutions or regions. Differences in socio-economic background, cultural practices, and institutional environments could produce varying results in other settings. A broader study covering multiple institutions would provide a more

representative understanding of the nutrition-related behaviours of students in Edo State and beyond.

Thirdly, the study adopted a descriptive cross-sectional design, which captures information at a single point in time. This design limits the ability to determine cause-and-effect relationships between variables such as knowledge, attitude, and practice. Longitudinal studies could provide deeper insight into how students' nutritional habits evolve over time and in response to interventions.

5.6 Recommendations

Based on the findings and conclusions of this study, several recommendations are made to improve the knowledge, attitude, and practice of nutrition and healthy eating habits among tertiary students in Benin City and beyond.

1. Regular nutrition education programs should be organized within tertiary institutions to raise awareness about the importance of balanced diets and healthy eating habits. These programs can be integrated into students' orientation sessions, health weeks, or extracurricular activities. Nurses, dietitians, and other health professionals should take active roles in conducting seminars, workshops, and peer-led campaigns to promote healthy food choices.
2. Tertiary institutions should incorporate basic nutrition and lifestyle courses into their general studies curriculum. This will equip students, regardless of their field of study, with essential knowledge about healthy eating, meal planning, and disease prevention through proper nutrition.

3. School administrators should ensure that campus cafeterias and food vendors offer affordable, hygienic, and nutritious meal options. Policies that regulate the sale of junk foods and sugary beverages within school premises should be implemented to encourage healthier alternatives such as fruits, vegetables, and locally prepared meals.
4. Nurses should extend their health promotion roles beyond hospitals into campuses and communities. They can lead health education campaigns, provide dietary counselling, and engage in preventive nutrition programs that target young adults. Community and public health nurses should collaborate with university health centres to provide ongoing nutritional assessments and guidance for students.
5. Government agencies such as the Federal and State Ministries of Health and Education should support nutrition education initiatives in tertiary institutions by providing funding, materials, and professional training for staff. Policies aimed at promoting youth health and preventing diet-related diseases should also be strengthened and implemented.
6. Parents should be encouraged to guide their children toward adopting healthy eating patterns, even while at school. Peer influence plays a strong role in students' food choices; hence, peer education programs can be leveraged to spread positive dietary behaviours within the student community.

5.7 Suggestions for Further Study

Based on the findings and limitations of this study, the following suggestions are made for future research:

- Future studies should include multiple tertiary institutions across Edo State and other regions of Nigeria to allow for comparison and improve the generalizability of findings on students' knowledge, attitude, and practice of nutrition.
- A longitudinal study design is recommended to observe changes in students' nutritional knowledge, attitudes, and practices over time, especially before and after nutrition education interventions. This would help determine the long-term effectiveness of such programs.
- Further studies could adopt qualitative methods, such as interviews or focus group discussions, to explore in-depth factors influencing students' food choices and eating behaviours, which may not be fully captured through questionnaires.
- Researchers should design and implement intervention programs that test the effectiveness of nutrition education or counselling on improving healthy eating habits among students.
- Future research could compare nutrition knowledge and practices between different groups, such as nursing and non-nursing students, or between public and private tertiary institutions, to identify specific areas requiring targeted interventions.
- More research should focus on the role of socioeconomic status, cultural beliefs, and family background in shaping students' nutritional behaviours, as these factors were found to significantly influence eating habits in this study.

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APPENDIX I
QUESTIONNAIRE

Knowledge, Attitude and Practice of Nutrition and Healthy Eating Habits among Students in the Faculty of Education at the University of Benin, Benin City.

Dear Participant,

This questionnaire is designed to assess the knowledge, attitude and practice of nutrition and healthy eating habits among undergraduate students in your faculty. Your responses will remain anonymous and confidential. Participation is voluntary and you may choose to withdraw at any time. Please answer all questions honestly.

Thank you for your time.

Glory-Potokri Oghenerhuno

08036735312

SECTION A: Demographic Information

Please tick (✓) the appropriate option.

1. Age on your last birthday:
 Below 18 18–22 23–27 Above 27
2. Gender:
 Male Female
3. Academic Level:
 First-year Second-year Third-year Final-year
4. Monthly Allowance for Food:
 Below [N20,000] [N20,000-N30,000] Above [N30,000]
5. Do you have any formal education on nutrition?
 Yes No

SECTION B: Knowledge of Nutrition

Please answer by selecting True (T), False (F), or I Don't Know (IDK).

6. A balanced diet contains carbohydrates, proteins, fats, vitamins, and minerals.
 T F IDK
7. Fruits and vegetables should make up half of a healthy meal.
 T F IDK
8. Skipping meals regularly has no negative effect on health.
 T F IDK
9. Excessive consumption of processed and fast foods increases the risk of obesity and chronic diseases.
 T F IDK
10. Drinking at least 2 liters of water daily is necessary for good health.
 T F IDK
11. Protein is only found in animal-based foods.
 T F IDK
12. Whole grains (e.g., brown rice, whole wheat bread) are healthier than refined grains (e.g., white rice, white bread).
 T F IDK
13. Too much sugar intake can lead to diabetes, even in young people.
 T F IDK
14. Cooking methods such as boiling and steaming are healthier than frying.
 T F IDK
15. Eating late at night has no impact on weight gain.
 T F IDK

SECTION C: Attitude toward Nutrition and Healthy Eating

Please indicate your level of agreement using the scale:

Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), Strongly Disagree (SD)

16. Eating a balanced diet is important for maintaining good health.

SA A N D SD

17. I am conscious about the nutritional value of the food I eat.

SA A N D SD

18. Healthy food is too expensive for students.

SA A N D SD

19. Unhealthy eating habits during school years may lead to health problems later in life.

SA A N D SD

20. I would be willing to change my eating habits if I had more nutrition education.

SA A N D SD

21. Eating healthy is time-consuming and inconvenient for students.

SA A N D SD

22. I prefer eating fast food over home-cooked meals.

SA A N D SD

23. The availability of healthy food on campus influences my eating choices.

SA A N D SD

24. I believe that nutrition education should be included in university courses.

SA A N D SD

25. I think eating healthy is only necessary for people with medical conditions.

SA A N D SD

SECTION D: Dietary Practices

Please answer the following based on your current eating habits.

26. How often do you eat breakfast?
 Always Sometimes Rarely Never
27. How often do you include fruits and vegetables in your meals?
 Always Sometimes Rarely Never
28. How often do you consume fast food (e.g, burgers, pastries)?
 Always Sometimes Rarely Never
29. How often do you drink sugary beverages (e.g., soda, energy drinks)?
 Always Sometimes Rarely Never
30. How often do you eat home-cooked meals as opposed to eating out?
 Always Sometimes Rarely Never
31. How often do you eat snacks between meals?
 Always Sometimes Rarely Never
32. How often do you drink water throughout the day?
 Always Sometimes Rarely Never
33. How often do you pay attention to the nutritional content of the food you eat?
 Always Sometimes Rarely Never
34. How often do you skip meals due to your academic schedule or other commitments?
 Always Sometimes Rarely Never
35. How often do you avoid processed or packaged foods?
 Always Sometimes Rarely Never

SECTION E: Factors Influencing Nutrition and Healthy Eating

Please indicate your level of agreement using the scale:

Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD)

36. The availability of healthy food options on campus influences my dietary choices.

SA A D SD

37. My budget plays a significant role in the types of food I choose to eat.

SA A D SD

38. Peer influence affects my food choices (e.g., what friends or classmates eat).

SA A D SD

39. I make food choices based on convenience rather than nutritional value.

SA A D SD

40. I rely on advertisements or food promotions when deciding what to eat.

SA A D SD

41. I choose food based on its taste rather than its nutritional content.

SA A D SD

42. I often follow food trends or popular eating habits among students.

SA A D SD

43. My family background and upbringing influence my dietary choices.

SA A D SD

44. Time constraints (e.g., between classes) affect my ability to eat healthy.

SA A D SD

45. I feel that my cultural or ethnic background influences the types of food I choose to eat.

SA A D SD

Thank You for Your Participation!

This concludes the questionnaire. Your responses will be analyzed to better understand student nutrition behaviors and help inform future health interventions.

APPENDIX II

RELAIBILITY OF INSTRUMENT

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
0.83	0.82	40

Item-Total Statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
A balanced diet contains carbohydrates, proteins, fats, vitamins, and minerals.	115.40	67.24	0.421	0.828
Fruits and vegetables should make up half of a healthy meal.	115.18	66.73	0.463	0.826
Skipping meals regularly has no negative effect on health.	116.01	68.12	0.314	0.832
Excessive consumption of processed and fast foods increases the risk of obesity and chronic diseases.	115.07	66.10	0.496	0.825
Drinking at least 2 liters of water daily is necessary for good health.	115.49	66.92	0.438	0.828

Protein is only found in animal-based foods.	115.77	67.45	0.322	0.831
Whole grains (e.g., brown rice, whole wheat bread) are healthier than refined grains (e.g., white rice, white bread).	115.21	66.45	0.487	0.826
Too much sugar intake can lead to diabetes, even in young people.	115.32	66.63	0.462	0.827
Cooking methods such as boiling and steaming are healthier than frying.	115.46	66.88	0.449	0.828
Eating late at night has no impact on weight gain.	116.09	68.31	0.309	0.833
Eating a balanced diet is important for maintaining good health.	115.02	65.98	0.522	0.824
I am conscious about the nutritional value of the food I eat.	115.15	66.15	0.508	0.825
Healthy food is too expensive for students.	116.08	68.00	0.352	0.831
I would be willing to change my eating habits if I had more nutrition	115.28	66.55	0.476	0.826

education.				
I prefer eating fast food over home-cooked meals.	116.18	68.41	0.294	0.834
The availability of healthy food on campus influences my eating choices.	115.34	66.60	0.471	0.827
How often do you eat breakfast?	115.42	66.78	0.441	0.828
How often do you consume fast food?	115.97	67.92	0.342	0.831
How often do you drink water throughout the day?	115.13	66.29	0.514	0.825
How often do you pay attention to the nutritional content of the food you eat?	115.29	66.50	0.489	0.826
My budget plays a significant role in the types of food I choose.	115.87	67.71	0.364	0.830
Peer influence affects my food choices.	115.98	67.89	0.347	0.831
I make food choices based on convenience rather than nutritional value.	116.16	68.19	0.318	0.832
Time constraints affect my ability to	115.94	67.95	0.338	0.831

eat healthy.				
My family background influences my dietary choices.	115.73	67.49	0.382	0.829
I feel that cultural background influences my food choices.	115.81	67.62	0.371	0.830

Comment: The reliability analysis yielded a Cronbach’s Alpha of 0.83 for the overall questionnaire and 0.82 based on standardized items. These values indicate a high level of internal consistency, demonstrating that the items within the questionnaire reliably measure the constructs related to nutrition knowledge, attitudes, dietary practices, and influencing factors. According to Gültürk (2024), this reliability coefficient confirms that the instrument is sufficiently consistent for use in the main study.

APPENDIX III

ETHICAL APPROVAL



RESEARCH ETHICS COMMITTEE
COLLEGE OF MEDICAL SCIENCES
UNIVERSITY OF BENIN, BENIN CITY, NIGERIA.



Chairman: Prof. F. A Imarhiagbe
MBChb, FMCP
Cert Clin Res and ethics (NIH), MD.
0803449092

Email: researchethics.cms@gmail.com

P.M.B 1154, BENIN CITY

Our Ref: CMS/REC/01/VOL.2/771

Date: 16th May, 2025

Re: THE KNOWLEDGE, ATTITUDE AND PRACTICE OF NUTRITION AND HEALTHY EATING HABITS AMONG STUDENTS OF A TERTIARY INSTITUTION IN BENIN CITY, EDO STATE

Name of Principal Investigator: **GLORY-POTOKRI OGHENERHUNO**
Department Of Nursing Science,
School of Basic Medical Sciences,
University Of Benin,
Benin City.

REC Approval No: CMS/REC/2024/771

This is to inform you that the research described in the submitted proposal, the Informed Consent Forms and other participant information materials have been reviewed and approved by the College Research Ethics Committee, University of Benin.

This approval dates from **16th May, 2025 to 15th May, 2026**. In multi-year research, Endeavour to submit your annual report to the REC early in order to obtain renewal of your approval and avoid disruption of your research.

The National Code of Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the code including ensuring that all adverse events are reported promptly to the REC. No, changes are permitted in the research without prior approval by REC except in circumstances outlined in the code. REC reserves the right to conduct compliance visit to your research site without prior notice. Thank you.

PROF. F.A IMARHIAGBE
Chairman, REC

Promoting best ethical & scientific standard for research in Nigeria