DIETARY PREFERENCES IN TRANSITION: ANALYZING BALANCED DIET AWARENESS AND PRACTICES IN SCHOOL-GOING YOUTH

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submitted to the Department of Nutrition and Food Engineering as a requirement for the B.Sc. in Nutrition and Food Engineering

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APPROVAL

This Project titled "**Dietary Preferences in Transition: Analyzing Balanced Diet Awareness and Practices in School-Going Youth**," submitted by **Samia Rahman Antara** to the Department of Nutrition and Food Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Nutrition and Food Engineering and approved as to its style and contents.

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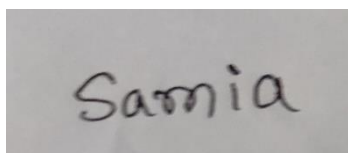Daffodil International University

DECLARATION

I hereby confirm that this research has been completed under the guidance of **Nawal Sarwer, lecturer, Department of NFE**, at Daffodil International University's Department of NFE. I also affirm that I have never submitted this project, or any of its component pieces, to another university in the hopes of earning a degree or diploma.

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Firstly, I want to give praise to Allah the Almighty for his wonderful gift, which allowed me to finish my project. I am truly grateful.

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ABSTRACT

Background: This study was intended to understand the nutrition knowledge, attitudes, and practices of High School students of Chandpur Zilla's rural areas and urban areas.

Objectives: To gain insight into the dietary habits of school-going students and to examine the connections between their knowledge, attitudes, and behaviors on balanced meals and healthy eating

Setting and Participants: 51 school-going girls, and 49 school-going boys background in the age group 10 - 19 years, studying within Chandpur's District.

Statistical analysis: Percentages, Means, Chi-square test using the IBM SPSS Statistics 25.

Results and discussion: Strong correlations between knowledge and eating habits are found in this study, highlighting the significance of breakfast and how closely it corresponds with actual consumption. Breakfast habits are greatly influenced by school schedules, just as sleep quality is. The relationship between eating breakfast and getting to school on time emphasizes the importance of routine consistency. Our understanding can be improved by more research, leading to more successful health interventions. mediators of motivation to change behavior.

Key Words: Knowledge, Attitudes and Practices; Balanced diet, Nutrition,

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CHAPTER 1

1.1 Introduction

The process of life known as nutrition involves both plant and animal life obtaining the nutrients, they need from food to thrive. Human nutrition science investigates the connection between diet and health to promote well-being and protect people's well-being. An active way of life and a healthy diet are linked, and both can help prevent many chronic diseases. (Barone, et al., 2020)

The term "food and nutrition education" (FNE) refers to instructional strategies designed to persuade people to freely adopt eating and drinking habits that are advantageous to their health and happiness. It is a method for promoting healthy eating among the general population that instructs, informs, and trains people, gives them power, and empowers them to make informed dietary decisions. (Young, et al., 2020)On the other hand, altering consumption, purchasing, food preparation, attitudes, and eating practices, can have a positive impact. (Masterson, et al., 2020)

The FAO defines FNE as an ongoing, transdisciplinary field of intersectoral, multi-professional knowledge and practice that strives to support individuals in adopting healthy eating practices voluntarily and of their own volition. This is carried out to guarantee food and nutritional security as well as to fulfill the human right to sufficient food. (Venn, 2020)

The following Sustainable Development Goals (SDGs) are part of the UN's 2030 Agenda for Sustainable Development: 1 (end poverty) and 3 (end hunger). This basic right is connected to these SDGs. (Aitken and others, 2019) The FNE should use stimulating and interesting teaching strategies and resources that promote interaction with individuals and demographic groups while considering all phases of the life cycle. (Meybeck & Gitz, 2017)

The FAO has made contributions to the idea of "school-based food and nutrition education" (SFNE), which entails instructional methods and educational exercises. It helps students, adolescents, and their communities improve their diets and food choices and grow their capacity to be change agents by supporting a healthy eating environment. (Bastian, et al., 2020)

The UN agency also encourages a comprehensive school approach for SFNE, actively involving all individuals who interact in the educational environment (students, families, teachers, school personnel, local farmers, food service personnel, food sellers, and government personnel).(Jadgal, et al., 2020)

1.2 Healthy Diet

In 1948, the World Health Organization (WHO), the United Nations organization responsible for overseeing and coordinating matters related to global health, stated in its constitution that health is "a state of complete physical well-being, mental and social, not only to the absence of disease or illness." Healthy eating is consuming a variety of foods that provide an individual with the necessary nutrients to maintain their health, well-being, and vitality. Among these nutrients are proteins, carbohydrates, fats, water, vitamins, and

minerals. Furthermore, this diet takes into account all of a person's nutritional needs throughout their lifetime; however, dietary requirements vary among individuals based on age, gender, height, degree of physical activity, and state of health or illness. A balanced diet needs to be comprehensive in order to provide the body with all the nutrients it needs; A balanced diet is necessary to ensure that the nutrients are proportionate (carbohydrates—CHO: 55–60% of daily caloric intake; fats: 25–30%; and proteins: 12–15%), sufficient to maintain a normal weight range and, in children, to achieve proportionate growth and development, and tailored to the individual's age, sex, height, degree of physical activity, and physical condition. (Abad-Segura, 2020)

1.3 Childhood Obesity

Unhealthy eating habits and childhood obesity have a significant impact on children's obesity and have become major global public health concerns. To address these issues, schools must promote healthy eating and balanced diets. This study aims to examine students' Knowledge, Attitude, and Practice (KAP) on balanced meals and healthy eating. Worldwide, the prevalence of childhood obesity has increased to frightening proportions. About 340 million kids and teenagers between the ages of 5 and 19 were thought to be overweight or obese in 2016, according to the World Health Organization. (WHO, 2018)

The epidemic of childhood obesity that is currently sweeping the nation raises questions due to the possible harm it could have to clinical and public health. However, there is still a dominant view among medical professionals that childhood obesity is mostly a cosmetic problem with minimal therapeutic repercussions. Despite the existence of earlier non-systematic research, no systematic review has been done to date specifically on the vast array of possible effects of childhood obesity. Furthermore, no study has to date considered the vast body of recent evidence on the negative health implications of childhood obesity. Consequently, the goal of the current study was to provide a critically examined, evidence-based assessment of the short- and long-term impacts of childhood obesity on children. (Reilly, 2003)

1.4 Importance of Balanced Diet and Healthy Eating

For optimum growth and development, a balanced diet is essential, particularly during childhood and adolescence. It also entails consuming a variety of meals in the proper quantities to guarantee that people obtain the right number of nutrients, vitamins, and minerals. Future eating habits, scholastic achievement, cognitive development, and physical health are all significantly influenced by the dietary methods used during childhood. (Wardle, 2004)

1.5 Knowledge, Attitude, and Practice

Understanding how people make food decisions requires knowledge, attitude, and practice (KAP). Individuals' knowledge of balanced diets and healthy eating reflects their knowledge and awareness of these topics. Their attitudes about these diets include their thoughts, feelings, and impressions of them. The actual eating habits that people have are covered by the practice. These three factors interact in a complicated way that is essential for determining how people eat. To create efficient interventions and tactics to encourage healthier choices, it is essential to comprehend the KAP of school pupils in relation to a balanced diet and healthy eating. (Glanz, 2008)

1.6 Objective of the Study

i.   To gain insight into the dietary habits of school-going students.

ii.   To examine the connections between their knowledge, attitudes, and behaviors on balanced meals and healthy eating.

CHAPTER 2

2.1 Literature Review

The purpose of the study was to evaluate the nutritional knowledge, attitudes, and behaviors in ten communities and to pinpoint the variables that affect them. A sample of 1,000 people was surveyed using a sampling method with multiple stages and a cross-sectional approach. Despite the availability of a variety of information sources, the results showed that the populations had poor nutritional understanding. The typical attitude towards nutrition was one of negativity, influenced by cultural ideas. In addition, most communities did not prepare wholesome meals for the family. important variables that affect nutritional practices and understanding. While education level, marital status, and family financial sources were the main factors determining nutritional behaviors, age and the source of nutritional information had a substantial impact on knowledge. Based on these findings, suggestions were made. To change societal attitudes and practices around nutrition, there is a definite need to increase public knowledge and education. Promoting wholesome eating habits and the consumption of nutrient-dense native foods should be a top priority for community leaders and healthcare experts to help these communities improve their nutritional practices. (Ngoshe, 2022)

This cross-sectional study sought to evaluate the mothers of preschool-aged children in Jordan's knowledge, attitudes, and practices (KAP) towards nutrition. 854 mothers in all participated in the study and answered a formal KAP questionnaire. With a p-value cutoff of 0.05, multiple linear regression analysis was used to determine the influential components. According to the survey, 73.3% of the moms showed a positive attitude and 53.6% of the mothers had moderate nutrition-related knowledge and behaviors. The mother's age, education level, and employment status were all strongly correlated with her knowledge and attitude (p-value 0.05). The number of children was correlated with mothers' dietary habits, and having a kid in the nursery was favorably correlated with improvements in all nutritional KAP aspects. Notably, social media has replaced traditional sources for these mothers' dietary knowledge. According to the study, moms of preschoolers in Jordan had a favorable attitude, a moderate level of knowledge, and a moderate level of practice when it came to providing a balanced diet for kids. It has been discovered that knowledge and attitude levels are influenced by variables such as the mother's age, education, and socioeconomic situation. The mothers' nutritional KAP was also affected by the presence of a kid in a nursery environment. These results highlight the value of specialized nutrition education and assistance, particularly through social media, to improve mothers' knowledge of and behavior about child nutrition in Jordan. (Elsahoryi, 2022)

The objective of this study was to examine correlations among nutrition knowledge, attitudes, and behaviors among Taiwanese primary school students. The findings provided important new information about this group's dietary environment. The youngsters showed a decent comprehension of the fundamentals of nutrition but lacked understanding in areas like the physiological function of nutrients, the connection between diet/nutrients and disease, and the recommended daily serving sizes for various food groups. Although they

understood the value of nutrition, they did not always keep their health in mind when choosing what to eat. These children's diets were found to be of poor quality, frequently falling short of the advised serving sizes for important food groups such as milk, vegetables, fruits, grains, and cereals. Positive correlations between nutrition knowledge, attitude, caring about nutrition behavior, and dietary quality scores indicate that greater nutrition knowledge is associated with healthier eating habits. Most fourth to sixth-grade students showed restraint or self-control when it came to their eating habits, though not consistently. Some students oversaw making their own breakfasts, and a sizeable percentage of students skipped meals, especially breakfast. These elements might have influenced the kids' overall nutrition quality. The discrepancy between nutrition knowledge, attitude, and eating behavior—especially regarding the consumption of vegetables and fruits—was one important finding. This showed that this age group did not have a high level of motivation for healthy eating, particularly in terms of ingesting these necessary food groups. Considering these findings, the study recommends that future nutrition education programs for elementary school students in Taiwan focus on teaching them about the food serving requirements as well as using the right motivational theories to increase their enthusiasm for making healthier food choices. With relation to the consumption of fruits and vegetables, this could assist in closing the knowledge, attitude, and behavior gap, encouraging young pupils to develop healthier eating habits. (Lin, 2007)

The main goals are to evaluate and contrast KAP about a balanced diet between nutrition and non-nutrition students at Hail University, all of whom are between the ages of 18 and 24. At Hail University, there are 100 young adult females participating in the study, 50 of whom are majoring in nutrition and 50 of whom are not. The ANOVA findings showed significant differences between nutrition and non-nutrition students in their awareness of a balanced diet as well as their knowledge of nutrition concepts such as breakfast consumption and attitudes. Notably, students who did not study nutrition were more likely to skip breakfast. This study emphasizes how critical it is to raise nutrition knowledge and behavior among college students. College years are a crucial time for developing and learning about nutrition-related information, attitudes, and habits because these students will eventually become the foundation of families and professions in society. To create a more favorable learning environment for nutrition in college, it is crucial to emphasize this. (Bano, 2013)

This study investigated the elements that affect kids' food preferences and eating habits to give pediatricians useful information about the history of these behaviors and how to manage kids' nutrition proactively. To find and assess pertinent studies on these criteria, an exhaustive search of electronic databases was carried out. Since it creates and reinforces habits that might last a lifetime, the home environment is crucial in influencing a child's eating practices. Future healthy eating habits can be encouraged by early exposure to a variety of tastes and flavors. To summarize complicated interactions, however, might be difficult because of the nature of narrative reviews, particularly when working with a vast body of material. This study's analysis highlights the fact that a child's eating behavior and food preferences are most strongly influenced by the feeding practices and eating habits of their parents. Parents play a crucial role in exposing their kids to a variety of nutritious food

alternatives and serving as healthy eating role models. Preventive interventions should be directed at parents, taking socioeconomic variables and educational levels into consideration, to address these findings. A child's dietary tastes and behaviors can be significantly influenced by parents' encouragement to offer a variety of nutrient-dense foods and adopt healthy eating habits themselves. These findings can help pediatricians advise parents on how to create a good and health-conscious eating environment for their kids, which will ultimately lead to improved long-term nutritional results. (Scaglioni, 2018)

The current study, which was carried out in Indonesia, aimed to address severe health problems caused by malnutrition, especially in kids who had poor nutritional conditions. A comprehensive school food program that included dietary and educational interventions was put into place by the researchers. The goal was to evaluate how this program affected students in junior and senior high schools' food habits. All pupils' KAP exam scores for nutrition and hygiene improved significantly after the intervention. The KAP scores of the subgroup of malnourished students significantly increased after the intervention. Intake of protein, iron, and vitamin C among the individuals significantly increased. Overall nutritional status did not significantly improve, although hemoglobin levels did significantly rise. Following the intervention, the prevalence of anemia dropped from 42.6% to 21.7%. According to the study, anemia in undernourished adolescents can be effectively treated using a school meal program that combines dietary and educational treatments. The program also seems to improve students' understanding of, attitudes toward, and behaviors related to health, nutrition, and cleanliness. This study highlights the potential advantages of introducing a comprehensive school lunch program, especially among Indonesian children, that not only offers wholesome meals but also incorporates educational elements to encourage better eating habits and fight malnutrition. (Rimbawan, 2023)

Based on WHO data from 2014, a qualitative exploratory study was carried out in Lebanon to evaluate the health risk factors among schoolchildren. It was discovered that these risk factors were higher than average globally. Since the national school curriculum reform in 1997, Lebanon's Ministry of Education has been seeking to include health education. By examining the knowledge, attitudes, and views of students as revealed through focus group discussions, this study attempted to make recommendations for changes to national textbooks and instructional strategies. Students in grade 5 from two different types of schools' data were gathered for the study. Both groups of students had a basic understanding of the advantages of balanced eating as described in textbooks, but their arguments sometimes lacked scientific logic and were occasionally wrong or inadequate. Students had unfavorable attitudes about healthy food selections, frequently favoring harmful alternatives. While there were some healthy habits present, it was more common for people to consume sugary snacks, skip breakfast, and drink a lot of soft beverages. The students' arguments emphasized how social elements, like the opinions, actions, suggestions, and support of others around them, influenced their decisions and behaviors. Additionally, these people had an impact on the kids. This study highlights the need for Lebanese schools to adopt a more thorough and effective strategy for health education. It emphasizes how crucial it is to support healthy lives among schoolchildren by not just imparting knowledge

but also encouraging positive attitudes and tackling social factors. Based on these findings, national textbooks and teaching methods might be improved, lowering health risks, and enhancing all aspects of schoolchildren's well-being in Lebanon. (Fuddah, 2017)

CHAPTER 3

3.1 Methodology

3.1.1 Study Design

The focus of this study is the evolution of dietary choices through KAP analysis. A mixed-method approach was employed in the research. The information was gathered and examined from both quantitative and qualitative sources. An easy sampling strategy, which involves gathering information from a set of respondents who are conveniently accessible, was used to start the research.

3.1.2 Area of the study

The study included participants between the ages of 10 and 19. The questionnaire's focus was on Chandpur Zilla's rural and urban areas. Only students in grades 6 through 10 took part in this survey.

3.1.3 Population of the study

This study covered students in grades 6 to 10. People could be between the ages of 10 and 19. The analysis did not include those who refused to furnish the information.

3.1.4 Data Collection

A standard questionnaire was initially created to collect data. Following the in-person interviews, the respondents completed the questionnaire. Face-to-face interviews were used to collect the necessary data from Chandpur Zilla's rural areas and urban areas.

3.1.5 Study Period

September 2023 to October 2023

3.1.6 Data Analysis Method

Software called IBM SPSS Statistics 25 was used to examine the data. It is easy to use, offers text analysis, interaction with massive data, interaction with complex statistical analysis, a vast library of machine learning algorithms, and fast installation into apps.

CHAPTER 4

4.1. The socio-demographic features

4.1.1 Age distribution of the Respondents:

Table 4.1: Respondent's Age distribution	
Age	**Percentage**
10-14	59%
15-19	41%

This research had 100 participants. According to the table, 59.0% of the respondents are between the ages of 10-14. 41% of respondents are between the ages of 15 and 19.

4.1.2 Gender Distribution of the Respondents:
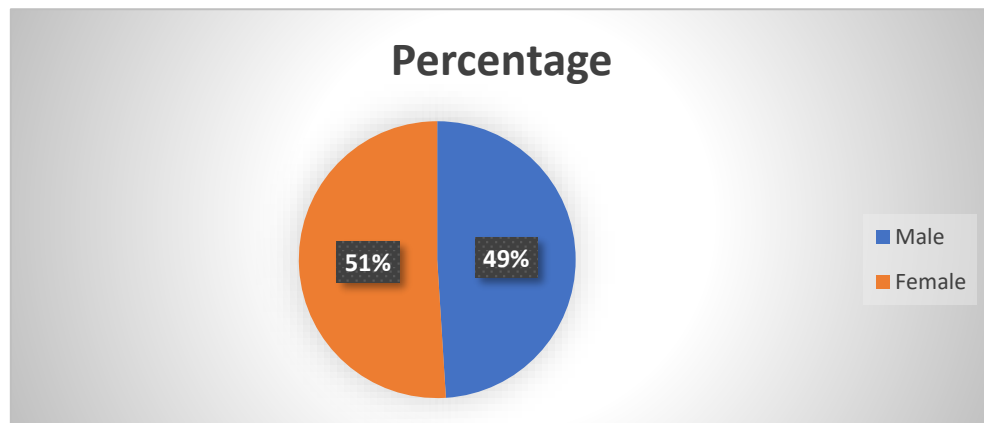
Fig 4.1: Gender of the Respondents

The Pie Chart shows among 100 participants 51% are Female and 49% are male.

4.1.3 Religion of the Respondents:
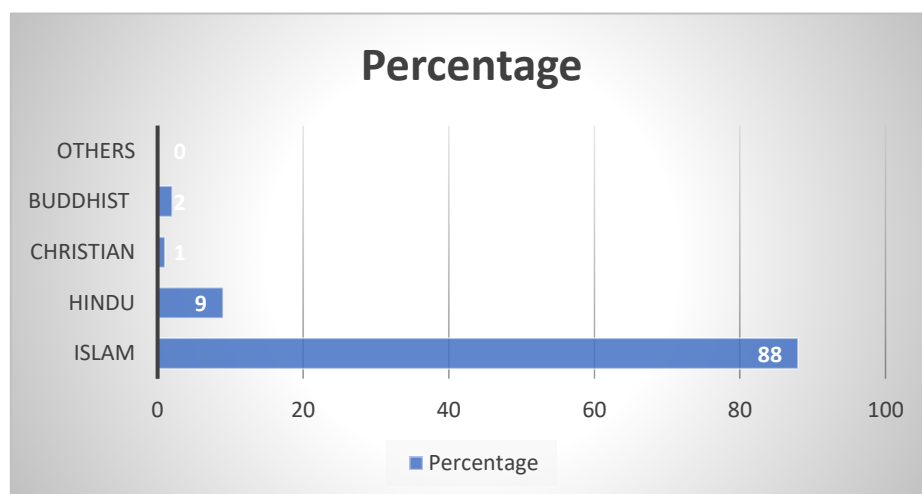
Fig 4.2: Religion of the Respondents

This data indicates the distribution of respondents' religious affiliations, with the majority identifying as Muslim (88%), followed by smaller percentages of Hindus (9%), Christians (1%), and Buddhists (2%).

4.1.4 The educational level of Respondents:
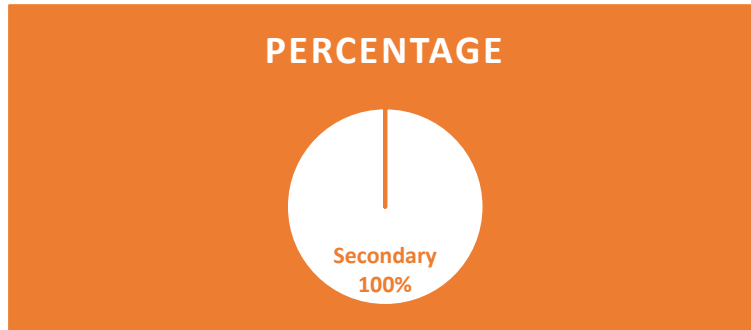
Fig 4.3: Educational level of the Respondents

I have collected all my data from high school. So, all my respondents have secondary education.

4.1.5 Living Area of the Respondents:
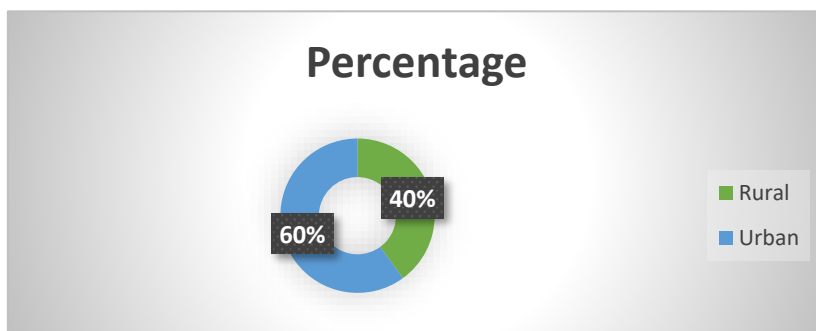
Fig 4.4: Living Area of the Respondents

Among all Participants, 60% live in Urban areas, and the rest 40% live in rural areas.

4.1.6 Professions of the respondent's father:
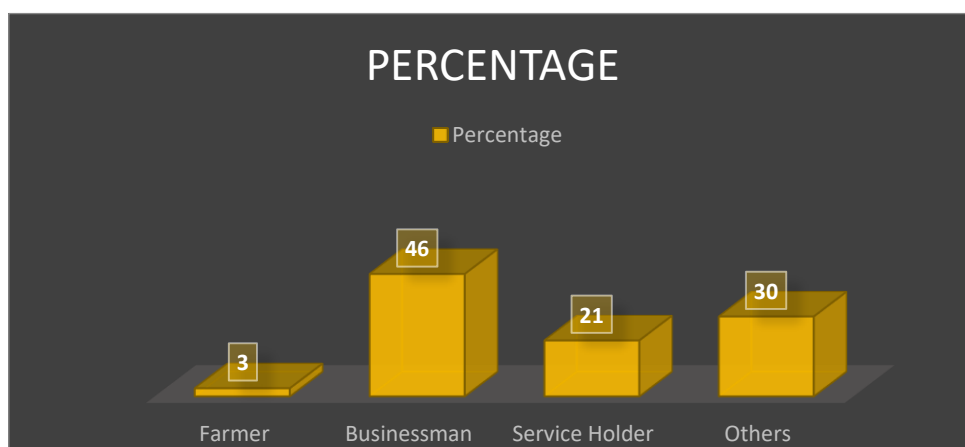
Fig 4.5: Professions of the Respondent's father

During the interview, 100 individuals provided information on their father's occupation. According to this data, 46% of the respondent's fathers are businessmen. The bar chart stated that just 21% of respondent's fathers are service holders, 3% are farmers and the rest 30% are in other professions.

4.1.7 Income of the respondent's father:
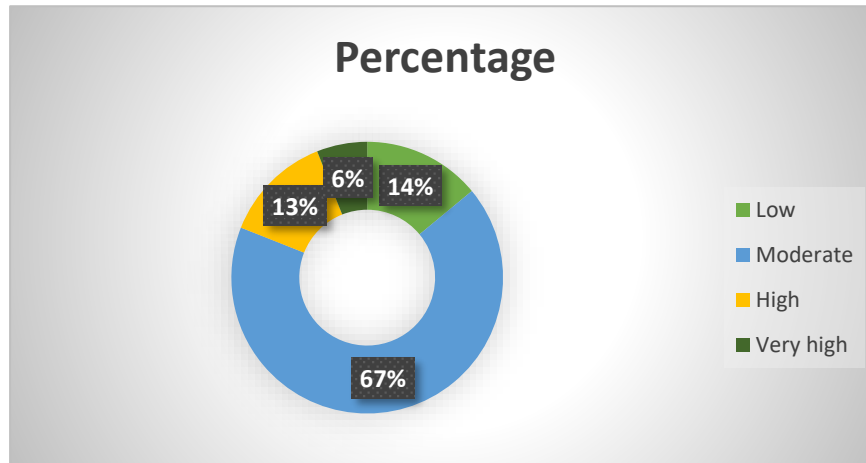
Fig 4.6: Income of the Respondent's father

The data you provided represents the income levels of the respondents' fathers and the corresponding percentages in each income category. Most respondents (67%) fall into the "Moderate" income category. 14% of respondent's fathers have a low income. 13% of them are in the "High" income category. Only 6% of them are in the "Very high" income category.

4.2 Health Condition

4.2.1 Body Mass Index (BMI) of the respondents:

Table 4.2: Respondents Body Mass Index (BMI)			
BMI Categories	**Frequency**	**Percent**	**Mean/SD**
Under Weight	2	2.0	19.6480+/-2.93597
Healthy Weight	91	91.0	
Over Weight	6	6.0	
Obesity	1	1.0	
Total	100	100.0	

The table shows most (91%) respondent's BMI falls into the "Normal weight" category. 2% of the respondents have a BMI below the normal weight range. 6% of Respondents in this category have a BMI that falls within the overweight range 1% of the "Obesity" category represents respondents with a BMI in the obese range. The mean is 19.6480 which indicates people have a normal BMI on average.

4.2.2 Frequency Distribution Table of Health Disease of the Respondents:

Table 4.3: Health Disease of the Respondents		
Health Disease	**Frequency**	**Percent**
Yes	26	26.0
No	74	74.0
Total	100	100.0

According to this data, out of 100 respondents, 26% have a health disease, and the remaining 74% do not.

4.3 Knowledge, attitudes, and practices (KAP)

4.3.1 Frequency Distribution Table of the Respondent's Response to Breakfast's Importance:

Table 4.4: Respondent's Response to Breakfast's Importance		
Breakfast Important Component	**Frequency**	**Percent**
Yes	88	88.0
No	12	12.0
Total	100	100.0

Most respondents, 88%, think that breakfast is an important component, according to the data, while 12% disagree.

4.3.2 Frequency Distribution table of taking snacks between meals of the Respondents:

Table 4.5: Frequency Distribution of snacks between meals		
Takes Snacks Between Meal	**Frequency**	**Percent**
Never	5	5.0
Rarely	32	32.0
Sometimes	49	49.0
Always	14	14.0
Total	100	100.0

This data shows the distribution table of how often respondents take snacks between meals, with the majority (49%) reporting that they do so sometimes, while 32% do it rarely, 14% do it always, and 5% never do it.

4.3.3 Frequency Distribution table of having Tea or coffee in a week of the Respondents:

Table 4.6: Frequency Distribution of having Tea or coffee in a week		
Having Tea or coffee in a week	**Frequency**	**Percent**
Never	15	15.0
Rarely	34	34.0
Sometimes	41	41.0
Always	10	10.0
Total	100	100.0

This data reveals the distribution of respondents' tea or coffee consumption habits, with the majority (41%) having it sometimes, while 34% have it rarely, 15% never have it, and 10% always have tea or coffee in a week.

4.3.4 Frequency Distribution table of fish intake in a week of the Respondents:

Table 4.7: Frequency Distribution of fish intake in a week		
Fish Intake In a week	**Frequency**	**Percent**
Never	8	8.0
Rarely	15	15.0
Sometimes	33	33.0
Always	44	44.0
Total	100	100.0

This data shows the distribution of respondents' fish consumption habits, with a significant portion (44%) consuming fish always, while 33% consume it sometimes, 15% rarely, and 8% never consume fish in a week.

4.3.5 Frequency Distribution table of vegetables Intake in a week of the Respondents:

Table 4.8: Frequency Distribution of vegetable intake in a week		
Vegetable Intake in a week	**Frequency**	**Percent**
Never	12	12.0
Rarely	23	23.0
Sometimes	46	46.0
Always	19	19.0
Total	100	100.0

This data indicates the distribution of respondents' vegetable intake habits, with the majority (46%) consuming vegetables sometimes, while 23% consume them rarely, 19% always consume vegetables, and 12% never consume vegetables in a week.

4.3.6 Frequency Distribution Table of Meat intake in a week of the Respondents:

Table 4.9: Frequency Distribution of meat intake in a week		
Meat Intake in a Week	**Frequency**	**Percent**
Never	8	8.0
Rarely	32	32.0
Sometimes	49	49.0
Always	11	11.0

Total	100	100.0

This data reveals the distribution of respondents' meat consumption habits, with the majority (49%) consuming meat sometimes, while 32% consume it rarely, 11% always consume meat, and 8% never consume meat in a week.

4.3.7 Frequency Distribution table of having Fast food in a week of the Respondents:

Table 4.10: Frequency Distribution of having fast food in a week		
Fast food Consumption	**Frequency**	**Percent**
Never	12	12.0
Rarely	35	35.0
Sometimes	45	45.0
Always	8	8.0
Total	100	100.0

This data indicates the distribution of respondents' fast food consumption habits, with the majority (45%) consuming fast food sometimes, while 35% consume it rarely, 12% never consume fast food, and 8% always consume fast food in a week.

4.3.8 Frequency Distribution table of the Respondent's main meal of the day:

Table 4.11: Frequency Distribution of Respondent's main meal of the day		
Main Meal of the day	**Frequency**	**Percent**
Breakfast	27	27.0
Launch	53	53.0
Dinner	19	19.0
Others	1	1.0
Total	100	100.0

This data tells us the distribution of respondents' main meal preferences, with the majority (53%) having lunch as their main meal of the day, followed by 27% who have breakfast, 19% who have dinner, and 1% who have other meals as their main meal of the day.

4.3.9 Frequency Distribution Table of Respondents Thinking on balanced Nutritious foods:

Table 4.12: Frequency Distribution of Respondent's Thinking on balanced Nutritious foods		
Foods that Have Balanced Nutrition	**Frequency**	**Percent**
Vegetables and beans	23	23.0
Fruits	13	13.0
Lean meat and poultry, fish	14	14.0
Eggs, nuts, and seeds	15	15.0
Grain (cereal) foods, milk, cheese, or alternatives, mostly reduced fat	11	11.0
Combination of the above five items	24	24.0
Total	100	100.0

The frequency distribution table describes respondents thinking regarding balanced nutritious foods and the percentage of respondents who chose different options. Among 100 participants 23% of the total, believe that vegetables and beans are important components of a balanced nutritious diet. This indicates that a significant portion of the respondents value the importance of vegetables and beans in their diet.13% consider fruits as essential for balanced nutrition. While not as high as vegetables, a notable portion still acknowledges the importance of including fruits in their diet.14%, recognize the significance of lean meat, poultry, and fish in a balanced diet. This suggests that a portion of respondents value the protein sources from these items. 15%, emphasizing the importance of eggs, nuts, and seeds for balanced nutrition. This category represents those who consider protein and healthy fats from these sources as crucial.11%, focus on grain foods, dairy, or dairy alternatives with reduced fat content for balanced nutrition. On the other hand, 24% of the total, prefer a combination of the items mentioned above. This group recognizes the importance of a well-rounded diet incorporating various food groups for balanced nutrition.

4.3.10 Frequency Distribution table of Respondent's time to go to bed:

Table 4.13: Frequency Distribution of Respondent's time to go to bed		
Time to go to Bed	**Frequency**	**Percent**
8 PM-10 PM	32	32.0
10 PM-1 AM	61	61.0
1 AM-3 AM	4	4.0
After 3 AM	2	2.0
Total	100	100.0

The table shows the frequency distribution of respondents' bedtime preferences. 32% of the total, prefer to go to bed between 8 PM and 10 PM. While 4%, choose to go to bed between 1 AM and 3 AM. This is a less common bedtime range 2% have a late bedtime, going to bed after 3 AM. This is the least common bedtime choice among the respondents. On the other hand, the majority (61%) choose to go to bed between 10 PM and 1 AM, and a smaller percentage have earlier or much later bedtimes.

4.3.11 Frequency Distribution table of Respondent's hours of sleep daily:

Table 4.14: Frequency Distribution of Respondent's hours of sleep daily		
Hours of Daily Sleep	**Frequency**	**Percent**
4-6 hr.	17	17.0
7-8 hr.	66	66.0
9-10 hr.	16	16.0
>10 hr.	1	1.0
Total	100	100.0

The table shows the frequency distribution of the number of hours of sleep that respondents get daily. Most of the participants, 66% of them 7-8 hours of sleep daily. This is the most common range and is often considered the recommended amount of sleep for adults. 17%, get 4-6 hours of sleep daily. This represents the smallest group and suggests that a portion of the respondents have relatively short sleep durations 16% get 9-10 hours of sleep daily.

This group gets a bit more sleep than the average, which can be seen as relatively longer sleep 1% gets more than 10 hours of sleep daily. This is a relatively rare and extended sleep duration.

4.3.12 Frequency Distribution table of Respondent's thinking on getting enough sleep:

Table 4.15: Frequency Distribution of Respondent's thinking on getting enough sleep		
Getting Enough Sleep	**Frequency**	**Percent**
Yes	73	73.0
No	27	27.0
Total	100	100.0

The table shows the frequency distribution of respondents' thinking regarding whether they believe they get enough sleep. Most of them (73%), believe they get enough sleep. This indicates that most respondents feel satisfied with their sleep patterns. On the other hand,27.0% of the total, do not believe they get enough sleep. This suggests that a significant portion of respondents feel they are not getting adequate sleep.

4.3.13 Frequency Distribution Table of Respondent's response on an energy level to getting enough sleep:

Table 4.16: Frequency Distribution of Respondent's response on an energy level to getting enough sleep		
Energetic on the next day after getting enough sleep	**Frequency**	**Percent**
Yes	73	73.0
No	27	27.0
Total	100	100.0

The table shows the frequency distribution of respondents' responses regarding their energy levels on the next day after getting enough sleep. 73% of the total, report feeling energetic on the next day after getting enough sleep. This suggests that most respondents feel refreshed and energized when they have had enough sleep. On the other, 27% of the total, do not report feeling energetic on the next day after getting enough sleep. This indicates that a significant minority of respondents still feel fatigued or lacking in energy even when they believe they have had enough sleep.

4.3.14 Frequency Distribution Table of Respondents Avoiding some foods for health reasons.

Table 4.17: Frequency Distribution of Respondent's avoiding some foods for health reasons		
Avoiding some foods for health reasons	**Frequency**	**Percent**
Yes	53	53.0
No	47	47.0
Total	100	100.0

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The table shows the frequency distribution of respondents' behaviors regarding avoiding certain foods for health reasons. 53% of the participants, avoid certain foods for health reasons. This suggests that more than half of the respondents are making dietary choices with their health in mind. On the other hand, 47% of the total, do not avoid foods for health reasons. This indicates that a significant portion of respondents do not make specific dietary restrictions for health concerns.

4.3.15 Frequency Distribution Table of Respondent's time to go to School

Table 4.18: Frequency Distribution of Respondent's time to go to School		
Time to Go to School	**Frequency**	**Percent**
8 am	30	30.0
9 am	66	66.0
10 am	4	4.0
Total	100	100.0

The table you provided shows the frequency distribution of respondents' school start times 30.0% of the total, start school at 8 a.m. This represents a significant portion of respondents with an early school start time. Most of them (66%), began school at 9 am. This is the most common school start time among the respondents.4% start school at 10 am. This is a less common school start time.

4.3.16 Frequency Distribution Table of Respondent's Return Time from School

Table 4.19: Frequency Distribution of Respondent's Time to Return from School		
Return Time from School	**Frequency**	**Percent**
12 pm	7	7.0
2 pm	92	92.0
4 pm	1	1.0
Total	100	100.0

The table shows the frequency distribution of respondents' return times from school. Most of the respondents (92%), return from school at 2 pm. This is the most common return time among the respondents, representing the majority. 7% of the total, return from school at 12 p.m. This is a relatively small group with an early return time. Rest 1%, returns from school at 4 p.m. This is a relatively rare return time.

4.3.17 Frequency Distribution Table of Respondents having Breakfast before coming to school

Table 4.20: Frequency Distribution of Respondents having Breakfast Before coming to School		
Breakfast before coming to school	**Frequency**	**Percent**
Yes	75	75.0
No	25	25.0
Total	100	100.0

The table shows the frequency distribution of whether respondents have breakfast before coming to school. 75% of the total, have breakfast before coming to school. This indicates

that most respondents do have breakfast as part of their morning routine before school. On the other hand, 25% do not have breakfast before coming to school. This suggests that a significant but smaller portion of respondents do not eat breakfast before school.

4.3.17 Frequency Distribution Table of Respondent's Types of Foods Taking in the Leisure Period

Table 4.21: Frequency Distribution of Respondent's Types of Foods Taking in the Leisure Period		
Types of Foods Taking in the Leisure Period	**Frequency**	**Percent**
Home Made Food	26	26.0
Fast Food	22	22.0
Processed Food	29	29.0
Street foods	13	13.0
Others	10	10.0
Total	100	100.0

The table shows the frequency distribution of the types of foods respondents consume during their leisure periods. 26% prefer to consume homemade food during their leisure time. 22% opt for fast food during their leisure period. 29% consume processed foods when they have leisure time. 13% choose street foods during their leisure time.10% consume other types of foods during their leisure periods. This category includes foods that do not fall into the previous categories.

4.4 Associate table with Socio-demographic status and KAP variable

Table 4.22: Associate table with Socio-demographic status and KAP variable			
Socio-Demographic Factor	**KAP Variable**	**Mean/SD**	**Significance**
Age	Is breakfast an important component?	1.12+/-.327	p = 0.006
Age	What time do you come to school?	1.74+/.525	p = 0.000
Religion	What type of food do you think has balanced nutrition?	1.74+/-.525	p = 0.009
Education	BMI	19.6480+/-.2.93597	p = 0.000
Residency	Have you been avoiding some foods for health reasons?	1.47+/.502	p = 0.000

Age and the importance of breakfast are related in a statistically significant way, according to the p-value of 0.006 for the "Age" factor's "Is breakfast an important component?" question. A strong relationship has been observed between age and arrival time, with a p-value of 0.000, when asked "What time do you come to school?" The factor for "Religion" in "What type of food do you think has balanced nutrition?" has a p-value of 0.009,

suggesting a statistically significant correlation between beliefs about balanced nutrition and religion. For the "Education" factor, when the p-value for "BMI" is 0.000, there is an extremely strong relationship between education level and BMI. The "Have you been avoiding some foods for health Reasons?" question on the "Residency" factor has a p-value of 0.000, indicating a very strong correlation between residency and food avoidance for health-related reasons.

4.5 Association Table Relation to Knowledge and Practice

Table 4.23: Association Table Relation to Knowledge and Practice					
Practice / Knowledge		What Time Your School Finish?			P value
		12 pm	2 pm	4 pm	
Is Breakfast an Important Component?	Yes	3	84	1	.001
	No	4	8	0	
		What Time Your School Finish			
		12 pm	2 pm	4 pm	.000
When You Get Better Sleep, Do You Feel Energetic During Next Day?	Yes	1	72	0	
	No	6	20	1	
		Do you eat breakfast before coming to school?			.004
		Yes		No	
Is breakfast an important component?	Yes	70		18	
	No	5		7	
		What time is your school finish?			
		12 pm		2 pm	.0000
Do You think your s sleep duration is enough?	Yes	1		72	
	No	6		20	
		What time do you go to school?			
		8 am		9 am	.006
B15.HaveYouBeenAvoidingSomeFoodsForHealthReasons	Yes	23		29	
	No	7		37	

There is a statistically significant correlation (p = 0.001) between the behaviors of eating breakfast and the question "Is breakfast an important component?" When it comes to the question "What time do your school finish?" there is a highly significant correlation (p = 0.000) between breakfast consumption and education. There is a statistically significant correlation (p = 0.004) between the question "When you get better sleep, do you feel energetic during the next day?" and the breakfast-eating habit. The practice of eating breakfast and the question "Do you eat breakfast before coming to school?" have a statistically significant association (p = 0.0004). There is a statistically significant correlation (p = 0.006) between the practice of returning home from school and the question

"What time is your school finish?" The practice of avoiding foods and the question "Have you been avoiding some foods for Health Reasons?" are associated.

4.6 Discussion

The goal of the current study was to examine how different Knowledge, Attitude, and Practice (KAP) variables pertaining to daily routines, health, and nutrition relate to sociodemographic factors. The analysis clarified the complex interactions between individual characteristics and behaviors by identifying multiple significant associations between sociodemographic factors and KAP variables.

As a sociodemographic factor, age showed significant correlations with several KAP variables. Notably, the belief that breakfast is a crucial part of one's daily routine was significantly correlated with age. As indicated by the low p-value (p = 0.006), younger people tended to value breakfast more. Furthermore, there was a significant correlation between age and the time that people arrived at school. This association was found to be highly significant (p = 0.000), indicating that people's choice of when to start their daily activities appears to change with age.

Perceptions of balanced nutrition were particularly influenced by religious beliefs. Based on the analysis, there was a statistically significant correlation (p = 0.009) between religion and opinions about what makes for a balanced diet. This demonstrates how cultural and religious backgrounds affect dietary practices and beliefs.

Body Mass Index (BMI) showed a significant correlation with education level. Education and BMI were highly significantly correlated (p = 0.000), suggesting that people with different educational backgrounds may have a range of BMI values. These finding highlights how crucial education is in influencing people's knowledge of and behavior around nutrition and health.

The habit of abstaining from specific foods for health reasons was closely linked to the individual's residence. The analysis showed a very low p-value (p = 0.000) but a very strong correlation between residence and avoiding foods for health-related reasons. The discovery highlights the possible influence of environmental factors on dietary preferences and health-related actions.

The connections between knowledge and practice were examined in more detail in the second section of the analysis. Numerous interesting correlations were found. For example, there was a significant correlation (p = 0.001) between the practice of eating breakfast and the knowledge that it is an important component. In a similar vein, eating breakfast was substantially correlated with knowing when schools end (p = 0.000).

Additionally, eating breakfast was linked to the importance of getting better sleep (p = 0.004), highlighting the link between eating habits and sleep quality. The practice of leaving school early was significantly influenced by knowing whether classes end at 12 p.m., 2 p.m., or 4 p.m. (p = 0.006). Though there was an association between knowledge and practice in some cases, the p-value was not given, suggesting that more research and possibly larger sample sizes are required to produce statistically significant results.

CHAPTER 5

5. Conclusion

In summary, the study's findings demonstrate important relationships between practice and knowledge in the areas of daily routines, health, and nutrition. Interestingly, there is a clear correlation between the value placed on breakfast as a daily meal and the act of eating breakfast. Furthermore, the timing of school completion has a significant impact on breakfast consumption, highlighting the significance of daily routines in shaping eating habits. The practice of eating breakfast is found to be significantly impacted by better sleep quality, highlighting the complex relationship between sleep and dietary choices. A consistent pattern in people's routines can be seen in the strong correlation between the act of eating breakfast and the practice of doing so before going to school. Additionally, a strong correlation exists between the time at which school ends and the custom of returning home from school, which illustrates how daily activities and school schedules interact. Dietary restrictions are linked to the significance of avoiding specific foods for health reasons; however, a specific p-value was not provided. These results highlight the role that information plays in influencing eating habits, as does the influence of outside variables like sleep patterns and daily routines. These findings highlight the significance of taking daily routines, knowledge, and environmental factors into account when promoting healthier practices and offer helpful guidance for the development of focused health interventions. Additional investigation could enhance our comprehension of these correlations and aid in the creation of more potent tactics to encourage improved nutrition and health outcomes.

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Survey Questionnaire:

The Evolution of Dietary Preferences: Analyzing the Knowledge, Attitude, and Practice Regarding Balanced Diet and Healthy Eating Among School Students

Questionnaire

Name of data collector:	Area Name:	School Name:

Questionnaire Consent Form

Field Researcher:
Assalamu Alaikum/Adab, my name is _____. We have come to Daffodil International University to collect data for research on food and Age in school-going students. I would like to collect some information/data from you through this questionnaire. It may take you approximately 30 minutes to complete this interview. The information you provide will be used for research purposes only and the confidentiality of Your identity and information will be strictly protected. We will be grateful for your Cooperation.
Do you agree to assist the research with information/data now and as needed later?
1= Yes (If yes, start data collection)
2= No (if no, contact the next person)
[Data Collector: If the informant agrees, proceed with the Q&A interview, fixing a Convenient date and time if additional time is required.]
I, _____, Here is consent to provide information.

Date: ___/___/_____

General Information

Name:	
Contact No:	

Socio-Demographic Characteristics

SL No	Question	Coding Categories	Code
1	Gender	1. Male 2. Female	
2	What is your age?	---------------------------	
3	What is your Religion?	Islam = 1 Hindu =2 Christian = 3 Buddhist = 4 Others = 5	
4	Level of education:	Primary = 1	

		Secondary = 2 Tertiary = 3	
5	Residency	1 = Rural 2 = Urban	
6	Fathers Occupation:	Farmer = 1 Businessman = 2 Service Holder = 3 Others = 4	
7	Weight (Kg)	--------------------------	
8	Hight (inches)	--------------------------	

Knowledge, attitudes, and practices (KAP)

SL No	Question	Coding Categories	Comment
1	Do you have any health diseases?	a. Yes b. No	
2	Is breakfast an important component in your diet?	a. Yes b. No	
3	How often do you have snacks between meals (chips, chocolate, and sweets)?	Never = 1 Rarely = 2 Sometimes = 3	
4	How often do you have stimulants (tea, coffee) in a week?	Never = 1 Rarely = 2 Sometimes = 3 Always = 4	
5	How many fish meals does your diet contain in a week?	Never = 1 Rarely = 2 Sometimes = 3 Always = 4	
6	How often do you have vegetables in a week?	Never = 1 Rarely = 2 Sometimes = 3 Always = 4	
7	How often do you have meat in a week?	Never = 1 Rarely = 2 Sometimes = 3 Always = 4	
8	How often do you have fast food in a week?	Never = 1 Rarely = 2 Sometimes = 3 Always = 4	
9	What meal would you consider to be your main meal of the day?	Breakfast = 1 Lunch = 2 Dinner = 3	

		Others = 4	
10	What type of food do you think has a balanced nutrition?	Vegetables and beans = 1 Fruits = 2 Lean meat and poultry, fish = 3 Eggs, nuts, and seeds = 4 Grain (cereal) foods, milk, cheese or alternatives, mostly reduced fat = 5 Combination of the above five items = 6	
11	What time do you go to bed?	8-10 pm = 1 10 pm-1 am = 2 1-3 am = 3 After 3 am = 4	
12	How many hours do you sleep daily?	4-6 h = 1 7-8 h = 2 9-10 h = 3 >10 h = 4	
13	Do you think your sleep duration is enough?	Yes = 1 No = 2	
14	Do you find a relationship between your sleep duration and your energy during the next day?	Yes = 1 No = 2	
15	Have you been avoiding some foods for health reasons?	Yes = 1 No = 2	
16	What time do you come to school?	8.00 am = 1 9.00 am = 2 10.00 am = 3	
17	What time does your school finish?	12.00 pm = 1 2.00 pm = 2 4.00 pm = 3	
18	Do you eat breakfast before coming to school?	Yes = 1 No = 2	
19	What food do you eat in your leisure period?	Home-made food = 1 Fast food = 2 Processed food = 3 Open food = 4 Others = 5	

Thanks for Your Cooperation

_____
Signature of the respondent