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INFLUENCE OF FREQUENTLY CONSUMED DASH DIETS AND MEDITERRANEAN-STYLE DIETS ON CHRONIC DISEASE PREVENTION AMONG STUDENTS IN HIGHER INSTITUTIONS IN AKWA IBOM NORTH-EAST SENATORIAL DISTRICT

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ABSTRACT

This study investigated the influence of frequently consumed DASH diets and Mediterranean-style diets on chronic disease prevention among students in higher institutions in Akwa Ibom North-East Senatorial District. The study was guided by two specific objectives, which were to determine the influence of frequently consumed DASH diets and Mediterranean-style diets on chronic disease prevention among students. A descriptive survey design was adopted for the study. The total population used for the study was all higher institution students currently attending school in the Senatorial District, but a sample size of 600 respondents were drawn for the study using simple random and purposive sampling techniques. A researcher-developed questionnaire titled "Dietary Patterns and Chronic Diseases Prevention Questionnaire (DPCDPQ)" was used for data collection. Of the 600 questionnaire forms administered, 594 were correctly filled and returned. Simple Linear Regression was used to answer the research questions and Simple Linear Regression and one t-test were used to test the hypotheses at .05 level of significance. Based on the findings, the study concluded that poor adherence to healthy dietary patterns among students may increase their risk of developing chronic diseases later in life. One of the recommendations made was that higher institutions, health educators, parents, and government agencies should intensify nutrition education and promote healthy eating habits among students to enhance chronic disease prevention.

KEYWORDS: Dietary patterns, DASH diets, Mediterranean-style diets, chronic disease prevention, higher institution students.

INTRODUCTION

Diet is an essential factor in the healthy survival of human beings, but the habitual ways man consumes his diet can either boost health or become a source of illness to him. Dietary habits have a substantial impact on the health outcomes of people, especially in preventing chronic illnesses. Historically, chronic illnesses such as hypertension, coronary heart disease, diabetes mellitus, and arthritis were primarily linked to advancing age and were hence anticipated. However, in contemporary societies, such degenerative diseases have become increasingly prevalent. These diseases pose substantial global health challenges.

The rise in the occurrence of these chronic diseases in recent times may be ascribed to various factors. Modifications in lifestyle habits, including dietary habits, physical activity levels, and tobacco use, have played a significant role in this. Additionally, increase in environmental pollution, stress levels, and sedentary lifestyles have also contributed to the rise of these conditions. The frequency or occurrence rates of diabetes, heart disease, obesity and cancer worldwide and in Nigeria are causes for concern. According to the International Diabetes Federation (IDF, 2021) it is estimated that approximately 537 million adults aged

20 to 79 have diabetes globally i.e. 1 in 10 with the projected global prevalence expected to rise to 643 million by the year 2030 and 783 million by 2045. In Nigeria, an estimated population of about 3.9 million people aged 20 to 79 years has been diagnosed with diabetes. In the same vein, the World Health Organization (WHO 2021) reported that cardiovascular ailments such as heart disease and stroke are responsible for over seventeen million deaths annually across the globe. In Nigeria, heart disease is rapidly emerging as a leading public health problem causing morbidity and mortality.

Dash diet is one of such healthy eating patterns is the Healthy U.S.-Style (HEP), which stresses the intake of fruits, vegetables, and low-fat dairy products, including whole grains, chicken, fish, and little amounts of red meat, sweets, and sugar-containing beverages (Sui et al., 2020). The diet is high in fruits and vegetables, low in cholesterol, low in saturated and total fat dairy products, and moderate in whole grains, nuts, chicken, and fish. The researchers also pointed out that the HEP diet often excludes red meat, sweets, and sugar-containing drinks and instead adds potassium, magnesium, calcium, and fibre along with an abundance of antioxidants. Significantly, such diets have been shown to lower diastolic B.P. by 3 mmHg and systolic B.P. by 5.5 mmHg (Haghighatdoost et al., 2014).

Mediterranean diet is a daily meal high in whole grains, olive oil, fruits, vegetables, beans and other legumes, nuts, herbs, and spices. Smaller amounts of other foods, such as animal proteins, are consumed; fish and seafood being the most popular sources (Boucher, 2017). According to Boucher (2017), Mediterranean diet limits added sugars, sugary drinks, sodium, highly processed foods, refined carbohydrates, saturated fats, and fatty or processed meats; it emphasises vegetables, fruits, whole grains, beans and legumes; and includes low-fat or fat-free dairy products, fish, poultry, non-tropical vegetable oils and nuts.

Dietary choices are the key part of a lifestyle determining health, morbidity and mortality in many situations (Haggblade et al., 2016). According to Pingali and Sunder (2017), healthy diet helps to protect against malnutrition in all its forms, as well as non-communicable diseases such as diabetes, heart diseases, stroke and cancer. Therefore the study of patterns in food consumption is vital for the early diagnosis of nutritional issues within the whole population.

As the prevalence of chronic diseases continue to rise globally, it became imperative to investigate the dietary patterns among specific populations to advocate for targeted interventions that could effectively promote better health outcomes. Thus, this dissertation was set to determine dietary patterns and chronic diseases prevention among students in higher institutions in Akwa Ibom North-East Senatorial District.

STATEMENT OF THE PROBLEM

The transition from adolescent to early adulthood is marked by several changes, including a shift in dietary habits and lifestyle choices. Students in higher institutions frequently experience increased independence and diverse food choices, which can potentially lead to the adoption of sub-optimal dietary patterns. Unhealthy dietary habits established in this stage of life may have long-term consequences, contributing to the development of chronic diseases later in life.

The role of nutrition and health education in promoting healthy lifestyles and preventing chronic diseases is well-documented. This is particularly concerning, given the potentially high rates of chronic diseases in the region, such as diabetes and cardiovascular disease (Umoren et al., 2015). This has significant implications for their long-term health and overall well-being. Therefore, understanding the dietary patterns and their impact on chronic disease prevention among this specific population is crucial for effective health promotion and prevention strategies.

However, there is limited research specifically focused on understanding the dietary patterns and chronic disease preventive strategies among the higher institution students. This lack of knowledge regarding the dietary habits being practiced by the students hinders the development of targeted interventions to address the issue effectively (Umoren et al., 2015). To identify the factors contributing to poor dietary habits and the effectiveness of preventive measures, and to provide valuable insights for developing comprehensive interventions to promote healthier dietary patterns; this research therefore aimed at investigating dietary patterns and chronic diseases prevention among higher institution students in Akwa Ibom North-East Senatorial District.

PURPOSE OF THE STUDY

The specific objectives were as follows:

1. To determine the influence of frequently consumed DASH diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District.
2. To determine the influence of frequently consumed Mediterranean-style diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District.

RESEARCH QUESTIONS

1. What is the influence of frequently consumed DASH diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District?
2. What is the influence of frequently consumed Mediterranean-style diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District?

RELEVANT RESEARCH HYPOTHESES

The following hypothesis were formulated to guide the study

1. There is no significant influence of the frequently consumed DASH diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District.
2. There is no significant influence of the frequently consumed Mediterranean-style diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District

LITERATURE REVIEW

CONCEPTUAL FRAMEWORK

Dietary Patterns

Dietary Patterns (DPs) are defined as the quantities, proportions, varieties or combination of foods, drinks and nutrients available in diets and the frequency with which they are consumed. Dietary pattern (DP) is the overall profile of food and nutrient intake which is described on the basis of the regular eating habits. The examination of dietary patterns offers a more thorough understanding of the food consumption habits within a group. It may be better at predicting the risk of illnesses than the examination of individual nutrients or foods because the combined impact of many nutrients involved would be better detected. The Dietary Guidelines for Americans (DGA) 'identify several healthy dietary patterns that Americans can follow to meet nutrient needs within energy requirements, including the Healthy U.S.-Style (HEP), the Healthy Mediterranean-Style (MEP), and the Healthy Vegetarian (VEP) Eating Patterns' (USDepartment of Agriculture, 2020).

The United States Department of Agriculture (USDA) reported that the 2015 US Dietary Guidelines Advisory Committee (DGAC) assessed the impact of diet overall on a number of health outcomes in its report. Based on a methodical analysis of the available data, the Committee determined three dietary patterns—the healthy US-style pattern, the healthy Mediterranean-style pattern, and the healthy Vegetarian pattern—that are linked to a lower risk of chronic diseases and better diet quality. Significantly, these patterns shared a number of characteristics, notably a greater consumption of fruits, vegetables, whole grains, nuts, and legumes; a moderate use of alcohol; and a reduced consumption of refined grains, sugar-sweetened foods and beverages, and red and processed meats. The DGAC study revealed that many alternative healthy eating patterns may provide the essential components of a balanced diet, therefore fitting diverse individual demands and socio-cultural preferences (US Department of Agriculture (USDA) (US Department of Health & Human Services, 2015). The USDA state that these meal patterns provide suggested amounts of important food categories, subgroups, and components to satisfy nutritional requirements at different calorie levels. The USDA's food patterns are intended to satisfy nutrient recommendations found in the Dietary Reference Intakes (DRIs), which include macronutrient levels that fall within the Acceptable Macronutrient Distribution Ranges (AMDR); for an adult, the AMDR for fat is 20–35 percent of energy and for carbohydrates 45–65 percent of energy. The AMDR for

protein is represented by the balance, 10–35 percent of energy. At lower to medium ranges of the protein AMDR, the model HEP and MEP patterns provide 18% of the energy from protein in a 2,000 kcal meal, while the VEP gives 14 percent of the energy from protein. Lean meats, poultry, eggs, shellfish, nuts, seeds, and soy products are among the plant and animal-based foods that make up the USDA's (2015) list of the dietary sources of protein in the HEP.

Healthy DASH -Style (HEP) and Chronic Diseases Prevention

One of such healthy eating patterns is the Healthy U.S.-Style (HEP), also known as the DASH diet, which stresses the intake of fruits, vegetables, and low-fat dairy products, including whole grains, chicken, fish, and little amounts of red meat, sweets, and sugar-containing beverages. (Sui et al., 2020). According to the authors, the National Heart, Lung, and Blood Institute (part of the National Institute of Health (NIH), United States Department of Health and Human Services) has developed a specifically recommended dietary pattern to prevent and treat hypertension. The diet is high in fruits and vegetables, low in cholesterol, low in saturated and total fat dairy products, and moderate in whole grains, nuts, chicken, and fish. The researchers also pointed out that the HEP diet often excludes red meat, sweets, and sugar-containing drinks and instead adds potassium, magnesium, calcium, and fibre along with an abundance of antioxidants. Significantly, such diets have been shown to lower diastolic B.P. by 3 mmHg and systolic B.P. by 5.5 mmHg (Haghighatdoost et al., 2014). The authors emphasised that following a HEP diet with few adjustments to everyday food items not only satisfies daily nutritional needs but also helps with certain regulatory processes, which have some functional advantages including weight reduction.

According to Haghighatdoost et al. (2014), the DASH diet may be followed for life as it can provide one the sense of being sated and healthy. The authors further said that because of its rich nutritional profile—high calcium, magnesium, and fibre with a comparatively low amount of saturated fat and balanced with the appropriate amount of protein—it is an effective way to improve and manage various factors in metabolic syndrome (B.P., lipid levels, and insulin resistance). The body experiences the same effects from a DASH diet that alters typical food consumption patterns as costly prescription medications. Machado et al. (2016) underlined that DASH therapies involve modifying the WHO-recommended dietary levels of oil (which should not exceed 16 ml per capita), sugar (which should not exceed 10 percent of daily calorie intake), and salt (less than 5 g per day). Even if the mean per capita consumption of these foods is reduced insufficiently, this decrease is enough to ameliorate several disorders associated with hypertension risk factors, like dyslipidemia and glucose intolerance.

Healthy Mediterranean-Style Diets and Chronic Disease Prevention

A daily meal high in whole grains, olive oil, fruits, vegetables, beans and other legumes, nuts, herbs, and spices is the mainstay of the Mediterranean diet. Smaller amounts of other foods, such as animal proteins, are consumed; fish and seafood being the most popular sources. (Boucher, 2017). Boucher claims that a Mediterranean diet limits added sugars, sugary drinks, sodium, highly processed foods, refined carbohydrates, saturated fats, and fatty or processed meats; it emphasizes vegetables, fruits, whole grains, beans and

legumes; and includes low-fat or fat-free dairy products, fish, poultry, non-tropical vegetable oils and nuts. Since 1950s, when studies by Dr. Ancel Keys revealed that people living in the Mediterranean area of the globe had reduced rates of coronary heart disease (CHD), the Mediterranean-style eating pattern (MEP) has drawn attention. More current research keeps showing how the MEP lowers cardiovascular events and increases CHD survival (Franquesa et al., 2019; Bantle et al., 2016). Improved glycemic control and lower incidence of type 2 diabetes are two further health advantages of the MEP, claim these investigators.

Regarding the prevention of chronic illnesses, the Mediterranean diet pattern has been linked to lower blood pressure, improved heart health, and lower risk of cardiovascular disease (CVD) (Nissensohn, 2016) (Franquesa et al., 2019). More strictly following this diet has been associated with lower CVD risk and death in the general population (Kastorini et al., 2016) as well as in individuals at high CVD risk. One of the most famous studies to look at the health benefits of the Mediterranean diet is the Primary Prevention of Cardiovascular Disease with a Mediterranean Diet (PREDIMED) research. Tracking almost 7,000 Spanish individuals over 55 who had no cardiovascular illness but had a history of health risk factors, this research was reported in the New England Journal of Medicine. Three groups—two intervention groups and one control group—were allocated to the participants at random. A Mediterranean diet was followed by one of the intervention groups, which received free olive oil; the other group received free mixed nuts (walnuts, almonds, and hazelnuts). The control group was counselled to cut down on their fat consumption rather than receiving any extra meals. All three groups had unrestricted calorie diets. The Mediterranean diet groups showed a thirty percent reduced relative risk of major cardiovascular events than the control group over the five-year trial period.

A study on the management of glucose in type 2 diabetes has shown that healthy people who follow the Mediterranean diet at high rates have a lower chance of getting diabetes (Esposito et al., 2015); yet, not every research confirms this correlation. There is some evidence that following the Mediterranean diet may lower glycated haemoglobin (HbA1c) or assist control insulin and glucose levels. A high degree of evidence shows that following the Mediterranean diet lowers obesity and abdominal adiposity, according to another comprehensive analysis of controlled clinical trials and prospective studies on weight management and obesity (Franquesa et al., 2019). The Mediterranean diet has also been linked, the authors claim, to a higher decrease in body weight as well as in waist circumference and body mass index, in intervention and observational research. The Mediterranean diet has been linked in favourable ways to lower risk of several cancers, perhaps because of its high levels of antioxidants and anti-inflammatory elements (Mentella et al., 2019). Regular consumption of foods commonly found in a Mediterranean diet pattern, such fruits and vegetables, fish, olive oil and whole grains, has been linked to a lower risk of cancers including gastrointestinal, ovarian, urinary tract, breast and ovarian cancers (Morze et al., 2020).

EMPIRICAL REVIEWS

In relation of the present study to this empirical review, this review considered different types of dietary patterns like vegetarian, nutrient-dense diets/ healthy diets and gender differences in dietary patterns. Increased availability of reasonably priced healthier food products and initiatives to encourage student involvement in cooking and food preparation

should be part of university policy to enhance students' diets. In a research done at a coastal Kenyan university, Mogeni and Ouma (2022) attempted to characterise the food habits, behaviours, and knowledge/lifestyle decisions of undergraduate students. 72 Pwani University undergraduate students served as the sample for this cross-sectional research. An information-gathering semi-structured food frequency questionnaire was used to gather lifestyle, sociodemographic, and dietary trends. Descriptive statistics, inferential statistics of t-tests, chi-square tests, Z-tests, and Univar iate and multivariable logistic regression were the statistical methods used. The students were mostly between the ages of 21 and 24 (59.7%), with a larger proportion of females (67.6%) among those between the ages of 18 and 26. Most students (72.2%) said they followed a balanced diet, adopted healthy lifestyle choices (97.2 percent, 84.7 percent, frequent exercise, self-prepared meals, 45.8 percent, regular eating, and normal BMI status). About 62.5 percent of pupils knew enough about excellent nutrition. Particular dietary habits, such as eating fruit and vegetables, eating regularly, following a balanced diet, and consuming a variety of foods, showed significant variations. Following the adjustment for other factors in a logistic regression model, such variations were linked to at least one of the following: snacking habits (OR = 11.4, $p < 0.0001$), personal meal preparation (OR = 4.60, $p = 0.04$), and BMI (OR = 0.72, $p = 0.01$). Students at universities are quite knowledgeable about the dietary and health-related nutritional needs. That does not, however, always transfer into eating habits and good food selections.

METHODOLOGY

A descriptive survey design was adopted for the study. The total population used for the study was all higher institution students currently attending school in the Senatorial District, but a sample size of 600 respondents were drawn for the study using simple random and purposive sampling techniques. A researcher-developed questionnaire titled "Dietary Patterns and Chronic Diseases Prevention Questionnaire (DPCDPQ)" was used for data collection. Of the 600 questionnaire forms administered, 594 were correctly filled and returned. Simple Linear Regression was used to answer the research questions and Simple Linear Regression and one t-test were used to test the hypotheses at .05 level of significance.

RESULTS AND DISCUSIONS

Research Question One

What is the influence of frequently consumed DASH diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District?

This question was raised to determine the influence of frequently consumed DASH diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District.

To determine this, the Simple Linear Regression and R^2 were used. The result is as shown in Table 1.

Table 1: Simple Linear Regression Analysis on the Influence of Frequently Consumed DASH Diets by Students of Higher Institutions on Chronic Disease Prevention in Akwa Ibom North-East Senatorial District

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.422[a]	.210	.002	2.034

a. Predictors: (Constant), frequently consumed DASH diets (Source: Field survey, 2024)

Table 1 results demonstrate that the influence of frequently consumed DASH diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District has very low degree of prediction strength (R value of .422). Additionally, the R^2 value of .210, which represents the coefficient of determination of the extent of prediction, indicates that 21 per cent of the variation in chronic diseases prevention is explained by frequently consumed DASH diets. This implies that there is a very low frequently consumed DASH diet by students of higher institutions which does not help in chronic diseases prevention in Akwa Ibom North-East Senatorial District.

Research Question Two

What is the influence of frequently consumed Mediterranean-style diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District?

This question was raised to determine the influence of frequently consumed Mediterranean-style diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District.

To determine this, the Simple Linear R and R^2 were used. The result is as shown in Table 2.

Table 2: Simple Linear Regression Analysis on the Influence of Frequently Consumed Mediterranean-style Diets by Students of Higher Institutions on Chronic Diseases Prevention in Akwa Ibom North-East Senatorial District

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.301[a]	.251	.004	2.034

a. Predictors: (Constant), frequently consumed Mediterranean-style diets

Table 2 results demonstrate that the influence of frequently consumed Mediterranean-style diets by students of higher institutions on chronic disease prevention in Akwa Ibom North-East Senatorial District has very low degree of prediction strength (R value of .301). Additionally, the R^2 value of .251, which represents the coefficient of determination of the extent of prediction, indicates that 25 per cent of the variation in chronic diseases prevention is explained by frequently consumed Mediterranean-style diets. Thus, it can be concluded that there is very low degree of predictive power of the influence of frequently consumed Mediterranean-style diets by students of higher institutions on chronic disease prevention in Akwa Ibom North-East Senatorial District. This implies that there is a very low frequently consumed Meditteranean-style diet by students of higher institutions which does not help in chronic diseases prevention in Akwa Ibom North-East Senatorial District.

Hypothesis 1

Ho_1: There is no significant influence of frequently consumed DASH (healthy) diets by students of higher institutions on chronic disease prevention in Akwa Ibom North-East Senatorial District.

The hypothesis was formulated to determine the significant influence of frequently consumed DASH diets by students of higher institutions on chronic disease prevention in Akwa Ibom North-East Senatorial District.

To analyze the data, Simple Linear Regression statistics was used. The result of the analysis is as shown in Table 3.

Table 3: Simple Linear Regression Analysis of Significant Influence of Frequently Consumed DASH (healthy) Diets by Students of Higher Institutions on Chronic Disease Prevention in Akwa Ibom North-East Senatorial District

Model		Sum of Squares	Df	Mean Square	F	P-value
1	Regression	.011	1	.011	.003	.960[b]
	Residual	2448.341	592	4.136		
	Total	2448.352	593			

a. Dependent Variable: chronic disease prevention
b. Predictors: (Constant), frequently consumed DASH diets

The result in Table 3 shows the computed F-value as .003 with 1 and 592 degree of freedom as well as the p-value of .960. Since the p-value is less than ($p \geq .05$), the null hypothesis which stated that there is no significant influence of frequently consumed DASH diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District is retained, while the alternative is rejected. Hence, it was concluded that there is no significant influence of frequently consumed DASH diets by students of higher institutions

on chronic diseases prevention in Akwa Ibom North-East Senatorial District as their frequently consumed Dash diet was low.

Hypothesis 2

Ho_2: There is no significant influence of frequently consumed Mediterranean-style diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District.

The hypothesis was formulated to determine if there is significant influence of frequently consumed Mediterranean-style diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District.

To analyze the data Simple Linear Regression statistics was used. The result of the analysis is as shown in Table 4.

Table 4: Simple Linear Regression Analysis of Significant Influence of Frequently Consumed Mediterranean-style Diets by Students of Higher Institutions on Chronic Disease Prevention in Akwa Ibom North-East Senatorial District

Model		Sum of Squares	Df	Mean Square	F	P-value
1	Regression	.003	1	.003	.001	.980[b]
	Residual	2448.349	592	4.136		
	Total	2448.352	593			

a. Dependent Variable: chronic disease prevention
b. Predictors: (Constant), frequently consumed Mediterranean-style diets

The result in Table 4 shows the computed F-value as .001 with 1 and 592 degree of freedom as well as the p-value of .980. Since the p-value is less than ($p \geq .05$), the null hypothesis which stated that there is no significant influence of frequently consumed Mediterranean-style diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District is retained, while the alternative is rejected. Hence, it was concluded that there is no significant influence of frequently consumed Mediterranean-style diets by students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District as they hardly consumed Mediterranean-style diets.

CONCLUSION

In conclusion, dietary patterns among students in higher institutions in Akwa Ibom North-East Senatorial District have a low influence on chronic disease prevention. The study revealed that the frequently consumed DASH diets among students showed a very low predictive strength towards chronic disease prevention, indicating that students do not adequately consume healthy DASH dietary components such as fruits, vegetables, whole

grains, low-fat dairy products, and reduced sugar-containing foods and beverages. Consequently, there was no significant influence of DASH diets on chronic disease prevention among the students. Similarly, the study established that Mediterranean-style diets were not frequently consumed by students of higher institutions in the study area. The low level of consumption of foods associated with the Mediterranean diet pattern, such as fruits, vegetables, legumes, fish, olive oil, and whole grains, contributed to its very low predictive influence on chronic disease prevention. The study therefore concludes that poor adherence to healthy dietary patterns among students may expose them to increased risk of developing chronic diseases such as obesity, hypertension, diabetes, and cardiovascular diseases later in life. There is therefore a need for improved nutrition education and health promotion programmes among higher institution students to encourage healthier dietary practices that can enhance chronic disease prevention.

RECOMMENDATIONS

Based on the findings and conclusion of this study, the following recommendations were made:

1. Higher institutions should organise regular nutrition and health education programmes to educate students on the importance of DASH diets and other healthy dietary patterns in preventing chronic diseases.
2. School authorities should encourage the availability and affordability of healthy food options such as fruits, vegetables, whole grains, and low-fat meals within school cafeterias and food outlets.
3. Public health educators and nutritionists should collaborate with higher institutions to create awareness campaigns on the health benefits of Mediterranean-style diets and healthy eating habits.
4. Students should be encouraged to reduce the consumption of processed foods, sugary drinks, excessive fats, and unhealthy snacks, while increasing the intake of nutrient-rich foods.

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