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Factors Influencing Dietary Patterns and Gender Variation in Chronic Disease Prevention among Higher Institution Students in Akwa Ibom North-East Senatorial District

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Abstract

This study investigated the factors influencing dietary patterns and gender variation in chronic disease prevention among higher institution students in Akwa Ibom North-East Senatorial District. A descriptive survey design was adopted for the study. Two specific objectives guided the study: to determine the factors influencing dietary patterns of students of higher institutions in relation to chronic disease prevention, and to ascertain dietary patterns of higher institution students by gender in relation to chronic disease prevention. The total population used for the study was all higher institution students currently attending school in the Senatorial District, 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. The study concluded that dietary patterns play a major role in chronic disease prevention among students, and that influencing factors such as lifestyle, accessibility, cost, and knowledge significantly affect food choices. One of the reccommendation made was that higher institutions should implement compulsory nutrition awareness programs to educate students on healthy dietary patterns and the risks of chronic diseases.

Keywords: Dietary Patterns, Gender Variation Chronic Disease Prevention, Higher Institution Students.

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Introduction

Diet is a fundamental determinant of human health and survival, as it directly influences growth,

development, and overall well-being. However, dietary habits vary widely among individuals and populations, and these patterns can either promote good health or increase susceptibility to diseases. Poor dietary patterns have been strongly associated with the rising burden of chronic non-communicable diseases such as hypertension, diabetes mellitus, coronary heart disease, obesity, and arthritis.

Historically, chronic diseases were largely associated with ageing and were relatively rare in younger populations. For instance, earlier medical records from Western societies show that cardiovascular-related diseases were uncommon over a century ago, with the first recorded case of coronary heart attack documented in 1910 (Diehl et al., 2016). However, in contemporary society, these diseases have become increasingly prevalent across all age groups, including young adults and students, largely due to lifestyle and dietary transitions.

The rise in fast food consumption, sedentary lifestyles, and increased intake of processed foods has significantly contributed to poor dietary patterns among youths, especially students in higher institutions. At the same time, evidence from global dietary guidelines suggests that healthy dietary patterns such as the DASH diet, Mediterranean diet, and vegetarian-based eating patterns are effective in reducing the risk of chronic diseases through their emphasis on fruits, vegetables, whole grains, lean proteins, and reduced intake of saturated fats, sugar, and processed foods.

Despite these known benefits, many students in higher institutions continue to adopt unhealthy eating habits due to factors such as cost, accessibility, cultural preferences, time constraints, and lack of nutritional knowledge. Gender differences may also influence dietary choices and health outcomes.

It is against this background that this study investigates the dietary patterns, influencing factors, and chronic disease prevention among students in higher institutions in Akwa Ibom North-East Senatorial District.

Statement of problem

Chronic diseases such as hypertension, diabetes, cardiovascular diseases, and obesity are increasing at an alarming rate globally, and these conditions are no longer restricted to older adults but are increasingly affecting young populations, including university students. This trend is strongly linked to unhealthy dietary patterns characterized by high consumption of fast foods, sugary drinks, processed foods, and low intake of fruits and vegetables.

Although several studies have identified healthy dietary patterns such as DASH and Mediterranean diets as effective in preventing chronic diseases, many students in higher institutions still do not adhere to these recommended dietary practices. Instead, their food choices are influenced by factors such as income level, food availability, peer influence, cultural background, time constraints, and convenience.

Furthermore, there is limited empirical evidence on how these factors specifically influence dietary patterns among students in Akwa Ibom North-East Senatorial District, as well as how gender differences may affect these patterns in relation to chronic disease prevention. This lack of localized data creates a gap in designing targeted nutritional interventions and health promotion strategies for students.

Therefore, this study seeks to determine the factors influencing dietary patterns among higher institution students and to examine gender differences in dietary patterns in relation to chronic disease prevention in Akwa Ibom North-East Senatorial District.

Research objective

The following objective were formulated:

1. To determine the factors influencing dietary patterns of students of higher institutions and chronic diseases prevention in Akwa Ibom North-East Senatorial District.
2. To ascertain dietary patterns of higher institution students by gender and chronic diseases prevention in Akwa Ibom North-East Senatorial District.

Research question

1. What are the factors influencing dietary patterns of students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District?
2. What are the factors influencing dietary patterns of higher institution students by gender on chronic diseases prevention in Akwa Ibom North-East Senatorial District? ents by gender on chronic diseases prevention in Akwa Ibom North-East Senatorial District?

Research hypothesis

The following hypothesis were formulated to guide the study

1. There is no significant influence of factors influencing dietary patterns of students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District.
2. There is no significant influence of dietary patterns of higher institution students by gender on chronic diseases prevention in Akwa Ibom North-East Senatorial District

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).

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.

Though there are many recognised health benefits, Mackenbach et al. (2017) pointed out that most people's diets do not support the inclusion of all these natural food components in their meals because of a number of obstacles. These obstacles include cultural preferences, limited availability, insufficient time for preparing DASH meals, and higher cost of DASH food ingredients, which are unaffordable by the underprivileged population. This pandemic would undoubtedly be halted by the reversal of risk factors that contribute to the development of Cardio Vascular Diseases (CVDs), the efficient application of evidence-based policies, the provision of the best treatment to low socioeconomic groups, and the strengthening of health systems.

Factors influencing dietary patterns among students of higher institutions and chronic disease prevention

Choosing what to eat is a complicated human action impacted by a number of interrelated variables. Students at universities are exposed to low nutritional intake and bad eating habits. One reason for this can be the separate food choices made. According to MenuSano Team (2022) several factors influence one’s food choices and patterns. The Team highlighted these to include:

Cultural practices: Every culture has its own meals, ingredients, and traditions, hence they are important to eating habits. From the day of birth, one's culture will affect what and how they eat; although certain foods are excellent, others may be avoided due to religious or other cultural beliefs. To make healthy adjustments, one must first ascertain whether the meals they grew up eating are helpful. It is difficult to alter eating habits when one has been used to them. You may make changes and yet like these classic dishes.

Cost is another factor the Team identified that influences dietary patterns greatly. It significantly impacts one’s food preferences because people will have to purchase products they can afford to according to their income level. Income limits many people to just a few choices as they cannot afford a lot of foods of their own choice. Nutrient-dense foods are very expensive and so people with low income will have to select foods within their budget irrespective of how unhealthy they may be. Even when people have the ability to spend money on good food, they should take time to acquire knowledge about nutritious foods which can be purchased and more so with people working with a tight budget.

Concerning convenience and access the Team averred this to play a major role in dietary patterns. Most people including higher institution students purchase food available in stores close to their homes or campuses; or in their cafeteria because it is convenient and their purchases will be based on what is available or in stock there. Dietary habits are typically solely focused on what is available, which may often make it challenging to consume nutritionally-balanced meals. Time is yet another factor that the team discussed. This is very important to eating habits as most individuals don't have the time to cook wholesome meals and will buy whatever they can get their hands on. Many individuals depend on fast food or meal delivery services; high school students are not excluded from this trend as the busier one is, the less time he has to cook and prepare meals at home.

Food choices are obviously influenced by education, and one is more likely to make well-informed meal decisions the more knowledge he has about the nutritional worth of foods. Higher institution students also belong to the category of people who may not have adequate nutritional knowledge and this may influenced their dietary patterns to an extent. Passion for Cooking also remains a factor. While some individuals like cooking and would want to experiment with new dishes, others have little interest in learning or even attempting. This will affect one's food choices as those who like to cook will choose

more carefully and laboriously, while others who don't will depend more on prepackaged or processed meals.

According to a research done in 2022 by Mulenga et al., adolescents—the developmental period of most high school students—are often linked to the snacking dietary pattern, which is defined by the intake of fast food, sugar-sweetened beverages, and snacks. Four primary dietary patterns were determined to be most common among the adolescents in this research that evaluated the eating habits of school-age teenagers in urban Zambia: (1) traditional defined by eating of cereals and meat; (2) vegetarian characterised by consumption of pulses, fish and vegetables; (3) health aware characterised by intake of fruits and eggs. Significant predictors of the found dietary pattern were individual level socioeconomic factors such as weekly pocket money, an employed guardian, and self-assessed poverty; school environment factors such as having a fruit-selling tuck-shop or street vendors outside the school. The eating behaviour of snacking is widespread and has been shown by Ochola and Masibo (2014) among high school-age teenagers in underdeveloped nations. The preponderance of the snacking dietary pattern is linked to the development of cardio-metabolic diseases and is proof of the ongoing nutritional shift towards more westernised diets that include fast food, snacks, and sweets (Chisanga et al., 2019). Many variables have been noted to influence high school students' snacking habits. These include social economic status (SES) variables like income as well as demographic ones like age and gender (Hinnig et al., 2018). These are some of the well-known individual level influences on teenage eating habits to which kids in high schools belong. The school food environment is another crucial element that affects eating habits since adolescents spend a lot of time at school, claim Bekker et al. (2017). Students may demonstrate their independence via autonomous meal choices thanks to the school system, and the availability of various food alternatives in school tuck-shops has been linked to healthy eating habits marked by regular intake of fruit and vegetables. On the other hand, Kelly et al. (2019) suggest that the existence of fast food restaurants near schools is linked to poor eating habits.

According to Baird et al. (2017), overweight and obesity are still rising as chronic health issues brought on by a shift in diet to one high in calories and fats and a decline in physical activity, particularly among urban teenagers and college students. The scientists connected this to typical eating habits that include dining out, skipping meals, snacking, and consuming foods heavy in fats and carbs. Furthermore, they said that eating irregularly is linked to obesity, overeating, and missing breakfast. The prevalence of obesity (Body Mass Index (BMI) > 2SD BMI for age Z score) has increased from <1% in 1975 to >5 per cent in girls and nearly 8 per cent in boys age 5–19 years in 2016, the authors pointed out, while the percentage of overweight adolescents has more than tripled globally since 1980, with 17 per cent of adolescents between ages 12 and 19 years being considered overweight. According to the authors, malnutrition slows economic development, lowers productivity, and raises health care costs—all of which may feed the cycle of poverty and illness. They went on to say that persistent undernutrition causes protein and energy shortages, which may impede intellectual and physical growth, impair cognitive function, and cause immune system abnormalities. The social and psychological growth may also be impacted.

Furthermore, being overweight raises the possibility of non-communicable illnesses like cardiovascular disease, various types of impairments, and death later in life. Income is one of the socioeconomic variables that has been repeatedly shown to affect eating habits (Galvan-Portillo et al., 2017). According to research from high and medium income nations, low income people consume unhealthy food more often than those with higher earnings (Galvan-Portillo et al., 2017; Sharma et al., 2019). It has been connected to unhealthy eating habits to ignorance of nutrition. In a research conducted in rural Italy, for example, the amount of snacks a student eats each day was linked to their nutrition knowledge scores (Grosso et al., 2013).

Dietary patterns and gender differences and chronic diseases prevention

The independence grows and students are continuously faced with the need to choose healthful foods

when they go from secondary school to a university. Moving to college life means that students must plan, prepare, choose, and eat in a new setting. Poor eating habits among young adults are a major public health concern because, according to a study by Otsuka et al. (2020), eating habits typically shape or change during this period, so they may face difficulty in adopting healthy dietary patterns and this may lead to significant health problems. Undergraduate students' eating habits and health may suffer from the easy access to fast food, the high price of nutritious food, and the choice of bad food. Comparatively speaking to female students, male students are less likely to cook their own meals and have breakfast, but they are more likely to consume fast food (Abraham et al., 2018).

Comparatively speaking, female students eat more fruits, vegetables, and milk products than do male students (Dahal et al., 202). The research shows that there is a substantial correlation (p value=0.000) between gender and food choice; however, there is no significant correlation (p value=0.575) between gender and eating behaviour. Gender and food choice were not significantly correlated in the research of Neupane (2018) among the guardians of Trilok Academy. Kathmandu.

But according to a second research conducted on a large sample of university students from 23 different nations, there was a 50% gender difference in food choices and a 40% gender difference in eating habits (Goncalves et al., 201). The writers noted that this might be partially because women are more involved in weight management and partly because they have strong ideas about eating healthily. On a 4-point rating scale, this research also revealed that, among females, health was the most significant food choice motivation, with a mean average rating of 3.34 ± 0.64, while among men, sensory appeal was the most important food choice motive, with a mean average rating of 3.12 ± 0.67. The survey also revealed that, among men, weight control ranked lowest among food choice motives, with a mean average rating of 2.41 ± 0.66, while among females, pricing ranked lowest, with a mean average rating of 2.64 ± 0.8.

According to a comparable study done in Malaysia with husbands and wives, religion ranked highest on a 5-point rating scale among husbands and wives, with a mean average rating of 4.56 ± 0.59 and health the highest among wives with a mean average rating of 4.49 ± 0.58. Comparably, with mean average ratings of 3.07 ± 0.77 and 3.08 ± 0.66, respectively, husbands and wives ranked familiarity as the least significant food choice motivator (Food and Agriculture Organisation, 2018). Moreover, according to a different study carried out in Kathmandu, weight control was the least important food choice motive among both sexes, with mean average ratings of 2.35 and 2.31, respectively, while health was rated as the most important food choice motive by both sexes with mean average ratings of 3.04 and 2.96, respectively (Bekker et al., 2017). People seemed to care less about weight management and more about their health. This might be the case because, in this research, roughly three-fourths of the participants had normal body weight. In this research, the eating habits seem to be ordinary. Still, 59.2 percent of male students and 62.4 percent of female students skipped breakfast, which is a somewhat high rate.

According to a comparable study done among university students in Selangor, Malaysia, 34.4 percent of males and 47.3 percent of females regularly ate breakfast, while 52.8 percent of males and 59 percent of females skipped breakfast (Azeredo et al., 2016). The results above are consistent with that study. The majority of the respondents in this survey said they had little time for breakfast and were unable to eat early in the morning, the authors further emphasised. According to a prior research done in Kuala Lumpur, the reasons people skipped breakfast were oversleeping, being too busy, not being hungry, and not being able to eat early in the morning.

In a 2019 survey, Alkazemi evaluated the eating habits and health attitudes of Kuwaiti college students. She found that 58.6 percent of males and 82.2 percent of females lived with family, while the remaining 41.4 percent of males and 18 percent of females lived with friends, in a hostel, or on their own. Within the same study, the researchers discovered that although women consumed more junk food, sweets, and bakery products than men, men consumed more meat.

According to the report, roughly 11.5 percent of men and 4.6 percent of women frequently ate meat; about 30.4 percent of women and 16.2 percent of men regularly ate junk food. This result is in line with earlier study conducted among Kuwaiti college students, which found that 52.3 percent of females and 39.9 percent of males regularly ate sweets like cakes and chocolates, 48.4 percent of males and 28.8 percent of females regularly consumed meat, and 51.3 percent of females and 40.4 percent of males regularly consumed potato chips and fatty salty snacks

Theoretica framework

Health Belief Model (Hochbaum, Kegels, and Rosenstock 1952) and its application:

Health Belief Model theory and its relevance to dietary patterns and chronic disease prevention strategies among students in higher institutions: The Health Belief Model (HBM) is a psychological theory that seeks to explain and predict health-related behaviours by understanding an individual's beliefs and perceptions. The model suggests that an individual's decision to engage in health-promoting behaviours, such as adopting healthy dietary patterns and preventive strategies for chronic diseases, is influenced by his beliefs about susceptibility, severity, benefits, barriers, and cues to action. This discussion explores the relevance of the HBM to dietary patterns and chronic disease prevention strategies among students in higher institutions.

The Health Belief Model provides a valuable framework to understand the factors influencing dietary patterns and chronic disease prevention strategies among students in higher institutions. By addressing students' beliefs and perceptions regarding susceptibility, severity, benefits, barriers, and cues to action, interventions can be tailored effectively to promote healthier eating habits and prevent chronic diseases. Understanding and applying the principles of the HBM can contribute to the design of targeted, evidence-based interventions and policies that drive positive behaviour change in this population.

Empirical Reviews

The findings indicated that the average age of the students was 16.1 years (SD 1.4 years); 234 (58%) were female and 170 (42%) were male. With PCA, snacking, vegetarian, health-conscious, and traditional eating habits that accounted for 54.5% of the variation in learners' diets were found. Snacking was substantially linked, at the individual level, to weekly pocket money ($p < 0.0001$). Snacking ($p \leq 0.0001$), vegetarian ($p = 0.009$) and traditional ($p = 0.009$) food habits were all positively correlated with self-identified poverty. Significantly linked to a snacking eating pattern were school level variables like a school tuck store (like a canteen) that serves fast food close to the school ($p = 0.023$). A school snack shop with fruit significantly predicted traditional ($p \leq 0.0001$), vegetarian ($p = 0.041$), and snacking ($p = 0.002$), dietary patterns; a school tuck shop selling nshima (a thick maize based porridge) was significantly associated with vegetarian ($p = 0.007$), health conscious ($p = 0.02$), and traditional dietary patterns ($p=0.01$). Any eating pattern was not much affected by the presence of fast food outlets or supermarkets close to the school. The research came to the conclusion that key drivers of the four eating patterns revealed in this study were both individual behavioural and school environment level characteristics.

Dahal et al. (2022) sought to describe the eating habits of UK university students as well as the sociodemographic and lifestyle factors that influenced them. A convenience sample of 1448 university students from five UK institutions (King's College London, institutions of St Andrews, Southampton and Sheffield, Ulster University) participated in an online cross-sectional survey. Together with lifestyle and sociodemographic questions, the survey included a validated food frequency questionnaire. Dietary patterns were produced via main components analysis of food frequency consumption data. The nutritional profile of each food pattern was characterised by estimating nutrient intakes. We used general linear modelling to evaluate associations with sociodemographic factors. Four main eating habits were found by dietary analyses: "vegetarian,""snacking,""health-conscious," and "convenience, red meat & alcohol." With the best micronutrient profile was the "health-conscious" pattern. Gender, age, year of

study, location, and culinary prowess of the students were linked to variations in pattern behaviour. The "vegetarian" pattern was supported by female students, while the "convenience, red meat & alcohol" pattern by males. Less healthy eating habits were positively correlated with risk factors of the lifestyle, like smoking, inactivity, and takeaway. With the highest nutritional density was the health-conscious motif. Higher weekly food expenditure was linked to the "convenience, red meat & alcohol" pattern, which was also shown to be most consistently among campuses. Students who said they were better cooks tended to follow the "vegetarian" and "health-conscious" trends. University students ate different amounts of food. Many students ate meals that promoted health and had adequate nutritional profiles, therefore there was no need for dietary intervention. Some students, however, followed unhealthy living habits, spent more money on food, and ate inadequate diets, all of which might have long-term health consequences.

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.

RESULT AND DISCUSSION

Research Question one

What are the factors influencing dietary patterns of students of higher institutions on chronic disease prevention in Akwa Ibom North-East Senatorial District?

This question was raised to determine the factors influencing dietary patterns of students of higher institutions on chronic disease prevention in Akwa Ibom North-East Senatorial District.

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

Table 1: Simple Linear Regression Analysis on the Factors Influencing Dietary Patterns of 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	.931[a]	.866	.866	.743

a. Predictors: (Constant), factors influencing dietary patterns of students (Source: Field Survey, 2024)

Table 1 results demonstrate that the factors influencing dietary patterns of students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District has very high degree of prediction strength (R value of .931). Additionally, the R^2 value of .866, which represents the coefficient of determination of the extent of prediction, indicates that 87 per cent of the variation in chronic diseases prevention is explained by factors influencing dietary patterns of students. Thus, it can be concluded that there is very high degree of predictive power of the factors influencing dietary patterns of students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District. This implies that the factors influencing prevention of chronic diseases by higher institutions students based on their frequently consumed diets is high which does not help in chronic diseases prevention in Akwa Ibom North-East Senatorial District.

Research Question Two

What are the factors influencing dietary patterns of higher institution students by gender on chronic diseases prevention in Akwa Ibom North-East Senatorial District?

This question was raised to determine the factors influencing dietary patterns of higher institution students according to gender on chronic diseases prevention in Akwa Ibom North-East Senatorial District.

To determine this, the mean score of each item was compared among gender. The result is as shown in Table 2.

Table 2: Mean Score Response of Factors Influencing Dietary Patterns of Higher Institution Students by Gender on Chronic Diseases Prevention in Akwa Ibom North-East Senatorial District

	Gender	N	Mean	Std. Deviation	Std. Error Mean
chronic disease prevention	Male	220	33.23	2.031	.137
	Female	375	33.18	2.033	.105

The result presented in Table 2 reveals that the mean score of male students were 33.23, while that of female students were 33.18. This implies that factors influencing dietary patterns of higher institution students by gender on chronic diseases prevention in Akwa Ibom North-East Senatorial District are relatively the same.

Hypothesis one

Ho_1: There are no significant factors influencing dietary patterns of students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District. The hypothesis was formulated to determine the factors influencing dietary patterns of 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 3.

Table 3: Simple Linear Regression Analysis of Factors Influencing Dietary Patterns of Students of Higher Institutions on Chronic Diseases Prevention in Akwa Ibom North-East Senatorial District

Model		Sum of Squares	Df	Mean Square	F	P-value
1	Regression	2122.189	1	2122.189	3841.342	.000[b]
	Residual	327.609	593	.552		
	Total	2449.798	594			

a. Dependent Variable: chronic disease prevention

b. Predictors: (Constant), frequently consumed high carbohydrate diets

The result in Table 3 shows the computed F-value as 3841.342 with 1 and 593 degree of freedom as well as the p-value of .000. Since the p-value is less than ($p < .05$), the null hypothesis which stated that factors influencing dietary patterns of students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District is rejected, while the alternative is retained. Hence, it was concluded that there are significant factors influencing dietary patterns of students of higher institutions on chronic diseases prevention in Akwa Ibom North-East Senatorial District.

Hypothesis two

Ho_2: There is no significant influence of dietary patterns of higher institution students by gender on chronic diseases prevention in Akwa Ibom North-East Senatorial District.

The hypothesis was formulated to determine the significant influence of dietary patterns of higher institution students by gender on chronic diseases prevention in Akwa Ibom North-East Senatorial District.

To analyze the data, independent t-test statistics was used. The result of the analysis is as shown in Table 4.

Table 4.: Independent t-test Analysis on the Influence of Dietary Patterns of Students by Gender on Chronic Diseases Prevention in Akwa Ibom North-East Senatorial District

Variable		Mean	N	S.D	T	df	P-value
	Male	220	33.23	2.031	.277	593	.782
	Female	375	33.18	2.033			

The result in Table 4 shows the computed t-value as .277 with 593 degree of freedom as well as the p-value of .782. Since the p-value is less than ($p< .05$), the null hypothesis which stated that there is no significant influence of dietary patterns of higher institution students by gender on chronic diseases prevention in Akwa Ibom North-East Senatorial District is retained, while the alternate hypothesis is rejected. Hence, it was concluded that there is no significant influence of dietary patterns of higher institution students by gender on chronic diseases prevention in Akwa Ibom North-East Senatorial District.

Conclusion

In conclusion, The factors influencing dietary patterns among higher institution students in Akwa Ibom North-East Senatorial District have a very strong relationship with chronic disease prevention. The study revealed that a high proportion of variation in chronic disease prevention is explained by dietary-related factors, indicating that students' food choices significantly impact their risk of developing chronic diseases. Furthermore, the findings showed that there is no significant difference between male and female students in relation to dietary patterns and chronic disease prevention, suggesting that gender does not strongly influence dietary behaviour within the study population. Overall, the study confirms that unhealthy dietary patterns among students remain a major risk factor for future chronic health conditions if not properly addressed.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. Higher institutions should implement compulsory nutrition awareness programs to educate students on healthy dietary patterns and the risks of chronic diseases.
2. University cafeterias and food vendors should be encouraged to provide affordable and healthy food options such as fruits, vegetables, and balanced meals.
3. Policymakers should support interventions that reduce the cost of healthy foods for students, making nutritious diets more accessible.
4. Regular health campaigns should be organized to promote DASH and Mediterranean-style diets among students.

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