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Unhealthy Dietary as a Lifestyle-Risk Determinant of Non-Communicable Diseases among Students of Federal University Students in North-West Zone, Nigeria

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Abstract. This study assessed unhealthy dietary as a lifestyle risk determinant of non-communicable diseases among federal university students in Northwest zone, Nigeria. Descriptive research survey design was used for this study. Three (3) research questions and hypotheses were formulated. A sample of one thousand one hundred and fifty-two (1,152), drawn from the population of one hundred and fifteen thousand one hundred and ten (115110) respondents was used for the study. A multi-stage sampling procedure comprises of simple random sampling, proportionate sampling techniques and purposive sampling techniques were used to selects the sample size. A standardized instrument named WHO STEP (Step 1) wise protocol was adapted as the instrument. The instrument was reliable with 0.819 and 0.832. Findings from the study showed that unhealthy dietary intake as a lifestyle risk for non-communicable diseases among federal university students in north-west zone, Nigeria is significant, Gender difference in lifestyle risk determinants of non-communicable diseases among federal university students in north-west zone, Nigeria is not significant and age difference in lifestyle risk determinants of non-communicable diseases among federal university students in north-west zone, Nigeria is not significant. Based on the findings of the study, it was concluded that the students of federal universities in north west zone, Nigeria engage in unhealthy dietary consumption, there was no gender difference in lifestyle risk determinants of non-communicable diseases among students of federal universities in northwest zone, Nigeria and there was no age difference in lifestyle risk determinants of non-communicable diseases among students of federal universities in northwest zone, Nigeria. It was therefore, recommended that the students should develop initiative that will help them make use of mobile phone as a channel for improving healthy habits relating to the prevention and reduction of unhealthy lifestyle practices that can lead to non-communicable diseases in the campus and in order to prevent temptation from eating processed foods with calories from added sugars and saturated fats, the university management needs to create a central kitchen where students can have their meal centrally.
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Keywords: unhealthy dietary, lifestyle risk determinant, non-communicable diseases

1. Introduction

Today, the health of young people is critically linked to lifestyle they choose to adopt. Although, morbidity and mortality from non-communicable diseases mainly occur in adulthood, exposure to risk factors begins in early life. Adolescence and young adulthood are significant periods of growth and maturation, during which unique changes occur and many adult patterns are established during these periods (WHO, 2012). Young people seem not to be aware of the effects of unhealthy behaviours, so they are less likely to engage in health promoting activities (Ellert & Kurth, 2013).

Unhealthy diet is also one of the major risk factors for a range of chronic diseases, including cardiovascular diseases, cancers, diabetics and other conditions linked to obesity. Even though food intake has a key role to play in the health of people, taking the wrong diets can have a significant negative effect on health. Unhealthy diets include taking diets with high fat contents, eating junks, too much sugar and salt intake and poor consumption of fruits and vegetables. Globally, about 1.7 million deaths are

attributable to low fruits and vegetables intake (Sofi, Abbate, Gensini & Casini, 2010). Global economic policies on agriculture, trade, investment, and marketing have played a part in changing what people eat, by altering the quantity, type, cost, distribution, and desirability of foods available (Popkin, Adair & Ng, 2012).

Globalization gives access to greater food diversity but also convergence towards more homogenous diets (McDonaldization). As countries develop, dietary differences between rich and poor are further exacerbated as the latter tend to adopt a poor quality obesogenic diet, with ultra-processed products that are typically energy dense and high in unhealthy dietary fat, free sugars, and sodium (Moodie, 2013). Fruit and vegetable consumption varies considerably among and within countries but is generally low, with few individuals consuming recommended levels (WHO, 2011). Fred and Edith (2014) opined that the indicator for a healthy diet is the presence of vegetables and fruits in the respondents' diets. In their study prevalence of risk factors for non-communicable diseases among university students in and around Kampala they found out that most of their respondents reported to eat fruits (94%) and vegetables (93%) in their diets. the most commonly eaten fruit were sweet bananas (65%), mangoes (56%), avocados (49%) and oranges (44%). most students (56%) ate at least one portion of fruits per day. this shows a healthy trend in diet. However, 7% do not eat vegetables or fruits. In addition, for those who ate fruits and vegetables, the number of portions eaten per day tended to be between one and three.

As college students are highly exposed to unhealthy eating habits leading to body weight gain. This study revealed that unhealthy dietary intake as a lifestyle risk for non-communicable diseases among the selected university students is significant. Such unhealthy dietary intake included excess carbonated drink, eating of fast foods whose combinations are in most cases skewed towards substances dangerous to health and eating of snacks or using snacks as favourite meals. This may attributed to the students spending most of the daytime in the faculty and may be easy accessibility of fast food with growing fondness. Essa and El-Shem (2015) revealed that about one third of males and about one fifth of females eat fast food one to three days per week and others eat fast food more than three days/week.

Sofi et.al., (2010) reported that unhealthy diet is major risk factors for a range of chronic diseases, including cardiovascular diseases, cancers, diabetics and other conditions linked to obesity. The reported stated that such diets include taking diets with high fat contents, eating junks, too much sugar and salt intake and poor consumption of fruits and vegetables. Hofmann et.al., (2012) revealed that eating and food are important to people, while food desires is making up about one-third of our desires during the day and that people have evolved to like eating because it is significant for survival. Moodie (2013) stated that globalization gives access to greater food diversity but also convergence towards more homogenous diets (McDonaldization). As countries develop, dietary differences between rich and poor are further exacerbated as the latter tend to adopt a poor quality obesogenic diet, with ultra-processed products that are typically energy dense and high in unhealthy dietary fat, free sugars, and sodium.

Anurag, et.al (2013) found from their study on epidemiological investigation of lifestyle associated modifiable risk factors among medical students, that 1.8% of their respondents' ware binge drinkers as against 3.8% heavy drinkers. Drinking status was higher among males (9.0%) than females (2.1%). Sex difference in personal habits was found statistically non- significant. Nordqvist, (2018) reported that over 75% of deaths from cardiovascular disease occur in low and middle-income countries and that those incidences affect men and women equally. Msyamboza et al., (2011) in their study in Malawi that observed tobacco smoking, alcohol consumption and raised blood pressure were more frequent in men than women whereas overweight, obesity and raised cholesterol were more frequent in females than males. El Ansari, et al., (2011) examined the gender differences in eating behaviour and dietary intake among university students in Malaysia and found that male students consumed higher frequency of fruit juices, fruits, vegetables and milk compared to females. And also found that less than half of students in their sample reported frequent consumption of fruit, and vegetables.

Adekeye, et.al (2015) reported that the use of alcohol and other substances poses a grave challenge to future generations as they reported in their study on assessment of alcohol and substance use among undergraduates in selected private universities in Southwest of Nigeria, that most (85%) students use alcohol and that majority among the users were males. The study further stated that older students drink more alcohol (51%) while the younger ones as denoted by 15 to 19 years smoke more (67%). Lisa et.al (2012) believed that the fraction of incident hypertension attributable to modifiable lifestyle factors decreases with age. Because the incidence of hypertension is higher in older persons as they found

that older age attenuated the association between incident hypertension and four of five risk factors associated with hypertension in younger women. Jagdish, et.al (2011) who found in their study that respondents with mean age more than 15.77 were significantly associated with unhealthy dietary practices on univariate analysis, they further revealed that respondents with mean age ≥15.77, were significantly associated with passive smoking on univariate analysis. As they found upper socioeconomic status and mean age ≥15 of the respondents were negatively associated with passive smoking. This promoted the researcher to assessed unhealthy dietary intake as a lifestyle risk determinants of non-communicable diseases among federal university students in Northwest zone, Nigeria.

2. Research Questions

- Will unhealthy dietary intake be a determinant of non-communicable diseases among students of federal universities in northwest zone, Nigeria?
- What is the gender difference in the engagement of federal university students in an unhealthy dietary intake as lifestyle-risk determinants of non-communicable diseases in northwest zone, Nigeria?
- What is the age difference in the engagement of federal university students in an unhealthy dietary intake as lifestyle-risk determinants of non-communicable diseases in northwest zone, Nigeria?

3. Hypotheses

Ho1: Unhealthy dietary intake will not be a significant determinant of non-communicable diseases among students of federal university students in north-west zone, Nigeria

Ho2: There is no significant gender difference in lifestyle risk determinants of non-communicable diseases among federal university students in north-west zone, Nigeria.

Ho3: There is no significant age difference in lifestyle risk determinants of non-communicable diseases among federal university students in north-west zone, Nigeria.

4. Methodology

The research design adopted for this study was descriptive research design because this design is associated with certain occurrence, condition or type of behaviour by analysing past events or already existing conditions (Bello & Ajayi, 2000). The population for the study comprises of one hundred and fifteen thousand one hundred and ten (115110) students (males and females) of the seven federal universities in north-western zone, Nigeria. The seven federal universities are; Bayero University Kano, Kano state (34048), Federal University Dutse, Jigawa state (4384), Federal University Birnin kebbi, Kebbi state (4065), Federal University Gusau, Zamfara state (5300), Usmano dan-fodiyo University Sokoto, Sokoto state (24036), Ahmadu Bello University Zaria, Kaduna state (43,277). However, only federal University Dutsen-ma, Katsina state is excluded from the study. This is because the same university was used for pilot study.

Table 1: Population of the Respondents Based on Gender per University

S/N	University	Male	Female	Total	Target Population
1.	Ahmadu Bello University Zaria, Kaduna	28662	14615	43277	43277
2.	Bayero University, Kano State	22942	11106	34048	34048
3.	Federal University B/Kebbi, Kebbi State	2766	1299	4384	4384
4.	Federal University Dutse, Jigawa State	2880	1504	5300	5300
5.	Federal Universitygusau, Zamfara State	2165	3135	4065	4065
6.	Usmano Dan-Fodiyo University, Sokoto	17331	6705	24036	24036
	Total	**80983**	**40967**	**121950**	**115110**

Source: *Management and Information System Unit of the Universities, (2018).*

A sample of one thousand one hundred and fifty two (1,152) respondents were used for the study. These comprised of seven hundred and sixty nine (769) male and three hundred and eighty three (383) female students selected from federal universities in northwest Nigeria. This sample size was obtained by adopting the use of table numbers for determining sample size constructed by research Advisor (2006) which stated that for a population above hundred thousand, a sample of three hundred and eighty four (384) is adequate as the minimum acceptable figure at a confidence level of 95% and a degree of accuracy of 0.05. However, in order to cover most of the study area and to prevent sampling error, the researcher used one thousand one hundred and fifty two respondents for the study, that is times three of the minimum acceptable figure. In order to draw the desired sample, multi stage sampling procedure was employed for the study.

Table 2: Sample Selected for the Study per University

S/N	Universities Selected	Population Male	Sampled Male	Population Female	Sampled Female	Total sample per University
1	Bayero University kano	22942	230	11106	111	341
2	Federal University Dutse	2880	29	1504	15	44
3	Federal University Birnin kebbi	2766	28	1299	13	41
	Federal University Gusau	2165	22		31	53
4	Usmano Dan-fodiyo University		173	3135	67	240
5	Ahmadu Bello University Zaria	17331	287	6705	146	433
6		27745		15101		
	TOTAL	**80983**	**769**	**40967**	**383**	**1152**

Source: *Management and Information System Unit of the Universities, (2018).*

A standardized instrument named WHO STEP (Step 1) wise protocol (WHO, 2005b), which provided a framework for the surveillance of non-communicable disease risk factors was adapted for this study. Descriptive statistics of frequency and percentage and mean and standard deviation were used answer the research questions on assessment of lifestyle risk determinant for non-communicable diseases among university students in north-western zone, Nigeria respectably. One sample t-test was used to test hypotheses and Two sample t-test at 0.05 level of significance.

5. Results

Table 3: Demographic Characteristics of the Respondents

Variable	Option	Frequency	Percentage %
Age range	<21years	272	23.8
	21 - 25years	477	41.8
	26 - 30years	295	25.8
	>30years	98	8.6
	Total	**1142**	**100.0**
Gender	Male	762	66.7
	Female	380	33.3
	Total	**1142**	**100.0**

Table 3 presents demographic information of the respondents' age and gender classification. The age classification in the table reveals that the majority 477(41.8%) of the research respondents were of ages 21 and 25years. The table also shows that many 295(25.8%) of the respondents were of ages 26 and 30years. The remaining respondents 272 (23.8%) are below 21years and 98(8.6%) were above 30years. The age categorizations showed that most of the students could be said to be relatively young adults (21 and 25years) whose lifestyles could constitute major determinant of non-communicable disease to them on campuses.

The gender classification of the respondents also shows that the majority 762 (66.7%) of the respondents were male and the remaining 380 (33.3%) were female. The classifications showed that majority of male are represented in the study. This could be as a result of the proportionate sampling technique used by the researcher to enable randomization and give equal representation of respondents in selecting the required number of respondents from each university, which were already dominated by male students.

Research Question One: Will unhealthy dietary intake be a risk determinant of non-communicable diseases among students of federal universities in northwest zone Nigeria?

Table 4: Mean Scores of Statements on Unhealthy Dietary Intake as Lifestyle that constitutes Risk Determinants of Non-Communicable Diseases

S.N	Statements	Mean	Std. Dev.
1	I eat at least one serving of vegetables every day	2.14	1.200
2	I eat at least one serving of fruit every day	2.26	1.257
3	I eat fruits and vegetables occasionally	2.53	1.214
4	Carbohydrate (like maize, rice) is always the largest portion in my meal	2.84	1.119
5	I take at least one carbonated drink every day	2.54	1.274
6	I eat fast foods every day because of my lecture schedules	2.67	1.236
7	Proteins (like meat, fish and other animal products) is always the largest portion in my meal	2.71	1.232
8	I usually eat snacks every day because it is my favourite	2.50	1.269
9	I eat fatty foods (fried foods, butters, Oils) every day because they are easy to make	2.48	1.242
10	I usually eat processed foods high in salt (like canned fish, processed packaged potatoes chips)	2.48	1.227
Aggregate mean		**2.53**	**0.492**

(Decision mean = 2.50)

Table 4, above, shows the mean score of students on dietary intake as a lifestyle risk determinants of non-communicable diseases. The table revealed, an aggregate mean of (2.53 > 2.50) and a standard deviation of 0.492. Therefore, dietary intake of the students' is part of the lifestyle that constitutes risk determinants of non-communicable diseases in the universities. The statement with mean score of (2.84) also revealed that the students of federal universities in northwest zone, Nigeria, consume carbohydrate (like maize, rice) and protein always in their diet. In addition, the statement with the least mean score of (2.14) and (2.26) revealed that students of federal universities in northwest do not always include fruits and vegetables in their diet. But they also agreed that they eat fast foods along with snacks in order to meet their time schedule. The study revealed an aggregate mean of (2.53 > 2.50). Therefore, unhealthy dietary intake is a major risk determinant of non-communicable diseases in federal universities in northwest, zone Nigeria.

Research Question Two: What is the gender difference in the engagement of federal university students in an unhealthy dietary intake as a lifestyle risk determinants of non-communicable diseases in northwest zone, Nigeria?

Table 5: Mean Scores of Responses by Gender Students on Lifestyle Risk Determinants of Non-Communicable Diseases in Federal Universities of Northwest Zone

Gender	N	Mean	Std. Deviation	Std. Error	Mean Difference
Male	762	2.57	0.509	0.020	0.02
Female	380	2.53	0.486	0.022	

An observation of Table 5, shows that both male and female students generally have approximately equal approach to the lifestyle risk determinants of non-communicable diseases in the selected Federal universities. The computed mean of both male (2.57 > 2.5) and female (2.53 > 2.5) students were above the scale mean and a small merging of mean difference (0.02) between the sexes, which means that the male and female practically have the same approach to the consumption of alcohol, tobacco, dietary intake and physical activities in their lifestyles with the universities. This means that gender has no major effect on the students' involvement in lifestyle risk determinants of non-communicable diseases in federal Universities of northwest zone, Nigeria.

Research Question Three: What is the age difference in the engagement of federal university students in an unhealthy dietary intake as a lifestyle risk determinants of non-communicable diseases in northwest zone, Nigeria?

Table 6: Mean Scores of Students of Different Age Categories on Lifestyle Risk Determinants of Non-Communicable Diseases in Selected Federal Universities of Northwest Zone

Age range	N	Mean	Std. Deviation	Standard error	Mean difference
<21years	272	2.56	0.492	.030	0.01
21 - 25years	477	2.57	0.501	.023	0.02
26 - 30years	295	2.55	0.512	.030	0.03
>30years	98	2.58	0.478	.048	0.01
Total	1142	2.57	0.499	.015	

The mean scores of the different age categorization of the students in the table did not reveal much variability. The mean scores across the age range are all above the mean scale of 2.5 which makes them to be within the same range

with a very small merging of mean difference across all age groups. This is a clear indication that ages of students do not play a major role in their lifestyle risk determinants of non-communicable diseases within the federal Universities in northwest zone, Nigeria.

Hypotheses One: Unhealthy dietary intake is not a significant determinant for non-communicable diseases among federal university students in north-west zone, Nigeria.

Table 7: One Sample t-test Analysis on Dietary Intake as a Lifestyle Risk for Non-Communicable Diseases among Students of Federal Universities in Northwest Zone, Nigeria

Variables	N	Mean	Std. Deviation	Std. Error	DF	t-value	P-value
Dietary intake	1142	2.53	0.492	.01457	1141	2.241	.025
Test mean	1142	2.50	0.00	0.000			

t (df) 1.96 < 0.05

A careful observation of table 7 revealed significant unhealthy dietary consumption among students of federal universities in northwest zone of Nigeria, since the t-calculated of (2.241) is higher than the critical value of 1.96. The p-value (0.025) for the test at the 1141 degree of freedom is lower than the fixed value of ($P < 0.05$). Therefore, the null hypothesis was rejected. This means that unhealthy dietary intake as a lifestyle risk for non-communicable diseases among federal university students in north-west zone, Nigeria is significant.

Hypotheses Two: There is no significant gender difference in the engagement of federal university students is an unhealthy lifestyle as a risk determinants of non-communicable diseases in north-west zone, Nigeria

Table 8: Two Sample t-test Analysis on Lifestyle Risk Determinants of Non-Communicable Diseases among Federal University by Male and Female Students

Gender	N	Mean	Std. Deviation	Std. Error	t-value	DF	P-value
Male	762	2.57	0.509	0.020	0.352	1140	.725
Female	380	2.53	0.486	0.022			

t (df) 1.96 < 0.05

Table 8 revealed that the male and female students were not significantly different in their lifestyle risk determinants of non-communicable diseases in the selected Federal universities. The variability obtained in the mean scores by both groups is very low and the t-value (0.352) obtained at 1140 DF in the test is lower than the critical value of 1.96. The observed p-value in the test is 0.725 ($P > 0.05$). These observations did not provide enough evidence for rejecting the null hypothesis. The null hypothesis that Gender difference in lifestyle risk determinants of non-communicable diseases among federal university students in north-west zone, Nigeria is not significant is therefore retained.

Hypotheses Three: There is no significant age difference in the engagement of federal university students is an unhealthy lifestyle as a risk determinants of non-communicable diseases in north-west zone, Nigeria.

Table 9. One-way Analysis of Variance on Lifestyle Risk Determinants of Non-Communicable Diseases by Students Ages in the Selected Universities.

Source	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.045	3	.015	.060	.981
Within Groups	284.250	1138	.250		
Total	284.296	1141			

(F-critical at 3, 1138 = 2.60)

Table 9 revealed that the students did not differ significantly by their age grouping on the lifestyle risk determinants of non-communicable diseases. The observed F-value obtained at 3, 1138 DF for the test is 0.060 compared with the critical value of 2.60. The observed p-value is 0.981 ($P > 0.05$). These observations provide clear evidence that the variability obtained for the mean scores in Table 4.7 is not statistically significant. Therefore, the null hypothesis that age difference in lifestyle risk determinants of non-communicable diseases among federal university students in north-west zone, Nigeria is not significant is thus retained.

6. Discussions

As college students are highly exposed to unhealthy eating habits leading to body weight gain. This study

revealed that unhealthy dietary intake as a lifestyle risk for non-communicable diseases among the selected university students is significant (P = 0.025). Such unhealthy dietary intake included excess carbonated drink, eating of fast foods whose combinations are in most cases skewed towards substances dangerous to health and eating of snacks or using snacks as favourite meals. This may attributed to the students spending most of the daytime in the faculty and may be easy accessibility of fast food with growing fondness. The findings of this study is in agreement with the findings of Essa and El-Shem (2015), who revealed that about one third of males and about one fifth of females eat fast food one to three days per week and others eat fast food more than three days / week. The finding here also agrees with Sofi, et.al (2010), who reported that unhealthy diet is major risk factors for a range of chronic diseases, including cardiovascular diseases, cancers, diabetics and other conditions linked to obesity. The reported stated that such diets include taking diets with high fat contents, eating junks, too much sugar and salt intake and poor consumption of fruits and vegetables. This finding is in agreement with Hofmann, et.al (2012), eating and food are important to people, while food desires is making up about one-third of our desires during the day and that people have evolved to like eating because it is significant for survival.

The finding agrees with Moodie (2013) who stated that Globalization gives access to greater food diversity but also convergence towards more homogenous diets (McDonaldization). As countries develop, dietary differences between rich and poor are further exacerbated as the latter tend to adopt a poor quality obesogenic diet, with ultra-processed products that are typically energy dense and high in unhealthy dietary fat, free sugars, and sodium. The finding is in line with Chandon, (2016) who postulated that in addition to its biological function, eating is also a principal social and cultural activity that people tend to enjoy for aesthetic or communal reasons and DeBate et al. (2001) who examined racial and gender differences in dietary practices among college students in US and found that only (1.3%) of respondents consume the recommended (3-5) servings of fruits and vegetables with (29%) of male compared to (26%) of female students.

The finding of the study in relation to sub-hypothesis five is that gender difference in lifestyle risk determinants of non-communicable diseases among the university students was not significant (P = 0.725). The male and female students were found to have basically equal approach to alcohol consumption, use of tobacco, physical inactivity and unhealthy dietary intake assessed as the lifestyle risk determinants for non-communicable diseases. The finding here is consistent with the report of Anurag, et.al (2013) who found from their study on epidemiological investigation of lifestyle associated modifiable risk factors among medical students, that 1.8% of their respondents' ware binge drinkers as against 3.8% heavy drinkers. Drinking status was higher among males (9.0%) than females (2.1%). Sex difference in personal habits was found statistically non- significant. The finding here is line with Nordqvist, (2018) who reported that Over 75% of deaths from cardiovascular disease occur in low and middle-income countries and that those incidences affect men and women equally. The finding from this study contradict the finding of Msyamboza et al, (2011), in their study in Malawi that observed tobacco smoking, alcohol consumption and raised blood pressure were more frequent in men than women whereas overweight, obesity and raised cholesterol were more frequent in females than males. The finding of the study also contradicts the findings of El Ansari, et al. (2011) who examined the gender differences in eating behaviour and dietary intake among (n =584) university students in Malaysia and found that male students consumed higher frequency of fruit juices, fruits, vegetables and milk compared to females. And also found that less than half of students in their sample reported frequent consumption of fruit, and vegetables.

The finding of the study revealed that age difference in lifestyle risk determinants of non-communicable diseases among the students was not significant (P = 981). In the test of the hypothesis, observed variability in lifestyle risks was found to be very low among the students of the different age groupings. This finding shows that age was not a major factor of students indulging in the lifestyle risk determinants of non-communicable diseases. The finding here contradicts the finding of Adekeye, et.al (2015) who reported that the use of alcohol and other substances poses a grave challenge to future generations as they reported in their study on assessment of alcohol and substance use among undergraduates in selected private universities in Southwest of Nigeria, that most (85%) students use alcohol and that majority among the users were males. The study further stated that older students drink more alcohol (51%) while the younger ones as denoted by 15 to 19 years smoke more (67%). The finding also disagrees with the findings of Lisa et.al (2012) who believe that the fraction of incident hypertension attributable to modifiable lifestyle factors decreases with age. Because the incidence of hypertension is higher in

older persons as they found in their study Influence of Age on the Association between Lifestyle Factors and Risk of Hypertension that older age attenuated the association between incident hypertension and four of five risk factors associated with hypertension in younger women. And Jagdish, et.al (2011) who found in their study that respondents with mean age more than 15.77 were significantly associated with unhealthy dietary practices on univariate analysis, they further revealed that respondents with mean age ≥15.77, were significantly associated with passive smoking on univariate analysis. As they found upper socioeconomic status and mean age ≥15 of the respondents were negatively associated with passive smoking.

7. Conclusion

- The students of Federal Universities in North West Zone, Nigeria engage in unhealthy dietary consumption.
- There was no gender difference in lifestyle risk determinants of non-communicable diseases among students of Federal Universities in Northwest Zone, Nigeria.
- There was no age difference in lifestyle risk determinants of non-communicable diseases among students of Federal Universities in Northwest Zone, Nigeria.

8. Recommendations

- The students should develop initiative that will help them make use of mobile phone as a channel for improving healthy habits relating to the prevention and reduction of unhealthy lifestyle practices that can lead to non-communicable diseases in the campus.
- In order to prevent temptation from eating processed foods with calories from added sugars and saturated fats, the university management needs to create a central kitchen where students can have their meal centrally.

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