Assessment of Feeding Habits and Lifestyle of Undergraduate Students in Ekiti State University, Ado Ekiti, Nigeria.

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ABSTRACT
Background: *:Feeding habits and lifestyle influence the n**utritional and health status of all humans especially students of tertiary institutions.***
Objectives. *The study assessed the feeding habits and lifestyles of university undergraduates.*
Methodology*: The study design was a cross-sectional survey with a total of 400 undergraduate students randomly selected from various departments and faculties of Ekiti State University, Ado Ekiti, using a multistage sampling technique. Interviewer-administered questionnaires were used to collect data and analysed using IBM Statistical Package for Social Sciences (SPSS) version 25. (P < 0.05).*
Results*: Four hundred students between ages 15 and 34 years with a mean age of 21.7±22 participated in the study. Male respondents were 138 (34.5%), and 262 (65.5%) were females. Exactly 97.5% were single, while 10 (2.5%) were married. A total of 144 (36.0%) of respondents reported eating only homemade food, while 256 (64.0%) ate at least 1-5 times a week outside of home. A total of 201 (50.2%) reported they were usually very hungry before eating meals, 170 (42.5%) were a little bit hungry before eating meals, and 29 (7.2%) normally ate as at when due even when they were not hungry at all. Current use of alcohol among respondents revealed female respondents, 69 (54.8%), consumed alcohol more than their male counterparts 57 (45.2%). Ten, (3.8%) of the female respondents were current smokers as against the male respondents, 6 (4.4%). Most of the students, 250 (62.5%) were not engaged in regular exercise.*
Conclusion: *The feeding habits of most students studied need much to be desired, while few among them had unhealthy social lifestyles that could affect their nutritional health*

Keyword: *Feeding, Habits, Health, Undergraduates*

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INTRODUCTION:

Young adults in universities and colleges are mostly at risk of developing nutritional-related diseases due to changes in lifestyle as they become responsible for their daily eating habits [1,3].

Feeding habits and lifestyles play key roles in the health status of a given population at any point in time [1].

While good feeding habits have direct positive effects on the health of the students, the availability of food also becomes important. In a

study conducted in one of the private universities located in southwestern Nigeria, 85.6% of students sampled reported that the choice of food they ate was influenced by its availability with no recourse to the nutritional value [2]. It was noted that 49.5% of the students reported a lack of brain retention which was due to the effect of poor feeding habits among other health challenges such as stomach pain, stooling, ulcers and food poisoning as shown in the study [2].

Most students in universities from developing countries adopt different feeding habits and lifestyles that could affect their health. In a study conducted among undergraduates in Brunnel Darussalam in Southeast Asia, it was reported that the prevalence of overweight/obesity was 28.8% (95% CI: 24.0%, 34.0% [3]. The majority ate regular daily meals, but more than half skipped breakfast. Frequent snacking, fried food consumption at least three times per week and low intake of daily fruits and vegetables were commonly reported among the students. The frequency of visits to fast food restaurants was significantly higher among the overweight/obese. Only 25.4% of the students exercised at least three times per week. Almost all students were aware of balanced nutrition and the food pyramid, but the knowledge was not transformed to practice [3].

Apart from poor feeding habits, unhealthy social lifestyles, such as lack of exercise and substance abuse can negatively impact the health of students at school. Most students adopt lifestyle changes when on campus due to peer pressure and other factors.

Studies have shown that adolescents leaving their parents and living away from home to attend college experience numerous health related behavioural changes, which include the adoption of unhealthy dietary habits and lifestyles [4,6]. These adopted habits by students are mostly attributed to drastic changes in their environment, available resources, and frequent exposure to unhealthy foods and habits [5]. Most undergraduate students are adolescents exposed to numerous risky behaviours that can affect their quality of life and life expectancy as they migrate to adulthood. Studies have shown that youths are particularly vulnerable to poor eating habits and are said to be in the habit of eating "junk" [6,7]. These poor eating habits sometimes reflect their poor knowledge of the negative effects associated with such feeding lifestyles. In Nigeria, where there is an increase in fast food centres in its urban cities, it becomes a major concern as most students patronize such centres to purchase unwholesome food. [7]. Most undergraduates are likely to be responsible for the preparation of their diets for the first time they are away from home, therefore they need guidance on how to make informed dietary choices [7]. Other studies have linked the lifestyle of students, especially breakfast consumption, to their mental abilities which is reflected in their academic performance [6,7, 8].

It was against this background this study was conducted to assess the feeding habits and lifestyle of undergraduate students among undergraduates of Ekiti State University, Ado Ekiti, Nigeria.

METHODOLOGY

Description of the study location

The study was conducted in Ekiti State University located in the South Western part of Nigeria. Ekiti State covers a total land area of 5,887 sq Km with a population of 2,384,212 according to the 2006 census. The calculated population of the state should be 3,242,528 as of 2018. There are 5 public tertiary institutions and 2 private tertiary institutions in the State. Ekiti State is an agrarian community with most people engaged in farming. There are civil servants resident in the state as well.

Ekiti State University was Established in 1982, It is a non-profit public higher education institution located in the suburban setting of the city of Ado-Ekiti (population range of 250,000-499,999 inhabitants), Ekiti-State. Ekiti State University is Officially accredited and recognized by the National Universities Commission, Nigeria. Ekiti State University, Ado Ekiti (EKSU) is very large with an enrollment range: of 35,000-39,999 students. Ekiti State University, Ado Ekiti (EKSU) offers courses and programs leading to officially recognized higher educational degrees such as

pre-bachelor degrees (i.e. certificates, diplomas, associate or foundation degrees), bachelor degrees, master degrees, and doctorate degrees in several areas of study. Ekiti State University is a university committed to producing quality graduates to solve Nigeria's social and economic problems, The University does this by providing students with quality education The university also admits international students and provides accommodation for its students, though a lot of students live off campus in Ado-Ekiti and environs. Ekiti State University has good infrastructure and a convenient environment for learning, There are several restaurants and snack shops located within the campus environment

Study Design

The study design was a descriptive Cross-section survey.

Study Population

The study included students from all of the faculties at Ekiti State University Ado Ekiti.

Target Population

All full-time students of Ekiti State University, who have their departments located on the main campus along Iworoko Road.

Inclusion Criteria

All full-time students of Ekiti State University, who have their department located on the main campus along Iworoko Road.

Exclusion Criteria

All pre-degree students, and part-time students. Students who were diagnosed and then received treatment for any of the eating disorders were excluded from the study.

Sample Size Determination

The sample size was determined using the formula for calculation of a single proportion Leslie Fischer's formula for > 10,000 population

$$N = \frac{Z^2 \ (pq)}{d^2}$$

Where N is the desired minimum sample size
z is the standard normal deviate for 95% confidence interval =1.96
p is the proportion in the population estimated to have characteristics being measured; and it is 24%(0.24), the proportion of overweight gotten from a previous study.
q =1-p d =acceptance error =5%
Therefore, Z = 1.96, p = 0. 69, q = 0.31 (1 – 0. 69), d = 0.05.

$$n = = \frac{(1.96)^2 \times (0.\ 69 \times 0.31)}{0.05^2}$$

n=328.69 approximately 329
considering the non-response rate, 10% of the calculated sample size was added to the sample size to make:

$$\frac{329 \times 10}{100}$$

=32.9
Therefore the final sample size is 329+32.9= 361.9 ~ 362
The calculated minimum sample size with the addition of the 10% non-response rate was 362; however, at the discretion of the researchers, 400 participants were recruited so as to give allowances for errors that might be encountered.
Sampling techniques
This was carried out using multistage sampling techniques

Stage 1: A list of all the nine faculties at Ekiti State University was obtained, and four of these faculties were selected by simple random sampling.

Stage 2: Ten departments were selected from these four faculties by simple random sampling.

Stage 3: Using simple random sampling, 39 students were selected from 5 departments and 41 students were also selected from other five departments within the four faculties, making a total of 400 students from these various departments, cutting across all levels
Data collection instrument and method
The study was carried out using a semi-structured self-administered questionnaire which was divided into sections. These were the socio-

demographic characteristics, assessment of the feeding habits of respondents, and the daily social lifestyle of the students sampled.

The data were edited manually and entered into a computer. The IBM Statistical Package for Social Sciences (SPSS) program version 25 was used for data analysis. Uni-variate variables were presented in the form of tables and graphs while bivariate variables were presented in the form of two-by-two tables. The association between two variables was determined using the Chi-square test. The level of significance was set at p-value < 0.05.

Measurements of Variables.

A set of questions were asked to assess the feeding pattern of respondents in the study. A daily food consumption survey was used to assess the various food items consumed on a daily basis and their frequencies.

They were asked about the different types of food items consumed including junk, fruits, and protein diet among others. The social lifestyle of respondents was assessed through the use of tobacco and alcohol.

Ethical Consideration

Ethical approval was obtained from the Ethical Committee of the institution. Approval to conduct the study was obtained from the various Deans and Heads of the Department where the study was conducted. Verbal consent was obtained from all the respondents, and they were assured of confidentiality in line with the declaration of Helsinki. The study was entirely voluntary and respondents were free to withdraw at any stage of the study.

RESULTS

Table 1 showed the majority of the respondents were between the age of 15-24, 84.5% (338). Most of the respondents were females, 262 (65.5%)

Most of the respondents were Yoruba 351 (87.8%) and only 10 (2.5% were married among the respondents.

In Table 2, the daily food survey showed 222 (55.5%) do not consume beans and legumes, Also 215 (53.7%) do not eat eggs or chicken regularly. Below half of the respondents, 172 (43%) ate fruits of about 1-3 servings per day and above average, 212 (53) consumed vegetables of about 1-3 servings per day

A significant number of, 47.0% ate 1-5 times per week in the restaurant, while 36.0 % ate 6 or more times per week outside home. Only 17.0% ate homemade food as shown in Fig 1.

Figure 2 shows that barely above half of the respondents 201(50.25%) were usually very hungry before they ate meals, 170 (42.50%) were a little bit hungry before they eat meals, and only 29 (7.25%) ate as at when due even when they were not hungry at all.

Table 3 shows that most of the respondents 184 (46%) ate high-fat meat 2-5 times per week while 172 (43%) seldom or never ate high-fat, minerals, 196 (49%) often eat fried foods daily while 146 (36.6%) seldom or never eats fried foods. Majority of the respondent 225 (56.3) don't use butter or margarine with their food.

The majority of the respondents, 250 (63%) were not engaged in regular exercise.

In Table 4, 10 (3.8%) among the females were current smokers, and 69 (54.8%) were drinkers as well. Alcohol usage among respondents was found to be statistically significant.

DISCUSSION

Food is known to play an important role in both the development and prevention of many diseases. Feeding habits vary from society to society based on cultural norms, socio economic factors among others. This study assessed the feeding habits and social lifestyles among undergraduate students at Ekiti State University, Ado Ekiti, Nigeria. In this study, 400 respondents were recruited which is consonance with a similar study conducted at a university in the southeastern part of Nigeria but with variation in the male-to-female ratio [7].

The study revealed only two-fifths of the respondents respectively complied with the World Health Organization (WHO) recommended standard of 5 servings of fruits and vegetables per day which is 2 cups of fruits and 3 cups of vegetables per day [9]. This is however in sharp contrast with the study done by Malek in Sudan in which 180 medical students who participated, 71.2% consumed vegetables only three times per week [10]. This difference between the results of the two groups of undergraduate students may be due to the kinds of food currently acceptable in different locations, cultural taboos and the availability of vegetables and fruits. Poor intake of fruits and vegetables has ill health as its consequences.

Almost about half of the students, 47.0% in the study area reported eating breakfast, lunch or dinner in restaurants about 1 to 5 times per week while two fifth ate more than 6 times per week in restaurants. Only less than a fifth ate regular homemade food. The constraints for most of the students who ate outside home may not be unlikely due to their detachment from their parents or guidance. According to a recent survey from Barilla, "over half of college students (55%) ranked homemade meals within the top three things they will miss most from home." While college restaurant food has made great strides, the reality is that a home-cooked meal is a plate of comfort like no other [11].

Also, College pressures and other items seem to mount more on students and often influence their choice of eating at restaurants. Most of the students who ate at restaurants in this study could also be alluded to as a result the of pressure of academic work.

Above half of the students were usually very hungry before they ate as reported in this study. This may not be unconnected with food insecurity. This corroborates a study conducted by R H Hatfield et al [12] that reported food insecurity as a reason most undergraduates delay eating only when they are very hungry.

Almost half of the students studied reported eating fried food on a daily basis. This agrees with a previous study in Lebanon that showed high consumption of fried foods by university students [13]. This could have health implications on the lives of the students later in life.

The students' choice of snacks reflects those high in sugar content, refined products and high in fats compared to healthy snacks. This shift shows nutritional transition associated with dietary practices linked to the rising risk of overweight and obesity in developing countries (WHO, 2002) [14].

Students' attraction to these foods could be due to their palatability, convenience, ease of availability and affordability in many food places where students consume their meals. This agrees with a previous study in Lebanon that showed high consumption of junk foods by university students (Yahia et al, 2008) [13].

Above half of the students reported not consuming plant proteinous food like beans and dairies eggs on a regular basis. This is significant as these food items stand the chance of enhancing the nutritional status of the students.

About two third of the students were not involved in active exercise. This is however in contrast to a similar study carried out among undergraduates in Italy which reported above half of respondents were actively engaged in exercise [15]. This discrepancy could be due to the fact that three-fifths of our respondents were possibly not aware exercise could play a role in curtailing the harmful effect of junk food items they consumed regularly. Also in a study carried out at Nnamdi Azikiwe University Awka, Nigeria about half of the students (50%) were actively exercising, which reflected the better knowledge of these undergraduates about the benefits of regular exercise [7].

Four per cent of the students were active smokers and above one-fifth were active alcohol drinkers. This has its own health implications on the appetite for food as studies have shown those who consumed alcohol may not have a healthy appetite. Nicotine suppresses appetite and increases metabolism, and also serves as a behavioural alternative to eating or a distraction from hunger or food craving [16].

Poor feeding habits among students may also be caused by their tight academic schedule, which makes students skip meals in an attempt to meet

up with the hectic school demands. Students in this study will need more education to improve their feeding habits. A call to policymakers to improve the living standards and socio economic status of the citizens in the country becomes very imperative.

Table 1: Socio-demographic chart of undergraduates at Ekiti State University.

Variables	Frequency	Per cent
	(N=400)	(%)
Age (years):		
15 – 24	338	84.5
25 – 34	62	15.5
Sex:		
Male	138	34.5
Female	262	65.5
Religion:		
Christianity	351	87.8
Islam	46	11.5
Traditional	3	0.7
Ethnicity:		
Yoruba	351	87.8
Igbo	27	6.8
Hausa	1	0.3
Others	21	5.1
Marital Status:		
Single	390	97.5
Married	10	2.5

The mean age of the respondents who participated in this study was 21.7 ±22.

Table 2: Daily food consumption survey

	Frequencies n.%		
Food items	**4 -6**	**1 – 3**	**0**
Vegetable	35 (8.8)	212 (53.0)	153 (38.3
cabbage, cucumber, eggplant, mushroom, okra, tomatoes	46 (11.5)	234 (58.5)	120 (30.1
Fruits	57 (14.2)	172 (43.0)	71 (42.8)
banana(any kind), mango, pineapple, papaya, watermelon	81 (20.3)	215 (53.8)	104 (26.0)
Beans and legumes	37 (9.3)	141 (35.3)	222 (55.5)
Black beans, peas, nuts, seeds	49 (12.3)	159 (39.8)	192 (48.1)
Rice, grains, cereal bread and pasta	190 (47.5)	122 (30.5)	88 (22.1)
Wheat, oats, noodles, spaghetti, macaroni	136 (34.0)	166 (41.5)	98 (24.6)
Meats and fish	128 (32.0)	181 (45.3)	91 (22.8)
Lean meat of beef, pork, (matchbox size)	62 (15.5)	160(40.0)	178 (44.5)
Chicken (matchbox size)	74 (18.5)	195 (48.8)	131 (30.2)
Dairy and eggs	51 (12.8)	134 (33.5)	215 (53.7)
Chicken egg (piece)	81 (20.3)	225 (56.3)	94 (23.4)
Fresh milk	64 (16.0)	177 (44.3)	159 (39.7)
Butter, cream, refined, sugar, oil (tablespoon)	91 (22.8)	213 (53.3)	96 (23.9)

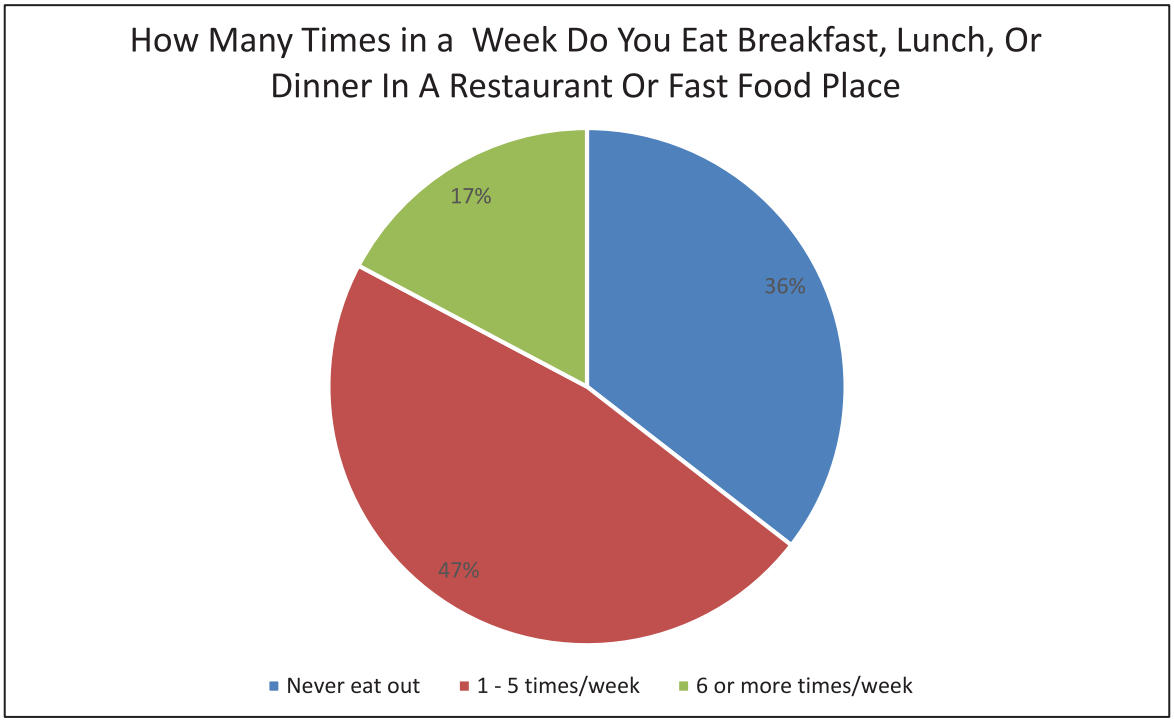

Figure 1 The frequency of meal intake of respondents in restaurants or fast food joints per week.

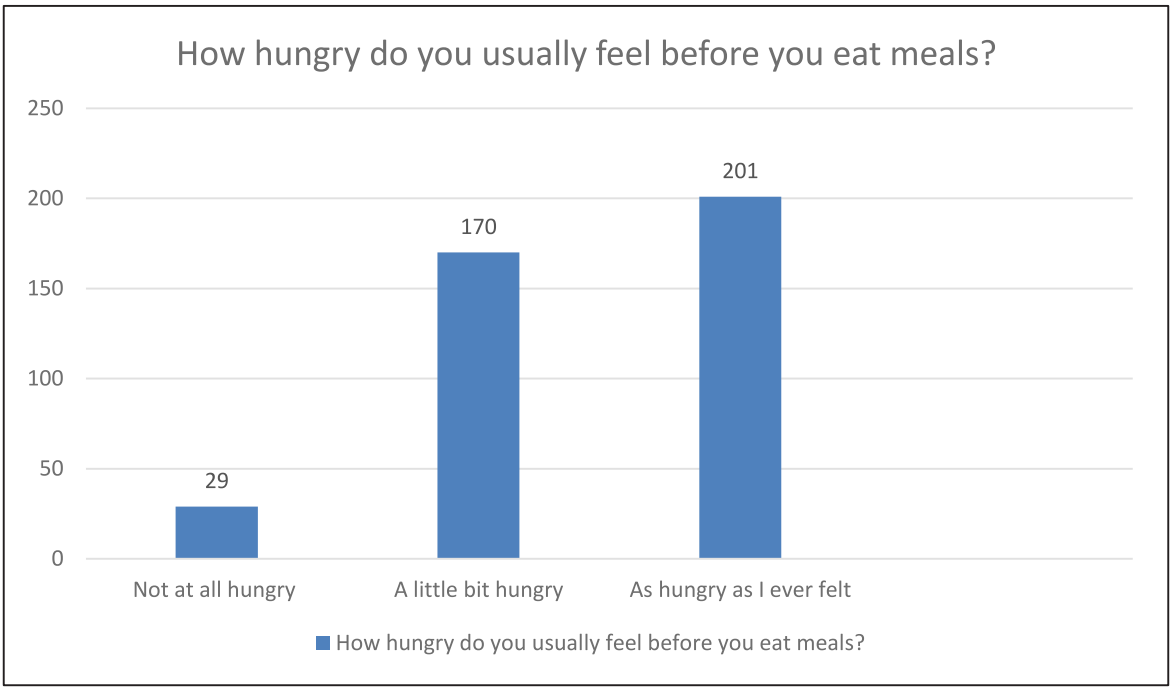

Fig. 2. Distribution of respondents about how hungry they felt before eating meals.

Table 3: Food Frequency of the Respondents in The Study Area

	Frequency	Per cent
	(N) 400	(%) 100
How often do you eat high-fat meats such as beef, pork, hamburger meat, and hotdogs?		
Daily	44	11
2 – 5 times per week	184	46
Seldom or never	172	43
How often do you eat fried food, such as fried fish, poultry, potatoes, corn chips, or fried cheese?		
Daily	196	49
2 – 5 times per week	58	14.5
Seldom or never	146	36.6
How often do you use butter or stick margarine with your food?		
Daily	46	11.5
2 – 5 times per week	129	32.3
Seldom or never	225	56.3
How often do you eat high-fat baked food such as biscuits and pancakes?		
Daily	121	30.3
2 – 5 times per week	182	45.5
Seldom or never	97	24.2
How often do you eat high-fat high sugared food such as ice cream, pies, doughnuts, and chocolate candy?		
Daily	108	27
2 – 5 times per week	189	47.3
Seldom or never	103	25.8

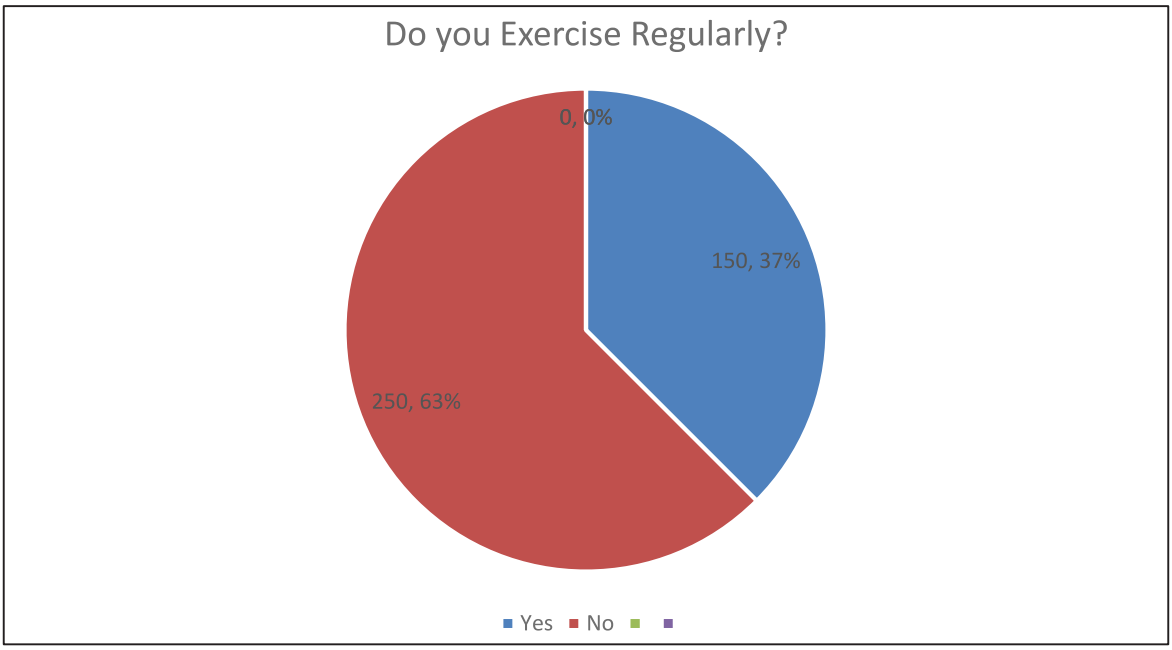

Figure 4: the practice of regular exercise among respondents

Table 4: The social lifestyle of Respondents. (Tobacco and alcohol usage among respondents)

Variable	Use of Cigarettes			Statistic
Tobacco usage	Never smoked	Former smoker	Current Smoker	
Sex:				
Male	126 (33.5)	6 (4.4)	6 (4.4)	χ^2 = 6.075
Female	250 (66.5)	2 (0.8)	10 (3.8)	df = 4
				p-value = 0.194
Alcohol Usage			Current drinker	
Sex:				
Male	81 (29.6)	0 (0.0)	57 (45.2)	χ^2 = 11.910
Female	193 (70.4)	0 (0.0)	69 (54.8)	df = 2
				p-value = 0.003

CONCLUSION:

Findings in this study concluded that the feeding habits of most students in the university need much to be desired. Some of the students had unhealthy social lifestyles that could impact their nutritional health negatively. Nutritional education is encouraged among students of higher institutions to improve their feeding habits.

They should be made to understand the health implications of unhealthy social lifestyles that can negatively affect their feeding habits.

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