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# Assessment of Eating Habits and Nutritional Status of Nursing and Midwifery Students in Ekiti State Nigeria

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***Authors' contributions***

*This work was carried out in collaboration between all authors. Authors PEK and MFO designed the study, developed the instrument and supervised the administration of the instrument. Author SEO performed the statistical analysis, carried out the literature review and wrote the first draft of the manuscript. All authors read and approved the final manuscript.*

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## ABSTRACT

**Aim:** The purpose of this study was to assess eating habits and nutritional status of nursing and midwifery students in Ekiti State so as to identify their nutrition education need.
**Study Design:** The study adopted descriptive research design.
**Place and Duration of Study:** Samples were selected from the schools of nursing and midwifery in Ekiti State Nigeria between March and May 2016.
**Methodology:** 234 (127 nursing 107 midwifery) students randomly selected from the school of nursing and midwifery in Ekiti State were included in this study. Data collection was done with the aid of self-structured questionnaire containing 10 items to assess eating habits. Weight and height of respondents were also measured. Data collected were subjected to descriptive analysis of frequency counts, percentages, mean and standard deviation and inferential statistics of multiple linear regression using SPSS version 16. Inferences were made at 0.05 alpha level.
**Results:** Eating away from home (4.12 ±0.98), eating to relieve stress (4.04 ± 1.17) and snacking (4.02 ± 1.14) are the common eating habits identified. Many (61.7%) had normal weight. No

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significant demographic difference in respondents' eating habit but a significant age difference in body mass index (BMI). Gender (beta weight=.163, p= .013) and student type (beta weight= -.179, p=.017) contributed significantly to eating habit. Female respondents and student nurses had better eating habit than their counterparts. BMI was significantly associated with age (beta weight= -.195, p=.018), marital status (beta weight=.172, p= .014), fruit intake (beta weight= -.164, p=.044), breakfast intake (beta weight=.160, p= .016) and eating to relieve stress (beta weight= .143, p=.033).

**Conclusion:** It is evident from this study that faulty eating habits are practiced by nursing/midwifery students hence appropriate nutrition education to promote healthy eating is required.

*Keywords: Eating habit; nutritional status; body mass index; nursing; midwifery; students.*

## ACRONYMS

*BMI : Body Mass Index.*

## 1. INTRODUCTION

The role of good nutrition in ensuring good quality of life among health care professionals cannot be over-emphasized. Good nutrition, in addition to ensuring health promotion and disease prevention [1,2], improves workers' performance and productivity and it is an antidote against nutritional related health problems such as eating disorders, obesity, high blood pressure, and cancer [3]. The practice of good eating habit among health care professionals could go a long way in making them effective advocates of healthy eating.

Nurses are health care professionals that work with a lot of other people to help make sick people better [4]. They perform their roles either through provision of direct care for patients, helping patients to learn or acquire new knowledge [5] and encouraging compliance with prescribed therapy [6]. In addition, nurses also play important roles in preventive health care. Through public health education, nurses help to inspire a large number of people to engage in healthy lifestyle thereby helping them to live longer lives [6].

One of the ways by which nurses can prepare to effectively perform their role, is for them to personally initiate a healthy lifestyle at the early stage of their career. A submission by [7] makes it clear that as our culture shifts from a sickness repair system to disease prevention and health promotion system, nurses need to take more responsibility for practicing health behaviours. This will prepare them to be effective advocates for health promotion and disease prevention. In addition, practicing health behaviours improves job performance of nurses and makes them effective role models of health promoting behaviours [8].

Healthy eating habit is one of the health promoting behaviours that could be role modeled and advocated by nurses. This is because most of the chronic diseases that are ravaging human health in our contemporary time are those that have their root in unhealthy eating habits that were initiated early in life. Nurses spend more time with the patients hence their understanding of nutrition and their practice of good eating habit is highly essential [1]. Many patients have high expectation of nurses and are more likely to listen to and follow the instructions of nurses who are modeling healthy lifestyles they need to adopt themselves [8].

To ensure healthy eating lifestyle among nurses, it is important to initiate it early especially during the nursing career process. Healthy eating habits could be inculcated into the lifestyle of student nurses/midwives so as to prepare them for effective advocates of healthy eating in their profession. It has been commonly reported that lifestyle behaviours initiated early in life are likely to persist [9,10]. The aim of this study was therefore to assess the eating habits of student nurses in Ekiti State so as to determine their extent of nutrition education need.

## 2. MATERIALS AND METHODS

### 2.1 Study Participants and Procedure

The study consisted of 234 (127 nursing, 107 midwifery) students. The respondents were randomly selected from the two schools of nursing and midwifery in Ekiti State Nigeria.

The descriptive research design was employed in this study to obtain information about the

eating habits and nutritional status of the respondents. The instrument used was a self structured questionnaire containing two sections. Section A elicited information on demographic attributes of the respondents such age, gender, marital status, and anthropometric measurements of weight and height while section B consists of 10 items to assess the eating habits of the respondents. The eating habit items were rated on a five-point Likert scale of 'not at all', 'once a while', 'once a week', '2-3 times a week' and '4 times a week and above'. The format of questioning of the items in the instrument is 'how often do you engage in the following habits'. Eating habits assessed include: breakfast intake, fruit and vegetable intake, snacking, skipping meals, eating away from home, eating to relieve stress, sugary drink intake, intake of fruit drink and late night eating. The weight of the respondents was measured using bathroom scale and recorded in kilograms while the height was measured in meters with a non-stretch tape measure. Body Mass Index (BMI) was used to assess the nutritional status of respondents and this was calculated using the formula $W/H^2$. The instrument was administered to the respondents by the researchers with the help of two trained research assistants. Permissions for data collection was obtained from the authorities of the schools and on the spot administration of instrument was adopted.

## 2.2 Statistical Analysis

Completed questionnaire were coded and analyzed using frequency counts, percentages, mean and standard deviation and inferential statistics of multiple linear regression. All inferences were made at 0.05 level of significance.

# 3. RESULTS AND DISCUSSION

## 3.1 Demographic Characteristics of Respondents

The analysis of the demographic characteristics of study samples as shown in Table 1 shows that majority of the respondents (88.9%) are females, many of them (45.7%) are above 24 years, majority (85%) are still single and 54.3% of them are nursing students.

## 3.2 Differences in Eating Habit and Body Mass Index of Respondents

Table 1 shows that female students had better eating habit than their male counterparts ($\overline{X}$=35.15 versus 32.31) but the difference is not significant. Respondents above 24 years also had better but statistically non significant eating habits than those lesser than 24 years ($\overline{X}$= 35.04 versus 34.67) and nursing students had better eating habits than the midwifery students. With regards to BMI, respondents above 24 years have higher BMI than those lesser than 24 years ($\overline{X}$=23.53 vs 21.73) and the difference is significant.

## 3.3 Nutritional Status of Respondents Based on BMI

Table 2 shows the nutritional status of respondents based on BMI. Majority of the respondents (61.7%) are of normal weight. Less than 10% of the respondents (7.2%) are obese.

**Table 1. Demographic characteristics of respondents and differences in overall eating habit and BMI (N=234)**

| Variable | | FREQ | % | Eating habit | | BMI | |
|---|---|---|---|---|---|---|---|
| | | | | Mean | P- value | Mean | P-value |
| **Gender** | Male | 26 | 11.1 | 32.31 | | 23.13 | |
| | Female | 208 | 88.9 | 35.15 | .503 | 23.26 | .608 |
| **Age** | <24 years | 127 | 54.3 | 34.67 | | 21.73 | |
| | >24 years | 107 | 45.7 | 35.04 | .743 | 23.53 | .002 |
| **Marital status** | Single | 199 | 85.0 | 34.62 | | 22.85 | |
| | Married | 35 | 15.0 | 35.04 | .919 | 25.54 | .391 |
| **Student type** | Nursing | 127 | 54.3 | 35.39 | | 23.00 | |
| | Midwifery | 107 | 45.7 | 34.19 | .659 | 23.55 | .596 |

**Table 2. Percentage distribution of respondents based on BMI**

| Classification | Freq | % |
|---|---|---|
| <18 Underweight | 11 | 4.7 |
| 18-24.9 Normal weight | 163 | 61.7 |
| 25-29.9 Overweight | 43 | 18.4 |
| >30 Obesity | 17 | 7.2 |
| Total | 234 | 100 |

### 3.4 Commonly Practiced Eating Habits of Respondents

Analysis of the eating habit of nursing/midwifery students as revealed in Table 3 reveals that eating habits among respondents are: Eating away from home is the most common eating habit among respondents (4.12 ±0.98), followed by eating to relieve stress (4.04 ± 1.17) and snacking (4.02 ± 1.14).

### 3.5 Relative Contribution of Demographic Variables on Eating Habit

Table 4 shows the relative contribution of each demographic variable tested on the eating habit of respondents. Studentship type had the highest and significant contribution to the eating habit of respondents (beta weight= -.179, p=.017). The negative value obtained is an indication that nursing students had better eating habit than the midwifery students. Gender had the next highest and significant contribution (beta weight=.163, p= .013) with females having better eating habit than the male respondents.

### 3.6 Relative Contribution of Demographic Variables on Body Mass Index

Analysis of the relative contribution of each demographic variable tested on body mass index of respondents (Table 5), revealed that age had the highest and significant contribution to the body mass index of respondents (beta weight= -.195, p=.02) followed by marital status (beta weight=.172, p= .01). The positive beta values obtained for both variables is an indication that as age increases body mass index increases and also that body mass index is higher among married respondents.

### 3.7 Relative Contribution of Eating Habit Variables on Body Mass Index

Analysis of the relative contribution of each demographic variable tested on body mass index of respondents (Table 6), revealed that fruit intake had the highest and significant contribution to the body mass index of respondents (beta weight= -.164, p=.04) followed by breakfast intake (beta weight=.160, p= .02) and habit of eating to relieve stress (beta weight= .143, p=.03). The positive beta values obtained for both variables is an indication that as age increases body mass index increases and also that body mass index is higher among married respondents.

### 3.8 Discussion

This study assessed the eating habit and nutritional status of nursing/midwifery students in Ekiti State Nigeria. First, findings of this study showed that females were more represented than the males an indication that nursing is a female-dominated profession. Similar findings have been reported in previous studies [11,12]. Findings of this study also revealed a significant age difference in body mass index. Respondents older than 24 years had higher BMI than the younger ones which is likely due to the fact that older respondents are engaging more in eating habits that put them at risk of overweight/obesity.

Eating away from home is the most common eating habit identified in this study. This is similar to the findings of a previous study [13]. Eating away from home, is an unhealthy eating habit which can predispose nurses to nutrition related health problems. Most foods and snacks prepared away from home tend to contain more of non essential nutrients and less of those nutrients that are most required. Although nurses spend long and variable hours at work, they can still maintain a healthy eating habit through proper planning of daily meals and by personally preparing and packing foods that will be eaten during the work day [14]. This will enable them to control the ingredients within the meal, assure that there is an adequate variety of food available, and also help them to avoid food pitfalls [14].

Findings of this study that fruit intake has a significant positive contribution to the body mass index of student nurses/midwives, is similar to that of a previous study [15]. This suggests that BMI was higher among respondents who eat fruits frequently. Over the years, diet high in fruit and vegetables has been advocated to maintain good health. However a situation where frequent fruit intake is associated with high BMI is worthy of note. This may probably be attributed to the sugar content of the type of fruit commonly eaten. Fruits with high sugar content may directly or indirectly influence BMI.

**Table 3. Percentage distribution and mean score of eating habits of respondents (N=234)**

| How often do you engage in the following habits | Not at all | Once a while | Once a week | 2-3 times a week | ≥4 times a week | Mean (SD) |
|---|---|---|---|---|---|---|
| Eating breakfast | 7.7 | 41.4 | 0.9 | 14.5 | 35.5 | 3.29 (1.49) |
| Eating fresh fruits | 4.7 | 38.1 | 13.2 | 31.6 | 12.4 | 3.09 (1.17) |
| Eating vegetables | 4.7 | 41.5 | 17.9 | 24.4 | 11.5 | 2.97 (1.15) |
| Sugary drinks | 10.3 | 18.8 | 11.1 | 54.3 | 5.6 | 3.26 (1.14) |
| Taking fruit juice | 7.7 | 12.0 | 11.1 | 57.7 | 11.5 | 3.53 (1.09) |
| Late night eating | 7.7 | 6.8 | 6.0 | 44.5 | 35.0 | 3.92 (1.17) |
| Eating away from home | 4.3 | 4.3 | 4.3 | 49.6 | 37.5 | 4.12 (0.98) |
| Eating to relieve stress | 16.0 | 8.1 | 6.8 | 33.8 | 45.3 | 4.04 (1.17) |
| Snacking | 6.4 | 6.0 | 7.3 | 39.7 | 40.6 | 4.02 (1.14) |
| Skipping meals | 7.7 | 15.8 | 11.1 | 50.4 | 15.0 | 3.49 (1.15) |

**Table 4. Regression analysis of relative contribution of each demographic variable on eating habits of respondents**

| Model | | Unstandardized coefficients | | Standardized coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. error | Beta | | |
| 1 | (Constant) | 29.648 | 2.094 | | 14.157 | .000 |
| | gender | 2.538 | 1.014 | .163 | 2.504 | .013 |
| | age | .311 | .400 | .063 | .776 | .438 |
| | marital status | 1.292 | .976 | .094 | 1.324 | .187 |
| | level | -.009 | .004 | -.179 | -2.395 | .017 |

**Table 5. Regression analysis of relative contribution of demographic variable on body mass index of respondents**

| Model | | Unstandardized coefficients | | Standardized coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. error | Beta | | |
| 1 | (Constant) | 20.295 | 1.796 | | 11.299 | .000 |
| | gender | -.477 | .867 | -.035 | -.550 | .583 |
| | age | .989 | .414 | .195 | 2.391 | .018 |
| | Marital status | 2.045 | .826 | .172 | 2.476 | .014 |
| | Student type | -.341 | .325 | -.080 | -1.048 | .296 |

**Table 6. Regression analysis of relative contribution of eating habit variables on body mass index of respondents**

| Model | | Unstandardized coefficients | | Standardized coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. error | Beta | | |
| 1 | (Constant) | 22.087 | 2.472 | | 8.935 | .000 |
| | Breakfast intake | -.456 | .189 | -.160 | -2.417 | .016 |
| | Fruits | .587 | .290 | .164 | 2.022 | .044 |
| | Vegetables | -.050 | .284 | -.014 | -.177 | .860 |
| | Sugary drinks | .061 | .253 | .017 | .243 | .809 |
| | Fruit juice | -.051 | .285 | -.013 | -.178 | .859 |
| | Late night eating | .003 | .249 | .001 | .010 | .992 |
| | Eating to relieve stress | .504 | .234 | .143 | 2.150 | .033 |
| | Eating away from home | -.197 | .286 | -.047 | -.689 | .492 |
| | Skipping meals | -.174 | .258 | -.047 | -.673 | .501 |
| | Snacking | .088 | .253 | .024 | .346 | .730 |

As indicated in this study like a previous study [16], breakfast had a significant inverse contribution on BMI. This implies that respondents with regular breakfast intake had lower BMI When compared with those who skip breakfast. Regular breakfast intake is often associated with reduced snacking.

## 4. CONCLUSION

It is evident in this study that unhealthy eating habit is practiced among nursing/midwifery students. Appropriate nutrition education to promote healthy eating is thus required.

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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