ASSESSMENT OF LEVEL OF NUTRITIONAL KNOWLEDGE AMONG SENIOR SECONDARY STUDENTS IN OREDO LOCAL GOVERNMENT AREA OF EDO STATE, NIGERIA.

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Abstract

A cross-sectional study was conducted to assess the level of nutritional knowledge among senior secondary students in Oredo local government area of Edo state. Two objectives guided the study, and one hypothesis was raised and tested under 5% significant level. The population of the study was all the eight thousand ,three hundred and fifty two (8352) senior secondary school students in the thirteen (13) public secondary schools in the local government area as at April 2023. The sample size was two hundred and fourty (240) senior secondary schools students. Purposive sampling technique was used to chose the sample size. The instrument used for data collection was a questionnaire. The Cronbach alpha statistic was used in the determination of the reliability of the study which gave a Cronbach alpha coefficients is 0.817. Data was analyzed using frequency and percentage .while independent t-test statistics was used to test the hypothesis at 0.05 level of significance. The result of the study showed that majority of the students in senior secondary schools in Oredo LGA to a large extent possess nutrition knowledge. Also, it was found that there is a significant difference in the nutrition knowledge among students in Oredo LGA based on gender. One of the recommendations is that nutrition subjects should be made compulsory for secondary school students (JSS and SSS classes) before these students proceed to their tertiary education. This will assist them to consume healthy and nutritious foods.

Keywords: *Adolescent, Assessment,* Dietary, *Knowledge, Nutrition*

Introduction

The primary dietary objective for an active person is to receive adequate nutrition to improve their health and quality of life in order to function at his/her best and this is what nutrition knowledge provides. Any person who wants to live a healthy life must have a good diet. Strong nutrition knowledge can help to promote healthy eating habits also assist people live healthier lives (Jonnalagadda in Sangeetha, Ramaswamy & Jisna, 2014). In order to promote and sustain healthy eating behaviors, nutrition literacy and understanding are essential (Yuen 2018, McNamara 2020). People who are adequately literate in nutrition possess the knowledge and abilities necessary to read food labels, grasp information about nutrients and dietary groups, and practice portion control. In

order to prevent and manage nutrition-related Non-Communicable Diseases (NCDs), it is imperative to increase nutrition education (Rivero, 2021).

Inadequate food intake or an improper diet can lead to poor nutrition, which increases the risk of illness and its incidence. Women in reproductive age and vulnerable populations are most affected by diet quality deficiencies. In a similar vein, those with less money typically have less money for housing, healthcare, and education, which results in their knowing less about nutrition (Ni Mhurchu, Aston, & Jebb, in Latifat, & Sanni, 2023). Poor nutritional condition if left untreated can result in poor academic performance, intelligent quotient (IQ) score decline, memory loss, learning impairments, decreased social skills, and decreased problem-solving capabilities. It is well recognized that those who eat poorly run the risk of developing certain ailments and becoming obese, and this is particularly prevalent among young people nowadays in Nigeria. It is essential to evaluate students' (adolescents') nutritional knowledge since inadequate nutrition knowledge has a negative impact on eating habits, food preferences, and health, which may have a negative impact on development and the ability to learn and play appropriately.

Adolescents seem to gradually take on their parents' or family eating preferences and behavioral patterns when in secondary school. High school students' health and wellbeing are significantly influenced by their knowledge of nutrition during their adolescent years. Even a nutritious diet that is consumed in excess might result in undesirable conditions like obesity and cardiovascular disease. Researchers have had serious concerns about the caliber of the food that adolescents eat. A number of interventions have been made to help adolescents manage their eating patterns, but their effectiveness has been restricted due to poor research works or incomplete understanding of nutrition knowledge. It has been suggested that dieting interventions must take into consideration the age of the children or adolescents. Timely nutritional knowledge research like this among adolescent may prevent them from becoming victims of poor health and obesity, in the future which nutrition knowledge presupposes.

Research Problem

Many people today consume food for motives that are not in line with the proper eating habits due to ignorance of the nutritional value of food, poor economic background and general hardship in the country. Ignorance leads to faulty food selection, preparation and consumption thus leading to an unhealthy person. Inadequate nutritional intake due to poor nutrition knowledge can have serious health consequences like obesity, diabetes mellitus, hypertension and stroke (World Health Organisation, 2005). Adolescents constitute a significant population (almost one fifth of Nigerian population) that represent a huge potential workforce whose health affect the nation socially and economically (Olatona, Ogide, Abikoye, Ilesanmi, & Nnoaham, 2020). .Adolescents can learn and adopt healthy habits to create a strong foundation for healthy lifestyles to improve quality of their lives in adulthood. Some adolescents with healthyfamily eating habits may change to a family food eating habit due to several external influence.Some studies have reported low level of nutritional knowledge, poor dietary patterns and others of adolescents in other parts of Nigeria but there is limited information about these parameters among adolescents in Edo State, hence the need to investigate the of level of nutritional knowledge among secondary school student in-order to mitigate these health consequences with special reference to secondary schools in Oredo local government area.

Purpose of the study

The purpose of this study is to:
i. assess the level of nutritional knowledge among secondary school students in Oredo LGA.
ii. determine if there is difference in the nutritional knowledge among secondary school students based on gender.

Research Questions
i. What is the level of nutrition knowledge among secondary school students in Oredo LGA ?
ii. Is there any difference in the nutritional knowledge among secondary school students in Oredo LGA based on gender?

Hypothesis of the Study
    i.   There is no significant difference in the nutritional knowledge among secondary school students in Oredo LGA based on gender.

Concept of Nutrition Knowledge
        Nutritional knowledge, according to Yussuf and Sanni (2023), is the act of possessing the requisite knowledge of nutrition regarding the food one eats, the substance, and its effects on the body. It is used to describe instruction in nutrition and food choice. It might have a beneficial effect on the recipient's eating habits (Dickson-Spillmann & Siegrist, 2011). According to a study by Sprenk, Kullen, Burdon, and O'Connor (2014), there is a strong but sluggish relationship between higher levels of nutrition knowledge and qualitative dietary choices.

        Additionally, studies have shown that there are a sufficient number of other factors influencing dietary behavior, such as food cost, cultural norms, and religious views. Similar to this situation, there are several factors including sex, age, education level, and socio-economic position that are associated to nutrition awareness (Spronk, et al. 2014). Studies on teens have shown that a variety of factors influence how much they know about nutrition. For instance, studies by Arora, Kochar, and Soni (2015) found that female adolescents from urban parts of India have a greater level of nutrition knowledge than their peers from rural areas.

        Additionally, the Healthy Lifestyle in Europe by Nutrition in Adolescence (HELENA) study, which was conducted in ten different European countries, found that female adolescents who are immigrants, and participants whose parents have higher educational qualifications all exhibited higher levels of nutrition knowledge. Contrarily, a study examining nutrition knowledge and its relationship to nutritional status was undertaken in Italy and found that there was no statistically significant difference in knowledge levels between the sexes (Grosso, Mistretta, Turconi, Cena, Roggi, & Galvano 2013). In addition, the same study reported that students who are normal weight have a higher degree of dietary awareness than students who are overweight or obese. This could draw attention to the link between teenagers' nutritional status and their level of nutrition awareness. Sahingoz & Sanlier (2011) claimed that a study they carried out in Turkey found that the participants' diets were of poor quality and that their degrees of nutrition knowledge were related to how they ate. However, a study by Kigaru, Loechl, Moleah, Macharia-Mutie, & Ndungu (2015) found that among younger age groups, a moderate degree of nutrition knowledge was linked to poor dietary behaviours, including unhealthy food choices, snacking, and eating environments.

Methodology
        A cross-sectional study was conducted to assess the level of nutritional knowledge among senior secondary students in Oredo local government area of Edo state, Nigeria. The population of the study was all the eight thousand ,three hundred and fifty two (8352) senior secondary school students in the thirteen (13) public secondary schools in the local government area as at April 2023 (Ministry of Education, Benin City).

        The sample size was two hundred and fourty (240) senior secondary schools students. The purposive sampling technique was used to select six (6) secondary schools in the local government area based on assess to the secondary schools. The schools are two (2) boys' schools, two (2) girls' schools and two (2) mixed schools. From the selected secondary schools fourty (40) students were purposively selected based on their willingness and interest to participate in the study. In the mixed secondary schools, twenty (20) male and twenty (20) female students were selected making a total of two hundred and fourty (240) respondents selected for the study.

Instrument for the Study

The instrument used for data collection was a questionnaire designed by the researcher. The instrument has sections A and B. Section A covered the bio data of the pupils like age, and gender. Section B has ten (10) relating to nutrition knowledge. It was designed using 4 point likert scale format of Very Large Extent (VLE, 4), Large Extent (LE, 3), Moderate Extent (ME,2), and Low Extent (LE,1).

Validation and Reliability of the Instrument

The content validity of the instrument was ascertained through the assistance of two experts in Home Economics in the Department of Vocational and Technical Education (VTE), and an expert in Measurement and Evaluation all in the Faculty of Education, University of Benin, Benin City. Corrections, observations, opinions and suggestions were effected. The reliability of the instrument was determined by the administration of thirty (30) copies of the instrument to part of the population who were not part of the sample study. The Cronbach alpha statistic was used in the determination of the reliability of the study which gave a Cronbach alpha coefficients are 0.817.

Method of Data Collection and Analysis

Data were collected using questionnaire with the assistance of two briefed research assistants. Data was analyzed using frequency and percentage to answer the research questions.while independent t-test statistics was used for the hypothesis at 0.05 level of significance.

Result and Discussion of Findings

A total of two hundred and fourty (240) copies of questionnaire were distributed and after careful monitoring, two hundred and thirty three (233) were retrieved showing a percentage of 97.08 acceptance and interest in the study.

Table 1: bio-data of respondents

variables	Frequency	Percentage
Gender: Male	106	45.5
Female	127	54.5
Age: 13-16	198	85
17-20	33	14.2

The result on table 1 revealed that out of the two hundred and thirty three students whose questionnaires were retrieved , one hundred and six(106) representing 45.5% were male , while one hundred and twenty seven (127) representing 54,5% represented females. This means that more female students surveyed returned their questionnaire

The result for age revealed that students with age range of 13-16 years of age have a frequency of one hundred and ninety eight (198) representing 85%, while students with age range of 17-20 years of age have a frequency of thirty three (33) representing 14.2% and two (2) representing 0.8% were missing. This means that most of the students in the survey were under the age range of 13-16 years within the period of the study.

Research Question 1: What is the level of nutrition knowledge among secondary school students in Oredo LGA ?

Table 2: Extent of Nutritional Knowledge of Students

	Items on Nutrition Knowledge	VLE *(%)*	LE *(%)*	ME *(%)*	LE *(%)*
1	The food you eat have effect on your appearance	100(*42.9*)	47 (*20.2*)	42 (*18.0*)	41 (*17.6*)
2	Meat, fish, egg are first class rich in protein	160(*68.7*)	55 (*23.6*)	11(*4.7*)	6(*2.6*)

3	Raw eggs are more nutritious than cooked eggs	45(*19.4*)	47(*20.3*)	56(*24.1*)	84(*36.2*)
4	Fruit juice and fruit have the same nutritional value	33(*14.3*)	64(*27.8*)	89(*38.7*)	44(*19.1*)
5	Desired foods should be consumed regardless of their importance in terms of health	33(*14.3*)	31(*13.4*)	68(*29.4*)	99(*42.9*)
6	It is important to read the label information in foods	186(*80.5*)	31(*13.4*)	7(*3.0*)	7(*3.0*)
7	Only naturally grown vegetables and fruits should be preferred.	110(*47.6*)	67(*29.0*)	37(*16.0*)	17(*7.4*)
8	It is important to have healthy snacks between meals	84(*36.7*)	75(*32.8*)	45(*19.7*)	25(*10.9*)
9	Eating less and often is healthy for the body	60(*25.9*)	63(*27.2*)	63(*27.2*)	46(*19.8*)
10	When choosing food, attention should be paid to whether it is cooked and presented in a clean environment	192(*82.4*)	21(*9.0*)	11(*4.7*)	9(*3.9*)
	TOTAL	**43.27**	**21.67**	**18.55**	**16.34**

The result of table 2 summarily revealed that 43.27% of the students to a very large extent have nutrition knowledge , 21.67% have to large extent nutrition knowledge, 18.55% have moderate nutrition knowledge and 16.34% to low extent have nutrition knowledge. A breakdown of the result revealed that 42.9% of the students surveyed to very large extent know that the food you eat have effect on your looks, 20.2% have such knowledge to large extent, 18.0% have such knowledge to moderate extent and 17.6% have such knowledge to low extent. Also, majority of the students surveyed (68.7%) have the knowledge that meat, fish, egg are first class rich in protein, 23.6% have such knowledge to large extent, 4.7% have such knowledge to moderate extent and 2.6% have such knowledge to low extent. In same vein, 19.4% have knowledge that raw eggs are more nutritious than cooked eggs to a very large extent, 20.3% have such knowledge to large extent, 24.1% have such knowledge to moderate extent and 36.2% have such knowledge to low extent. The result also revealed that 14.3% of the students to a very large extent have knowledge that fruit juice and fruit have the same nutritional value, 27.8% have such knowledge to a large extent, 38.7% have such knowledge to moderate extent and 19.1% have such knowledge to low extent. Additionally the result revealed that 14.3% of the students surveyed to a very large extent have knowledge that desired foods should be consumed regardless of their importance in terms of health, 13.4% have such knowledge to large extent, 29.4% have such knowledge to moderate extent and 42.9% have such knowledge to low extent. Majority (80.5%) of the students surveyed to a large extent have knowledge that it is important to read the label information in foods, 13.4% have such knowledge to large extent, 3% have such knowledge to moderate and low extent respectively. 47.6% of the students to a very large extent have knowledge that only naturally grown vegetables and fruits should be preferred, 29.0% have such knowledge to large extent, 16.0% have such knowledge to moderate extent and 7.4% have such knowledge to low extent. 36.7% of the students surveyed to a very large extent have knowledge that it is important to have healthy snacks between meals, 32.8% to large extent have such extent, 19.7% to moderate extent have such knowledge and to low extent have such knowledge to low extent. Also, 25.9% of the students surveyed to a very large extent know that eating less and often is healthy for the body, 27.2% know such, to large and moderate extent respectively and 19.8% know such to low extent. Lastly, 82.4% of the students know that when choosing food, attention should be paid to whether it is cooked and presented in a clean environment to a very large extent, 9.0% know such to large extent, 4.7% know such to moderate extent and 3.9% know such to low extent.

Hypothesis 1: There is no significant difference in the nutritional knowledge among secondary school students in Oredo LGA based on gender

The hypothesis is tested at 0.05 level of significance

Table 3: Independent t –test for significant difference in the nutritional knowledge among secondary school students in Oredo LGA based on gender

	t-test for Equality of Means		
	t	df	p-value
Equal variances assumed	-2.374	231	.018
Equal variances not assumed	-2.374	211.873	.020

The result of table 3 which is on the for Equality of Means revealed that the p-value of 0.018 is less than 0.05 which led to the rejection of the null hypothesis that no significant difference in the nutritional knowledge among secondary school students in Oredo LGA based on gender and acceptance of the alternative hypothesis that there is a significant difference in the nutritional knowledge among secondary school students in Oredo LGA based on gender.

Discussion of Findings

The result of the study showed that majority of the students in senior secondary schools in Oredo LGA have large extent of nutrition knowledge. This is majority in the areas of knowledge that the food you eat have effect on your looks; knowledge that meat, fish, egg are first class rich in protein; knowledge that it is important to read the label information in foods; knowledge that only naturally grown vegetables and fruits should be preferred; knowledge that it is important to have healthy snacks between meals, ; knowledge that eating less and often is healthy for the body and knowledge when choosing food, attention should be paid to whether it is cooked and presented in a clean environment. Also, from the study, it is clear that there is difference in the nutrition knowledge of the students in Oredo LGA based on gender.. This finding is not in affirmation with the study by Grosso, Mistretta, Turconi, Cena, Roggi, and Galvano (2013) who examined nutrition knowledge and its relationship to nutritional status was undertaken in Italy and found that there was no statistically significant difference in knowledge levels between the sexes. Also this study does not agree with Olatona, Ogide, Abikoye, Ilesanmi and Nnoaham (2020) who studied dietary patterns, nutritional knowledge and status of adolescents in Lagos, Nigeria and found that the adolescents have very low nutritional knowledge, however agreed with the current in area that there is a significant difference in the nutritional knowledge based on gender. Also, this study is in contrast with study of Aluyor and Oligbi (2020) who assessed the level of nutritional knowledge among undergraduate students in Edo state and found that less than half of the respondents have high level of nutritional knowledge and also both male and female students had equal level of nutritional knowledge. Also, this study is in contrast with Essien, Emebu, Iseh, and Haruna (2014) who assessed nutritional status and knowledge of students from selected secondary schools in Sokoto metropolis, Sokoto state, Nigeria and found that the students have low nutritional knowledge.

Conclusion

This study has assessed the level of nutritional knowledge among senior secondary students in Oredo local government area of Edo state. From the study , it is clear that to large extent, senior secondary school students in Oredo LGA have good nutritional knowledge. Poor and dietary patterns favour increased risk of non-communicable diseases later in adult life and should be avoid with good nutritional knowledge at teens stage of life.

Recommendations

Based on the findings of this study, the researcher makes the following recommendations.

1. There is need for nutrition education by ministries department or agencies (MDAs) in charge of food and drugs through media, to make sure that this level of nutrition knowledge is attained and maintain in other LGAs in Edo state and beyond. This will equip the public with nutritional knowledge in order to reduce the high rate of nutritional diseases in our community, state and nation at large.
2. Secondly, nutrition subjects should be made compulsory for secondary school students (JSS and SSS class) before these students proceed to their tertiary education, this will assist them to consume healthy foods because it maybe their first time to stay outside their respective families.
3   .With the hard socio-economic situation in Nigeria, there is the need to make nutrition education compulsory for all students in all educational levels so that they will know the alternatives to their usual food items in-order to consume proper mix of food, both in quality and quantity at a lesser cost.
1. Reinforcement of nutrition knowledge at the tertiary education level through addition of nutrition education to general studies curriculum in all Nigerian universities.

Lastly, enforcement of nutrition knowledge at the tertiary education

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