

**AN ASSESSMENT OF UNDERGRADUATES' NUTRITION AWARENESS LEVEL
ON THE SCOURGE OF CANCER AS A CURRENT DEVASTATING
PHENOMENON IN NIGERIA**

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ABSTRACT: *The prevalence of cancer continues to increase in Nigeria. The factors that appear to be most responsible are poor nutrition and sedentary lifestyle. Therefore, this study examined the undergraduates' nutrition awareness level on the scourge of cancer as a current devastating phenomenon in Nigeria. A descriptive research design was adopted for the study. A total of 600 undergraduates were selected through stratified and random sampling techniques from 3 universities in Ogun State, Nigeria. A self-developed questionnaire and pilot-tested was used to collect relevant data from the respondents. The data gathered from the study were analysed using descriptive and inferential statistics. The results revealed that Nigerian undergraduates are not well informed on the importance of nutrition in the prevention of cancer. Also, socio-personal characteristics such as gender, discipline, and school type significantly did not influence on how informed the undergraduate students are on disease prevention and making adequate food choices. In view of the outcome of the findings in this study, it is recommended that public health education be intensified to promote people's awareness of the consequences of poor nutrition and sedentary lifestyle; and making healthy food choices.*

KEYWORD: Nutrition, Awareness, Undergraduates, Cancer.

INTRODUCTION

Cancer is a dreaded and painful disease, characterized by undesirable and uncontrollable proliferation of tissue cells. The cause of cancer is largely unknown but many risk factors are recognized. Cancer is generically used for more than one hundred different diseases, including malignant tumours of different sites, such as breast, cervix, prostate, stomach, colon/rectum, lung and mouth. Other examples include leukemia's, sarcomas, Hodgkin's disease and non-Hodgkin's lymphomas (WHO 1990, 2003, 2007; E-health 2004).

It is a known fact all over the world today that morbidity and mortality are associated with lifestyle diseases, which could be reduced if satisfactory nutritional practices were adopted in early life (childhood and adolescence) and maintained through adulthood. Studies over the years have shown that optimum nutrition contributes to health, wellbeing, normal development, and high quality of life (Gibney, Lanham-New, Cassidy, & Vorster, 2009), while, under-nutrition, over-nutrition, and malnutrition are linked to suboptimal health outcomes (Gibney et al. 2009; Anetor, Ogundele & Oyewole, 2013). However, research reports that poor diets and wrong choice of food and consumption can be linked to the occurrence of chronic diseases, including cardiovascular disease, Type-2 diabetes, cancer, osteoporosis and anaemia (Lytle, Himes, Feldman, Zive, Dwyer, Hoelscher, 2002). For instance, Steinmetz and Potter (1996) reported that low intake of fruit and vegetables can increase the risk for developing cancer.

In a meta-analysis study by Corney and Du Plessis (2011) it was observed that most researchers believe that dietary habits and food preferences develop in childhood, are established by age 15, and become habitual in due course (Birch 1999; Sweeting & Anderson 1994). Adolescence is thus still a key formative period in the development of eating habits (Walsh & Nelson 2010). Of interest is that some studies have identified a negative shift in the recommended nutrient consumption during adolescence, with reports that few adolescents are meeting recommended dietary guidelines (Patrick, Norman, Calfas, Sallis, Zabinski, Rupp, 2004)

However, American Institute of Cancer Research (AICR) (2007) established that diet has played a substantial role in the etiology of many chronic degenerative diseases such as coronary heart disease, atherosclerosis, non-insulin dependent diabetes mellitus, osteoporosis and some cancer types such as bowel, stomach, breast and prostate cancer. Also, Schaller and James (2005); Ajala (2006); and Anetor, Ogundele and Oyewole (2013) affirmed that nutrition is considered the most controllable risk factor affecting long-term health and the role of nutrition in health promotion, disease prevention and treatment of chronic disease is well recognized.

Knowledge can therefore be defined as factual and interpretive information leading to understanding or useful for taking informed action (Glanz et al, 2002). The social cognitive theory emphasizes that an individual's behavior is determined by the interaction of personal as well as environmental factors. Social cognitive theory suggests that if a person is to perform a particular behavior, he or she must know what the behavior is (knowledge of the behavior) and how to perform it (skill). A task typically cannot be performed if it has not been learned yet. Thus knowledge appears to be an important factor that drives behavior.

Nutrition knowledge might therefore be seen as one of the key factors to improving eating behavior in adults. Adequate nutrition is essential for growth and development, health and overall well-being. Behaviours to develop healthful eating habits should start early and continue through life. Poor eating behavior could lead to many chronic diseases and preventable causes of death, such as cardiovascular disease, obesity, type 2 diabetes, stroke and osteoporosis in elderly and post-menopausal women (Fung et al, 2001; Mc Cullough et al 2002).

In the words of Ngwu and Njoku (2007) "Nutrition Knowledge is imperative for healthy eating and healthy eating means eating nutritious diets". Diet is the food and drink normally taken by individuals. Nutritious diet contains all nutrients (component of food and drinks) in proper proportion for a given person. Nutritious diets are prepared with the aid of "food guide pyramid" which is a frame work that shows how food can be combined in a day's meal preparation (Ene-Obong, 2001; Townsend, 1994). Eating nutritious diet ensures healthy eating and good health.

As rightly noted by Byers and Marshal (1995); Jervel, (1995); Ngwu and Njoku (2007), one of the consequences of urbanization and rural development is the apparent change in life style and dietary habits. The food consumption patterns of Nigerians have equally shifted from more complex carbohydrate form of traditional diets to refined carbohydrate diets. The neglect of the traditional 'African' foods that provide high levels of dietary fiber in favour of the refined "Western foods" has been implicated in the rising incidence of chronic, diet-related non-communicable diseases such as obesity, diabetes, hypertension, coronary heart disease and stroke (Byers and Marshal, 1995; Popkin, 1998; Schmidhuler and Shetty, 2005).

Diet-related diseases are serious problems of public health importance in Nigeria and beyond. Ignorance of the nutritional value of food is widespread (WHO, 2003), especially in the rapidly growing urban populations. Ignorance (poor nutrition knowledge) leads to faulty food selection, preparation and consumption which certainly contribute to the onset of obesity, diabetes mellitus, hypertension and stroke (WHO, 2003).

Miller (2001) affirmed that the contribution of diet to cancer risk in developing countries has been considered to be lower, perhaps around 20%. Unraveling the effects of diet on cancer risk is, therefore, of great public health importance today in Africa especially Nigeria, but there is still a dearth in research in this area. This study therefore aims at assessing undergraduates' nutrition awareness level on the scourge of cancer as a current devastating phenomenon in Nigeria.

Research Questions

The following research questions were raised to guide the study:

- i. What is the awareness level of Ogun State tertiary institution students on the scourge of cancer?
- ii. What type of relationship exists between the students' nutrition awareness level and the scourge of cancer?

Research Hypotheses

- a. There is no significant gender difference in students' nutrition awareness level and the scourge of cancer.
- b. There is no significant difference in students' nutrition awareness level and the scourge of cancer based on discipline.
- c. There is no significant difference between students' nutrition awareness level and the scourge of cancer across institutions in Ogun State.

RESEARCH METHODS

The study adopted the descriptive survey design, which involved the use of a self-developed questionnaire. Students in three tertiary institutions in Ogun State constituted the population from which the sample was drawn. A total of 600 undergraduates were selected through stratified and random sampling techniques from 3 universities namely Federal University of Agriculture Abeokuta (FUNNAB) (Federal University), Olabisi Onabanjo University (OOU) Ago-Iwoye (State University), and Babcock University Ilishan-Remo (Private University).

The research instrument used in gathering data for the study was tagged "Students' Nutrition Awareness Level and the Scourge of Cancer Questionnaire (SNALSCQ). The SNALSCQ was made up of two sections; section A sought demographic information on students' age, sex, and name of institution, section B contained 24 structured items on their level of awareness of nutrition and food choices in preventing the scourge of Cancer. The 24-item questionnaire was constructed in four-point likert format measured along 1 (strongly disagree) to 4 (strongly agree).

The instruments were trial tested polytechnic and college of education in the State, which was not part of the main study. Trial testing of the institution slowed it to be reliable with a Cronbach alpha coefficient of 0.81 and 0.86 respectively. The instruments were administered on the subject at the three institutions with the help of five research assistants who are the doctoral students of Olabisi Onabanjo University. Out of the 600 questionnaire given out, 589 were properly filled, thus, 98.2% success of questionnaire administration was recorded. The data obtained from the study were collated and analyzed, using both descriptive (simple percentages) and inferential statistics (Pearson product Moment Correlation Coefficient, t-test and analysis of variance). Analysis was done using the S.P.S.S. computer package.

RESULTS

The result shown in Table 1 below shows that 447 (75.9%) undergraduate participants of this study possessed low level of awareness of the influence of nutrition on the scourge of cancer, 88 (14.9%) possessed high level of awareness, while the remaining 54 (9.2%) undergraduates of this study possessed fair (average) level of awareness of the influence of nutrition on the scourge of cancer.

Table 1: *Undergraduates' nutrition awareness level and the scourge of cancer*

Awareness Level	Frequency	Percentage
Low (24-32)	447	75.9
Average (33-64)	54	9.2
High (65-96)	88	14.9

The result in Table 2 revealed a significant divergent relationship ($r = 0.381$, $p < 0.05$), this implies that the relationship between the two variables is statistically significant but in a negative form.

Table 2: *Relationship between nutrition awareness level and the scourge of cancer*

	N	X	Sd	Pearson r	P
Awareness Level	589	36.45	12.89	-.381	<.05
Scourge of Cancer	589	19.02	15.47		

Results in Table 3 indicated no significant gender difference in students' nutrition awareness level and the scourge of cancer ($MD = 0.21$; $t = 1.789$; $P < .05$). The null hypothesis was sustained. Therefore, the outcome of this study showed that male and female undergraduates do not differ in their nutrition awareness level on the scourge of cancer.

Table 3: *Independent t-test analysis of gender difference in students' nutrition awareness level and the scourge of cancer*

	N	X	Sd	Mean Diff.	Df	t-cal	Decision
Female	275	40.07	15.33	0.21	587	1.789	Not significant
Male	214	39.86	16.10				

Results in Table 4 indicated a significant difference in students' nutrition awareness level and the scourge of cancer based on discipline (MD = 0.52; $t=1.353$; $P < .05$). Therefore, the null hypothesis that stated that there is no significant difference in students' nutrition awareness level and the scourge of cancer based on discipline was sustained by the outcome of this study.

Table 4: *Independent t-test analysis of differences in students' nutrition awareness level and the scourge of cancer based on discipline*

	N	X	Sd	Mean Diff.	Df	t-cal	P
Science Oriented	296	42.97	13.07	0.52	587	1.353	<.05
Non-science Oriented	293	42.45	13.96				

The calculated value of $f = 2.902$ as shown in Table 5 indicated no significant difference between students' nutrition awareness level and the scourge of cancer across institutions in Ogun State ($f_{cal} = 2.902 < f_{table} = 3.84$, $p < .05$). It could then be deduced that Nigerian undergraduates are not well informed on the importance of nutrition as means of preventing cancer of any form. The implication of this finding is that nutrition education is seriously needed among our youths if we are to build a viable and healthy nation.

Table 5: Summary of One-way Analysis of variance on differences in students' nutrition awareness level and the scourge of cancer based on school type (federal, state, and private)

Source of variation	SS	Df	MS	F	Sig.
Between group	218.701	1	218.701		
Within group	44976.482	597	75.337	2.902	.011
Total	45195.183	588			

Discussion of Findings

The major focus of this study was to determine the nutrition awareness level and the scourge of cancer among undergraduate students in Ogun State, Nigeria. There is a clear indication from the outcome of this study that 75.9% of Ogun State tertiary institutions students have low nutrition awareness level and the scourge of cancer. This study corroborates the findings of Amusa, Odunbaku and Feyisola (2008) that Nigerian children were malnourished and highly susceptible to infectious diseases leading to high children mortality, while the adults were

usually attacked by one form of dreadful diseases due to lack of adequate nutritious knowledge. The implication of this finding is in line with Okorodudu and Okobiah (2004) that healthy life for the adults and the children needs must be targeted at their earlier age for dietary interventions.

The outcome of this finding on what type of relationship exists between the students' nutrition awareness level and the scourge of cancer was negatively correlated. It was observed that lack of adequate knowledge on nutrition, dietary, and choice of food pervert the perception of the adolescents on the food in preventing cancer and its spread. This finding is in line with an Austrian study that nutrient intake showed close coherence to the degree of nutritional knowledge (Wardle, Parmenter, & Waller, 2000; Dallongeville, Marecaux, Cotel, Bingham, & Amouyel, 2001). It should be noted, however, that despite the intuitive appeal of education as a means of improving diet, there is still a conflicting result regarding associations between nutritional knowledge and dietary behaviour among Nigerians.

The demographic results no significant gender, discipline and school type difference in students' nutrition awareness level and the scourge of cancer is revealing. These results concur with several studies that have stressed the relationship of eating behaviour and socio-cultural measurement in Nigeria (Worldbank, 2000; Osinubi, 2003). Also the studies by Ogwumike and Ekpeyong, (1991); Worldbank (1995) and Osinubi (2003) give a good support to these findings that food insecurity, poor nutritional values and inadequate diet in Nigerian homes are related to cultural background, poverty and unhealthy lifestyle. It contradict sharply with Reinehr, Kersting, Chahda, and Andler (2003) who reported that increase in age and type of school was found to correlate significantly with nutritional knowledge but not with the degree of overweight; and that girls had higher knowledge scores than boys.

CONCLUSION

The findings of this study revealed that Nigerian undergraduates are not well informed on the importance of nutrition in the prevention of deadly diseases such as cancer. Also, socio-personal such as gender, discipline, and school type showed no significant influence on how informed these youths are on disease prevention and making adequate food choices. As noted by Turconi, Guarcello, Maccarini, Cignoli, Setti, Bazzano, and Roggi (2008) nutrition education is one of the ways identified to prevent cancer spread, especially diet related cancer.

In view of the outcome of the findings in this study, it is recommended that public health education be intensified to promote people's awareness of the consequences of poor nutrition and sedentary lifestyle; and making healthy food choices.

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