Knowledge and Prevalence of common Nutritional Patterns among Non-elite Student Athletes in Lead City University, Ibadan

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Nutrition has been seen by many scholars as a branch of science that deals with nutrients particularly in humans. Proper nutrition offers one of the most effective and least costly ways to decrease the burden of many diseases and their associated risk factors, including obesity. This study therefore, focused on knowledge and common nutritional patterns among non-elite student Athletes in Lead City University, Ibadan.Purposive and simple random sampling techniques were used to select 100 respondents for the study, while questionnaire was used for data collection. Descriptive statistics of frequency counts, percentages, mean, and standard deviation were used for the analysis. The results showed that, the level of knowledge of nutrition among student-athletes in **LCU** Ibadan was high 58.0%. Furthermore, sweetness was rated 1st with a weighted mean score of 2.63, followed by skipping of meals with a weighted mean of 2.41; social media was rated 3rd with a (weighted mean score of 2.24, while quality of food was the least with a weighted mean score of 2.09. This means that sweetness was the foremost prevalence nutritional pattern among student athletes in Lead City University, while quality of food was the least. It was concluded that the level of knowledge of nutrition among student athletes in Lead City University Ibadan was high with Sweetness being the foremost prevalence nutritional pattern. The Sports council of Lead City University, Ibadan should therefore, organize periodic sensitization programme for student-athletes of the institution on health implications of dietary patterns as they affect nutritional status of such athletes.

Keywords: Dietary Patterns, Nutritional Status and Student-Athletes.
World count: 249.

Introduction

Nutrition refers to the process of providing or obtaining the food necessary for health and growth. Nutrition has been seen by many scholars as a branch of science that deals with nutrients particularly in humans. Proper nutrition offers one of the most effective and least costly ways to decrease the burden of many diseases and their associated risk factors, including obesity. Researches in nutrition holds the key to increasing the understanding of causes of obesity and its related comorbidities and thus holds promise to markedly influence global health and economies

(Ohlhorst, 2013). Attainment of good nutrition depends on and encompasses the entire food supply. Plant and animal foods and their various components are the primary vehicles that provide nourishment to human beings. Nutrition is vital, not only in the growth and development of humans and animals but also in the prevention and treatment of disease. Nutrition is also fundamental to the maintenance of good health and functionality. Basic and applied research on the interrelations between nutrition and noncommunicable diseases, nutrient composition, and nutrition monitoring represents the underpinnings for healthy populations and robust economies. Thus, innovative nutrition research and education provide the basis for solutions to larger health-related issues, allowing individuals to live healthier, more reproductive lives (Ohlhorst, 2013).

The consumption of adequate amount of food both in terms of quantity and quality is one of the key determinants, which has a significant impact on the nutritional status (Park, 2009). Furthermore, the eating pattern of an individual is a crucial factor that dictates the occurrence of a disease, especially some chronic conditions such as coronary heart disease, hypertension, stroke, diabetes mellitus, and cancer (Herder&Demmig-Adams, 2004). In addition, adverse outcomes such as low birth weight, malnutrition, disability, poor quality of life, and mortality are also related to poor eating pattern in both developed and developing countries (Shrivastava&Shrivastava, 2013). Recognizing the role of diet at onset of many diseases, and assessing nutritional status of an individual, family and community are important for public health (Price, 2005).

Knowledge about adequate nutrition has an important role in reducing or ending global and domestic food insecurity through direct and purposeful agricultural practices. Population growth will undeniably lead to increased global demand for a safe, available, sustainable, and affordable food supply, while continuing to demand nutritional adequacy(Ohlhorst, 2013). Nutrition has a direct impact on both maternal and paternal fertility and the ability to conceive and also plays a key role in preventing diseases related to reproductive organs, including prostate and ovarian cancers. Although numerous studies have investigated how fruit and vegetable consumption may affect risk of breast, prostate, and other cancers, there is no clear consensus in the scientific literature.

Dietary pattern refers to the quantity, variety or combination of different foods and beverages in a diet and the frequency with which they are habitually consumed. Food is eaten by all in order to gain nutrients from the intake for body growth, repair, replenish and development. Food is usually eaten in combinations of various classes including water. Dietary pattern is a dietary evaluation in which multiple dietary characteristics (foods and (or) or nutrients) are examined simultaneously or collectively rather than individually (Kant, 1996). Dietary patterns are likely to influence health, little is known about it, although, researchers are currently in progress on dietary patterns in many developing countries of the world including Nigeria (Kant, 1996). Food is eaten in non-random combinations and nutrients and food factors are often correlated also within foods. Due to this, effects of different foods or nutrients are hard to separate in observational studies. This

complicates interpretation of associations between diet and health outcomes and might even lead to identification of false associations (Brennan.et.al. 2010).

Dietary pattern analysis, as a more holistic approach in nutrition epidemiology, has become popular. By considering multiple aspects of the diet in combination, this effort surpasses many of the shortcomings of single nutrient investigations. The potential of dietary patterns in disease prevention have been reviewed in multiple papers (Brennan, etal., 2010). Above all food patterns emphasizing (high intake) of fruits and vegetables, nuts and seeds, vegetable oils, wholegrain cereals, fish and other seafood, whether a predefined "high-quality index", a Mediterranean-diet or an empirically derived Prudent or Healthy dietary pattern have repeatedly shown health beneficial effects (Brennan, etal., 2010). Opposite, dietary patter including high intake of red and processed meats, refined grains and sugar rich products have been associated with adverse health effects (Wirfalt , Drake &Wallstrom,2013).

The potency of high-qualitative dietary patterns has also been confirmed in intervention studies (de Lorgeril M.et.al, 1999).An elite athlete is a person who is currently or has previously competed as a university player (individual or team sport), a professional player, an Olympic player or a national or international level athlete. Elite athletes are at increased risk of serious injury (Segens Medical Dictionary, 2012). A non-elite player is the direct opposite of the elite player. Therefore, non-elite athletes are persons who are beginners in the field of sports competition. These set of people refer to those who have neither currently nor previously competed as a university individual or team sport, who are not Olympic, national or international players. Although the non-elite athletes involve in sports competitions but their competitive level has not reached the top. The non-elite athletes are less likely to be at risk of serious injuries (Segens Medical Dictionary, 2012).

Statement of problem

A lot of fads and fallacies are common associated with nutrition and especially athletes who are out to excel in their various disciplines. Elite athletes are through exposures in training camps and competition are more likely to be knowledgeable and adopt healthy nutrition patterns than their nonelite counterparts especially in countries with limited variety of foods to select from. The need to investigate the knowledge and nutrition of non-athletes in Lead City University, Ibadan is imperative as the health and athletic performance of this group of students can be significantly influenced by what they know and the patterns of their nutrition. Such information will be useful in their education and planning of adequate nutrition which can enhance higher level of athletic attainments.

Research Questions

The following questions was answered in this study

1. What is the level of knowledge of nutrition among non-elite student athletes in Lead City University Ibadan?
2. What are the prevalence of common nutritional patterns among non-elite student athletes in Lead City University?

Methodology

This study adopted a descriptive survey research design of correlation type. The research design was considered suitable for the study because it is capable of eliciting information from respondents about a particular issue of interest (Best & Kahn, 2006). The population for this study consisted all male and female non-elite student athletes in Lead City University, Ibadan, Nigeria. The sample size for this study was one hundred (100) non-elite student athletes in the institution. A selfdeveloped questionnaire was used as instrument for the study. The questionnaire contained in two sections, A and B. Section A contained the demographic data of the respondents. Section B also contained the variables under investigation. A four 4-point modified Likert rating scale summated rating labelled: Strongly Agreed (SA) Agreed (A) Disagreed (D) Strongly Disagreed (SD) was used to elicit information on the variables selected for the study.

To ensure the validity of the instrument, a draft copy of the instrument was presented to the experts in the field of study. Based on the corrections and suggestions, appropriate and necessary correction were effected in order to validate the instrument before use. The reliability of the instrument was carried out by conducting a pilot study for the purpose of determining theinternal consistency of the reliability and it yielded. Twenty (20) respondents from the University of Ibadan that were not part of the study area but had similar characteristics were used to test the reliability of the instrument. The result of Cronbach alpha test was 0.834.One hundred (100) copies of the selfstructured questionnaire was administered by the researcher with the aid of five (5) trained research assistants. The questionnaire was administered to the non-athletes students.Adequate explanations on how to complete the instrument was given by the researcher and the research assistants. The administered copies of the questionnaire were retrieved immediately. The completed questionnaire was collected, coded and analysed using Descriptive statistics of frequency count, percentages and inferential statistics.

Results

The results are presented based on socio-demographic characteristics of the respondents and research questions as follow:

Demographic Data Analysis

The below are the socio-demographic characteristics of the respondents.

Table 1: Distribution of the respondents by age

Age	Frequency	Percent
17-24 years	58	58.0
25-32 years	28	28.0
33-40 years	10	10.0
41 years and above	4	4.0
Total	100	100.0

Source: Field Survey

As indicates in table 1, 58 (58.0%) respondents were in the age range of 17-24 years, 28 (28.0%) were between 25-32 years, 10 (10.0%) were between 33-40 years, while 4 (4.0%) were 41 years and above. This implied that, most of the respondents were between 17-24 years.

Table 2: Distribution of the respondents by gender

Gender	Frequency	Percent
Male	50	50.0
Female	50	50.0
Total	100	100.0

Source: Field Survey

Table 4.2 shows that 50 (50.0%) respondents were male, while 50 (50.0%) were female.

Research Questions

The following research questions were answered in the study.

Research Question 1: What is the level of knowledge of nutrition among non-elitestudent athletes in Lead City University Ibadan?

Table 3: Summary of result on level of knowledge of nutrition among non-elite student athletes in Lead City University Ibadan

S/n	Statement	Yes	No
1.	Nutrition comprise all the classes of food including water	92 (92.0%)	8 (8.0%)
2.	Micro- nutrients are not needed in large quantities in the body	48 (48.2%)	52 (52.0%)
3.	Use of nutritional supplements is far better than eating every time	64 (64.0%)	36 (36.0%)

4.	Carbohydrate foods give sufficient energy	66 (66.0%)	34 (34.0%)
5.	Proteinous foods include all meats and plants	72 (72.0%)	28 (28.0%)
6.	Fruits are a source of anti-oxidants in the body	62 (62.0%)	38 (38.0%)
7.	Sources of minerals are iron , calcium and magnesium	44 (44.0%)	56 (56.0%)
8.	Intake of fats and oils is needed in the body	64 (64.0%)	36 (36.0%)
9.	Macro-nutrients are not needed in similar quantities in the body	58 (58.0%)	42 (42.0%)
Total		570 (63.3%)	330 (36.7%)

Source: Field Survey

As shown in table 3, 92 (92.0%) affirmed that nutrition comprise all the classes of food including water, while 8 (8.0%) did not. In addition, 48 (48.2%) respondents affirmed that micro-nutrients are not needed in large quantities in the body, while 52 (52.0%) did not. Furthermore, 64 (64.0%) respondents admitted that use of nutritional supplements is far better than eating every time, while 36 (36.0%) did not. Besides, 66 (66.0%) respondents acknowledged that carbohydrate foods give sufficient energy, while 34 (34.0%) did not. Moreover, 72 (72.0%) respondents affirmed that proteinous foods include all meats and plants, while 28 (28.0%) did not. Also, 62 (62.0%) respondents responded that fruits are a source of anti-oxidants in the body, while 38 (38.0%) did not. Besides, 44 (44.0%) respondents reacted that sources of minerals are iron, calcium and magnesium, while 56 (56.0%) did not. Moreover, 64 (64.0%) affirmed that intake of fats and oils is needed in the body, while 36 (36.0%) did not. Also, 58 (58.0%) established that macro-nutrients are not needed in similar quantities in the body, while 42 (42.0%) did not. The table further established that most of the respondents (63.3%) affirmed the question items, while 36.7% did not. This means that the level of knowledge of nutrition among non-elite student athletes in Lead City University Ibadan was high.

Research Question 2: What are the common nutritional patterns among student athletes in Lead City University?

Table 4: Summary of result on common nutritional patterns among non-elite student athletes in Lead City University Criterion mean=3.00

S/n	Skipping of meals	Regularly	Sometimes	Never	Mean	SD
1.	Eating snacks is very convenient for me as an athlete	56 (56.0%)	36 (36.0%)	8 (8.0%)	2.48	0.64
2.	I eat breakfast due to my participation in sports	42 (42.0%)	52 (52.0%)	6 (6.0%)	2.36	0.59
3.	My involvement in sports makes eating dinner important to me	50 (50.0%)	40 (40.0%)	10 (10.0%)	2.40	0.66
4.	I prefer taking lunch instead of dinner	32 (32.0%)	40 (40.0%)	28 (28.0%)	2.04	0.78
					Weighted Mean= 2.41	
Quality of food						
5.	I prefer eating solid food (swallow) to grains	38 (38.0%)	50 (50.0%)	12 (12.0%)	2.26	0.66
6.	Estimate of about 4-6 wraps of solid food is sufficient for me	32 (32.0%)	48 (48.0%)	20 (20.0%)	2.12	0.71
7.	Eating of grains is like an appetizer to me	22 (22.0%)	48 (48.0%)	30 (30.0%)	1.92	0.72
8.	Solid foods make me stronger for participation in sports	28 (28.0%)	50 (50.0%)	22 (22.0%)	2.06	0.71
					Weig hted Mean= 2.09	
Swe etness						
9.	I prefer meals that are sweet in the mouth	42 (42.0%)	48 (48.0%)	10 (10.0%)	2.32	0.65
10.	Adding enough condiments make food very tasty	34 (34.0%)	46 (46.0%)	20 (20.0%)	2.14	0.73
11.	I prefer taking alcohol with my meals	16 (16.0%)	32 (32.0%)	52 (52.0%)	1.64	0.75
12.		28	48	24	2.04	0.73

	I prefer taking soft drinks with my meals	(28.0%)	(48.0%)	(24.0%)		
13.	I prefer eating minimum of 2 pieces of meat with my meals.	46 (46.0%)	46 (46.0%)	8 (8.0%)	2.38	0.63
					Weighted Mean= 2.63	
	Social Media					
14.	Social media is a good platform for athlete's dietary regimen	32 (32.0%)	54 (54.0%)	14 (14.0%)	2.18	0.66
15.	I keep in touch with information on social media in order to keep in shape	56 (56.0%)	28 (28.0%)	16 (16.0%)	2.40	0.75
16.	The social media commentary on diet has helped me in preventing health complications	44 (44.0%)	34 (34.0%)	22 (22.0%)	2.22	0.79
17.	I prefer using on-line dietary supplements to improve my performance in sports	38 (38.0%)	40 (40.0%)	22 (22.0%)	2.16	0.76

As indicated in table 4, skipping of meals had a weighted mean of 2.41, quality of food had 2.09, and sweetness had 2.63, while social media had 2.24. This means that, all the patterns weighted means were below the criterion mean of 3.00; indicating that none of the nutritional patterns was common among the respondents. However, sweetness was rated 1st with a weighted mean score of 2.63, followed by skipping of meals with a weighted mean of 2.41; social media was rated 3rd with a weighted mean score of 2.24, while quality of food was the least with a weighted mean score of 2.09. This means that sweetness was the foremost common nutritional pattern among non-elite student athletes in Lead City University, while quality of food was the least.

Discussion of Findings

The findings of this study on socio-demographic characteristics revealed that, most of the respondents were in the age range of 17-24 year, 50.0% of the respondents were male, while 50.0% were female. Most of the respondents were single, while the sampled respondents were mostly dominated by Christians. The finding of research question one showed that the level of knowledge of nutrition among non-elite student athletes in Lead City University Ibadan was high. This was ascertained through the responses as most of the respondents affirmed majority of the question items. It was evident through some of their responses that nutrition comprised all the classes of food including water. Also, it was admitted by majority of the respondents that micro- nutrients are not needed in large quantities in the body.

The respondents furthermore admitted that use of nutritional supplements is better than eating every time. Most of the respondents affirmed that proteinous foods include all meats and plants. The respondents also admitted that fruits are a source of anti-oxidants in the body. The respondents affirmed that example of sources of minerals are iron, calcium and magnesium. Moreover, majority of the respondents affirmed that intake of fats and oils are needed in the body. Lastly, it was established that macro-nutrients are not needed in similar quantities in the body. The finding of the study on common nutritional patterns revealed that, sweetness was the foremost common nutritional pattern among student athletes in Lead City University, while quality of food was the least.This was evident through the ranking of the nutritional patterns. Sweetness was rated 1st, followed by skipping of meals; social media was rated 3rd with, while quality of food was the least.It was then affirm that Nutrition knowledge is an unreliable predictors of nutritional behaviour. Though, researches suggests that nutrition knowledge is a critical factors in promoting favourable dietary and health changes. This was not the case in this study, as indicated by the choice of sweetness and skipping of meals by the respondents.

Conclusion

Based on the findings of this study, it was concluded that the level of knowledge of nutrition among non-elite athletes in Lead City University Ibadan was moderate and that sweetness, followed by skipping of meals are the foremost common nutritional patterns among them. It was also concluded that, nutrition knowledge is an unreliable predictors of nutritional behaviour. Though, researches suggests that nutrition knowledge is a critical factors in promoting favourable dietary and health changes. This was not the case in this study, as indicated by the choice of sweetness and skipping of meals by the respondents.

It was concluded in the study that the level of knowledge of nutrition among student athletes in Lead City University Ibadan was high. Sweetness was the foremost common nutritional pattern among student athletes in Lead City University, followed by skipping of meals and social media, while quality of food was the least.

Recommendation

The following recommendations where made:

1. Appropriate education should also be carried out diet regimen that should be following by non-elite student athletes. This can be carried out by Sports Council in collaboration with other relevant stakeholders.
2. Effective health education programme should be organized periodically for student athletes of Lead City University on importance of nutrition for healthy life and performance.

Reference

Best, J.W. and Kahn, J.V. Research in Education. 10th Edition. Boston Pearson Education Inc., Cape Town. . 2006.

Brennan, S.F, Cantwell MM, Cardwell CR, Velentzis LS, Woodside, J.V. Dietary patterns and breast cancer risk: a systematic review and meta-analysis. The American journal of clinical nutrition. 2010;91(5):1294-302.

Conde W. L, Monteiro, C.A (2006) Body mass index cut-off points for evaluation of nutritional status in Brazilian children and adolescents. J Pediatr (Rio J) 82: 266-272.

de Lorgeril M, Salen P, Martin JL, Monjaud I, Delaye J, Mamelle N. Mediterranean diet, traditional risk factors, and the rate of cardiovascular complications after myocardial infarction: final report of the Lyon Diet Heart Study. Circulation. 1999;99(6):779-85.

Fawole, I., Egbokare, F.O, Itiola, A. O, Odejide, A. I and Olayinka, A. I.. Definition, spectrum and types of research: *Methodology of basic and applied research (*2nd .ed.); In A. Olayinka, V. O. Taiwo, A. Raji-Oyelade and I. P Farai (Eds.); Publication of the Postgraduate School, University of Ibadan. 12. 2006.

Herder, R, Demmig-Adams, B. The power of a balanced diet and lifestyle in preventing cardiovascular disease. NutrClin Care 2004;7:46-55.

Kant, A.K. Indexes of overall diet quality: a review. Journal of the American Dietetic Association. 1996;96(8):785-91.

Park, K. Nutrition and health. In: Park K, editor. Textbook of Preventive and Social Medicine. 20 th ed. Jabalpur: BanarsidasBhanot; 2009. p. 562-4.

Price, S. Understanding the importance to health of a balanced diet. Nurs Times 2005;101:30-1.

Sarah D. Ohlhorst, Robert Russell, Dennis Bier, David M. Klurfeld, Zhaoping Li, Jonathan R. Mein, John Milner, A. Catharine Ross, Patrick Stover, Emily Konopka. 2013. Nutrition research to affect food and a healthy lifespan. Advances in Nutrition, Volume 4, Issue 5, September 2013, Pages 579–584, https://doi.org/10.3945/an.113.004176.

Shrivastava, S.R, Shrivastava, P.S. A longitudinal study of maternal and socio-economic factors influencing neonatal birth weight in pregnant women attending an urban health centre. Saudi J Health Sci2013;2:87-92.

Wirfalt E, Drake I, Wallstrom P. What do review papers conclude about food and dietary patterns? Food & nutrition research. 2013; 57.