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Proliferation of Nutrition Information Through Social Media and Food Choices among Staff of Government-Owned Tertiary Institutions in Lagos Mainland: Implications for Health

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Abstract

Imbalance nutrients intake, unhealthy nutritional habits, lack of physical activity, consumption of liquor and smoking are the key contributors to non-communicable diseases. The prevalence of overweight, obesity and related metabolic disorders and comorbidities has risen worldwide in the past decades. The purpose of this study was to investigate the perceived influence of nutrition information via social media on food choices among staff at government-owned tertiary institutions in Lagos Mainland, as well as the implications for health. A multi-stage random sampling technique was used to recruit 100 staff members from the five (5) Federal Government-owned Tertiary Institutions in Lagos State. Information on socio-demographics, nutrition knowledge, and social media usage was gathered using a structured questionnaire. A food frequency questionnaire was used to track the dietary choices.Their BMI was also calculated. Descriptive statistics were used to analyze the results. According to the study's findings, males (56.8 percent) outnumbered females. The nutritional knowledge of most (70.5%) of the respondents was fair. The major (40%) source of nutrition information was through health care practitioners. Level of adherence to nutrition information from social network was high (41.1%). More than half of them (61.5%) made unhealthy food choices. The majority (85.3 percent) believe that nutrition information obtained from social media influences food choices. Malnutrition was prevalent among the respondents (7.4% underweight, 20.0% over weight, and 5.3% obese).This could be attributed to poor food choices. Nutrition-related diseases such as cardiovascular disease, Type II Diabetes Mellitus, renal dysfunction, and osteoporosis can be caused by poor food choices. As a result, it is recommended that Nutritionists/Dietitians conduct nutrition education programs for tertiary institution staff to enlighten them on the health implications of relying on nutrition information from untrustworthy sources. Registered Nutritionists/ Dietitians are encouraged to use social media to disseminate reliable nutrition information.

Keywords: Nutrition Information; Social Media; Food Choices; Lagos; Health Implication

Introduction

Humans suffer from a variety of diseases that lead to death as a result of poor diet and nutrition [1]. Diet and nutrition are major determinants of disease conditions associated with both under and overnutrition [2]. Overweight, obesity, and related metabolic disorders and comorbidities such as dysglycemia, central adiposity, hypertension, and dyslipidemia have increased globally in recent decades [3]. The rise in these risk factors, collectively known as metabolic syndrome, is a major and escalating public health and clinical challenge in the wake of urbanization, excess energy consumption, rising obesity, and sedentary lifestyles [4,5]. Social media, which includes Facebook, WhatsApp, and other internet-based communication platforms, has evolved into a valuable source of information for society. Every day, we are assaulted with images and information from social media instruments such as our phones, laptops, and other electronic media devices via the internet. Most adults of our generation utilize internet-enabled mobile devices, and it is a media that has the capacity to attract our attention. While these social media tools distribute a variety of valuable and vital information, it is also crucial to highlight that some messages are misleading. Knowledge from the social media can influence dietary behavior.

In extensive meta-analyses and reviews, it has been found that lifestyle factors such as unhealthy nutritional habits, lack of physical activity and smoking are the key contributors to disease development [2,6]. Nutritional information is obtained from a variety of sources and is often contradictory or untrustworthy. Poor nutritional knowledge, which leads to a poorly managed diet pattern, is one of the most significant factors directly affecting consumer health in Nigeria, [7,8]. Even if new information is made available to the public through scientific journals, it is unlikely to be a primary source of information for most consumers. It has been discovered that consumers prefer to obtain information from social media rather than dietitians [7,9]. Nutritional information obtained through social media that promotes the intake of particular food categories while limiting the consumption of others can result in nutrient deficiencies, food waste, and food losses. This will make achieving Sustainable Development Goal 12 goal 3 of halving global per capita food waste at retail and consumer levels by 2030 difficult [10]. Understanding the impact of nutritional and health information on consumer food choices will aid in the development of economic models for changing dietary patterns. Social media can be used for both personal and general communication. It is also used for marketing, education, and communication by businesses, governments, and schools. It has also been observed that the social media is a main source of nutrition information [11]. A lot of people get advice on food to consume through the social media [12]. Is the data, however, accurate? Knowing where to find reliable, science-based information is critical to living a healthy lifestyle. Not all nutrition information found on blogs is accurate, and not all nutrition advice given to consumers is science-based, which can lead to inaccurate or misleading information. It is critical for consumers to understand evidence-based nutritional science. Wrong food choices can have a significant impact on consumers' health; thus, this study assumes that consumers obtain nutritional knowledge through popular social media, where nutrition myths can mislead the public. Thus, the purpose of this study was to investigate the impact of nutrition information obtained from social media on the food choices of staff at Federal Government-owned tertiary institutions in Lagos, as well as the resulting health implications.

Methodology

The study was descriptive and cross-sectional covering the five [5] Federal government-owned tertiary institutions in Lagos State. A total of one hundred (100) respondents were purposefully selected for the research. A multi-stage random sampling technique was used. Stage one involved the selection of all five Federal Government-owned Institutions; Federal College of Education, Technical (FCE,T) Akoka; University of Lagos (Unilag); National Open University of Nigeria (NOUN); Yaba College of Technology (YCT) and University of Benin (Uniben), in affiliation with Federal College of Education, Technical (FCE,T) Akoka. Stage two involved the random selection of two faculties from each institution making a total of ten faculties. Stage three involved the random selection of two departments from each faculty, making a total of twenty departments. Stage four involved the final random selection of five respondents from each department, making a total of one hundred (100) respondents.

To collect information on socio-demographic characteristics such as gender, age, marital status, level of education, religion, and employment status, a validated structured questionnaire was developed. Nutrition knowledge questions about appropriate daily dietary and lifestyle habits were asked of respondents.

Their knowledge was assessed by asking a series of questions about the importance of starch/carbohydrates, as well as the identification of foods high in vitamins, minerals, and proteins, foods that are likely to raise blood cholesterol levels, the health benefits of fresh fruits and vegetables over packaged ones. Scores were calculated by summing the number of correct responses. Statements answered correctly were given a score of one, and statements answered incorrectly were scored as zero. The overall score was referred to as the knowledge score. Higher scores indicated a better knowledge of nutritional information. The lowest possible score for a respondent was 0 and the highest possible score was 13 points. A score of 10-13 points was considered good, 6-9 points was considered fair, and less than 6 points was considered poor.

Information on social media was requested, such as their primary source of nutrition information, general beliefs about nutrition information from social media, and the influence of nutrition information from social media on food choices. Body mass index (BMI), which is used to determine overweight and obesity, was calculated using height and weight measurements. The respondents' weights were recorded to the nearest kilogram using a digital weighing scale, and their heights were recorded to the nearest centimetre using a stadiometer.

A Food Frequency Questionnaire was used to assess food choice, which was classified as healthy or unhealthy based on the number of food groups selected. Respondents who consumed food from the seven food groups on a daily basis were classified as making healthy food choices, whereas those who did not consume food from the seven food groups were classified as making unhealthy food choices.

Descriptive statistics such as frequency, percentage, mean and standard deviation were employed to describe the demographic characteristics, nutritional knowledge and social media information of the respondents.

Results and Discussion

Males made up the majority (56.8%) of the respondents, who were mostly between the ages of 20 and 50, with the majority (63.2%) of them married. Almost all (91.6%) of them had a bachelor's degree or higher. Fewer than half of them were academics (46%).

The nutritional knowledge of most (70.5%) of the respondents was fair, this is similar to the findings of a study in 2018 [13] among healthcare workers in Jos, Nigeria. Most of the respondents in the study also had fair nutritional knowledge. In theory, the possession of a good nutrition knowledge is assumed to predispose to better nutrition outcomes, this might not always be true as reported by some researchers. For instance, some researchers [14] conducted a literature review of studies on the correlation of nutrition knowledge and eating behaviors and found that many studies show no relationship. However, some findings have shown significant associations between nutritional knowledge and food intake. For instance, a study [15] on the relationship between education and food consumption in Australia observed that higher education is associated with the regular consumption of a wider variety of foods.

Another study [16] on the nutritional knowledge and behavior of adults and their relations with sociodemographic factors, revealed that the more adults' ages and educational status increased, the more nutritional knowledge level they had. According to some researchers [17], higher levels of education were discovered to be independent socio demographic characteristics influencing the selection of 'trying to eat a healthy diet' as an important component in food choice.

In 2007, a cross sectional study [18] examined the relationship between current dietary guidelines and food choice by college students in the dining hall and found that nutrition knowledge was the main determinant of individual food choices.

Obtaining adequate nutrition knowledge would aid in lowering maternal mortality rates even lower than the set goal and target of the sustainable development goal (SDG 3 target 1), which is to reduce global maternal mortality ratio to less than 70 per 100,000 live births. And target 3 is to eliminate preventable deaths of newborns and children under the age of five, with the goal of reducing neonatal mortality to at least 12 per 1,000 live births and under-5 mortality to at least 25 per 1,000 live births [19].

According to the findings of this study, the major (40%) channel of receiving nutrition information was through healthcare practitioners, with nutritionists/dietitians ranking highest (46.4 %). This contradicts the findings of

some researchers [20] who discovered that healthcare professionals were the least used source of nutrition information despite being perceived as the most reliable source in their study on sources of nutrition information and level of nutrition knowledge among young adults in the Accra metropolis. Among Bangladeshi school-aged adolescents, family members were the most popular source of nutrition information and nutritional knowledge (52.4 %).While the majority of students (43.2 percent) regarded professionals as reliable sources [21].

The respondents in this study ranked social media as the second most important source of nutrition information (27.4%). The importance of social media in terms of information dissemination cannot be overstated. There are numerous ways to obtain nutrition information, and social media has gone a long way in disseminating user-friendly information that is supported by people of all ages. The use of social media for nutritional information varies by age. Social media has pervaded almost every aspect of our lives, particularly the health sector. According to an e-Market report, "nearly one in every four people worldwide uses social networking sites to receive certain information in 2013." (11). When accurate nutrition information is widely disseminated, it will aid in the achievement of the 2030 Sustainable Development Goal (SDG number 3, target 4). This aims to reduce non-communicable disease-related premature mortality by one-third, as well as help prevent, treat, and promote mental health and wellbeing [19].

In this study, the most popular social media platforms for receiving nutrition information were the internet blog and Facebook, with Twitter and WhatsApp being less popular. In the media industry, television and magazines play important roles in disseminating nutrition information. This has implications for Registered Nutritionists/Dietitians to spread nutrition information through social media.

Whereas more than half of the respondents (51.6%) in this study stated that they do not trust nutrition information from social media, a sizable proportion (47.4 %) do (and adhere to) such information (41.1 %). The majority of respondents (85.3 %) also stated that nutrition information obtained from social media has an impact on their food choices. The implication of adhering to wrong nutrition information on social media from unreliable source and untrustworthy site may predispose such people to life threatening diseases or serious health problems such as eating disorder, comorbid obesity, renal dysfunction, cardiovascular disease and even damages to the body organs.

The food frequency pattern was used to classify the respondents' food choices, which were divided into two categories: healthy food choices and unhealthy food choices. Healthy food choices accounted for 38.9% [37] of the total, while harmful food choices accounted for 61.05 % [58]. The findings of this study revealed that the food choices of staff at these higher institutions were harmful.

Malnutrition was prevalent among the respondents (7.4% underweight, 20.0% over weight, and 5.3% obese).This could be attributed to their poor food choices .It was reported in 2018 [22] that globally, overweight and obese persons nearly tripled between 1975 and 2016.Some researchers who estimated the prevalence of overweight and obesity in Nigeria in 2020 through a systematic review and meta-analysis [23] observed that about 12 million persons in Nigeria were estimated to be obese. The combined crude prevalence rates of overweight and obesity in Nigeria were 25.0 percent, based on 35 studies (n = 52,816).

It is worthy of note to say that the unhealthy food choices, poor nutrition knowledge, inappropriate nutrition information from social media were the major contributors that led to the state of malnutrition seen in this research study. High blood pressure, high blood glucose, insulin resistance, high blood cholesterols, coronary heart disease, stroke, and cancer are all strongly linked to obesity and overweight [24]. These factors play a significant role in poor health outcomes (Tables 1, 2.3 & 4).

Table 1: Demographic and socio-economic characteristics of the respondents

Variable	N	%
Gender		
Male	54	56.8
Female	41	43.2
Age		
20 – 30	30	31.6
31 – 40	30	31.6
41 – 50	28	29.5
51 – 60	6	6.3
Marital status		
Single	38	40
Married	55	57.9
Divorced	2	2.1
Occupation		
Lecturer	44	46.3
Administrator	18	18.9
Others	32	33.7
Highest level of education		
PhD	13	13.7
MSc	35	36.8
BSc/HND	39	41.1
OND/NCE	4	4.2
SSCE	2	2.1
Others	2	2.1
Monthly Income		
18000 – 25000	3	3.2
26000 – 50000	13	13.7
50000 – 100000	34	35.8
100000 – 200000	32	33.7
>200000	10	10.5
Eating Habit		
1 meal / day	4	4.2
2 meals / day	36	37.9
3 meals / day	44	46.3
More than 3 meals / day	10	10.5

Table 2: Nutrition knowledge evaluation

Score	N	%
Good	21	22.1
Fair	67	70.5
Poor	7	7.4

Nutrition knowledge scale; Good: means 10 – 13points, Fair: means 6 – 9points, Poor: means below 6points

Table 3: Sources of nutrition information

Variable	N	%
Major source of Nutrition information		
Social media	26	27.4
Media industry	9	9.5
Healthcare practitioner	38	40
Neighbour / friends	2	2.1
Family / relative	15	15.8
Multiple choice option	4	4.2
Social media platform		
Internet blog	22	23.2
WhatsApp	8	8.4
Facebook	14	14.7
Twitter	9	9.5
Multiple choice selections	11	11.6
Others	2	2.1
None	28	29.5
Media industry		
Television	33	34.5
Radio	5	5.3
Newspaper / Magazine	22	23.2
Multiple choice selections	7	7.4
Others	2	2.1
None	25	26.3
Health practitioners		
Nutritionist / Dietitians	44	46.3
Medical Doctor	18	18.9
Other health workers	8	8.4
None	23	24.2
General belief in nutrition information from social media		
Believe	45	47.4
Not Believe	49	51.6
Influence of nutrition information from social media on food choice		
Influenced	81	85.3
Not Influenced	13	13.7
Adherence / Compliance level		
Adhere	39	41.1
No Adherence	50	52.6

Table 4: Food frequency pattern

FOOD CHOICE	FREQUENCY	PERCENT
Healthy	37	38.9
Unhealthy	58	61.1

Conclusion and Recommendations

The major source of nutrition information among the staff of these tertiary institutions was from health care practitioners, social media played a prominent role in disseminating of nutrition information and a sizable proportion of them adhere to such information. Most of the respondents also stated that nutrition information obtained from social media has an impact on their food choices.

Health care professionals should be trained on basic nutritional principles so as to equip them with the right nutrition information for proper nutrition education of their audience. In order to disseminate right and useful information to people, certified nutritionist/dietitians should get involved in giving nutrition education through social media.

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