Lifestyle Choices, Dietary Habits and Prevalence of Type 2 Diabetes among Adults in Aba South Senatorial District, Abia State

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Abstract
This study assessed lifestyle choices, dietary habits and prevalence of T2DM among adults in Abia south senatorial district, Nigeria. Three specific purposes, research questions and hypotheses were raised to guide the study. Descriptive survey design was adopted. Population consisted of adults, aged 40 years and above, residing in Abia south senatorial district, Nigeria. Sample size was 632. Double stage sampling technique was used to select the sample. Two instruments ("LCDHQ" and "T2DPAT"), were used for data collection. The instruments were given face and content validation. The LCDHQ was subjected to reliability test, and it yielded an index of .89 after analysis using Cronbach Alpha. The T2DPAT was adapted from standardized instrument. Six hundred and twenty-eight valid completed copies, each of the instruments were used for analysis. Research questions were answered using frequencies and percentages. Findings revealed that there was high prevalence of T2DM among adults. Many adults with T2DM had unhealthy food choices/consumption. Majority of diabetic adults were overweight and obese, and inactive. There were significant influences of all lifestyle and dietary habit variables on prevalence of T2DM. Abia State Ministry of Health should develop interventions for prevention and management of T2DM.

Keywords: Type 2 diabetes, choice of food, body weight and physical exercise

Introduction

In this 21st century, type 2 diabetes mellitus (T2DM) is a global health concern with rising prevalence. Many people are at risk of developing T2DM due to the adoption of unwholesome lifestyles and poor dietary habits. Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin (a hormone that regulates blood glucose), or when the body cannot effectively use the insulin that it produces (World Health Organization - WHO, 2023). An individual is said to suffer from diabetes if he or she has a fasting plasma glucose level of 7.0 mmol/l and above (Nassar *et al.,* 2019). The exact causes of diabetes are not well-known, but Zgibor *et al.,* (2017) stated that diabetes may result from a deficiency of insulin, or an abnormal insulin secretion level, or the body's resistance to insulin action.

Diabetes has three major types based on aetiology and clinical features. These are type 1 diabetes (T1DM), type 2 diabetes (T2DM), and gestational diabetes (GDM). In T1DM, there is absolute insulin deficiency due to the destruction of beta (β) cells in the pancreas by a cellular mediated autoimmune process (WHO, 2023). In T2DM, there is insulin resistance and relative

insulin deficiency. The GDM is any degree of glucose intolerance that is recognized during pregnancy. In addition to these types of diabetes, there is pre-diabetes, which occurs when blood glucose is elevated but not high enough to be classified as diabetes. This condition may carry an increased risk of coronary heart disease and subsequent development of type 2 diabetes (Cullmann *et al.,* 2022).

Type 2 diabetes is the main focus of this study, and it accounts for about 90 per cent of all diabetic cases worldwide (Xu *et al.,* 2018). Type 2 diabetes mellitus (T2DM) affects the body's metabolism of sugar, resulting in hyperglycemia, as a consequence of insulin resistance or relative insulin deficiency. It is one of the fastest-growing diseases, and the number of people affected is estimated to reach 552 million globally, with associated increase in complications and health expenditures (Khazrai *et al.,* 2019). In Nigeria, Mohammad (2020) reported that Nigeria had the highest incidence of T2DM in sub-Saharan Africa. It is estimated that more than 90 per cent of the total cases of the disease in the region are found in Nigeria. The World Health Organization (WHO, 2019) estimated a 4.3 per cent prevalence of T2DM in Nigeria. There are millions of Nigerians who are diabetic, but are yet to be diagnosed and treated. The International Diabetes Federation (IDF, 2021) estimated that about two-thirds of people with diabetes in Africa are undiagnosed. Diabetes killed more than 40,000 Nigerians in 2016, due to late diagnosis and lack of efficient and effective healthcare delivery (Federal Ministry of Health, 2023).

Type 2 diabetes is a lifelong disease, with severe debilitating complications like chronic renal failure (Low *et al.,* 2021), acute myocardial infarction, stroke (Papatheodorou *et. al.,* 2019), and increased risk for mortality (Schmidt *et al.,* 2018). Other complications of the disease include kidney, nerve, and eye damage, as well as heart attack, kidney failure, blindness, amputations, and cells mal-functioning due to inadequate supply of glucose to the cells (Kassab *et al.,* 2021). The WHO (2019) predicted that T2DM will become the seventh leading cause of death in the world by the year 2030, and the burden of the disease worldwide is projected to double by 2040. The irreversible risk factors of the disease are increased age (>45 years), and genetic factors pictured by family history of type 2 diabetes. The reversible factors include poor dietary practices and lifestyle factors (Zgibor *et al.,* 2017). Concerning these factors, Drury and Powell (2019) observed a significant positive relationship between poor lifestyle factors (physical inactivity, sedentary behaviour and alcohol consumption), and dietary practices (food choice and consumption, body weight, processed and high sugar food consumption and eating habit) on T2DM. These factors tend to exert influence on the prevalence of type 2 diabetes.

On food choices and consumption, Harvard (2021) reported that the types of foods adults choose and consume influence their risk of developing chronic conditions such as obesity, cardiovascular disease, type 2-diabetes, and certain cancers. The choice and consumption of whole grains, vegetables, fruits, and lean proteins are healthy, but the consumption of processed foods, sugars, fats, and refined carbohydrates are unhealthy. According to van-Dam (2022), the foods that are good for the diabetics are fish, poultry, vegetables and fruits, and low – carbohydrate foods like plantain. Foods that are not good for choice and consumption by the

diabetics are red meat, dairy products, high-calorie foods, high-fatty diet, and high carbohydrate diets, as well as refined grains, sugar and sweets (de-Munter *et al.*, 2017). Food choice is the preferential selection of a particular food among available alternatives at a given time. The American Diabetes Association (2018) warned that individuals with diabetes or those at risk of diabetes should avoid soda drinks, refined sugars, high carbohydrate foods, trans fats such as butter, some mayonnaise, some salad dressings, and high-fatty diary/ animal products. High intake of such foods, according to Panagiotakos *et al.,* (2019), contributes to increased risk of type 2 diabetes. In contrast, Villegas *et al.,* (2017) observed that the consumption of low carbohydrate and low fatty foods, as well as, fruits and vegetables may prevent the development of T2DM.

On body weight, the World Health Organization (2018) defines body weight as the total mass of an individual's body. It is a critical health indicator that can influence an individual's overall physical condition. Although, there are various methods of measuring body weight (example by weighing scales and body mass index), the present study made use of waist circumference (WC) measurement: This provides a better indicator of accumulation of visceral fat and glucose metabolism deregulation. World Health Organization (2015) estimated that the overweight waist circumference (WC) cut off points for Men: ≥ 98 cm and women: ≥ 84 cm, and the obesity WC cut off points for Men: >102 cm; and women: >88 cm, are risk factors of type 2 diabetes.

Regarding physical activity level, the WHO (2020a) maintains that regular physical activity reduces the risk of chronic diseases such as cardiovascular disease, diabetes, and obesity. In contrast, physical inactivity is a major risk factor for non-communicable diseases such as heart disease, stroke, type 2 diabetes, and certain cancers (Center for Disease Control and Prevention, 2021).

This study is therefore designed to assess the influence of lifestyle choices and dietary habits on the prevalence of type 2 diabetes among adults above 40 years of age in Abia South senatorial district, Nigeria.

Statement of the Problem

Type 2 diabetes mellitus (T2DM) is a significant public health concern in Abia State, Nigeria. A study conducted by Umezurike *et al.*, (2017) at the Government House Clinic in Umuahia reviewed patient records from 2006 to 2016 and found that out of 17,482 patients, 764 were diagnosed with T2DM, resulting in a prevalence rate of 4.4 per cent. The study also noted a progressive increase in annual prevalence over the ten-year period.

The rate of occurrence of type 2 diabetes is increasing everywhere, including Abia State. Several lifestyle choices such as overweight/obesity, sedentary behaviour, heavy alcohol consumption, physical activity level, lifestyle modifications and high intake of refined carbohydrates, and saturated fat, tend to contribute to the prevalence of type 2 diabetes. Besides, certain dietary habits such as inappropriate food choices and inappropriate nutrients consumption, eating habits (meal timing and frequency), and dietary pattern (vegetarian and non-vegetarian diets) may also be responsible for the occurrence of T2DM. These factors seem

to be present among the male and female adults in Abia State, making them to be at risk of developing T2DM or living with the disease.

It was envisaged that the people were having poor lifestyle and dietary practices that promoted the occurrence of diabetes. However, it was not established whether the risk factors of type 2 diabetes associated with lifestyle and dietary practices were present among the adults in Abia South senatorial district, Abia State. It was also not established whether such factors could exert influence on the prevalence of the disease among male and female adults in the area. The question raised was: "Could the influence of lifestyle choices and dietary habits on prevalence of type 2 diabetes among adults in Abia South senatorial district, Abia State be investigated?"The present study, therefore, sought to investigate the influence of lifestyle choices and dietary habits on the prevalence of type 2 diabetes among adults in Abia South senatorial district of Nigeria.

Purpose of the Study

The purpose of this study was to determine the influence of lifestyle choices and dietary habits on the prevalence of type 2 diabetes among adults in Abia South Senatorial District, Abia State, Nigeria. Specifically, the study sought to:

i.   determine the influence of food choices and consumption on the prevalence of T2DM among adults of different educational status in Abia South Senatorial District, Abia State;

ii.   determine the influence of body weight (overweight/obesity) on the prevalence of T2DM among male and female adults in Abia South Senatorial District, Abia State;

iii.   determine the influence of physical activity levels on the prevalence of T2DM among male and female adults in Abia South Senatorial District, Abia State;

Research Questions

The following research questions were answered in this study:

i.   What is the influence of food choices and consumption on the prevalence of T2DM among adults of different educational status in Abia South Senatorial District, Abia State?

ii.   What is the influence of body weight (overweight/obesity) on the prevalence of T2DM among male and female adults in Abia South Senatorial District, Abia State?

iii.   What is the influence of physical activity levels on the prevalence of T2DM among male and female adults in Abia South Senatorial District, Abia State?

Research Hypotheses

The following null hypotheses were tested in this study at .05 level of significance:

i.   There is no significant influence of food choices and consumption on the prevalence of T2DM among adults of different educational status in Abia South Senatorial District, Abia State.

ii.   There is no significant influence of body weight (overweight/obesity) on the prevalence of T2DM among male and female adults in Abia South Senatorial District, Abia State.

iii.   There is no significant influence of physical activity levels on the prevalence of T2DM among male and female adults in Abia South Senatorial District, Abia State.

Food Choices and Consumption

Food choices play a fundamental role in adult health and well-being. The types of foods adults choose and consume influence their risk of developing chronic conditions such as obesity, cardiovascular disease, type 2-diabetes, and certain cancers (Harvard, 2021). However, dietary habits among adults vary widely depending on cultural, socioeconomic, and demographic factors, as well as, modern food trends and the availability of processed foods. Globally, dietary patterns have shifted significantly over the past few decades. Traditional diets rich in whole grains, vegetables, fruits, and lean proteins have increasingly been replaced by diets high in ultra-processed foods, sugars, fats, and refined carbohydrates, especially in urban areas. The WHO (2020c) reports that processed foods constitute a large portion of adults' diets in high-income countries, with rising consumption levels in low- and middle-income countries as well.

These changes are associated with the globalization of food supply chains, urbanization, and economic growth, which have made processed and fast foods more accessible and affordable. However, they also contribute to the rising prevalence of obesity and diet-related diseases. In contrast, in some low-income countries, traditional diets still predominate, but economic constraints can limit the variety and quality of foods consumed.

Food choices among adults are influenced by a variety of demographic factors, including age, gender, socioeconomic status, and cultural background (WHO, 2020c). Younger adults (18-35 years) are more likely to consume fast food, sugary beverages, and processed snacks compared to older adults. They are often influenced by convenience, time constraints, and marketing, which frequently targets this demography with easy-to-prepare and on-the-go food options. Older adults, on the other hand, tend to favour more traditional meals and may consume fewer processed foods. However, they may also face barriers to accessing fresh produce and healthy foods due to limited mobility or financial resources. Men and women display distinct dietary habits. Men typically consume more red meat, processed foods, and high-calorie meals, while women are more likely to eat fruits, vegetables, and low-fat products. Women are also more likely to adopt dietary changes based on health trends, such as vegetarianism or plant-based diets, influenced by social and cultural expectations surrounding body image and health consciousness.

Body Weight

According to World Health Organization (2018), body weight refers to the total mass of an individual's body and is usually measured in kilogrammes (kg) or pounds (lbs). It is a critical health indicator that can influence and reflect an individual's overall physical condition. Body weight includes the mass of all tissues in the body: muscle, bone, fat, organs, and fluids. Body Weight is determined using various measurements such as:

i.   Weighing Scales: The most common method for determining body weight is using a scale, which provides a numerical value representing the total mass of the body.

ii. Body Composition Analysis: This method includes measuring body fat percentage and lean muscle mass, providing a more comprehensive view of body weight beyond just total mass. Techniques such as bioelectrical impedance analysis (BIA), dual-energy X-ray absorptiometry (DEXA), and skinfold measurement are used for this purpose.

iii. Waist Circumference (WC) Measurement: This provides a better indicator of accumulation of visceral fat and glucose metabolism deregulation. World Health Organization (2015) estimated that the overweight waist circumference (WC) cut off points for Men: ≥ 98 cm and women: ≥ 84 cm are equivalent to the BMI of ≥ 25 kg/m2. The obesity WC cut off points for Men: >102 cm; and women: >88 cm are equivalent to the BMI of ≥ 30 kg/m2.

iv. Body Mass Index (BMI): BMI is a widely used measure to categorize body weight relative to height. It is calculated using the formula:

$$BMI = \frac{Weight\ (kg)}{Height\ (m)^2}$$

Body Mass Index (BMI) is a simple indicator of body weight status based on height and weight. The BMI classifications are underweight (BMI less than 18.5), normal weight (BMI 18.5–24.9), overweight (BMI 25–29.9), and Obese (BMI 30 and above). These categories help assess whether a person's weight may pose health risks. However, BMI does not directly measure body fat and may not accurately reflect health for everyone (example, athletes).

Genetics: Genetics play a significant role in determining body weight. According to Wardle *et al.,* (2018), approximately 40-70 per cent of body weight variation can be attributed to genetic factors. Certain genes influence metabolism, appetite, and fat storage, leading to variations in body weight among individuals (Loos and Bouchard, 2018). Hormonal imbalances, such as those related to thyroid function, can also impact weight regulation (Swinburn *et al.,* 2016).

Diet and Nutrition: Diet is one of the most critical determinants of adult body weight. High-caloric intake, frequent consumption of ultra-processed foods, and diets rich in sugar and fats contribute to weight gain and obesity (Malik *et al.,* 2015). Conversely, diets rich in fruits, vegetables, and whole grains have been associated with healthy weight management (Hu *et al.,* 2018). Moreover, portion sizes and meal frequency significantly affect caloric intake and body weight.

Physical Activity Levels: Physical activity levels have a strong correlation with body weight. Adults who engage in regular physical activity are more likely to maintain a healthy weight (Haskell *et al.,* 2017). On the other hand, sedentary behaviour, such as excessive screen time, is associated with higher body mass index (BMI) and weight gain (Owen *et al.,* 2016). The lack of physical activity also reduces metabolic rate, further contributing to weight gain.

Environmental and Socioeconomic Factors: Socioeconomic status (SES) significantly affects body weight. Lower SES is often linked with limited access to healthy foods, physical activity resources, and healthcare, contributing to higher obesity rates (Drewnowski and Darmon, 2015). Additionally, food environments—characterized by the availability of fast

food outlets and limited access to fresh produce—can influence dietary choices and body weight (Larson *et al.,* 2019).

Body weight (underweight, overweight and obesity) has health implications. Haslam and James (2015) stated that overweight and obesity are associated with a wide range of health risks, including cardiovascular diseases, type 2 diabetes, certain cancers, and musculoskeletal disorders. Increased body weight is also linked to higher mortality rates. Weight loss, even as little as 5-10 per cent of body weight, can significantly reduce these health risks (Jensen *et al.,* 2016). Although underweight is less prevalent, Sorensen and Anderson (2016) stated that being underweight also poses health risks. It is associated with weakened immune function, nutritional deficiencies, osteoporosis, and increased mortality, especially among older adults. The management of underweight conditions often involves nutritional interventions and monitoring for underlying health conditions.

Physical Activity Level and Prevalence of T2DM among Adults

Colberg *et al.,* (2016) reported that physical activity enhances insulin sensitivity. Regular exercise helps muscle cells to use glucose more efficiently, and it reduces insulin resistance, which is a key factor in the development of T2DM. Wannian (2023) stated that moderate to vigorous physical activity, such as brisk walking or cycling, significantly improved insulin sensitivity and glycemic control in individuals at risk of T2DM. Physical activity is essential for maintaining a healthy weight. Regular physical activity helps reduce visceral fat, which is closely linked to insulin resistance and T2DM. Visceral fat, or fat stored around internal organs, is more metabolically active and contributes to the release of inflammatory cytokines, leading to insulin resistance. Ross *et al*. (2020) found that regular aerobic exercise reduced visceral fat and improved insulin sensitivity in overweight adults, thereby reducing the risk of T2DM.

Engaging in regular physical activity is particularly beneficial for individuals with T2DM, as it helps to maintain blood glucose levels within a normal range. Colberg *et al*. (2016) recommended that adults with T2DM engage in at least 150 minutes of moderate-intensity aerobic activity per week to improve glycemic control and reduce cardiovascular risk factors. The American Diabetes Association (2018) highlighted that aerobic and resistance training can reduce T2DM incidence and improve outcomes among diagnosed individuals. Aerobic exercises, such as walking and cycling, enhance insulin sensitivity and reduce cardiovascular risks, while resistance training improves muscle strength, glycemic control, and body composition. A study by Grøntved *et al*. (2017) found that combining aerobic and resistance training was more effective in reducing the risk of T2DM than either form of exercise alone.

Methodology

Descriptive survey design was used in this study. The design allowed for the collection of data from respondents as they actually existed. This study was conducted in Abia South Senatorial District of Abia State, Nigeria. The study population consisted of adults residing in Abia South Senatorial District of Abia State within the age brackets of 40 years and above.

The population was estimated at 12,640 (National Population Commission, 2023). The age bracket of 40 years and above was taken for the study based on the recommendation of the Centre for Disease Control and Prevention (2023) that the study population for type 2 diabetes researches should primarily be selected among individuals aged 40 years and above.

A sample of 630 adults representing approximately five per cent of the population was drawn for the study. Two instruments were used for data collection in this study. These were "Lifestyle Choices and Dietary Habits of Adults Questionnaire (LCDHAQ)" and "Type 2 Diabetes Prevalence Assessment Tool (T2DPAT)".

The research questions were answered using frequencies and percentages. Hypotheses two and five were tested using Multiple Regression Analysis, while hypotheses one, three, four, and six to nine were tested using Chi-square statistics. When the result Multiple Regression Analysis was significant, post hoc multiple classification analysis was prepared to verify the direction or source of the influence Decisions on the hypotheses were taken at .05 level of significance.

Results

The results of data analysis are presented in Tables 1-6) according to the research questions and hypotheses that guided the study.

Research Question 1: What is the influence of food choices and consumption on the prevalence of type 2 diabetes among adults of different educational status in Abia South Senatorial District, Abia State?

Table 1: Food Choices and Consumption on Prevalence of Type 2 Diabetes Among Adults of Different Educational Status (n = 281)

Edu. Background	Healthy Food Choices/consumption		Unhealthy Food Choices/consumption		Total Prevalence of T2DM	
	f	%	F	%	f	%
No formal Education	2	0.71	51	18.15	53	18.86
Primary Education	7	2.49	74	26.34	81	28.83
Secondary Education	19	6.76	106	37.72	125	44.48
Tertiary Education	12	4.27	10	3.56	22	7.83
Total	40	14.23	241	85.77	281	100

Data in Table 1 indicate that in overall, 85.77 per cent of the adults with type 2 diabetes in Abia South Senatorial District of Abia State, had unhealthy food choices/consumption. Of this, 37.72per cent belonged to the secondary education category, and 26.34 per cent belonged to the primary education category. The adults with tertiary education (3.56%) had the least unhealthy food choices/consumption. They contributed only 7.83 per cent prevalence of type 2 diabetes, whereas, the adults in secondary education category with higher unhealthy food choices/consumption, contributed as high as 44.48per cent prevalence of type 2 diabetes.

Research Question 2: What is the influence of body weight (overweight/obesity) on the prevalence of type 2 diabetes among male and female adults in Abia South Senatorial District, Abia State?

Table 2: Body Weight on Prevalence of Type 2 Diabetes among Male and Female Adults (n=281)

Gender	Normal Weight		Overweight		Obese		Total Prevalence of Type 2 Diabetes	
	F	%	f	%	f	%	f	%
Male	29	10.32	93	33.09	31	11.04	153	54.45
Female	33	11.74	69	24.56	26	9.25	128	45.55
Total	62	22.06	162	57.65	57	20.29	281	100

Source: Field Work (2025)

Table 2 shows that in overall, 57.65 per cent of the adults with type 2 diabetes in Abia South Senatorial District of Abia State were overweight and 20.29 per cent were obese. Of this, majority of the male adults with type 2 diabetes were overweight (33.09%) and obese (11.04%), compared to the females (overweight - 24.56%; obese – 9.25%).

Null Hypothesis 1: There is no significant influence of food choices and consumption on the prevalence of type 2 diabetes among adults of different educational status in Abia South Senatorial District, Abia State.

Table 3: Multiple Regression Analysis on Influence of Food Choices and Consumption on the Prevalence of Type 2 Diabetes among Adults of Different Educational Status(N = 281)

Multiple R	= 0.582
Multiple R-square	= 0.425
Standard error estimate	= 1.327

ANALYSIS OF VARIANCE

Source of Variation	Sum of squares	df	Mean square	F	p-value
Regression	223.33	3	74.44		
				10.50	.032*
Residual	1963.93	277	7.09		
Total	2,187.26	280			

* Significant at .05 alpha level

Table 3 shows that the calculated F –value was 10.50 with a p-value of .032. The p-value (.032) was less than .05 level of significance at degrees of freedom of 3 and 277. This

result indicates that there was significant influence of food choices and consumption on the prevalence of type 2 diabetes among adults of different educational status in Abia South Senatorial District, Abia State. The multiple regression analysis yielded a multiple regression coefficient (R) of 0.582 and a multiple R – square of 0.425. This result shows that food choices and consumption exert about 42.5 per cent influence on the prevalence of type 2 diabetes among adults of different educational status in Abia South Senatorial District, Abia State. Therefore, the null hypothesis which states that there is no significant influence of food choices and consumption on the prevalence of type 2 diabetes among adults of different educational status in Abia South Senatorial District, Abia State was rejected. The Multiple Classification Analysis (MCA) in Table 3 was computed to determine the specific educational level of adults with type 2 diabetes prevalence mostly affected by the influence of food choices and consumption.

Null Hypothesis 2: There is no significant influence of body weight (overweight/obesity) on the prevalence of type 2 diabetes among male and female adults in Abia South Senatorial District, Abia State.

Table 4: Summary of Chi-square Analysis on Influence of Body Weight on Prevalence of Type 2 Diabetes among Male and Female Adults (n=281)

Gender	Normal Weight		Overweight		Obese		Total	$\chi^2_{cal.}$	df	χ^2_{crit}	p
	O	e	o	e	o	e					
Male	29	33.76	93	88.21	31	31.04	153				
								7.05*	2	5.99	.05
Female	33	28.24	69	73.79	26	25.96	128				
Total	62		162		57		281				

* Significant at .05 alpha level

Table 4 shows that the calculated chi-square ($\chi^2_{cal.}$) value of 7.05 was greater than the critical Chi-square ($\chi^2_{crit.}$) value of 5.99 at .05 alpha level and at df of 2. The result was significant. This means that there was significant influence of body weight (overweight/obesity) on the prevalence of type 2 diabetes among male and female adults in Abia South Senatorial District, Abia State. Hence, hypothesis four, which states that there is no significant influence of body weight (overweight/obesity) on the prevalence of type 2 diabetes among male and female adults in Abia South Senatorial District, Abia State, was rejected.

Findings

The major findings of the study are summarized as follow:

i.   Majority of the adults with type 2 diabetes (85.77 %) had unhealthy food choices/consumption. Of this, 37.72 per cent belonged to the secondary education category, while 26.34per cent belonged to primary education category. The adults with tertiary education (3.56%) had the least unhealthy food choices/consumption.They contributed only 7.83 per cent prevalence of T2DM, whereas, those in secondary education category with higher unhealthy food choices/consumption, contributed as high as 44.48per cent prevalence of T2DM.

ii. As high as 57.65 per cent of the adults with T2DM were overweight and 20.29 per cent were obese. Of this, majority of the males were overweight (33.09%) and obese (11.04%), compared to the females (overweight - 24.56%; obese – 9.25%). Overweight and obesity likely influenced the 54.5 per cent prevalence of T2DM among males and 45.5 per cent among females.

Discussion of Findings

Food Choices and Consumption on the Prevalence of T2DM among Adults of Different Educational Status

It was found that 85.77 per cent of the adults with T2DM in Abia South Senatorial District of Abia State had unhealthy food choices/consumption. Of this, 37.72per cent belonged to the secondary education category, and 26.34 per cent belonged to the primary education category. The adults in tertiary education category (3.56%) had the least unhealthy food choices/consumption. They contributed only 7.83 per cent prevalence of T2DM in the area. The adults in secondary education category with higher unhealthy food choices/consumption contributed 44.48 per cent prevalence of T2DM, and those in the primary education level contributed 28.83 per cent prevalence of T2DM. Adults with lower levels of education were observed to have a higher prevalence of T2DM compared to those with higher educational attainment.

Body Weight (Overweight/Obesity) on the Prevalence of T2DM among Male and Female Adults

It was found that 57.65 per cent of the adults with T2DM in Abia South Senatorial District of Abia State were overweight and 20.29 per cent were obese. Of this, majority of the male adults with T2DM were overweight (33.09%) and obese (11.04%), compared to the females (overweight - 24.56%; obese – 9.25%). These differences in weight distribution likely contributed to the higher T2DM prevalence observed in males (54.5%) compared to females (45.5%). This aligns with previous study (Logue *et al.,* 2017), suggesting that although females may have higher obesity rates globally, males tend to develop T2DM at lower body mass index or waist circumference thresholds and are more susceptible to central (visceral) adiposity, which is more metabolically harmful.

Summary

This study investigated the influence of lifestyle choices and dietary habits on the prevalence of type 2 diabetes among adults in Abia South Senatorial District of Abia State. To

achieve this purpose, three specific objectives and corresponding research questions and hypotheses were raised to guide the study. The study utilized cross sectional survey design. A sample of 632 adults, representing five per cent of an estimated population of 12,640 adults aged 40 years and above in Abia South Senatorial District, Abia State, participated in the study. The sample was drawn using double-stage sampling technique (balloting and stratified random sampling methods). Two instruments were used for data collection. These were "Lifestyle Choices and Dietary Habits of Adults Questionnaire (LCDHAQ)"

Majority of the adults with T2DM (85.77 %) had unhealthy food choices/consumption. Of this, 37.72 per cent belonged to the secondary education category, while 26.34per cent belonged to primary education category. The adults with tertiary education (3.56%) had the least unhealthy food choices/consumption.

As high as 57.65 per cent of the adults with T2DM were overweight and 20.29 per cent were obese. Of this, majority of the males were overweight (33.09%) and obese (11.04%), compared to the females (overweight - 24.56%; obese – 9.25%). Overweight and obesity likely influenced the 54.5 per cent prevalence of T2DM among males and 45.5 per cent among females.

More male adults (27.8%) with T2DM were physically inactive, compared to the 25.3 per cent of the females. In all, 53.1 per cent of the diabetic adults were physically inactive. Based on the findings of this study, the conclusion reached that there majority of the adults with T2DM had unhealthy food choices/consumption. Those in the secondary education category were mostly involved in unhealthy food choices/consumption. The adults with tertiary education had the least unhealthy food choices/consumption. It was concluded that majority of the adults with T2DM were overweight and obese. They were mostly males, compared to the females. Majority of the adults with T2DM were physically inactive. More male adults were physically inactive, compared to the females. High percentage of the adults with T2DM drank alcohol heavily. Greater proportion belonged to the age brackets of 55-64 years, and 65+ years.

Further conclusion reached that there were significant influences of food choices and consumption, body weight, physical activity levels.

Based on the findings discussed and conclusions reached in this study, the following recommendations were made:

i. The Abia State Ministry of Health should develop interventions to promote diabetes prevention and management among adults in Abia South senatorial district. The interventions should target both male and female adults.

ii. Health education curriculum developers should expand health education curriculum to include topics on diabetes education for secondary school students to help equip them with knowledge that will influence their prevention or management of T2DM in later life.

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