AMERICAN JOURNAL OF

PHYSICAL EDUCATION AND HEALTH SCIENCE (AJPEHS)

VOLUME 1 ISSUE 1 (2023)

PUBLISHED BY
E-PALLI PUBLISHERS, DELAWARE, USA

American Journal of Physical Education and Health Science (AJPEHS)
Volume 1 Issue 1, Year 2023
https://journals.e-palli.com/home/index.php/ajpehs

Assessment of Diabetes Mellitus Perception among Adult Residents in Akure South Local Government Area of Ondo State, South West Nigeria

Ifedayo-Josiah[1*]

Article Information

Received: March 31, 2023

Accepted: April 25, 2023

Published: May 04, 2023

Keywords

Diabetes, Mellitus Perception, Physical Exercise, Nigeria

ABSTRACT

The study aims at assessing the level of diabetes mellitus perception among the adults residing in Akure South local government areas of Ondo state. The pooled diabetes mellitus prevalence in Nigeria, according to the united nations estimate of 2017 is 5.77% this implies that 11.2 million Nigerians,(1 out of 17) adults are living with diabetes and this portends a dangerous trends for the country's health development as has constituted a socio-economic burden on the nation. A descriptive cross-sectional method was adopted for the investigation. The sample consists of 332 residents of the study population area. A multistage sampling technique was used for the study. Data were collected through self-administered structure questionnaire and descriptive statistics (frequency table, proportion, mean and percentages) were used for the analysis. Secondary information was sourced from government publications, hospital records, group discussions, Health journals ,and relevant internet materials. The study revealed that majority of the respondents had adequate knowledge about diabetes mellitus. The finding also concluded that despite the good perception about diabetes among the adult residents, the disease prevalence and presentation are still high. The study thereby recommended increased awareness, engagement in physical exercise, consumption of balanced diets and regular screening for diabetes as preventive measures to control and /or reduce the mortality among the adult residents in Akure South Local Government.

INTRODUCTION

Diabetes mellitus is a major public health problem and a great socio-economic burden in developing countries of the world and Nigeria is no exceptional. It a chronic disease caused by inherited and/or acquired deficiency in production of insulin by the pancreas, it could also be due to the ineffectiveness of the insulin produced. The name diabetes mellitus was derived from the Greek Diabainein which means "to pass through" describing the copious urination and mellitus from the Latin which means "sweetened with honey" referring to sugar in the urine. According to the Encyclopaedia Britannica. Diabetes is non-communicable disease as more than half of those affected are unaware until they are diagnosed on screening or affected with one or more of the disease complication (ogbera and ekpebegh, 2014)Diabetes results in increased concentration of glucose in the blood and the damage of many of the body systems including the blood vessels and nerves; it is one of the major non-communicable diseases (NCDs) of public health concern globally.

In 2018, a complied data by world health organization (WHO) showed that approximately 150 million people have diabetes mellitus worldwide, Aynalem And Zeleke in 2018 estimated that 425 million people between the age brackets of 20-79 years suffered from diabetes mellitus and it is expected that this will increase to about 592 methods people and 629 million people by years 2035 and 2045 respectively, according to international Diabetes federation (DF) atlas guideline report, currently, there are 352 million adults with impaired glucose tolerance who at high risk of developing diabetes in future (Elegbede, Sanni and Alabi 2022). About 70% - 80% of the disease burden is borne by the developing countries. The estimated prevalence of diabetes in Africa is 1% in rural areas and ranges from 5% to 7% in urban sub-Sahara Africa.

The pooled diabetes mellitus prevalence in Nigeria, according to the united Nation estimate in 2017 is 5.77%. This implies 11.2 million Nigerians (1 out of 17) adults living with diabetes and this portends a dangerous trend for the country's health development.

Diabetes has negative effects on work productivity and leads to high economic burden in terms of healthcare expenditure. Most persons with diabetes in developing countries are persons with 35 to 64 age range. This age range includes a significant segment of the productive work force.

The high prevalence of diabetes mellitus is strongly related to the various risk factors which can be classified into non-modifiable and modifiable factors. The non-modified factors include obesity, alcohol consumption, smoking, hypertension, pregnancy, hypercholesterolemia, infections, sedentary lifestyle, unhealthy diets and polycystic ovarian syndrome (Erasmus, Fakeye Olukoga, Ebomoyi, Adeleye and Arije 1989)

Diabetes is a known risk factor for blindness vascular brain diseases, venal failure, lower limb gangrene and death from acute diabetes emergencies. Epidemic of diabetes is increasing round the world and awareness of these diseases remains low. Inadequate knowledge about diabetes is common among various categories of adult populations in Nigeria and in many African countries.

[1] City University, Cambodia
[*] Corresponding author's e-mail: josiahifedayo@gmail.com

Recognition of significant health risk, knowledge and awareness about diabetes mellitus, complications and management are important for adoption of preventive behaviors (Ilesanmi, Ojo, Omotoso, Junaid, Amenaheinan and Alele, 2015). Public health interventions are needed to impact knowledge about this disease on the adult residents of Akure South Local Government Area of Ondo State.

Type 1

Diabetes is believed to be an autoimmune condition. The implication is that the immune system mistakenly attacks and destroys the beta cells in your pancreas that produce insulin. The damage is permanent. What is responsible for these attacks is unclear. Genetic and environmental factors more than lifestyle factors are suspected of playing a role.

Type 2

Type 2 diabetes starts out as insulin resistance. This means the body cannot use insulin efficiently, which causes your pancreas to produce more insulin until it cannot keep up with demand insulin production then decreases which causes high blood sugar. The exact cause of type 2 diabetes is unknown but may be resulted from genetics, sedentary lifestyle, or Obesity. Gestational diabetes is caused by insulin-blocking hormones that are produce during pregnancy.

Statement of Problem

The disease burden related to diabetes is high and rising in every country, fuelled by the global rise in the prevalence of obesity and unhealthy lifestyles. The latest estimates show a global prevalence of 537 million adults (20-79years) diabetes in 2021, expected to rise to 643 million by 2030 and the 783 million by 2045. Classification of diabetes has now been widely accepted. Type 1, type 2 diabetes and are gestational diabetes mellitus types, with type 2 diabetes accounting for the majority (>85%) of total diabetes prevalence.

Before now, Diabetes used to be a burden of the developed world being a disease associated with affluence, but with epidemiology, demographic and nutritional transmission, the diseases has now shown tremendous increase in prevalence in countries that were not hitherto affected or nominally affected by diabetes.

Mellitus

Objective of The Study

The general objective of this study is to investigate the perception of diabetes mellitus among adult residents in Akure South Local Government Area of Ondo State.

Research Questions

1. What is the perception by the respondents about the most used channels of information dissemination about diabetes mellitus in Akure South Local Government areas of Ondo State?
2. What is the perception about causes of diabetes mellitus among adult residents of Akure South Local Government Area of Ondo State?
3. What Is the perception about the effects of diabetes mellitus among adult residents of Akure South Local Government Area of Ondo State?
4. What perception about preventive measures against the prevalence of diabetes mellitus among adult residents of Akure South Local Government Area of Ondo State?

Theoretic Framework

This study is anchored on the health belief theoretical model. According to Rosen stock and Beck (1994). The health belief model is a socio–psychological health behavior change model developed to help explain and predict health related behavior, particularly with respect to acceptance or hesitancy of health interventions. This means that individual beliefs about particular health conditions will go a long way in determine how they will embrace interventions. Therefore, the relevance of this theory to this work rests on the fact that embrace of interventions on diabetes mellitus among the adult residents will largely depend on their beliefs of the causes of the disease which invariable determine the type of intervention they are going to embrace.

MATERIALS AND METHODS

The research design adopted for this study is descriptive research design. This allows collection of data in a quantitative manner. The study population comprises adult (Male and Female) residents of Akure South Local Government Area of Ondo State.

To determine the sample size of the study, leiz Fisher's formula was adopted,

below is the calculation.

$$N = \frac{z^2 p\, q}{d^2}$$

Z = standardize normal (1.96)

P = prevalence of diabetes mellitus obtained from previous study (knowledge of causes, effects of diabetes, carried out in Kwara State (2012).

d = degree of accuracy set at 5% (precision) = (0.05)

$$q = 1-p$$

$$\therefore N = \frac{(1.96)^2 \times 0.6\,(1-0.6)}{(0.05)^2}$$

$$= \frac{0.92194}{0.0025}$$

$$= 369$$

Thus, 369 respondents were considered as the sample size. The10% non–response rate was recorded. So, the distributed questionnaire collected back from the respondents was 332.

A multistage sample technique was adopted for the selection of the participants for the study. This type of sampling techniques restores the researchers to choose his/her sample in stages until he/she gets the required sample. (Asamala, 2012). The choice of the study area

was informed by its large population and its centralized location. In using multistage sampling technique, the eleven political wards in Akure South Local Government Area were first identified. They are Aponmu, Gbogil/Isikan 1, Gbogi/Isikan 2, Ijomu/Obanla, Ilesa, Oda, Odopetu, Oke-Aro, Iro, Oshodi/Isolo, and Owode/Imuagun.

Stage 1
This stage involves using stratified sampling technique to classify these eleven (11) into nine (9) Urban Wards and two (2) Rural Wards.

Stage 2
Here, the two urban and two rural wards were selected through simple random sampling by balloting.

Stage 3
Two communities were selected from each of the urban and rural wards. Thus eight (8) communities were selected in all four (4) communities from the urban wards and four (4) communities from the rural wards.
Again, proportionate allocation of sample size was made to each of the communities on the strength of their populations. Adult residents between the age brackets of 35 – 65 years were assessed through structured questionnaire. Participation was anonymous and voluntary.

RESULTS AND DISCUSSION

Data Presentation and Analysis
The data generated were analyzed using descriptive statistics such as frequency tables percentage and' Yes/No'.
The table below provides the socio – demographic profile of the respondents collected in the course of this study.
From the below table 1: The result shows that 55 (16.6%) respondents are between 35 – 40 years; 220 (66.3%) are between 41 – 50 years; 40 (12%) are between 51 – 60 years while 17 (5.1%) are above 60 years. This implies that majority of the respondents have attained physical and intellectual maturity.

Table 1: The Socio Demographic

Age Group	Frequency	Percentage (%)
35 – 40	55	16.6
41 – 50	220	66.3
51 – 60	40	12
>60	1.7	5.1
Total	332	100

Source: Author Survey 2023

Table 2: Educational Qualifications

Education	Frequency	Percentage (%)
Wassce/ Ssce O' Level	82	25
Nce/Ond/Hnd	120	36
University Degree	117	35
Post Graduate	13	4
Total	332	100

Source: Author survey 2023

From the table 2: The result shows that out of 332 respondents 82 (25%) had Wassce/Ssce 'O' Level result; 120 (36%) had Nce/Ond/Hnd result; 117 (35%) had University Degrees and 13 (4%) had Postgraduate degrees. The table above shows the sex distribution of respondents.
The table 3 shows that male respondents are in the majority (60.2%) while the female population accounts for 39.8% of the respondents. From the above table, out o 332 respondents, 294 (88.6%) respondents are married 20 (6%) are divorced while 18 (5.4%) were single parent. It can be concluded that the majority of the respondents are married.

Table 3: Gender of Respondents

Gender	Frequency	Percentage
Male	200	60.2
Female	122	39.8
Total	332	100

Source: author survey 2023

Table 4: Marital Status of Respondents

Marital Status	Frequency	Percentage (%)
Married	294	88.6
Divorced	20	6.0
Single parent	18	5.4
Total	332	100

Source: Author survey 2023

Research Question 1

What are the most used channels for information dissemination about Diabetes mellitus among adult residents in Akure South Local Government Area of Ondo State.

The table above presents the views of the 332 respondents on the most-used information channels about Diabetes mellitus. From the results: 80(24)% agreed with hospitals, 50(15%) agreed with community dialogue, 166(53%) agreed with mass media, 22(4%) agreed with group discussions while 14(4%) agreed with markets.

The analysis from this table shows that mass media (Television, Radio, the internet, Newspapers, Publications) are supported by the majority to be the most-used channels to disseminate information about diabetes mellitus among adults' residents in Akure South Local Government Area.

Table 5: Respondents' view on the most used channels for information dissemination

S/N	Variables	Frequency	Percentage %
1.	Hospitals		24
2.	Community Dialogue		6.0
3.	Mass media	166	53
4.	Group discussions	22	
5.	Markets	14	4
	Total	332	100

Source: Author Survey 2023.

Research question 2

What is the perception about the causes of diabetes among respondents?

The above table presents the views of the 332 respondents on causes of diabetes. From the results, 263 (79%) agreed that diabetes is caused by high carbohydrate food intake while 69 (21%) disagreed. Also, 313 (94.3) disagreed that diabetes can be caused by high intakes of fat and oil while 19 (15.7%) agreed.

In the same view 312 (94%) disagreed with the superstitious belief that diabetes is caused by evil force while only 20 (6%) agreed. The analysis from the table implies that the majority of the respondents have good knowledge about the causes of the diseases.

Table 6: Respondents' view on causes of diabetes

S/N	Variables	Yes (%)	No (%)
1	Do you believe that diabetes is caused by high carbohydrate food intake?	263 (79%)	69 (21%)
2	Do you believe diabetes is a genetic disease and cannot be caused by nutritional problem?	63 (19%)	269 (81%)
3	Diabetes can result from high intake of fact and oil?	19 (5.7%)	313 (81%)
4	Taking too much protein can result in diabetes?	17 (5%)	315 (95%)
5	Diabetes is caused by evil forces?	20 (6%)	312 (94 %)

Source: Author survey 2023

Research question 3

What is the perception about the effects of diabetes mellitus among the respondents?

The table below presented the view of the respondents about the effects of diabetes. The table above presents, the awareness of the effects of diabetes; only 31 (9%) disagreed. Similarly, 203 (61%) agreed that poor vision is one of the effects of diabetes while only 25 (7.5%) disagreed. In the same vein, 9 (2.7%) agreed that blood urination is one of the effects of diabetes while 323 (97.3%) disagreed. From the analysis above, it can be inferred that the majority of the respondents have good perception about the effects of diabetes mellitus in the body.

Table 7: Respondent's view on the effects of diabetes mellitus

Variables	Yes (%)	No (%)
Loss of weight	301 (91%)	31 (9%)
Poor vision	203 (61)	129 (39)
Frequency urination	307 (92.5%)	25 (7.5)
Tingling	135 (41)	197 (59)
Sore in the mouth	101 (30)	231 (70)
Thirstiness	302 (91)	30 (9)
Loss of appetite	200 (60)	132 (40)
Blood urination	9 (2.7)	323 (97.3)
Sleeplessness	126 (38)	206 (62)

Source: Author survey 2023

Research Question 4

What is the perception about preventive measures against diabetes among respondents?

The table 8 presented 332 respondents views on the preventive measures against diabetes mellitus.

From the above table: 260 (78%) agreed that diabetes can be prevented by taking foods that are rich in protein and less in carbohydrates, only 72 (22%) had a contrary opinion. 250 (75%) agreed that regular exercise can prevent diabetes while 82 (25%) disagreed. 276 (83%) agreed that diabetes can be reduced by taking fruits and vegetables while 56 (17%) disagreed.244 (73%) agreed that maintaining an ideal weight can prevent diabetes while 88 (27%) disagreed.

Table 8: Respondents' view on the preventive measures against diabetes mellitus

S/N	Variables	Yes (%)	No (%)
1	Diabetes can be prevented by taking food rich in protein and less carbohydrate	260 (78%)	72 (22%)
2	Regular exercise	250 (75)	82 (25%)
3	Avoiding eating carbohydrate food late in the night	269 (81%)	63 (19%)
4	By taking fruits and vegetables	276 (83%)	56 (17%)
5	By maintaining ideal weight	244 (73%)	88 (27%)
6	Reduction in fat in take	192 (57%)	140 (43%)

From the analysis above, it can be inferred that most respondents have good perception about the preventive measures of diabetes mellitus.

The study investigates the perception about the causes, effects and preventive measures of diabetes mellitus among the adult residents in Akure South Local Government Area of Ondo State.

The findings of this study revealed that the majority of the respondents have good perception about the causes and effects of diabetes mellitus and the preventive measures that can control the disease prevalence among the residents of Akure South Local Government Area of Ondo State.

The findings also provide better understanding of the subject under research. The future research will establish the relationship between the nondisposable and disposable factors and the presentation of the disease.

CONCLUSION

The study concluded that the good perception of the respondents about diabetes was evident among the adult residents but this did not reduce the prevalence of the disease.

The following recommendations are hereby put forwards to checkmate the progression of diabetes mellitus in Akure South Local Government.

Recommendations

1. Governments should intensify the awareness programmes on diabetes among the citizens, particularly through the mass media and community dialogue approach.
2. The use of devices such as glycometer should be encouraged for adult residents in order to check their sugar level regularly.
3. Governments should collaborate with NGOs in their campaigns against diabetes mellitus.
4. Screening for diabetes should be encouraged for men and women in both private and public hospitals for early diagnosis.
5. Eating of balanced diet and exercise should be encouraged among adults by the health providers.
6. Adults should avoid excessive intake of foods with high glycomic index before bed time .
7. Provision of periodic training to health providers to improve their capacity on diabetes care, knowledge and practice.

REFERENCES

American Diabetes Association (1997). Economic consequence of diabetes mellitus in the US. *Diabetes Care, 21,* 296-309. http://www.ncbi.nih.gov.

American Diabetes Association (2016). Statistics about Diabetes http://www.diabetes-basics/statistics

American Diabetes Association (2023). Diabetes Statistics. www.niddk.nih.gov.

Centre for Disease Control and Prevention (2020). Estimates of diabetes and its burden in this United States. National Diabetes Statistics Report: www.cdc.gov.

Centre For Disease Control And Prevention (2021). Update About Diabetes Topics www.cdc.gov.

Elegbede, O.E, Sanni.T.A., And Alabi, A.K.(2022). Prevalence and risk factors associated with diabetes mellitus in public secondary schools teachers in Ekiti State, *Ibom Medical Journals, 15*(5), 95-101. www.Ibom Medical Journals.org

Endocrine Society (2022). Diabetes and Older Adults www.endocrine.org

Erasmus, R. T., Fakeye T., Olukoga O., Okesina, A., B., Ebomoyi, E., Adeleye, M., and Arije, A. (1989). Prevalence of diabetes mellitus in a Nigeria population. *Trans R Sec. Trop med Hyg., 83*(8), 417 418. https://doi.org/10.1016/0035-9203

Ilesanmi, S. O., Ojo, A. O.,Omotoso, B., Ojo, O., Junaid, A, O., Amenkhienan, I., and Alele, O.F. (2017). Prevalence of diabetes mellitus and the associated behavioural risks factors among the staff of three secondary schools in owo, Ondo State, Nigeria. *Research Journal Of Health Sciences, 5*(3), 175. https://doi.org/10.4314/rejhs.v513.7

International Diabetes Federation IDF. (2019). Diabetes Atlas Reports www.idf.org.

International Diabetes Federation. IDF (2022). Diabetes Atlas Reports www.idf.org.

Kleinfield, N. R. (2006). Modern ways open Indian's doors to diabetes. New York Times. www.nytimes.com

Narayan, K. M., Boyle, J. P, Thompson, T. J., Sorensen, S.W., Williamson, D..F (2003). Lifetime risk for Diabetes mellitus in the United States. *Europe PMC, 290*(14), 1884-1890. https://doi.org/10.1001/Jama 290.14.1884.

National Diabetes Fact Sheet (2011). National Estimates And General Information On Diabetes And Pre Diabetes In United States, Centres For Disease Control And Prevention, www.cdc.gov.

Olatunbosun, S. T, Ojo, O. P, fineberg, S. N, and Bella, F. A. (1998). Prevalence of diabetes mellitus and impaired glucose tolerance in a group of urban adults in Nigeria. *Journal of the National medical association, 90*(5), 293-301.

Ogbera, O. A, and Ekpebegh, C. (2014). Diabetes mellitus in Nigeria. *World Journal Of Diabetes, 5*(6), 905-911. https://doi.org/10.4239/wjd.5.16.905.

Torio, C.M.,and Andrews, R.M (2013). National Inpatient Hospital Costs: The most expensive conditions by payer, 2011. HCUP statistical brief 160. Agency for healthcare research and quality.

Ugwu, E., Young, E, and Nkpozi, M. (2020). Diabetes care, knowledge and practice among primary care physicians in southeast Nigeria a cross-sectional study. *BMC family practice, 21*(128), https://bmcprimcare.biomedcentral.com.

Washington, R.E., Andrews, R.M. and Mutter, R.(2013). Emergency Department Visits For Adults With Diabetes (HCUP) Statistical Briefs. Agency for healthcare research and quality, ♯167 pubmed.ncbl.nim.nih, gov.