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Effect of Socio-Cultural, Economic and Religious Factors on Type 2 Diabetes Management: Evidence from Akungba-Akoko Metropolis, Ondo State, Nigeria

Dr. Olutoyin Elizabeth Okeya

Senior Lecturer, Faculty of Health, Social Care and Medicine, Edge Hill University, Ormskirk, Lancashire, UK.

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ABSTRACT

This research was conducted to examine whether socio-cultural, economic, religious and other demographic factors affect the way Type 2 Diabetes is managed among registered patients in Akungba-Akoko metropolis, Ondo State, Nigeria. In order to achieve the stated objectives, the study employed descriptive statistics to analyze responses to structured questionnaire administered to 30 Type 2 Diabetes patients registered in two health centres in the community of study. Results from percentages, charts and tables shows that socio-cultural, economic and religious factors exert much influence on the management of Type 2 Diabetes among patients registered. Other factors such as family support, age and occupation were found also have significant effect on Type 2 Diabetes management among the sample studied although some of them claim otherwise. The P values (p = 0.000) for all the factors show that the effect of these factors are all significant on T2 Diabetes management. The study advocates the need for the State Ministry of Health to organise awareness campaigns on how best to prevent T2D and how effectively existing cases of T2D can be managed. Policies tailored towards ameliorating medical expenses for T2D patients should be introduced while corporate and Non-Governmental Organisations (NGOs) should also complement the efforts of the State and Local Government to assist those diagnosed with T2D.

Keywords: Type 2 Diabetes, Socio-cultural, Economic, Religious, Demographic Factors

INTRODUCTION

Type 2 diabetes as rated is one of the global epidemics that affect several millions of people globally. According to the International Diabetes Federation reports of 2013 as well as the World Health Organization (2013), more than 365 million people suffer Type 2 diabetes worldwide. By the year 2025, these institutions predict that the incidence would increase to about 380 million. In the United States, diabetes is rated as the occupant of the seventh position among the killer diseases. This is apart from the huge annual expenditures on the disease which keep increasing (Centers for Disease Control and Prevention, CDCP, 2014.). The CDCP national diabetes report (2014) states that not less than 1.4 million Americans are freshly diagnosed with diabetes every year. The story is not different in many other countries around the world due to rapid socio-economic development, improved medical diagnosis facilities and environmental changes (Yu & Zinman, 2007). Azevedo and Alla (2008) report that diabetes cases surges from about 30 million to about 230 million in 2006 (amounting to around 6% of the then population of the world). However, as much as 80% of the diabetes cases reported globally were in developing and underdeveloped countries. CDCP (2014) also reports that diabetes affects people from the minority groups in Asian-American and non-Hispanic black people. Roglic et al, (2005) stated that

increase in cases of diabetes over the years can be attributed to global social and demographic changes. The authors posited that globalisation, aging, unhealthy practices and urbanisation among other factors are responsible for consistent rise in cases of T2D in the last decade. Oguejiofor and Onwukwe (2014) opined that more than 90% of reported Diabetes Mellitus cases are of the Type 2 class and that it is more prevalent among Indian adults, Africans in Africa and in other continents as well as the whites residing in Africa (South Africa in particular). Center for Disease Control (CDC) 2012. Table 1 presents the estimated figures of diabetes cases as at 2011 and the projected figures for the year 2030.

Table 1: Global Estimates of Diabetes 2011-2030

	2011			2030			
Region	Population (Millions)	Number of Diabetes Cases (Millions)	Prevalence (%)	Population (Millions)	Number of Diabetes Cases (Millions)	Prevalence (%)	% Increase
Africa	387	14.7	4.5	658	28.0	4.9	90
Europe	653	52.8	6.7	673	64.2	6.9	22
Middle East/N. Africa	356	32.6	11.0	539	59.7	11.3	83
North America/Caribbean	322	37.7	10.7	386	51.2	11.2	36
South/Central America	289	25.1	9.2	376	39.9	9.4	59
South East Asia	856	71.4	8.7	1188	120.9	10.0	69
Western Pacific	1544	131.9	8.3	1766	187.9	8.5	42
Global	4407	366.2	8.5	5586	551.8	8.9	51

Source: Adapted with modifications from Oguejiofor & Onwukwe (2014)

Table 1 reveals that the projected percentage of prevalence of Diabetes Mellitus (DM) among the populations in Africa, Europe, Middle East/North Africa, North America/Caribbean, South/Central America, South/East Asia and Western Pacific for the year are 4.9, 6.9, 11.3, 11.2, 9.4, 10 and 8.5 respectively. This will translate to a projected figure of about 8.9% global prevalence in the same year.

Adequate diagnosis poses a great challenge to combating the menace of diabetes. Oguejiofor *et al* (2014) reported that in Africa, many cases of Type 2 Diabetes are asymptomatic or improperly diagnosed for reasons such as ignorance, religious and cultural myths, inadequate diagnostic centres, poverty and absence of health insurance schemes. The International Diabetes Federation (IDF, 2017) reports that cases of undiagnosed DM have increased consistently globally over the years. Colagiuri, Short and Buckley (2006) however posited that, in Africa, cases of Type 2 Diabetes are more among the rich and powerful than among the common, poor people. According to the authors, the so-called "disease of the rich" or "disease of opulence" is more common in urban cities where a greater number of people are less active (physically) and eat more fats and sugars.

Diabetes Mellitus and Its Prevalence in Nigeria

Diabetes Mellitus, also known as DM, is a disease in which the body fails to manage, respond or produce essential hormones (insulin) that should regulate the sugar level in the body (Hales, 2009). Uloko et al, (2018) report that there has been significant rise in the prevalence of Diabetes Mellitus in Nigeria accounted for by urbanisation, poor dieting, aging and physical inactivity. In Nigeria, although there has been no specific nationwide diabetes survey since 1992, a study carried out by Uloko et al, (2018) on the pooled prevalence of the disease and the associated risk factors in Nigeria are summarized in Table 2 and 3 respectively.

Table 2: Prevalence of Diabetes Mellitus in Nigeria

S/N	GEO-POLITICAL ZONE	PREVALENCE (%)
1	North-West	3
2	North-East	5.9
3	North-Central	3.8
4	South-West	5.5
5	South-South	9.8
6	South-East	4.6

Source: Data compiled from Uloko *et al* (2018)

Table 3: Risk Factors of Diabetes Mellitus in Nigeria

S/N	RISK FACTORS	(%)
1	Family History	4.6
2	Urbanisation	7.8
3	Poor Dieting	8.0
4	Cigarette Consumption	8.7
5	Physically Inactive	4.8
6	Obesity	5.3

Source: Data compiled from Uloko *et al* (2018)

Table 2 shows that in Nigeria, as at 2018, cases of DM are 3%, 5.9%, 3.8%, 5.5%, 9.8% and 4.6% prevalent in North-West, North-East, North Central-, South-West, South-South and South-East geopolitical zones respectively while the factors responsible for DM, according to Table 3 includes family history (4.6%), urbanisation (7.8%), poor dieting (8.0%), cigarette consumption (8.7%), physical inactivity (4.8%) and obesity (5.3%) respectively.

Adeleke and Ayenigbara (2019) observed that as much as 90% of T2D can be avoided with healthy lifestyle, balanced diets, weight management and active dispositions. The authors submit that observing healthy behaviours work in favour of a T2D-free life than drugs.

When Type 2 Diabetes is not properly managed, several complications may arise, including high cholesterol, overweight (obesity), raised blood pressure (BP), slow wound healing speed or none at all, infections, heart-related disease, coma (unconsciousness). (Mugah, 2016). A study that would address the determinants of diabetes control among patients is a welcome development. This study became more strategic and important in that as much as this researcher knows, there is paucity of studies that specifically and empirically examine the effect of socio-cultural, economic and religious factors on DM management in Akungba community, Ondo State, Nigeria which is therefore the focus of this study.

Research Objectives

Broadly, this study is conducted to examine the effect of socio-cultural, economic and religion on the management of Type 2 Diabetes among sampled patients in Akungba-Akoko metropolis Ondo State. Nigeria. In more specific terms, the study is set to:

1. examine the effect of socio-cultural factors on the management of Type 2 Diabetes in Akungba-Akoko metropolis in Ondo State, Nigeria,
2. ascertain the effect of economic status on the management of Type 2 Diabetes in Akungba-Akoko metropolis in Ondo State, Nigeria,
3. examine the effect of religion on the management of Type 2 Diabetes in Akungba-Akoko metropolis in Ondo State, Nigeria.
4. ascertain the effects of other demographic factors on the management of Type 2 Diabetes in Akungba-Akoko metropolis in Ondo State, Nigeria

Research Hypotheses

The research hypotheses to be tested in this study are as follows in their null forms:

1. Socio-cultural factors do not have effect on Type 2 Diabetes management in Akungba-Akoko metropolis in Ondo State, Nigeria
2. Economic status does not have effect on Type 2 Diabetes management in Akungba-Akoko metropolis in Ondo State, Nigeria
3. Religion does not have effect on Type 2 Diabetes management in Akungba-Akoko metropolis in Ondo State, Nigeria.
4. Other demographic factors do not affect the management of Type 2 Diabetes in Akungba-Akoko metropolis in Ondo State, Nigeria

METHODOLOGY

Research Design

Based on the focus of this research, descriptive research design was used to analyze the responses gathered from the sample to ascertain the effects of socio-cultural, economic and religious factors on Type 2 Diabetes management in Akungba-Akoko metropolis.

Location of Study

Akungba-Akoko Community is located in Ondo State, South-West Nigeria. Its geographical coordinates are 70º 28' 0" North, 5º 44' 0" East (Map-Satellite Images of Akungba 2020) The town inhabited by an agrarian population, hosts a State-owned University, the Adekunle Ajasin University, Akungba-Akoko (AAUA) founded in 1999. The town is bound on the North by Ikare-Akoko, East by Oka-Akoko, South by Oba-Akoko and West by Supare-Akoko, all in Akoko axis of the Northern senatorial zone of Ondo State, Nigeria. The population census as given by the National Population Commission (NPC) (2006) was 15,579.

Population and Sample of the Study

This study is done on Type 2 Diabetes patients registered in the government-owned Basic Health Centre and the Adekunle Ajasin University Health Centre in Akungba-Akoko metropolis. Due to the low level of enrolment of the patients, all the identified population (registered patients) who are diagnosed as having T2D are taken as the sample size. The reason for the low enrolment of patients can be attributed to the two health centres not been referral points where special medical issues can be handled. Insider sources assert that T2D patients prefers to go to the Federal Medical Centre, Owo, about 40 kilometers away where they believe their cases can be better handled. In all, a total of 30 Type 2 Diabetes patients registered in the two health centres were taken as the sample size.

Data Collection Technique

Structured questionnaires were used to obtain responses from Type 2 Diabetes patients. In addition to questions relating to the demographic information on the respondents, questions relating to the research questions were specifically developed such that responses to the questions reveals the effects of socio-cultural, economic and religious factors on the management of Type 2 Diabetes among the respondents. For ethical consideration purposes, the identity of the respondents, their medical history and other personal information are kept private. A total of 30 questionnaires were administered to respondents as shown in Table 4

Table 4: Sample and Respondents

S/N	Hospital	Questionnaires Administered	%	Questionnaires Retrieved
1	Adekunle Ajasin University Health Centre, Akungba Akoko	22	73.3	22
2	Basic Health Centre Akungba Akoko	8	26.7	8
	Total	**30**	**100**	**30**

Source: Author's Compilation (2020)

Data Analysis Techniques

Responses to the structured questionnaires were organized in absolute terms, frequencies and percentages in tables and charts. While the demographic information of respondents was analysed with percentages and tables, responses to research questions were analysed using percentages and charts.

ANALYSIS OF DATA

Demographic Information

Table 5: Age Distribution of Respondents

AGE					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	31-40	4	13.3	13.3	13.3
	41-50	8	26.7	26.7	40.0
	51- 60	10	33.3	33.3	73.3
	61- 70	5	16.7	16.7	90.0
	71- 80	3	10.0	10.0	100.0
	Total	**30**	**100.0**	**100.0**	

Source: Field Survey (2020)

Table 6: Gender Distribution of Respondents

GENDER					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Female	19	63.3	63.3	63.3
	Male	11	36.7	36.7	100.0
	Total	**30**	**100.0**	**100.0**	

Source: Field Survey (2020)

Table 5: shows the age distribution of the respondents from Akungba metropolis. Ten (10) respondents representing (33%) within the age of 51- 60 years had highest frequency followed by 8 respondents within the age of 41- 50 years representing (27%), while 3 respondents were within the age of 71 - 80 representing (3%) had the least respondents.

Table 6: shows the gender distribution of respondents from the two health centres. 11 respondents representing (37%) were male while 19 respondents representing (63%) were female. It implies that majority of the respondents were females. This shows that questionnaire papers were fairly distributed among genders.

Table 7: Marital Status of Respondents

MARITAL STATUS					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Married	23	76.7	76.7	76.7
	Single	7	23.3	23.3	100.0
	Total	**30**	**100.0**	**100.0**	

Source: Field Survey (2020)

Table 8: Income level of Respondents

INCOME					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	High	3	10.0	10.0	10.0
	Low	5	16.7	16.7	26.7
	Middle	22	73.3	73.3	100.0
	Total	**30**	**100.0**	**100.0**	

Source: Field Survey (2020)

Table 7 shows the distribution of the marital status of respondents. 23 respondents representing (77%) were married while 7 respondents representing (23%) were single. It implies that majority of the respondents were married. This also shows that questionnaire papers were fairly distributed among people with different marital status.

Table 8 reveals income level of respondents in Akungba community. 3 respondents representing (10%) earned high income, 22 respondents representing (73%) earned middle income, while 5 respondents representing (17%) earned low income. It implies that majority of the respondents earned average income. This also shows that questionnaire papers were fairly distributed among different levels of workers/ employees or income earners.

Table 9: Educational Level of Respondents Qualifications

	Frequency	**percent**	**Valid percent**	**Cumulative percent**
Primary school education	2	6.7	6.7	6.7
Secondary Education	5	16.7	16.7	23.4
National Diploma	3	10.0	10.0	33.4
Higher National Diploma	5	16.7	16.7	50.0
First Degree	9	30.00	30.00	80.00
Masters Degree	5	16.7	16.7	96.7
Ph.D. Degree	1	3.3	3.3	100.0
Total	**30**	**100.0**	**100.0**	

Source: Field Survey (2020)

Table 9: shows the educational level of respondents. 2 respondents representing 7% had primary education, 5 respondents representing 17% had secondary education, 3 respondents representing 10% were National Diploma holders, while 5 respondents representing 17% were Higher National Diploma holders, 9 respondents representing 30% had first degree, 5 respondents representing 17% had Masters

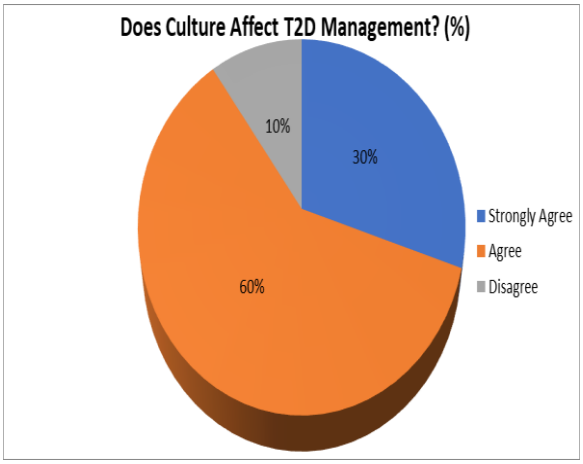
degree while 1 respondent representing 3% had Ph.D. degree. This analysis revealed that the first degree holders were the highest respondents.

Effect of Socio-Cultural Factors on T2D Management

The first objective of this study is to examine the effect of socio-cultural factors on T2D management among patients in Akungba-Akoko community. The factors examined in this section include the effects of culture, education and body exercise on the management of T2D among the respondents.

Culture and Type 2 Diabetes Management

Figure 1 presents the response of the respondents to the question on whether their cultures and beliefs significantly affect the way they manage their T2D status.



Source: Author's Design (2020)

Figure 1: Response of Patients to Culture Effect on T2D management

The analyzed questionnaire shows that (30%) of the respondents strongly agree that their culture and beliefs affect T2D management, 18 (60%) respondents agree while 3 (10%) respondents disagree. In essence majority of the respondents (90%) agree that culture and beliefs significantly affect T2D management.

Table 10: Estimation of *P* value for Effect of Culture on T2 Diabetes Management

10(a) One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Effect of Culture	30	2.20	.610	.111

Source: Author's Computation SPSS

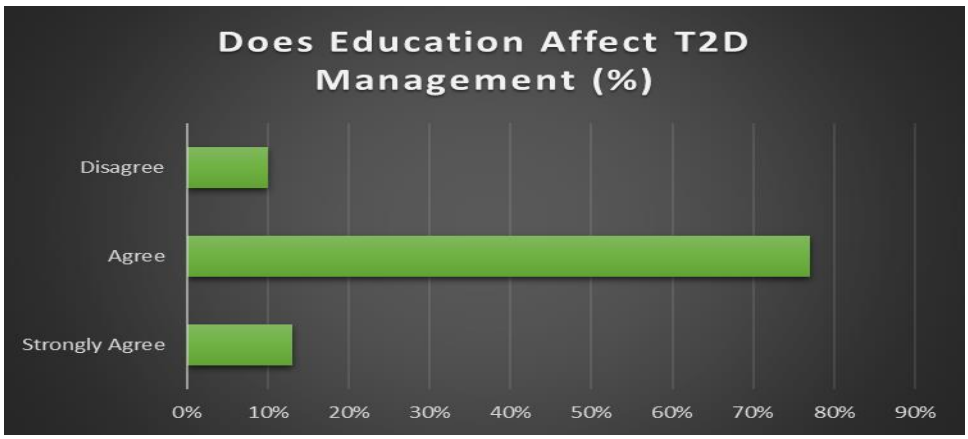
10(b) One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed) *P* Value	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Effect of Culture	19.746	29	.000	2.200	1.97	2.43

Source: Author's Computation SPSS

The *P* value of the effect of culture on T2D management is 0.000, implying that the former had a positive and significant effect on the latter

Education and Type 2 Diabetes Management

Figure 2 shows the response of the respondents to the question on whether their educational qualifications have significant effect on the way they manage their T2D status



Source: Author's Design (2020)

Figure 2: Response of Patients on Education vs T2D Management

It was observed that 4 (13%) of the respondents strongly agree that their educational qualifications significantly affect the way they manage their T2D status, 23(77%) agree that educational qualifications affect the way they managed their T2D status while, 3 (10%) of the respondents posit that their educational qualifications do not have significant effect on the way they manage their T2D status. This implies that a total of about 90% of the respondents agree that their educational qualifications had helped them to manage their T2D status better.

Table 11: Estimation of *P* value for Effect of Education on T2 Diabetes Management

11(a) One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Effect of Education	30	2.03	.490	.089

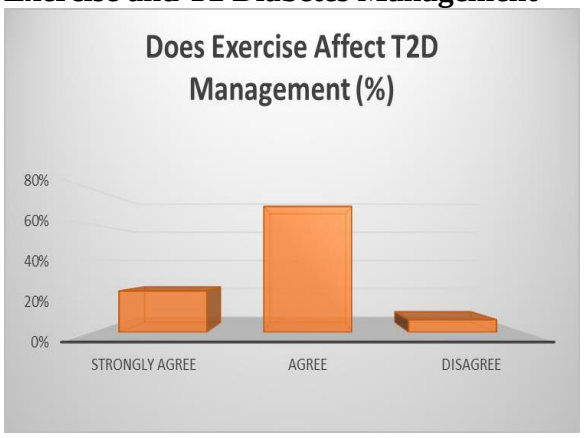
Source: Author's Computation SPSS

11(b) One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed) *P* value	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Effect of Education	22.722	29	.000	2.033	1.85	2.22

Source: Author's Computation SPSS

The *P* value of the effect of education on T2D management is 0.000, implying that the former had a positive and significant effect on the latter

Exercise and T2 Diabetes Management



Source: Author's Design (2020)

Figure 3: Response of Patients on Exercise vs T2D Management

Figure 3 presents the response of T2D patients to the question on whether their involvement in body exercises have significant effect on the way they manage their health status.

Of the 30 patients interviewed, 7 (23%) of the respondents were strongly in support of the position that daily body exercises can significantly affect the effectiveness of T2 Diabetes management while 21 (70%) of the respondents also agree with the same assertion. Only 2 (7%) of the respondents disagree. In essence while a total of 28 (93%) of the respondents agree that body exercise affect how patients manage their T2D status, 2 (7%) hold a contrary opinion.

Table 12: Estimation of *P* value for Effect of Exercise on T2 Diabetes Management

12(a) One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Effect of Exercise	30	2.17	.531	.097

Source: Author's Computation SPSS (2020)

12(b) One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed) *P* value	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Effect of Exercise	22.363	29	.000	2.167	1.97	2.36

Source: Author's Computation SPSS (2020)

The *P* value of the effect of exercise on T2D management is 0.000, implying that the former had a positive and significant effect on the latter

Effect of Economic Factors on T2D Management

The second objective of this study is to ascertain whether economic factors significantly affect the management of T2D among respondents. Two areas are of focus here: income and diet.

Income and T2 Diabetes Management

Table 13 is the summary of respondents' answers to the question whether their income levels have significant effect on the way they manage their T2D condition.

Table 13: Response of Patients to Income vs T2D Management

Response	Total	%
Strongly agree	7	23
Agree	21	70
Strongly Disagree/Disagree	2	7
Total	**30**	**100**

Source: Field Survey (2020)

Table 13 reveals that 7 of the respondents (23%) strongly agree that their income levels affect their management of T2D while 21 (70%) agree. However, 2 of the respondents (7%) disagree with this assertion. This means that majority of the respondents 28 (93%) are in support of the fact that income level significantly affect T2D management

Table 14: Estimation of *P* value for Effect of Income on T2 Diabetes Management

14(a) One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Effect of Income	30	2.17	.531	.097

Source: Author's Computation SPSS (2020)

14(b) One-Sample Test						
	Test Value = 0					
	t	Df	Sig. (2-tailed) *P* value	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Effect of Income	22.363	29	.000	2.167	1.97	2.36

Source: Author's Computation SPSS (2020)

The *P* value of the effect of income on T2D management is 0.000, implying that the former had a positive and significant effect on the latter

Diet and T2 Diabetes Management

Table 10 is the summary of respondents' answers to the question whether their diets have significant effect on the way they manage their T2D status.

Table 15: Response of Patients to Diet vs T2D Management

Response	Total	%
Strongly agree	7	23
Agree	21	70
Strongly Disagree/Disagree	2	7
Total	**30**	**100**

Source: Field Survey (2020)

From Table 15, the study observed that 7 of the respondents (23%) strongly agree that their diets affect their management of T2D while 21 (70%) agree while 2 of the respondents (7%) disagree with this assertion. This means that majority of the respondents (28 or 93%) are in support of the fact that diets significantly affect T2D management. Observe that the responses for the effect of both income and diets are the same. This is expected as higher income will most probably make people consume better food.

Table 16: Estimation of *P* value for Effect of Diet on T2 Diabetes Management

16(a) One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Effect of Diet	30	2.17	.531	.097

Source: Author's Computation SPSS (2020)

16(b) One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed) *P* value	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Effect of Diet	22.363	29	.000	2.167	1.97	2.36

Source: Author's Computation SPSS (2020)

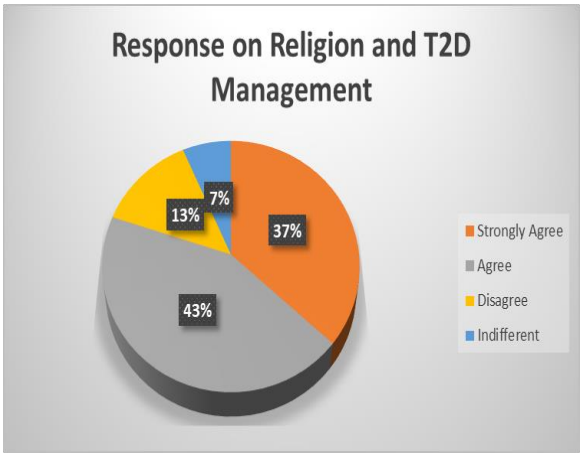
The *P* value of the effect of diet on T2D management is 0.000, implying that the former had a positive and significant effect on the latter

Religion and T2 Diabetes Management

The third objective of this research is to ascertain the effect of respondents' religious inclinations on T2D management. The responses to the question on whether

religion affects how patients manage their T2D are as depicted in Figure 4.

From Figure 4, it was observed that while 11(37%) and 13 (43%), respondents strongly agree and agree that their religion affect how they manage their T2D status respectively, only 4 (13%) and 2 (7%) of the respondents disagree and are indifferent on the effect of religion on T2D management respectively. However, since our questionnaire did not state that respondents should specify their religion, it will be difficult to pin down these responses to particular religions.



Source: Author's Design (2020)

Figure 4: Response of Patients on Religion vs T2D Management

Table 17: Estimation of *P* value for Religion of Income on T2 Diabetes Management

17(a) One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Effect of Religion	30	3.10	.885	.162

Source: Author's Computation SPSS (2020)

17(b) One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Effect of Religion	19.191	29	.000	3.100	2.77	3.43

Source: Author's Computation SPSS (2020)

The *P* value of the effect of religion on T2D management is 0.000, implying that the former had a positive and significant effect on the latter

Other Demographic Factors and T2 Diabetes Management

The fourth and final objective of this study is to determine, based on responses, the effect of other demographic factors on T2D management among selected patients. Based on the questionnaire, the other factors examined include family support, age and occupation of respondents. The results of field survey on these factors are presented in Table 18.

Table 18: Responses on Other Demographic Factors and T2D Management

Question	Strongly Agree		Disagree	
	No.	%	No.	%
Does family support affect T2D management?	12	40	18	60
Does age affect T2D management?	8	27	22	73
Does occupation affect T2D management?	4	13	26	87

Source: Field Survey (2020)

Results on Table 18 revealed that very high percentages of respondents disagree that family support, age and occupation affect T2D management. While 12, 8 and 4 out of the 30 respondents believe that family support, age and occupation affect T2D management respectively, as high as 18, 22 and 26 of the respondents respectively do not agree that these factors have effect on T2D management. Surprisingly, majority of the respondents (87%) do not see occupation as a factor that affect how T2D is managed even when the estimation of *P* values speaks to the contrary. This is against the popular notion that nature of job or engagement should determine issues relating to availability of time, job-related stress and allergy to job environment among other occupational hazards. However, these results could also be attributable to the fact that the respondents had already taken their health condition into consideration in making choice of employment.

Tables 18 - 20: Estimations of *P* values for Other Demographic factors on T2 Diabetes Management

Family Support

18(a) One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Family Support	30	1.40	.498	.091

Source: Author's Computation SPSS (2020)

18(b) One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed) *P value*	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Family Support	15.389	29	.000	1.400	1.21	1.59

Source: Author's Computation SPSS (2020)

Age

19(a) One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Age Effect	30	1.27	.450	.082

Source: Author's Computation SPSS (2020)

19(b) One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed) *P value*	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Age Effect	15.425	29	.000	1.267	1.10	1.43

Source: Author's Computation SPSS (2020)

Occupation

20(a) One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Occupation Effect	30	1.13	.346	.063

Source: Author's Computation SPSS (2020)

20(b). One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Occupation Effect	17.954	29	.000	1.133	1.00	1.26

Source: Author's Computation SPSS (2020)

The *P* value of the effect of family, age and occupation on T2D management is 0.000, implying that the family support, age of patients and their occupation had a positive and significant effect on the how they manage Type 2 diabetes.

DISCUSSION OF FINDINGS

This study was carried out to address four main objectives, the first being to examine the effect of socio-cultural factors on the management of Type 2 Diabetes in Akungba-Akoko metropolis in Ondo State, Nigeria. In order to achieve this, the respondents were asked questions relating to whether their culture and beliefs, education and body exercises will have effect on management of T2 Diabetes management or not.

Findings revealed that all the three factors selected have effect on T2 Diabetes management. Not less than 90% of the respondents believed that culture, education and body exercise significantly affect T2D management. That about 90% of respondents believe that culture affect T2D management is worth commenting on. Except for the presence of a university, Akungba is a relatively rural, agrarian community with diverse cultural leanings and beliefs. These will inevitably affect people's attitude to the state of their health. Needless to say that some patients would rather hold some mystic powers responsible for their health challenges. These findings shows that socio-cultural factors have strong effect on T2D management in Akungba-Akoko community in Ondo State, Nigeria.

Furthermore, the second objective examined the effect of economic factors on the management of T2D among the respondents. Factors such as level of income

and nature of diets were examined. Findings revealed that as much as 93% of the respondents believed that income and diets are part of the determinants of T2D management. Only a paltry 7% hold a contrary view. The result is in agreement with the expectation that improved income and diet will bring about a better management of T2D status. Therefore, this study posits that economic factors exert considerable influence on T2D management in Akungba-Akoko community in Ondo State, Nigeria.

To address the third objective, the respondents were asked if their religious standing affect the way they manage their T2D status. Their responses shows that about 80% of the respondents believe that their religion has a lot to do with how they manage their T2D status while the remaining 20% do not. The reason for this is not far-fetched. The three main religions (Christianity, Islam and Traditional religion) are well-practised in Akungba-Akoko and adherents to them believe that their faith in the Supreme Being can heal them, T2D or not.

Finally, respondents were asked whether factors such as family support, age and occupation have any significant effect on how they manage their T2D status. In a clear departure from the previous responses, majority of the respondents do not agree that these factors exert significant effect on T2D management. Neither family support, age, nor occupation was believed by majority of the respondents to have significant effect on T2D management. Nevertheless, as revealed by the T test results and corresponding, the effect of these factors is significant. All the factors examined had positive and statistically significant effect on T2 Diabetes management among the respondents given their T-Statistics test results (*P* values are all 0.000). In all cases, the null hypotheses of no significant relationship between the examined factors and management of T2 Diabetes among patients in Akungba-Akoko, Ondo State Nigeria cannot be accepted and hence are rejected.

CONCLUSION

This study set out to test four different hypotheses, namely, that: socio-cultural factors do not have significant effect on the management of Type 2 Diabetes among patients in Akungba –Akoko community; economic factors do not have significant effect on the management of Type 2 Diabetes among patients in Akungba –Akoko community; religious factors do not have significant effect on the management of Type 2 Diabetes among patients in Akungba –Akoko community and other factors such as family support, age and occupation do not have significant effect on the management of Type 2 Diabetes among patients in Akungba –Akoko community, Ondo State, Nigeria.

Structured questionnaire were used to survey T2D patients registered in two health centres in the Akungba-Akoko metropolis to obtain information relating to whether or not socio-cultural, economic, religious and other demographic factors affect the way they manage their T2D status. A total number of 30 questionnaire were administered to the registered patients and retrieved. Their responses were classified and analysed based on the objectives of the study with percentages, tables and charts. Results show that socio-cultural, economic and religious factors exert considerable effect on T2D management among the respondents. However, findings revealed that other factors such as family support efforts, age and occupation also have significant effect on T2D management among the respondents, though majority of them claim otherwise.

RECOMMENDATIONS

Based on the outcome of this study, the following recommendations are made:

1. Obviously, there is low awareness about T2D among the people in the selected community. More sensitisation and education is required to increase

people's knowledge about this health problem. The high number of patients who agree that culture and religion greatly affect T2D management calls for concern as this may mean that they rely less on medical solution and opt for some other beliefs for cure. There is need to organise awareness campaigns on how best to prevent T2D and how effectively existing cases of T2D can be managed. The State Ministry of Health has a lot to do in this regard.

2. Secondly, since economic factors such as income and diets exert great influence on T2D management, patients should be specifically spotted and given income palliatives on one hand and tutored on the type of diets T2D patients should eat. Again, policies tailored towards ameliorating medical expenses such as subsidy or price control for T2D patients should be introduced.
3. Corporate organization, Non-Governmental Organizations (NGOs) and wealthy individuals should also complement the efforts of the State and Local Government to assist those diagnosed with T2D. Over the years in Nigeria, the Diabetes Association has been involved in several programmes on education, empowerment and building hope in T2D patients. These efforts should also continue and be complemented by the government.

Suggestion for Further Studies

When observed from the population size and the sample of this study which is very small, it is clear that further studies are necessary that will capture T2D patients registered in private hospitals and clinics in the metropolis. In addition, further studies are advocated on issues such as patients' access to medical services, including experts in the management of T2D in the community, particular lifestyles of T2D patients, family medical history and so on. This will broaden the knowledge on the determinants of T2D management in the community.

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