KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS PREVENTION OF DIABETIC RETINOPATHY AMONG DIABETES PATIENTS ATTENDING MEDICAL OUTPATIENT CLINIC OF A TERTIARY HOSPITAL IN NIGERIA

ABDUL-RAZAQ IBRAHIM, G. E. ADELEKE

ABSTRACT

This study aimed to assess the knowledge, attitude, and practice towards the prevention of diabetic retinopathy among diabetic patients attending the medical outpatient clinic at the University of Ilorin Teaching Hospital in Ilorin, Kwara State. The research design used was descriptive, and the target population consisted of patients diagnosed with diabetes mellitus who were attending the medical outpatient clinic. The sampling technique employed was accidental sampling, and a total of 100 participants were selected. Data was collected using questionnaires, which were distributed to the participants. The collected data was analyzed using the Statistical Package for the Social Sciences (SPSS), and the results were presented using frequency tables, pie charts, and bar charts. The demographic characteristics of the participants revealed that the majority were females (58%) and within the age range of 46-55 years (30%). The study found that respondents had a high level of knowledge about diabetic retinopathy (67%) and a positive attitude towards its prevention (80%). The practice level of prevention of diabetic retinopathy was also found to be high (76.2%). Two hypotheses were tested, and the results showed that there was no significant relationship between knowledge of diabetic retinopathy and attitude towards its prevention (p = 0.05). However, a significant relationship was observed between past medical history and attitude towards the prevention of diabetic retinopathy (p = 0.002). Based on the findings, the study recommends the establishment of more standardized eye care centers across the country. There is also a need for the government to subsidize the treatment of diabetic retinopathy and for the prompt treatment of diabetes mellitus to prevent the development of diabetic retinopathy.

Keywords: *- Knowledge: Attitude: Practices: Diabetic Retinopathy: Patients*

INTRODUCTION

Diabetes mellitus (Dm) is a common metabolic disorder which constitutes a heavy burden on the health care system of developing countries such as Nigeria. In early 90s, not much was known about diabetes mellitus in Nigeria and traditionally, people relate diabetes mellitus to "curses" or "hexes" and the diagnosis was made based on blood or urinary test for glucose (Anthonia & Chukwuma, 2014). In traditional belief system, diabetes is classified into three categories, naturally occurring, man-made and ancestral. The first category fits the biomedical explanation, the second and third points as causal agents such as witchcraft or supernatural being (Ancestral or deity) (Anthonia & Chukwuma, 2014).

Diabetes mellitus is a major contributor to morbidity and mortality in society, it is the leading cause of blindness in adults and most importantly it is a reason for amputation after trauma and failure of wound to heal, it is the most important risk factor for atherosclerotic vascular disease and the most frequently cause of end-stage renal disease (Wild, Roglic, Green, Siecree & King ,2004). Diabetes mellitus has recently assumed epidemic proportion and affects more than 285 million individuals worldwide. Global estimates for the year 2030 predict a further growth of almost 50% with greatest increase in the developing countries of African, South America and Asia (Wild, Roglic, Green, Siecre & King, 2004). Currently Nigeria is one of the leading countries in the world with largest number of diabetic subjects and this is expected to further rise in the coming years. Given the high prevalence of diabetes in Nigeria with over 20 million diabetes already and the number

expected to increase to 87 million by year 2030. (Wild et al 2004). This could place considerable burden on the health budget of this country.

Diabetic retinopathy (DR) is a well-known sight threatening micro vascular complication of diabetes mellitus (DM) John(2015) emphasized that it is characterized by varying degrees of micro aneurysm, haemorrhage, hard exudates, cotton wool spots, venous changes and new vessel formation involved in the peripheral retina macula, or both 4-7 globally, approximately 95million (35.4%) diabetic patients have DR, of which is third have vision threatening DR and 7.6% macular edema 8.9 global annual incidence of DR is 2.2% -12.7% and progression to proliferative DR is higher in individuals with mild disease than those with no disease at baseline. Khurana (2015) define diabetic retinopathy as retinal changes seen in patients with diabetic mellitus, with increase in life expectancy of diabetes, the incidence of diabetic retinopathy has prevention of diabetes and good metabolic control are cornerstone in avoiding diabetic retinopathy and slowing down its progression. However, the absence of symptoms in the early stage of disease may lead to late referral to an ophthalmologist with devastating result in vision better understanding of the pathogenesis of the disease has allowed recent advances in management options of patients' new treatment modalities are being used to treat diabetic retinopathy with promising results (Popoola, 2015).

Objectives

i. To assess respondents' level of knowledge about diabetic retinopathy among patients attending Medical Outpatient Clinic of University of Ilorin Teaching Hospital.

ii. To determine respondents' attitude towards the prevention of diabetic retinopathy among diabetes mellitus patients attending Medical Outpatient Clinic of University of Ilorin Teaching Hospital.

iii. To evaluate respondents' practices towards the prevention of diabetic retinopathy among diabetic patients attending medical out patient department of university of Ilorin Teaching hospital.

Research Question

i. What is the level of knowledge of respondent about diabetic retinopathy?

ii. What are the attitudes toward prevention of diabetic retinopathy?

iii. What are their practices toward prevention of diabetic retinopathy?

Research Hypotheses

1. There is no significant relationship between the knowledge on diabetic retinopathy and attitude towards prevention of diabetes retinopathy.

2. There is no significant relationship between past medical history and attitude towards prevention of diabetes retinopathy.

METHODOLOGY

Research Design: The design for this research is descriptive.

Target Population: The target population were patient attending medical out-patient clinic of University of Ilorin Teaching Hospital Diagnosed having diabetes mellitus.

Inclusion Criteria: Only those who visited the health facility on the day of visit of the researchers and willing to participate in the study were selected for the study.

Sample Size Determination: The formula adopted in determining the sample size for this study is that propounded by Yaro Yamane (1964).

Sampling Technique: An accidental sampling technique was used to select 100 participants for the study.

Instrument: The instrument used was self-structured questionnaire to elicit information on the variables and from literature review to

specifically elicit information on knowledge, attitude, and practice among diabetic patients attending MOP clinic of University of Ilorin Teaching Hospital, Ilorin toward diabetic retinopathy and subjected to scrutiny and correction by the expert. The variables were grouped into four sections. The test-retest method of estimating reliability was used. The instrument was initially administered to 10 patients attending medical out-patient department of general hospital, Ilorin, as a pilot study, the first set of score was correlated with second set of severs and reliability of instrument was estimated. The instrument was said to be reliable when results were similar.

Data Collection: Self-structured questionnaire was used to collect data. It was administered personally by the researcher to the diabetic patient attending MOP clinic of University of Ilorin, Teaching Hospital, with detailed explanation and with all ambiguity cleared. The participants were given ample time to tick appropriate answer before retrieving filled questionnaire for analysis.

Data Analysis: The data collected was analysed using SPSS version 27 and presented with simple frequency tables, percentages, and graphic representations.

Ethical Consideration: A letter of introduction was collected from the programme coordinator school of post basic ophthalmic nursing U.I.T.H Ilorin. This was presented to the relevant authority in the University of Ilorin Teaching Hospital to allow for data collection among diabetes patients attending M.O.P Clinic of University of Ilorin Teaching Hospital. The title and the aims of study were explained to the respondents, and they were re-assured that all the information given will be treated with confidentiality and their names were not required on the questionnaire.

RESULTS

Table 1 illustrates the distribution of participants' ages in this study. The results indicate that individuals in the age range of 26-30 years and 31-35 years each accounted for 1% of the participants. Additionally, participants aged 41-45 years constituted 10% of the sample, while those aged 46-50 years represented the largest group at 30%. Furthermore, the study observed that individuals aged 51-55 years accounted for 12%, those aged 56-60 years constituted 13%, and participants aged 61-65 years and 66-70 years represented 2% and 5% respectively. Consequently, the majority of participants fell within the age range of 46-50 years, amounting to 30%. Moreover, Table 1 reveals that out of the total participants, 58 (58%) were females, while 42 (42%) were males.

Table 1: Respondents' age as at last birthday.

Patients age group	Frequency	Percentage %
26-30 years	1	1.0
31-35 years	1	1.0
36-40 years	26	26.0
41-45 years	10	10.0
46-50 years	30	30.0
51-55 years	12	12.0
56-60 years	13	13.0
61-65 years	2	2.0
66-70 years	5	5.0
Total	100	100.0
Gender		
Male	42	42
Female	58	58
Total	100	100

Research Question 1:

The bar chart in Figure 2 shows that 79(79%) said diabetes mellitus is referred to abnormally high blood sugar level, 21(21%) said it is not referred to abnormally high blood sugar level. 63(63%) said diabetes retinopathy is a complication of diabetes mellitus, 34(34%) said diabetes retinopathy is not a complication of diabetes mellitus.66(66%) said diabetic retinopathy is the noncompliance with treatment of diabetes mellitus, 34(34%) said diabetic retinopathy is not the noncompliance with treatment of diabetes mellitus 60(60%) said diabetes mellitus never runs in the family, 40(40%) said diabetes mellitus runs in the family. This study concludes that respondents' knowledge about diabetes retinopathy is high (67%)

Figure 2: A bar chart on the level of knowledge about diabetic retinopathy


125
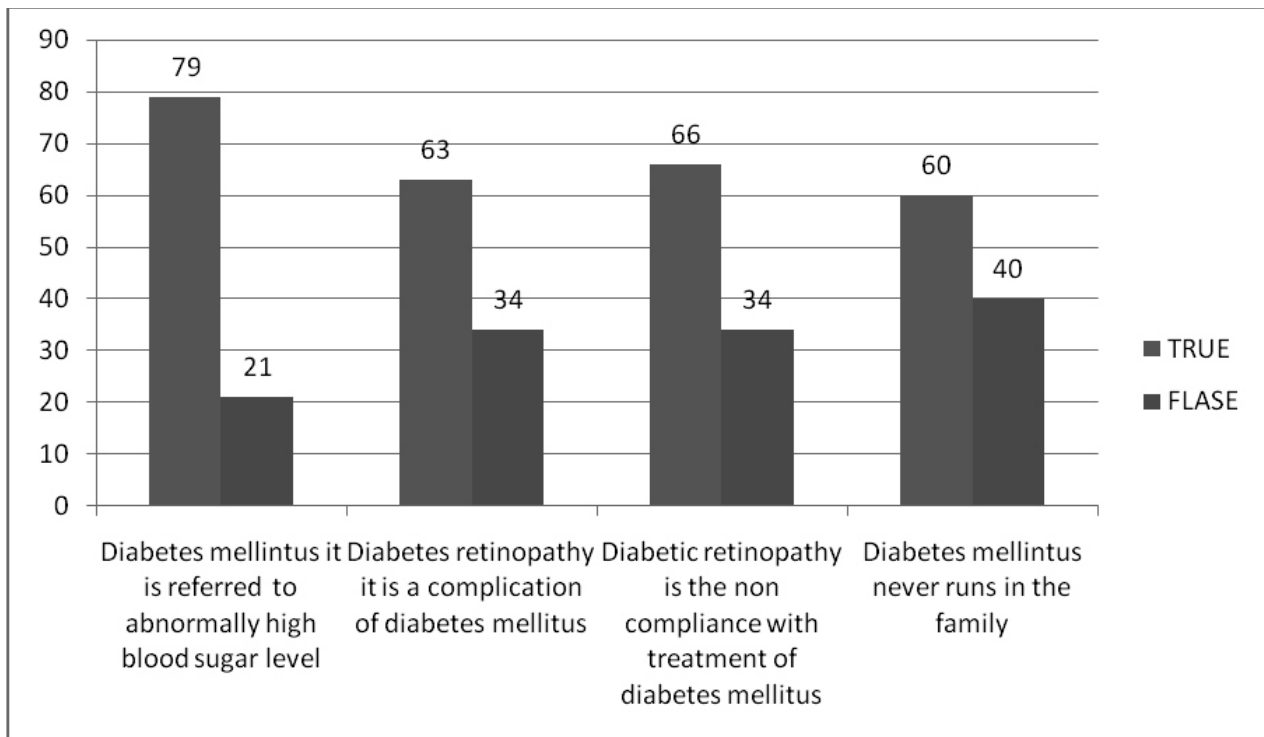
Research Question 2

Findings about the patients' attitude towards prevention of diabetic retinopathy: From the analysis made in fig 3, 49% of the participants strongly agreed that they did not like using drugs 43% agreed, while 5% disagreed 2% strongly disagreed. 24% of the participants strongly agreed that they used their drugs when they are not well 57% agreed, while 15% disagreed 4% strongly disagreed. 34% of the participants strongly agreed that they have their eyes checked every six months, 46% agreed, while 14% disagreed 6% strongly disagreed. 36% of the participants strongly agreed that they always consult their physician once they have problem, 46% agreed, while 13% disagreed 5% strongly disagreed. 42% of the participants strongly agreed that they 57%

agreed, while 15% disagreed 4% strongly disagreed. 46% of the participants strongly agreed that check their blood sugar level periodically 44% agreed, while 12% disagreed 2% strongly disagreed. 41% of the participants strongly agreed that it is good to adhere to dietitian's advice 45% agreed, while 12% disagreed 2% strongly disagreed. 38% of the participants strongly agreed that they skip checking their blood sugar level 40% agreed, while 18% disagreed 3% strongly disagreed. 15% of the participants strongly agreed that they are not comfortable with dietary control 34% agreed, while 38% disagreed 13% strongly disagreed. It can be seen that the patients with diabetes retinopathy have positive attitude towards prevention of diabetes retinopathy (80%).

Figure 3: A bar chart on the patient's attitude towards prevention of diabetic retinopathy
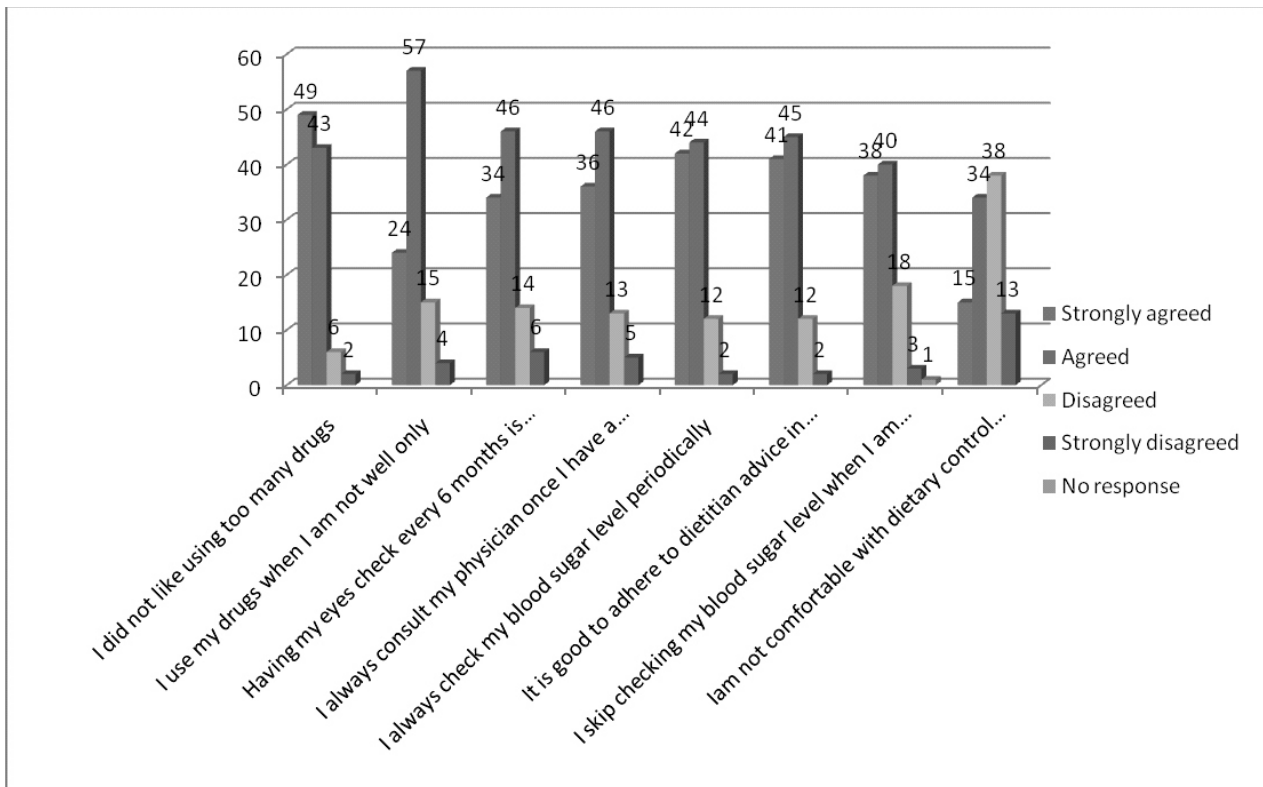
Research Question 3: practices toward prevention diabetic retinopathy 40% of the participants strongly agreed that the patients' practice strict adherence to screening and hospital visitation 30% agreed, while 20% disagreed 10% strongly disagreed. 51% of the participants strongly agreed that the patients' practice on undergoing periodic eye care screening 21% agreed, while 16% disagreed 12% strongly disagreed.49% of the participants strongly agreed that the patients' practice on strict adherence to prescribed diabetic medication 25% agreed, while 18% disagreed 8% strongly disagreed.54% of the participants strongly agreed that the patients' practice on Strict adherence to diabetic life style modification 36% agreed, while 10% disagreed 0% strongly disagreed. 51% of the participants strongly agreed that the patients' practice on Strict adherence to diabetic treatment 24% agreed, while 12% disagreed 13% strongly disagreed. This study implied that the practice level of prevention of diabetic retinopathy is high (76.2%).

Table 4: practices toward prevention diabetic retinopathy

	ITEMS	SA	A	D	SD
1	The patients' practice strict adherence to screening and hospital visitation	40(40%)	30(30%)	20(20%)	10(10%)
2	The patients' practice on undergoing periodic eye care screening	51(51%)	21(21%)	16(16%)	12(12%)
3	The patients' practice on strict adherence to prescribed diabetic medication	49(49%)	25(25%)	18(18%)	8(8%)
4	The patients' practice on Strict adherence to diabetic lifestyle modification	54(54%)	36(36%)	10(10%)	-(-%)
5	The patients' practice on Strict adherence to diabetic treatment	51(51%)	24(24%)	12(12%)	13(13%)
	Total	**49(49%)**	**27.2(27.2%)**	**15.2(15.2%)**	**9(9%)**

Hypothesis

H01: There is no significant relationship between the knowledge on diabetic retinopathy and attitude towards prevention of diabetes retinopathy. Decision rule: If p value > 0.05, accept null hypothesis, if p value < 0.05 reject null hypothesis and accept alternative hypothesis. Chi-Square of .781, P=0. 854a. Since p value > 0.05, we accept the null hypothesis and conclude that there is no significant relationship between the knowledge on diabetic retinopathy and attitude towards prevention of diabetes retinopathy.

Table 5: Having my eye check every six months is cumbersome

Diabetes retinopathy it is a complication of diabetes	Having my eye check every six months is cumbersome				Total	Chi-square	Sig.
	Strongly Agree	Agree	Disagree	Strongly Disagree			
True	22	30	8	3	63		
False	12	16	6	3	37	0.781	
Total	34	46	14	6	100		0.321

H02: There is no significant relationship between past medical history and attitude towards prevention of diabetes retinopathy. Decision rule: If p value > 0.05, accept null hypothesis, if p value < 0.05 reject null hypothesis and accept alternative hypothesis.

The Chi-square value of 4.5016^a, P=0.002. Since p value < 0.05, we reject the null hypothesis and conclude that there is a significant relationship between past medical history and attitude towards prevention of diabetes retinopathy.

Table 6: I use my drugs when am not well only

Have you visited traditional home before coming	I use my drugs when am not well only				Total	Chi-squre	Sig
	Strongly Agree	Agree	Disagree	Strongly Disagree			
Yes	14	19	6	2	41		
No	10	38	9	2	59	4.506	0.002
Total	24	57	15	4	100		

DISCUSSION

This study aimed to assess the knowledge and attitudes towards the prevention of diabetic retinopathy among diabetes patients attending the medical outpatient clinic at the University of Ilorin Teaching Hospital in Ilorin, Kwara State. The demographic characteristics of the participants revealed that the majority of them were females within the age range of 46-55 years. There were also 42 (42%) male participants and 58 (58%) female participants.

The study found that respondents exhibited a high level of knowledge about diabetic retinopathy. This finding aligns with a previous study by Muhammed (2009) conducted in Kano State, Nigeria, which also reported high knowledge level among respondents regarding diabetic retinopathy. However, this contrasts with the findings of Chinmay et al. (2020), whose study revealed poor knowledge about diabetic retinopathy. Therefore, it is crucial to raise awareness and provide education to reduce the impact of poorly managed diabetic retinopathy. The observed high level of knowledge in this study could be attributed to participants' awareness about diabetes mellitus and its complications, as well as their knowledge specifically about diabetic retinopathy. Abdulrahman et al. (2020) emphasized that raising awareness and improving knowledge about this prevalent disease are essential for early detection and proper intervention. Similarly, Malavika et al. (2018) stated that adequate knowledge about diabetic retinopathy can help prevent sight-threatening complications.

Result of this study revealed that the patients with diabetes retinopathy have positive attitude towards prevention of diabetes retinopathy. This study is not in agreement with the finding of Abdullah (2017) in a similar study that revealed poor attitude among diabetic population in Saudi-Arabia. This study support Yitayeh (2020), who observed that majority of respondents had positive attitude toward diabetic retinopathy. It was observed that the result in this study may be as a result of level of education and enlightenment among the populace.

This study shows that the practice level of prevention of diabetic retinopathy is high. This finding is similar to Sneha (2018) who reveal high level of practices toward prevention of diabetic retinopathy. however, these finding are direct opposite to the finding of Yitayeh (2020) on similar topic revealed poor practice

toward prevention of diabetic retinopathy. It is believed that the result in this study may be due to the support and encouragement health workers give to diabetes patients and effort toward reduction of diabetic complications. The hypothesis tested indicated that there is no significant relationship between the knowledge of diabetic retinopathy and attitude towards prevention of diabetes retinopathy. The second hypothesis tested revealed that there is a significant relationship between past medical history and attitude towards prevention of diabetes retinopathy.

CONCLUSION AND RECOMMENDATIONS

In conclusion diabetic retinopathy is one of the major threats to good sight, it's a complication of poorly managed diabetes mellitus, effort should be made to reduce it in our society in order to minimize avoidable blindness from diabetic retinopathy. It was recommended that, government at all level should increase their budget to health sector and encourage health insurance among the populace and training of more health personnel in order to cater for the health need of the populace, the health personnel should increases awareness of their patients on diabetes mellitus in order to reduce complications due diabetes mellitus.

REFERENCES

Anthonia O., Chukuma E. (2014). Diabetes mellitus in Nigeria: The past, present and future World journal of diabetes. www.ncbi.nim.govl/pmc/articles/pmc426 5879/ world j diabetes.

Abdullahi H. Abdulaziz K, Marwan A, Sayed I, Saif K. (2017) knowledge, attitude and practice toward diabetes retinopathy and retinal examination among diabetes population in Al-Hasa region Saudi-Arabia: A cross sectional study galaxyjeevandhara. Com/index php/ijss article/view/967 volume 5 no 4 (2017) volume 5, issue 4 July.

Abdulrahman (2020). Knowledge, attitude and practice (K a p) of diabetics toward diabetes and diabetic retinopathy in Riyadh, Saudi-Arabia: cross-sectional; s t u d y pubmed.ncbi.nim.nih.gov/3311639/ nih. accessed on 10th February 2023.

Chimay J, Tejas D, Fatema K, Harsh D, Arthshah, Vaishnari P, Astha P, Ruch J, Darshil s, Jinal P. (2020). International suryery journal vol 8 No 1, www.ijsurgery. Com/index php/ isj/article/view/6837.

Khurana A. K. (2015). Comprehensive ophthalmology (fourth edition). Newage, international (p)limited publishers new delhi- banglore, Chennai, cochin, guwahati, hyderabad, jakandhar kolkata, lucknow, mubai, Rachi www.newage publishers.com.

John (2015) Kanski clinical opthal mppgy a clinical; approach (5th) edition sauder publisher LTD U.S.A.

Malavika G. Bindu T. Joosedime A. Ramya R, (2018). A study of knowledge, attitude and practice in diabetic rationpathy among patient attending a primary health care center. International journal of research in medical selnces 6(9) 3020. Doi:10, 18203/2320-6012 ijrms 20183637.

Muhammed I, Waziri a. M. (2009) awareness of diabetes retinopathy among diabetic patients at Muritala Mohammed hospital, Kano, Nigeria www.nigeiamedj.com/articleasp? Issn-300-1652: year 2009; volume = 50issue =2: page =38 epage 41: aulest = Muhammed ft11.

Popoola S. A. (2015) my eyes, my sight (1st edition) power printer. Opomalu. Ilorin Kwara state.

Shana L, Padamaja R, Sethu S, Vimala K, Taraprasad D (2018) knowledge, attitude and practice on diabetes, hypertension and diabetic retinopathy

and the factor that motivate screening for diabetes and retinopathy in a pyramidal model of eye health care volume 18, issue 1 www.rh.org.au/journal /article 14304.

Wild S, Roglic G. Green A, siecre R. King A. (2004) global prevalence of diabetes: estimates for the year 2000 one projections for 2030. Diabetes journals.org .

Yitayeh B, Yonas A, yaregal A. (2020). Attitude, practice and its associated factors towards diabetes complications among types 2 diabetic patients at addis zemen district hospital, north west. Ethiopia BMC public health 20 article number 785. http://bmepublic health. Biomedcentral. Com/articles/10.1186/s 12889-020-08953-6.

LADOKE AKINTOLA UNIVERSITY OF TECHNOLOGY OGBOMOSO

EXCELLENCE INTEGRITY SERVICE