

KNOWLEDGE OF DIABETIC PATIENTS TOWARDS THEIR DIETARY MANAGEMENT IN LIRA REGIONAL REFERRAL HOSPITAL. A CROSS-SECTIONAL STUDY.

Vicky Akayo, Magdalane Mutaasa Babirye
St Micheal Lubaga Hospital Training Schools*

Page | 1

ABSTRACT.

Background:

The study aims to assess the knowledge, of diabetic patients towards their dietary management at Lira Regional Referral Hospital.

Methodology:

A descriptive cross-sectional design utilizing Quantitative data collection methods from 30 respondents.

Results:

Respondents were averagely knowledgeable about dietary management. The majority 17(57%) of the respondents knew that bitter food substances can cure diabetes while a few 13(43%) knew that bitter food substances cannot cure diabetes but can help in the management of diabetes. majority 21(70%) of the respondents knew that diabetes can be controlled by avoiding carbohydrates such as sweet potatoes and others, while a few 9(30%) did not which indicates that they have been consuming carbohydrates in their diet. majority 22(73%) knew that diabetes can be controlled by avoiding too much sugar while a few 8(27%) did not indicating a certain degree of lack of knowledge on controlling sugar among a few diabetic patients. In addition, most 22(73%) of the respondents knew the outcomes of not controlling blood sugars in diabetes mellitus patients while a few 8(27%) did not. 20(61%) belonged to the age category of more than 40 years, 1(6%) were of the age category of 18 to 24 years, 4(15%) were of the age category 25 to 29 years, while 5(18%) were of the age category of 30 to 34 years.

Conclusion:

Dietary knowledge among diabetic patients receiving care at Lira Regional Referral Hospital was moderate suggesting the need for awareness campaigns, orientation programs, and routine training sessions by hospitals.

Recommendations:

It's imperative for the community members especially those suffering and at risk of getting diabetes to improve the way they eat since eating a well-balanced and nutritious diet with less carbohydrates not only controls blood sugars but also controls other cardiovascular diseases.

Keywords: *Diabetic patients, Dietary management, Lira Regional Referral Hospital*

Submitted: 2024-03-16 Accepted: 2024-05-27

Corresponding author: *Vicky Akayo**

Email: vickyakayo86@gmail.com

St Micheal Lubaga Hospital Training Schools.

BACKGROUND.

Diabetes Mellitus is a chronic disease characterized by persistently high levels of glucose in the blood which if not managed may lead to serious health complications. Dietary management in diabetic patients is the cornerstone of care. Many diabetics in Africa and the world over have less dietary knowledge, positive attitudes, and satisfactory diabetes practices towards the importance of DM care (Saeedi, Petersohn, et al., 2019). Knowledge regarding diet can change unfavorable dietary patterns among diabetes patients (Phillips, Rahman, & Mattfeldt, 2018). A positive attitude towards dietary management may control blood sugar among diabetes patients (Flood et al., 2021). Proper practices according to

the recommended diet by an expert dietician prevent further complications of diabetes (ADCES, 2021).

In Uganda reported significant lack of healthy food choices was affected largely by culture, poor dietary knowledge, and inadequate income were noticed among some study populations (Bahendeka et al., 2016). Patients have been found to predominantly rely on healthcare workers (HCWs) for their daily DM management problems because they are not equipped with the knowledge of lifestyle management (Lira District Health Report 2020 / 2021).

Individualized meal planning for diabetes should include. Carbohydrate intake is a primary strategy for achieving good glycemic control in both type 1 and type 2 diabetes. There is little evidence for the ideal carbohydrate composition in the management

of hyperglycemia in diabetes. This study therefore studies knowledge, attitude, and perception of diet among patients receiving care in Lira Regional Referral Hospital.

In Uganda, the prevalence of diabetes mellitus was 4.6 % in 2021. In urban areas, prevalence was 2.7%, and 1.9% in rural areas. The prevalence was lowest in the eastern region of Uganda at 0.8%, and highest in the central region at 1.6% (Uganda Health Demographic Survey, 2022). The government of Uganda through the Ministry of Health in conjunction with NGOs has enhanced awareness, knowledge, and management of diabetes among the public and healthcare personnel through radio talks, seminars, and trainings (Guwatudde, et al., 2022). In Lira, 40% of diabetic patients do not know that there is a diabetic dietary plan, and 38% believe that vegetables, such as salad, green beans, cabbage, and carrots are for the rich (Guwatudde, et al., 2022). The study aims to assess the knowledge, of diabetic patients towards their dietary management at Lira Regional Referral Hospital.

METHODOLOGY.

Study Design and Rationale.

This study employed a descriptive design to assess dietary knowledge, attitude, and perception among diabetic patients receiving care at Lira Regional Referral Hospital. The study employed quantitative methods of inquiry using descriptive cross-sectional survey design. A cross-sectional design is appropriate to determine the study design, this saved time and resources for the researcher. Quantitative methods were appropriate for obtaining quantifiable data regarding Dietary knowledge among diabetic patients. The cross-sectional design helped the researcher to obtain information in different contexts at the same time during the study.

Study Setting and Rationale.

The study was conducted at Lira Hospital, which is located along Police Road, in the central business district of the city of Lira, approximately 101 kilometers (63 mi), southeast of Gulu Regional Referral Hospital, in Gulu City. This is approximately 124 kilometres (77 mi) by road, northwest of Soroti Regional Referral Hospital, in the city of Soroti. Lira Hospital is a public hospital, funded by the Uganda Ministry of Health, and general care in the hospital is free. It is one of the regional referral hospitals in Uganda. The hospital is designated as one of the internship hospitals in Uganda, where graduates of Ugandan medical schools can serve one year of internship under the supervision of qualified specialists and consultants. With a 400-bed capacity, the health facility offers both general and specialized services to an average of 1,000 patients in the Outpatient Department (OPD) and 300 In-patient admissions every day. Lira Regional Referral Hospital is located approximately 339 kilometres (211 mi), by road, north of Mulago National Referral Hospital, in the city of Kampala, Uganda's capital. The coordinates of Lira

Hospital are 02°15'06.0"N, 32°54'07.0"E (Latitude:2.251667; Longitude:32.901944).

Study population.

The study population involves all diabetic patients attending diabetic clinics at Lira Regional Referral Hospital.

Sample Size Determination.

The sample size was 30 respondents. This was manageable due to limited time, and limited resources for data collection and even for easy calculations and also for easy data analysis using Microsoft Excel. It is also the recommended minimum sample size according to the research guideline UNMEB (2009).

Sampling Procedure.

Simple random sampling methods were applied in this research to obtain the required number of respondents. The researcher wrote the words Yes and No on 60 pieces of paper and inserted them into an enclosed box. The researcher offered potential respondents an opportunity to participate in the study by picking papers from the enclosed box and any respondent who picked a paper with the word 'Yes' written on it was allowed to participate. This continued until a total of 30 respondents was achieved. Simple random sampling methods were used due to the ready availability of respondents at the Hospital and it also ensured no bias because everybody got an equal opportunity to participate in the study.

Inclusion Criteria.

The study considered all Patients diagnosed with diabetes disease and above 18 years old who voluntarily consented to participate in the study on the day of data collection.

Dependent variable.

The dependent variable was dietary management among diabetic patients

Independent variables.

Patient's knowledge of the roles of diet in the management of diabetes (education level, information, and type of food).

Research Instruments.

A questionnaire was developed following the available literature and it will be used in capturing information as required by the specific objectives.

Data Collection Procedure.

An introductory letter from the school administration was obtained and presented to the Lira regional referral hospital administration for permission to conduct this study. The researcher interviewed the diabetic patients using the Questionnaires during data collection and the rights of individuals were respected.

Data Management.

Data was checked for completeness and consistency. Before the final analysis, data were coded and questionnaires with missing variables, information, or mistakes were left out. Then data was entered into the computer and thereafter was cleaned by comparing the raw data to the electronically entered data to check for data entry and coding errors.

Data analysis.

After the collection of data, responses from the questionnaires were studied to make sure that the information obtained was complete, consistent, accurate, and reliable. Analysis and coding were done using Microsoft Excel 2013 Presentation of findings was in the form of tables, figures, and pie charts.

Ethical Considerations.

The study was done following guidelines of the Uganda Nurses and Midwives Examination Board standard research guidelines for the Diploma Nursing Program. The development of the research proposal and the report was under the supervision of a staff assigned by Lubaga Hospital Training School issued a letter introducing the researcher to the administrator Lira RRH the same letter was taken to the relevant officials for purposes of granting permission to interact with the participants. After getting permission, the researcher went ahead to obtain the required information by engaging only the respondents who were willing to take part in the study. Besides, a consent form was designed which required every participant to fill and sign.

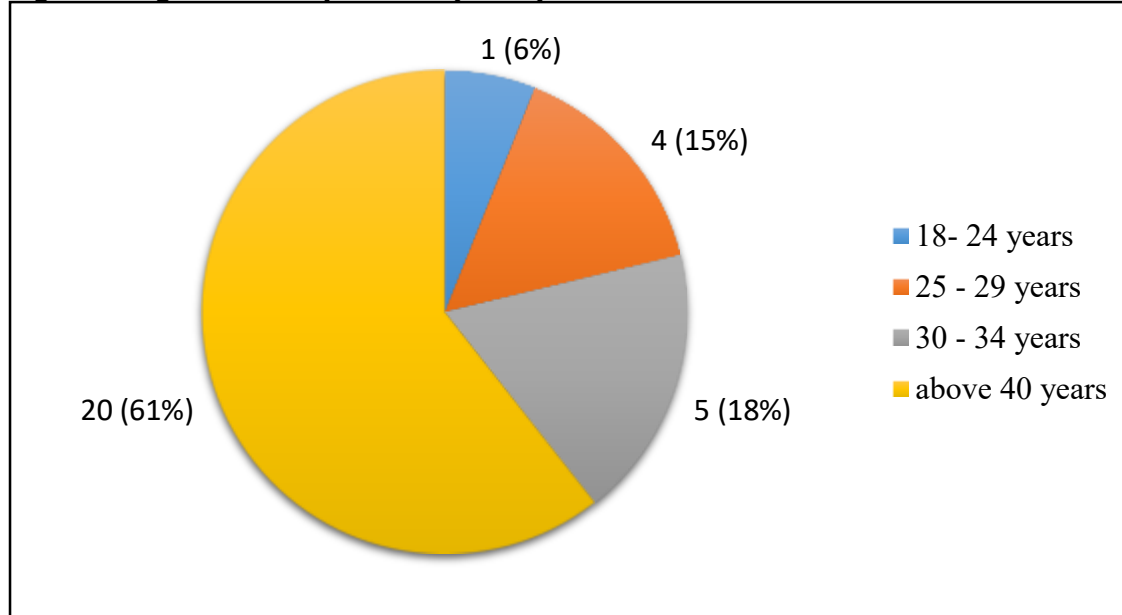
All sources of information were respected and considered vital.

RESULTS.

Demographic data.

Age of respondents.

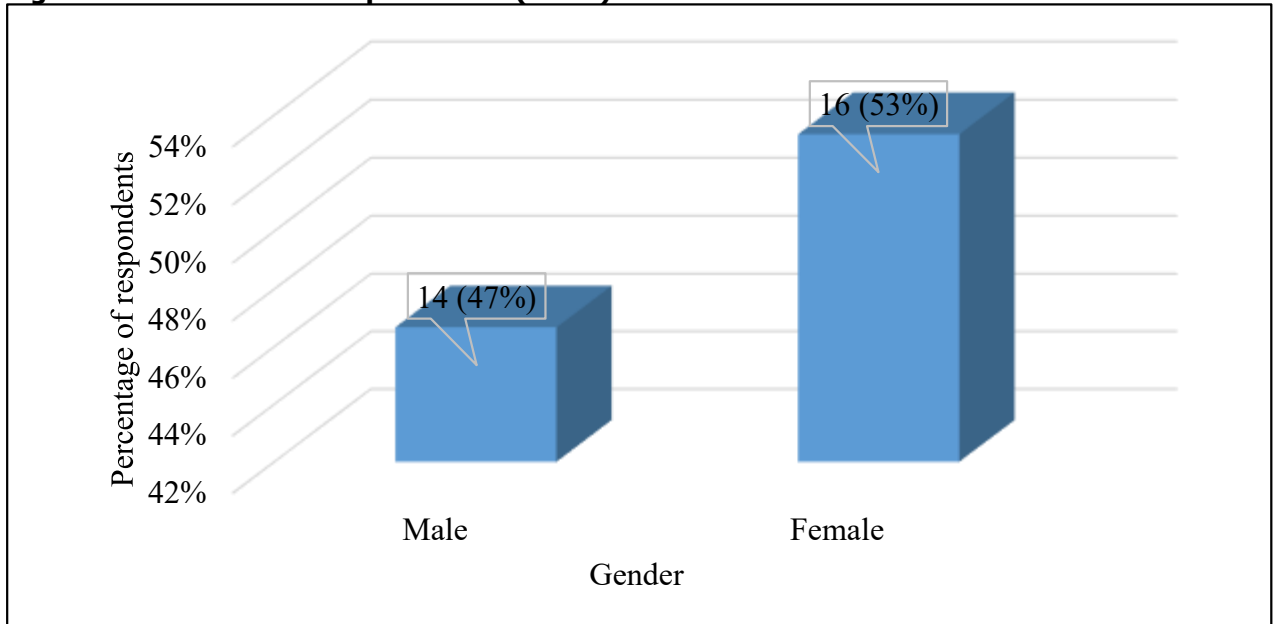
Figure 1: Age of the respondent. (n=30)



Results in figure 1 show that, 20(61%) belonged to the age category of more than 40 years, 1(6%) were of the age category of 18 to 24 years, 4(15%) were of the age category 25 to 29 years, while 5(18%) were of the age category of 30 to 34 years.

The gender of the respondents.

Figure 2: Gender of the respondents. (n=30)



According to Figure 2, most 16(53%) of the respondents were females while 14(47%) were males. This implies that the majority of the diabetic patients in this study were females.

Table 1: Education level and occupation of the respondents. (n=30)

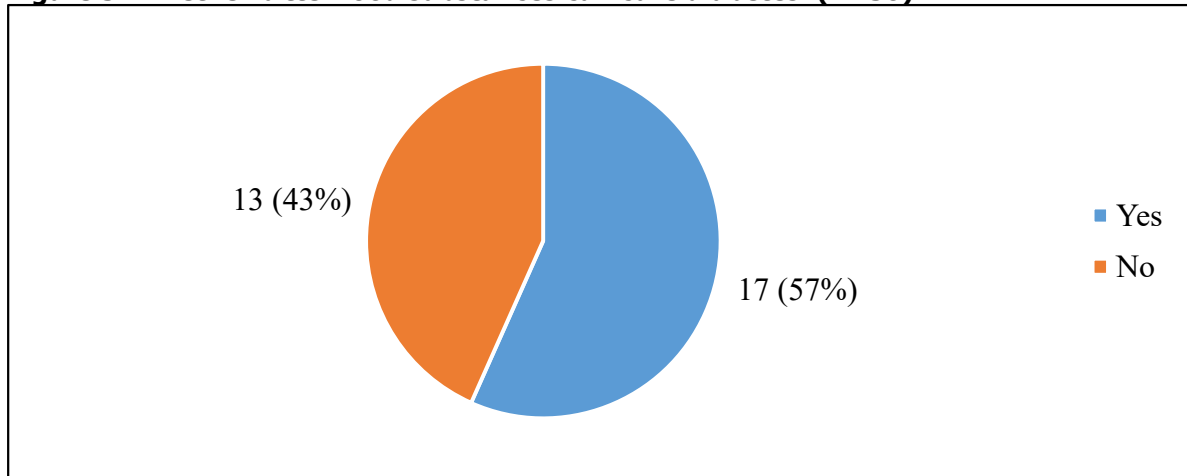
Variable	Response	Frequency	Percentage (%)
Education level	None	6	20
	Primary	8	27
	Secondary	7	23
	Tertiary	9	30
	Total	30	100
Occupation	Self-employed	21	70
	Formal employment	9	30
	Others	0	0
	Total	30	100

In table 1, more than a quarter 9(30%) of the respondents had tertiary level of education, 8(27%) had primary, 7(23%) had secondary, while 6(20%) had no education level. Meanwhile, most 21(70%) of the respondents were self-employed, 9(30%) were involved in formal

employment, and none 0(0%) were involved in other occupations.

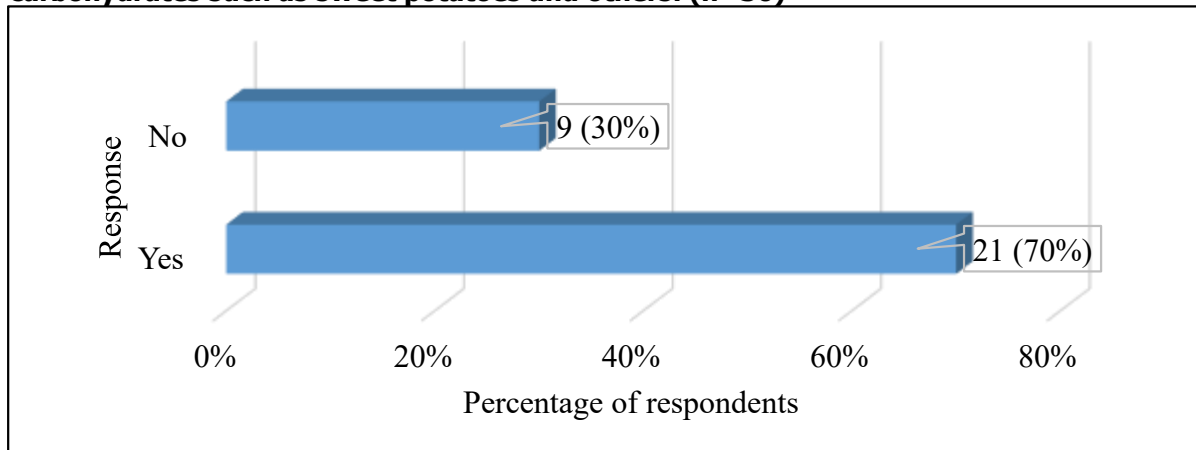
Knowledge of the roles of diet in the management of diabetes.

Figure 3: Whether bitter food substances can cure diabetes. (n=30)



In figure 3, the majority 17(57%) of the respondents knew that bitter food substances can cure diabetes while a few 13(43%) knew that bitter food substances cannot cure diabetes but can help in the management of diabetes.

Figure 4: Whether the respondents know that diabetes can be controlled by avoiding carbohydrates such as sweet potatoes and others. (n=30)



Results in figure 4 show that, the majority 21(70%) of the respondents knew that diabetes can be controlled by avoiding carbohydrates such as sweet potatoes and others, while a few 9(30%) did not which indicates that they have been consuming carbohydrates in their diet.

Table 2: Respondents' knowledge on controlling sugars. (n=30)

Variable	Response	Frequency	Percentage (%)
Whether the respondents know that diabetes can be controlled by avoiding too much sugar	Yes	22	73
	No	8	27
	Total	30	100
Whether the respondents know the outcomes of not controlling blood sugars in diabetes mellitus patients	Yes	22	73
	No	8	27
	Total	30	100

In Table 2, regarding whether the respondents knew that diabetes can be controlled by avoiding too much sugar, the majority 22(73%) knew that diabetes can be controlled by avoiding too much sugar while a few 8(27%) did not indicate a certain degree of lack of knowledge on controlling sugar among a few diabetic

patients. In addition, most 22(73%) of the respondents knew the outcomes of not controlling blood sugars in diabetes mellitus patients while a few 8(27%) did not. This shows that those who did not know that diabetes can be controlled by avoiding too much sugar also were

not aware of the outcomes of not controlling blood sugars in diabetes mellitus patients.

DISCUSSION.

Demographic characteristics of the respondents.

A total of 30 Questionnaires were included for analysis. The demographics of the participants indicated that the Hospital has mostly females (n=16) 53% than males (n=14)47%. This could be that women are better at seeking health services than men. Thuita et al., (2020) reported similar findings that 58% of their respondents were female and requested men to improve on their health-seeking behavior. Similarly, these findings are nearer to those of Phillips, (2018) whose results showed more females having diabetes than men. Most (61%) of the respondents were older than 40 years with very few 6% in the age category 18 to 24 years of age. This could be that in African countries diabetes is mostly in people above the age of forty years. However, this trend is changing as seen from this study that 6% were below the age of 24 years and this could be because of poor diet. This finding is contrary to the findings of Kamadjeu, 2019 whose findings showed more diabetic patients below the age of 30 years. However, the findings of this current study are in line with a study done in Sub-Saharan Africa by Stephani (2020) whose results showed that most of the diabetic patients were females, above 40 years of age with formal education, and more than half were employed. Also Phillips, (2018) had similar findings. However, these studies had no patients in the age group 18-24 years with diabetes

About education, more than three quarters had formal education and could read and write which could help them read the materials given to them about diabetes. However, a few (20%) had no education at all and this might have hindered them in the use of written material about diabetes. In this regard several studies demonstrate that highly educated people adhere to most health recommendations such as eating more fruit, vegetables, legumes, nuts, and grains; and cutting down on salt, and sugar, Fats, quitting smoking and exercising more, but alcohol remains the one disease-related risk factor with a reverse social gradient (Phillips, 2019; Kamadjeu, 2019; Stephani, 2020). Meanwhile, most (70%) of the respondents were self-employed, while 9(30%) were involved in formal employment, Work can be a source of stress for everyone, which may lead to health complaints such as fatigue. Fatigue is also a main issue for people with diabetes and they report it twice as often as nondiabetics. However, Owolabi (2022) in a study of the knowledge of diabetes and associated factors in rural Eastern Cape, South Africa, urged that a proper diet, moderate daily exercise, a consistent sleep schedule, and appropriate use of prescribed medications, including insulin, most diabetics can control these basic symptoms of the disease and continue working their usual job and schedule.

Patients' knowledge of the roles of diet in the management of diabetes.

Regarding the Patient's knowledge of the roles of diet in the management of diabetes, almost half (43%) of the respondents knew that bitter food substances cannot cure diabetes but can help in the management of diabetes because they keep blood sugar levels in control. However, a bigger percentage (57%) thought that bitter foods cure diabetes and this shows low knowledge of the roles of a bitter food diet in the management of diabetes. These results concur with those of Thuita et al., (2020) who did a study of the effect of a nutrition education program on the metabolic syndrome in type 2 diabetes mellitus patients at a level 5 Hospital in Kenya and found that the majority of the patients took a lot of saturated fat and salt because the patients thought that taking bitter food substances cure diabetes so they were not worried since they were taking bitter food substances.

Findings also revealed that the majority (70%) of the patients knew that diabetes can be controlled by avoiding carbohydrates such as snack foods and sweets (cakes, cookies, candy, and other desserts. Juices, regular sodas, fruit drinks, sports drinks, and energy drinks) that contain sugar, sweet potatoes, and others. However, a sizable percentage (30%) did not know that diabetes can be controlled by avoiding carbohydrates which indicates that they have been consuming carbohydrates in their diet. The percentage of patients who lacked knowledge of carbohydrates is comparable to that of a study by Kamadjeu, (2019) who reported that 28% of the patients were not aware that diabetes can be controlled by avoiding carbohydrates.

Concerning whether the respondents knew that diabetes can be controlled by avoiding too much sugar, 27% of the respondents agreed that they did not know that diabetes can be controlled by avoiding too much sugar. In addition, those who did not know that diabetes can be controlled by avoiding too much sugar also were not aware of the outcomes of not controlling blood sugars in diabetes mellitus patients. This does concur with the results of a study by Fatema, et al., (2017).

CONCLUSION.

Dietary knowledge among diabetic patients receiving care at Lira Regional Referral Hospital was moderate. This suggests that awareness campaigns, orientation programs, and routine training sessions should be organized by hospitals to promote dietary management to bridge this gap and it should start from the community level.

LIMITATIONS OF THE STUDY.

Due to the current economic situation in Uganda, financial resources were inadequate.

RECOMMENDATIONS.

It's imperative for community members especially those suffering and at risk of getting diabetes to improve the way they eat since eating well balanced and nutritious diet with less carbohydrates not only controls blood sugars but also controls other cardiovascular diseases and other related complications this can be done through changing practices like spicing highly food.

ACKNOWLEDGEMENT.

I praise God almighty for providing me with an opportunity and granting me the capability to proceed successfully. I would not have been able to complete my report without the guidance of my supervisor, help from friends, and co-workers, and support from my lovely husband, Mr. Okiror Jeremiah. I would like to express my deepest gratitude to my supervisor Sr. Babirye Madgalane who agreed to supervise me despite her many academic and professional commitments. I owe my thanks for her excellent guidance, care, and patience, and provided me with an excellent environment for doing this research while allowing me the room to work on my own.

LIST ABBREVIATIONS.

DM: Diabetes Mellitus
OPD: Outpatient department
WHO: World Health Organization

SOURCE OF FUNDING.

No source of funding

CONFLICT OF INTEREST.

No conflict of interest

AUTHOR BIOGRAPHY.

Vicky Akayo is a Diploma student of Nursing at St Micheal Lubaga Hospital Training schools
Magdalane Mutaasa Babirye is a tutor at St Micheal Lubaga hospital training schools

REFERENCES.

1. Fatema K, Hossain S, Natasha K, et al. Knowledge attitude and practice regarding diabetes mellitus among Nondiabetic and

diabetic study participants in Bangladesh. *BMC Public Health.* 2017; 17(1):364. doi: 10.1186/s12889-017-4285-9 [PMC free article] [PubMed] [CrossRef] [Google Scholar]

2. Federation ID. IDF Diabetes Atlas 9th edition 2019. Available from: <https://www.diabetesatlas.org/en/>.
3. Flood D, Seiglie JA, Dunn M, Tschida S, Theilmann M, Marcus ME, et al. The state of diabetes treatment coverage in 55 low-income and middle-income countries: a cross-sectional study of nationally representative, individual-level data in 680 102 adults. *The Lancet Healthy Longevity.* 2021; 2(6):e340–e351. Pmid: 35211689
4. Guwatudde D, Delobelle P, Absetz P, Van JO, Mayega RW, Kasujja FX, et al. (2022) Prevention and management of type 2 diabetes mellitus in Uganda and South Africa: Findings from the SMART2D pragmatic implementation trial. *PLOS Glob Public Health* 2(5): e0000425. <https://doi.org/10.1371/journal.pgph.0000425>
5. KamadjeuR, Kiawi E, Edwards R, Shu J, Unwin N, Mbanya JC. 2019. Knowledge, attitudes, and behavior relating to diabetes and its main risk factors among urban residents in Cameroon: a qualitative survey. *Ethn Dis;* 16: 503-509. This article on PubMed
6. Phillips E, Rahman R, Mattfeldt-Beman M. Relationship between Diabetes Knowledge, Glycemic Control, and Associated Health Conditions. *Diabetes Spectr.* 2018; 31(2):196–199. Pmid: 29773942
7. Saeedi P, Petersohn I, Salpea P, et al. Global and regional diabetes prevalence estimates for 2019 and projections for 2030 and 2045: results from the international diabetes federation diabetes atlas, 9th edition. *Diabetes Res Clin Pract.* 2019; 157:107843. doi: 10.1016/j.diabres.2019.107843 [PubMed] [CrossRef] [Google Scholar]
8. Thuita AW, Kiage BN, Onyango AN, Makokha AO. Effect of a nutrition education program on the metabolic syndrome in type 2 diabetes mellitus patients at a level 5 Hospital in Kenya: “a randomized controlled trial.” *BMC Nutr.* 2020. <https://doi.org/10.1186/s40795-020-00355-6>.
9. World Health Organization. The Global Diabetes Compact: A Promising First Year. 14 April 2022, Departmental news Uganda Demographic Health Survey 2022

Publisher details.

SJC PUBLISHERS COMPANY LIMITED



Category: Non-Government & Non-profit Organisation

Contact: +256775434261(WhatsApp)

Email: admin@sjpublisher.org, info@sjpublisher.org or studentsjournal2020@gmail.com

Website: <https://sjpublisher.org>

Location: Wisdom Centre Annex, P.O. BOX. 113407 Wakiso, Uganda, East Africa.