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Determinants of Healthcare Utilisation Patterns among People with Type 2 Diabetes in the North West Region of Cameroon

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Abstract

Purpose: Healthcare utilization patterns and behavior of individuals, including diabetic patients, play a crucial role in determining the use of healthcare services. This research examines the determinants of health utilisation patterns among Type 2 diabetes mellitus (T2DM) in the Northwest region of Cameroon.

Materials and Methods: A cross-sectional study was conducted over 4 months in 13 healthcare facilities in the NWR. Data was collected using a questionnaire administered by trained nurses and analyzed using Stata 15 software. Regression analyses were conducted to explore factors influencing the choice of health facility type use as a proxy for healthcare utilisation pattern, while descriptive statistics summarized socio-demographic characteristics and healthcare utilization patterns.

Findings: The study found that a majority of diabetes patients (52.85%) in the Northwest region of Cameroon prefer private health facilities over public health facilities, despite the higher cost associated with private care. Regression analyses revealed that factors such as income level and educational status influenced the choice of health facility. Most patients opt for private facilities for perceived comfort and faster services, although all healthcare providers adhere to the same code of conduct.

Unique Contribution to Theory Practice and Policy: To improve healthcare outcomes and reduce the cost burden, enhancing the quality of care provided in public health facilities is crucial, ensuring greater comfort and minimizing waiting times for patients. Further research and interventions are needed to address the determinants and implications of health utilization patterns in diabetes care in Cameroon.

Keywords: *Diabetes, Health Care Utilization Patterns, Public Health Facilities, Private Facilities, Determinants.*

INTRODUCTION

Sub-Saharan Africa, like the rest of the world, has a growing prevalence of Diabetes Mellitus (DM). The most recent survey, a 2023 research by WHO, holds that about 537 million adults (aged 20-79) live with diabetes worldwide, accounting for 10.5% of the world's population in this age group (WHO, 2023). In 2019, it was estimated that about 1 in 11 adults globally, or 436 million people, had diabetes; of these, 19 million lived in Sub-Saharan Africa. Fast-forwarding to 2021, the International Diabetes Federation (IDF) estimated that the number of people with diabetes in the African Regions had increased to around 24 million. This represents a regional prevalence rate of 4.5%. However, projections indicate that this number is expected to rise significantly by approximately 129% by the year 2045. In Cameroon specifically, available data shows that diabetes prevalence has steadily increased to 5.5 % in 2021, growing at an average annual rate of 9.84%, according to the World Bank collection of development indicators, compiled from officially recognized sources. The emergence of diabetes has occurred alongside communicable diseases like HIV/AIDS and tuberculosis (TB) co-epidemic, exacerbating the strain on an already fragile public healthcare system that services about 90% of the population. As a result, there is limited capacity to effectively deliver healthcare to those with non-communicable diseases (NCDs), while simultaneously providing treatment to populations with HIV/AIDS and other communicable diseases. Non-communicable diseases (NCDs) are silent. Consequently, they'll often remain undiagnosed and untreated.

Health utilization patterns of diabetic patients can determine how health care services are used in a community and will, in turn, determine the health outcomes of members of this community. However, several factors can influence the health utilisation patterns. These factors include: cost of services, qualified personnel, level of education, family income, cultural beliefs, quality of care, awareness of the disease, and geographical factors. A study to determine the influence of socio-demographic factors on healthcare-seeking behaviors and challenges in utilizing health facilities in the North West Region of Cameroon from 430 participants showed that despite low incomes and education levels, the study communities had moderate levels of access to services for curative and preventive care. About half of the participants preferred Government health facilities (50.5%) while a small number of participants preferred seeking care from traditional medicine (0.9%). (Joel et al, 2020).

Hussain et al. (2019) also carried out a community-based cross-sectional survey on 900 households in five districts of Punjab in Pakistan. The results of the survey showed that 43.3% of patients visited primary healthcare facilities with serious complaints. 37% of patients in households didn't take medicines when sick. They concluded that there was potential to improve the health-seeking behavior and PHC utilization by addressing the demand side (community) factors created by geographical access, socio-economic factors, level of education, cultural beliefs, and the healthcare system itself.

Yu et al. (2017) carried out a study aimed at assessing the health-seeking preference in mild, chronic, and serious illnesses; identifying influential factors, and examining the reasons underlying patients' healthcare-seeking preference from 14 tertiary hospitals in Shanghai, China. The study showed that Community health facilities were most frequently chosen in case of mild illness. Also, patients who had personal preferences did not express a preference for a good environmental first-class medical technology; they were also concerned with closed proximity and short times, pursued low medical cost, and were also most likely to choose a community health facility. A general hospital was most frequently used for chronic and serious illnesses. Patients with higher incomes who did not follow low medical costs, were concerned about short waiting times or proximity, and expressed a preference for first-class medical technology, were most likely to choose general hospitals. They concluded that health-seeking

preference was influenced mainly by healthcare providers' characteristics, illness severity, and sociodemographic characteristics.

Agofure (2013) did a cross-sectional study among 350 purposively selected patients with type 2 diabetes mellitus (T2DM) in the central hospital, Warri, Delta State, Nigeria. This study revealed that more than 95.0% exhibited good health-seeking behaviour. Lack of awareness about the disease (42.6%) was a major challenge confronting patients with T2DM. One of the ways of overcoming the challenges of T2DM was the creation of awareness, as suggested by 39.1% of respondents.

Patients with type 2 diabetes in the Northwest of Cameroon experience some of the gaps outlined above. Specifically, these difficulties span from poor self-management practices, frequent visits with high transportation costs, poor diets, lack of specialized centers with endocrinologists and a necessary technical platform, lack of insurance, cost of medications such as insulin, and a context of prevailing insecurity. The insecurity stems from an ongoing sociopolitical crisis for the past 8 years that has affected many sectors, including health. This has made health care very expensive. A study carried out in the Northwest region of Cameroon found that the average annual cost of treating type 2 diabetes was 424000FCFA (720$) and varied across different health facilities. Other factors like frequency of visits, age, education status, and transport means also influence cost, indicating the multifaceted and complex nature of health care access (Cholong et al, 2025).

Understanding the factors that influence the health utilization patterns of patients with type 2 diabetes will add to the pool of knowledge from the region, given that, to the best of our knowledge, such a study has not been done before. The evidence can be used in the allocation of resources such as personnel, the establishment of diabetic management centers, and support groups. It will also support the need to integrate diabetic care in the universal health coverage scheme that the government of Cameroon is progressively implementing.

MATERIALS AND METHODS

Study design, setting, and scope

This study was conducted in the North West Region of Cameroon, which has a population of approximately 2 million inhabitants distributed across seven administrative Divisions. The region, including the chief town of Bamenda, has a high prevalence of diabetes attributed to risk factors such as tobacco and alcohol consumption, lack of physical activity, and poor nutrition. The region, including the chief town Bamenda, has a high prevalence of diabetes attributed to risk factors such as tobacco and alcohol consumption, lack of physical activity, and poor nutrition.

Primary data was collected over 4 months from May to August 2022 in 13 health facilities across 11 health districts in the North West Region, which have specialized units and medical teams for diabetes and hypertension care.

This study included any participant aged 21 years or more, diagnosed with diabetes, and on treatment for at least three months at the time of recruitment, presenting at any of these 13 health facilities, who provided free informed consent.

The study utilized a cross-sectional research design, combining descriptive and analytical approaches, to examine health utilization patterns and determinants. Descriptive research was employed to summarize socio-demographic characteristics, healthcare utilization patterns, treatment costs, and payment/coping strategies. Summary statistics, including measures of central tendency, dispersion, and distribution, were computed for quantitative data, while sample proportions and modes were used for categorical variables. Analytical research,

specifically regression analyses, was conducted to investigate the factors influencing the cost of treating type 2 diabetes. Multiple linear regression was employed to explore determinants.

Data for this study was collected using a semi-structured questionnaire administered by trained nurses, with additional information obtained from patient records. The questionnaire covered various aspects, including socio-demographic variables, health-seeking characteristics, healthcare utilization patterns, and the cost of treating type 2 diabetes. The questionnaire was piloted with 15 participants at Nkwen Baptist Hospital, and adjustments were made for clarity and ease of administration. Participants were contacted during their hospital visits, and informed consent was obtained through signed consent forms or explanations for those who couldn't read. Interviews were conducted in a private setting, and language preference (French, English, or Pidgin English) was accommodated.

The data collected during the field survey was initially entered into Excel and then transferred to SPSS for the purpose of data wrangling, which involved cleaning, organizing, and structuring the data to ensure reliability and completeness. Data visualization was performed using Excel, employing charts and graphs to highlight patterns within the data, while Stata15 was used for data analysis. Descriptive statistics, such as means, standard deviations, and proportions, were computed, along with inferential statistics, including t-tests, z-tests, and F-tests. Additionally, specific tests were conducted to assess model characteristics, such as checking for multicollinearity using variance inflation factors (VIF) and testing for heteroskedasticity using the Breusch-Pagan chi2 statistic.

Table 1: Name and Type of Health Facilities Included in the Study

Health District	Facility	Type of Facility
Bamenda Health District	Bamenda Regional Hospital	Public
Bamenda 3 Health District	Nkwen Baptist Hospital	Private
	Nkwen District Hospital	public
Ndop Health District	Ndop District Hospital	Public
Mbengwi Health District	Mbengwi District Hospital	Public
Nkambe Health District	Nkambe District Hospital	Public
Santa Health District	Santa District Hospital	Public
Fundong Health District	Mbingo Baptist Hospital	Private
	Fundong District Hospital	public
Kumbo West Health District	Banso Baptist Hospital	Private
Kumbo East Health District	Shisong Catholic Hospital	Private
Tubah Health District	Tubah District Hospital	Public
Bali Health District	Bali District Hospital	Public

Source: Researcher's Field Survey, 2022.

Table 1 lists the various health districts and health facilities in which the study was conducted. Apart from the Bamenda 3 health district and Fundong health district, participants were drawn from one health facility in each health district.

Targeted Population, Sampling Technique, and Sample Size Determination

The research targeted outpatients with type 2 diabetes from 13 health facilities in the North West Region of Cameroon. We used a probability sampling technique, precisely, the simple random sampling technique. Simple random sampling is a probability sampling technique in which the researcher randomly selects participants from a population, with each member of the population having an equal chance of being selected (Creswell & Creswell, 2018). Computer-generated random numbers were used in recruiting participants who came for outpatient consultation in the 13 health facilities until the desired sample size was attained.

Given that data on the total number of type 2 diabetes patients in the North West Region was not available, we used the confidence interval-based sample size calculation as described by Charan and Biswas (2013). This method of sample size calculation has been used in similar studies in other settings (Onyeonoro, 2015; Shiferaw, 2023). The total sample size was calculated using the following formula:

$$n = (z/p)^2[\pi(1-\pi)]$$

Where:

n = required sample size

p = the desired maximum discrepancy (±5%)

π = population proportion

z = corresponds to the appropriate z value from a normal distribution for the desired confidence interval (since we consider 95% confidence interval, z = 1.96)

Estimating the proportion of diabetes expenditure to be 50% for a 95% confidence interval, it follows that**;**

$$n = (1.96/0.5)^2[0.5(1-0.5)]$$

$$\Rightarrow n = 384$$

Considering a 10% non-response rate, the final sample size was adjusted to 426.

However, for convenience purposes, we administered 500 questionnaires in 13 health facilities in direct proportion to the number of clients currently served at the facility. A total of 439 questionnaires were returned, making a return rate of 87.8% and an effective sample size of 439 type 2 diabetes patients.

Modeling Framework

The key variable was the choice of health facility used a proxy for health utilisation pattern, categorized as private or public. The study employed tabulation to determine the respondents' dominant facility preference, providing insights into the region's health facility choice.

To understand the health facility choice among the respondents, the researchers calculated the total sample size (n) and the number of respondents who chose private health facilities (n_1) and public health facilities (n_2). By comparing the proportions of respondents who preferred private health facilities (P_1) and public health facilities (P_2), the researcher was able to determine the proportion of health facility choice as follows;

$$P_i = \frac{ni}{n}x100 \ldots\ldots\ldots\ldots (1), where\ i = 1,2.$$

To investigate the determinants of health facility choice , the following functional relationship was proposed to describe the factors that can influence healthcare utilization pattern:

Facility type = f (sex, marital status, employment status, education, check-up frequency, comorbidity, missed appointment visit, special diet, self-management, family history of diabetes)

A binary logistic regression analysis was performed to investigate the influence of these determinants on health utilization pattern since facility type which is the proxy for healthcare utilization pattern is a binary variable, equal to 1 if the facility type preferred by the respondent is public, and equal to 0 if the preferred facility type is private. The causal link between these variables was thus specified as follows:

$$Facility\ type_i^* = \beta_0 + \beta_1 female_i + \beta_2 married_i + \beta_3 employed_i + \beta_4 edu_i + \beta_5 checkup\ freqi + \beta_6 comorbidity_i + \beta_7 missed\ visit_i + \beta_8 special\ diet_i + \beta_9 selfmanage_i + \beta_{10} family\ history_i + \varepsilon_i \ldots\ldots\ldots\ldots (2)$$

Where $Facilitytype_i^*$ represents the facility type chosen or preferred by the individual (i) and β_i are the parameters to be estimated, while ε is the error term.

$$Facility\ type^* = \{0\ if\ Facility\ type^* < 0\ (i.e. respondent\ chooses\ a\ private\ facility\}$$

$$\{1\ if\ Facility\ type^* \geq 0\ (i.e. respondent\ chooses\ a\ public\ facility\}$$

Now if we let the right-hand variables of equation 2 to be equal to Z, then the corresponding logistic regression model can be specified as:

$$Pr(Facility\ type = 1|z) = \frac{1}{1+e^{-z}} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)$$

Where $Pr(Facility\ type = 1|z)$ is the probability that the respondent chooses a public health facility over a private health facility, conditioned on the right-hand side variables of equation 2, and *e* is the base of the natural logarithm. Alternatively, if we define *P* as the probability that the respondent chooses a public facility over a private health facility (facility type = 1), then the odds of choosing a public health facility over a private health facility is given as:

$$log\left(\frac{P}{1-P}\right) = \beta_0 + \beta_1 female_i + \beta_2 married_i + \beta_3 employed_i + \beta_4 edu_i + \beta_5 selfmanage_i + \beta_6 comorbdity_i + \beta_7 missed\ visit_i + \beta_8 special\ diet_i + \beta_9 selfmanage_i + \beta_{10} familyhistory_i + \varepsilon_i \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

The variables in the health utilization pattern model in equation 2 are explained on Table 2. The table also describes the measurement levels of these variables and their expected signs or the nature of the influence they are expected to have on the dependent variable.

Table 2. Variables and their Meaning in the Health Facility Choice Model

Variable	Meaning/Measurement	Expected sign [Pr(facility type)=1]
Facility type	Facility type is a binary variable, equal to 1 if the respondent chose a public facility, and 0 if they chose a private facility	
Female	It is the sex of the respondent which is a binary variable. It is equal to 1 if the respondent is female, and 0 otherwise	+/-
Married	Marital status of respondent. It is binary, equal to 1 if the respondent is married, and 0 otherwise	+/-
Employed	Employment status of the respondent, equal to 1 if they are employed and 0 otherwise	+/-
Education level	The education level of respondents is equal to 1 if they have some post-primary education, and 0 if otherwise	+/-
Check-up freq.	Frequency of check-up visits. It is either twice monthly, once monthly, or once in 3 months	+/-
Comorbidity	It describes the comorbidity the diabetic patient currently has, equal to 1 if HIV, 2 if hypertension, and 0 if none/other.	+/-
Missed visit	It asks whether the patient had missed an appointment visit. It is equal to 1 if they missed a visit, and 0 otherwise	+/-
Special diet	It asks whether the patient is on a special diet due to diabetes. It is equal to 1 if they are, and 0 otherwise	+/-
Self-manage	It asks whether the patient self-manages their disease. It is binary, equal to 1 if they do, and 0 otherwise.	+/-
Family history	It asks whether the patient has a family history of diabetes. It is binary, equal to 1 if they do, and 0 otherwise.	+/-

Source: Researcher's Fieldwork (2022)

The technique employed in estimating the health utilization model is the maximum likelihood estimation technique (MLE) which is appropriate for non-linear models such as the binary dependent variable model in this case. The maximum likelihood estimator is defined as:

$$l(\beta) = \sum_{i=1}^{n} y_i \beta x_i - log(1 + e^{\beta x_i}) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (5)$$

Where $l(.)$is the function to be optimized, $y_i$is the dependent variable, $x_i$are the independent variables, and β is the vector of coefficients to be estimated.

FINDINGS

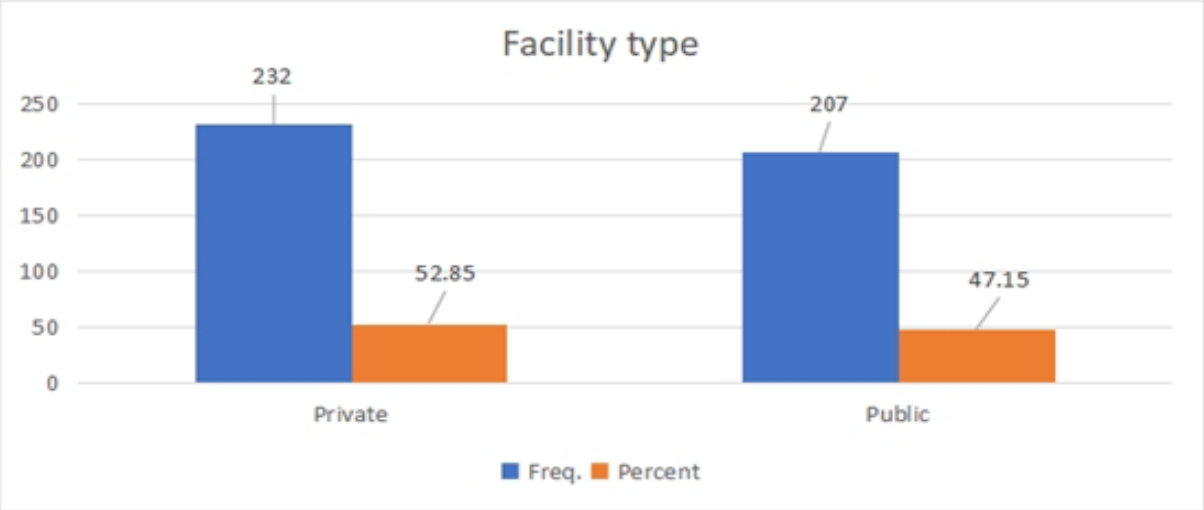

Figure 1: Health Facility Choice

The primary variable used to describe the pattern of health facility choice in this research is the type of health facility chosen by the participants.

Several factors were identified as potential explanations for healthcare utilization patterns. These factors included the frequency of check-up visits, the number of missed appointments, and the reasons behind these missed appointments. The research also examined the transportation means used by the patients, and their health-seeking behaviors, such as smoking, drinking, exercise, and regular consumption of fruits and vegetables. The influence of self-management of the disease, adherence to a special diet, and the socio-demographic characteristics of the patients on health facility choice were also explored.

The results from this study provide valuable insights into the patterns of healthcare utilization among individuals living with type 2 diabetes in the North West Region of Cameroon. These findings contribute to our understanding of the various factors that influence healthcare utilization in this population and may inform the development of targeted interventions to improve healthcare access and utilization for diabetes patients in the region.

Determinants of Healtcare Utilisation Pattern

To examine the factors that explain health facility choice, a logistic regression analysis was performed with health facility type as the dependent variable which captures the healthcare utilization pattern. This variable is binary since patients either went to a public health facility or to a private health facility. The results are reported in Table 5. The marginal effects are reported alongside the logit coefficients to ease interpretation. Only the marginal effects are interpreted.

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Table 3. Logistic Regression Results of the Determinants of Healthcare Utilisation Pattern Reference Category is Private

	Coefficients Facility type				Marginal effects Facility type			
VARIABLES	coef	aster	se	pval	coef	aster	se	pval
female	-0.129		0.242	0.594	-0.027		0.051	0.594
married	-0.033		0.232	0.885	-0.007		0.049	0.885
employed	-0.609	***	0.211	0.004	-0.128	***	0.043	0.003
post-primary edu	0.014		0.229	0.953	0.003		0.048	0.953
check-up freq: base twice monthly								
monthly	-1.712	***	0.448	0.000	-0.342	***	0.071	0.000
every 3months	-2.487	***	0.782	0.001	-0.502	***	0.139	0.000
missed app. visit	-0.380		0.212	0.074	-0.080		0.044	0.068
comorbidity: base none/other								
hypertension	0.208		0.214	0.331	0.045		0.046	0.330
HIV	-1.488	**	0.658	0.024	-0.269	***	0.093	0.004
special diet	1.101	***	0.229	0.000	0.232	***	0.043	0.000
does self-management	-0.514	**	0.251	0.041	-0.108	**	0.052	0.037
family history diabetes	-0.049		0.214	0.817	-0.010		0.045	0.817
Constant	1.778	***	0.549	0.001				
Observations	439				439			

*** p<0.01, ** p<0.05

Source**:** Analysed by Author using Stata 15

coef = coefficient; se = standard error; pval = probability value

The results reveal that gender, marital status and educational level have no statistically significant influence on health facility choice among type 2 diabetes patients in the Northwest region of Cameroon. This is because the probability values of the z-statistics of these variables are all greater than 5%. As such, it is not appropriate to make any generalizations based on the sign and magnitude of their coefficients.

Employment status, on the other hand, has a statistically significant influence on health facility choice. The results show that among diabetes type 2 patients, being employed reduces the probability of going to a public health facility by 13.8%, and this result is significant. In other words, type 2 diabetes patients who are employed prefer private health facilities to public health facilities. The patient is employed if they are either self-employed or institution-employed, and unemployed if they are neither.

Check-up frequency is another variable that significantly determines health facility choice among patients with type 2 diabetes. The results show that the preference for public health facilities over private health facilities reduces as check-up visits become less frequent. Patients who go for check-ups once a month have a 34.2% lower probability of going to a public health facility as compared to their counterparts who go for check-ups twice a month. Also, patients who go for check-ups once in three months have a 50.2% lower probability of going to a public health facility than their counterparts who go for check-ups twice a month. These results are statistically significant.

For patients who have missed an appointment visit in the past, there exists an 8% lower probability that they will go to a private health facility for their next visit, and this result is statistically not significant.

Whereas being hypertensive does not significantly influence the health facility choice among type 2 diabetes patients, having HIV has a statistically significant effect. The results show that type 2 diabetes patients who also have HIV have a 20.69% less likely chance of going to a public health facility in comparison to those who have no comorbidity or a comorbidity different from HIV and hypertension. Such patients would rather prefer to go to a private health facility. This result is statistically significant.

Patients who are on a special diet (as a result of diabetes) have a 23.2% higher probability of going to a public health facility in comparison to their counterparts who are not on a special diet. This result is statistically significant.

Furthermore, diabetes patients who self-manage the disease have a 10.8% lower probability of attending a public health facility compared to those who do not self-manage the disease. This result is also statistically significant.

While being on a special diet and self-managing the disease each significantly influences health facility choice. family history of diabetes on its part does not have any significant influence on health facility choice. This is because the p-value of the associated z-statistic is greater than 5%.

Discussion

Diabetes Patients Prefer Private to Public Health Facilities

This study's findings reveal that most patients suffering from diabetes prefer private health facilities over public health facilities, despite the higher cost associated with private healthcare. Figure 2 illustrates that 52.85% of the respondents preferred private health facilities. This could be due to a lack of awareness of services in public health facilities, highlighting the need for public health education. Agofure(2013) showed that a lack of awareness influences health-seeking behaviour. However, these results align with the findings of Rana, Alam, and Gow (2020), who discovered that only one in four patients with health insurance sought public healthcare in Australia. However, it contrasts with the research conducted by Tang, Xu, and Zhang (2016) in China, where they observed a significant negative marginal willingness-to-pay for private healthcare among public residents, but an indifference regarding the type of health facility among rural residents.

Another possible explanation for the preference of diabetes patients for private health facilities is the perception that private facilities offer greater comfort and faster services, despite all healthcare providers being bound by the same code of conduct. It is important to note that the cost of obtaining private healthcare services is higher than that of public healthcare services, mainly due to the public healthcare system being largely funded by the government.

If a larger proportion of diabetes patients were to utilize public health facilities, it could potentially reduce the average direct cost of treating diabetes, which stands at 424,000 FCFA(720$) per annum in the Northwest region of Cameroon, according to a recent study Cholong et al (2025). Therefore, public health facilities should strive to enhance sensitization and the quality of care by ensuring patients experience greater comfort and spend less time waiting to receive care. By addressing these factors, public health facilities may be able to attract more diabetes patients and alleviate the financial burden associated with private healthcare utilization. This is vital and will align with the universal health coverage vision in

Cameroon, which seeks to make health care more accessible and affordable. So far, the Universal health coverage package in Cameroon does not include diabetic care services.

The study findings revealed that 53.99% of the patients who participated in the studies engage in self-management of their disease. Diabetes self-management involves adopting recommended behaviors such as following a healthy diet, adhering to medication, proactive engagement, monitoring blood sugar and blood pressure, risk reduction, problem-solving, and healthy coping (Hu et al., 2023; Basevi et al., 2011)

The finding that a majority of diabetes patients engage in self-management aligns with the observation by DIABETES UK (2009) that approximately 95% of diabetes management is self-management. However, this figure is lower in sub-Saharan Africa and specifically in Cameroon, where adherence to effective self-management practices is poor. For example, a study carried out among 385 diabetic patients in Limbe and Buea revealed that 84.3% did not manage their care, even though 74% had good knowledge on diabetes (Andigema et al, 2023). Geneti et al. (2022) found that among 414 diabetes patients in public hospitals in Addis Ababa, Ethiopia, only 47.3% demonstrated good adherence to diabetes self-management practices, while 52.7% had poor adherence.

Consistent diabetes self-management can create conflicts between the demands of the disease and the patient's daily life, primarily due to the complex nature of the disease and its impact on social roles. Oluchina and Karanja (2022) identified five major themes and fourteen sub-themes representing perceived barriers to diabetes self-management in Kenya's Kiambu County. These barriers include the dynamic and chronic nature of diabetes, personal attributes of patients, inadequate knowledge and skills related to self-management, lack of motivation, and emotional stress.

Despite the challenges, Angelos (2020) has demonstrated a strong association between self-management of diabetes and a high quality of life. Basevi et al. (2011) also found that consistent and effective self-management leads to optimal blood glucose levels, improved psychological and social functioning, a higher quality of life, and a reduced risk of developing complications. Diabetes self-management can also help prevent or reduce hospital admissions or shorten the length of hospital stays if admission becomes necessary.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study reveals that many diabetes patients prefer private health facilities over public ones, despite the higher cost associated. This preference is influenced by employment status, frequency of visits, and presence of comorbidities, self-management, and special diets. Sesitisation, Close monitoring of blood sugar levels and blood pressure, adopting a suitable diet, and lifestyle modifications are essential for managing this condition.

Recommendations

To improve healthcare outcomes and reduce the cost burden, the government, via the Ministry of Public Health, should create more centers offering quality diabetic care services in public health facilities with sufficient personnel. These centers should have support group programs for the patients.

Also, the government should accelerate the process of universal health coverage and include diabetic care services in the package offered to its citizens..

To the facilities offering diabetic care services, more sensitization and follow-up should be done on the self-management of diabetes among patients.

Support from families and the community plays a vital role in helping patients navigate the challenges associated with managing their condition and comorbidities.

Finally, research should be done to look at the effect of rural to urban location on the choice of health facility as well as in a larger population.

REFERENCES

Agofure, O. (2013). Socio-demographic characteristics and health-seeking behavior of patients with type 2 diabetes mellitus in central hospital Warri, Delta State, Nigeria. *International Journal of Medicine and Medical Sciences,* 5(3), 136-141.

Andigema Sharon Negsang, Tendongfor Nicholas, Jules Clement Nguedia Assob, Kah Emmanuel Nji, Njajou Omer. Knowledge, Practices and Experiences of Type II Diabetic Patients on Self-Care Management at the Limbe and Buea Treatment Centers. *Journal of Environmental Science and Public Health. 7 (2023):* 123-130.

Angelos, P. (2020). The role of self-management in diabetes mellitus. Journal of Diabetes Science and Technology, 14(3), 685-686. Doi: 10.1177/1932296820903299.

Basevi, V., Di Mario, S., & Morciano, C. (2011). Management of type 2 diabetes mellitus in Italy: The cross-sectional DIAbeTes cOntrol and Management (DIATOM) study. Acta Diabetologica, 48(2), 147-156. Doi: 10.1007/s00592-010-0200-2

Cervoni, C. (2022). Lifestyle changes for managing diabetes and high blood pressure. Healthline. Retrieved from https://www.healthline.com/health/high-blood-pressure-and-diabetes-lifestyle-changes

Charan, J., & Biswas, T. (2013). How to calculate sample size for different study designs in medical research? *Indian Journal of Psychological Medicine, 35(2), 121–126.* https://doi.org/10.4103/0253-7176.116232

Cholong, B. J., Aloysius, N. M. (2025). Cost and Its Determinants of Treating Type 2 Diabetes Mellitus in the North West Region of Cameroon: Quantile Regression Analysis. *International Journal of Health Economics and Policy*, *10*(1), 1-12. https://doi.org/10.11648/j.hep.20251001.11

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). Sage Publications.

Diabetes UK. (2009). Diabetes UK position statements and care recommendations. Diabetes UK. Retrieved from https://www.diabetes.org.uk/professionals/position-statements-reports/diagnosis-ongoing-management-monitoring/self-management-of-diabetes-09

Geneti, E. H., Mulat, E., & Hailu, E. (2022). Adherence to diabetes self-management practices and its associated factors among diabetic patients in public hospitals in Addis Ababa, Ethiopia: A cross-sectional study. Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy, 15, 587-597. doi:10.2147/DMSO.S319176

Health Match. (2022). Diabetes and high blood pressure: What's the connection? Health Match. Retrieved from https://healthmatch.co/diabetes-and-high-blood-pressure-whats-the-connection/

https://www.nyp.org/newsletters/professionals/endocrinology/diabetes-and-hypertension. Rana, A., Alam, K., & Gow, J. (2020). Determinants of healthcare expenditure in Australia: A quantile regression approach. Health Policy, 124(2), 155-165. doi:10.1016/j.healthpol.2019.12.011

Hu, M., Zhang, Y., Chen, Y., Yuan, X., & Chen, F. (2023). Self-management behaviors and health outcomes in adults with type 2 diabetes: A cross-sectional study. Patient Preference and Adherence, 17, 1-9. doi:10.2147/PPA.S335982

Hussain, W., Billoo, A. G., Hussain, S., Ali, S., Ahmad, A., & Saleem, S. (2019). Health-seeking behavior and healthcare utilization in Pakistan: challenging the status quo. BMC Public Health, 19(1), 1-11.

Joel, B. S., Bime, L. A., Afoh, C. O., & Tebit, K. E. (2020). Healthcare-seeking behavior, and challenges in utilizing health facilities in the North West Region of Cameroon. BMC Health Services Research, 20(1), 1-9.

Kelleher, J. (2022). How does diabetes affect blood pressure? Medical News Today. Retrieved from https://www.medicalnewstoday.com/articles/diabetes-and-high-blood-pressure

NewYork-Presbyterian. (2023). Diabetes and hypertension: A dangerous duo. NewYork-Presbyterian.

Oluchina, F. N., & Karanja, S. M. (2022). Perceived barriers to self-management of diabetes among adults in Kiambu County, Kenya: A qualitative study. BMC Public Health, 22(1), 68. Doi: 10.1186/s12889-021-12474-6

Onyeonoro, U. U. (2015). Determinants of healthcare utilization and associated out-of-pocket payments in adult patients with type 2 diabetes mellitus: A cross-sectional study in Nigeria. *Journal of Diabetes and Metabolic Disorders, 14(1),* 46. https://doi.org/10.1186/s40200-015-0187-2

Shiferaw, W. S. (2023). Health care utilization pattern and associated factors among people with diabetes mellitus attending public hospitals in Jimma town, Southwest Ethiopia. BMC Research Notes, 16(1), 382. https://doi.org/10.1186/s13104-023-04939-w

Tang, C., Xu, J., & Zhang, H. (2016). Does health insurance lead to better health outcomes? Evidence from rural China. China Economic Review, 38, 116-134. doi:10.1016/j.chieco.2016.02.006

Yu, X., Huang, J., Lv, M., Fang, X., Yan, C., & Xiao, Y. (2017). Health-seeking preference in patients with mild, chronic, and serious illnesses: a study from 14 tertiary hospitals in Shanghai, China. PloS One, 12(10), 0186260.

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