Patient Perspectives on the Quality of Diabetes Care in a Nigerian Tertiary Healthcare Facility

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Abstract

In Nigeria, Diabetes Mellitus (DM) is the top endocrine-metabolic disorder, and it results in many cases of severe illness, high death rate, and chronic after effects. Even with widely available clinical guidelines, there is still a difference between the recommendations and how care is given in many healthcare places. The opinions of patients are important for identifying the strengths and weaknesses of a health organization.

The purpose of this study was to check how patients experienced the quality of diabetes care at a tertiary hospital in Lagos State, using their feedback. It checked whether doctors followed the given guidelines for care, understood patients' control of diabetes, and were happy with their care. The study was done at Lagos University Teaching Hospital (LUTH) by collecting information about 370 adults over 15 years with type 2 diabetes who are under active care for at least a year. Information on the participants was obtained through asking questions using planned forms, including socio-demographic traits, medical care, education on self-management, and satisfaction. The quality of care was checked against the set ADA and IDF guidelines. Statistics, especially Chi-square tests and logistic regression, were used to study the connection between quality indicators and health outcomes.

People answered the survey when they were 51.3 ± 8.5 years old, and typically had diabetes for 9.2 ± 7.4 years. Sixty-six percent of the participants were females. The majority of patients (93.5%) got routine blood pressure monitoring, as opposed to just 41.1% being tested for glycated hemoglobin. In total, 91.9% of the patients received weight monitoring, 91.6% received glucose monitoring, 91.6% had urinalysis done, 84.3% underwent lipid profiling, and 82.2% of them had their eyes plus 88.4% of them had their feet examined. Besides, most participants were educated about diabetes and physical activity, and a significant number were also provided with help in managing their own diabetes. Even so, half of the patients did not think their diabetes was well-controlled, and almost half said they had experienced complications. In general, 77.8% of patients thought their care was perfect, and 93.5% were pleased with the services that were offered.

While the delivery of core diabetes care services appears satisfactory in many technical dimensions, a significant mismatch persists between service provision and actual patient outcomes, especially regarding glycemic control and complications. This underscores the need for improved implementation of glycemic monitoring protocols and enhanced patient education, particularly in self-management and lifestyle modification, to elevate clinical outcomes and bridge the quality gap in diabetes care.

Keywords: Diabetes Mellitus, Patient Perspective, Quality of Care, Type 2 Diabetes, Nigeria, Tertiary Healthcare, Glycemic Control, Patient Satisfaction

Introduction

Diabetes mellitus (DM) is a condition that is not contagious and creates a major international problem in health. Its main problem is that there is too much sugar in the blood due to a lack of insulin or the insulin not having an effect on cells. Cases of obesity are on the increase in all parts of the world, which puts it among the leading public health issues of this century. Currently, the global diabetes population is about 194 million, and this number will have increased to 366 million by 2030, mainly because more seniors, more city living, and low activity are expected in developing countries. Despite African countries dealing with numerous infectious diseases, it is forecasted that the number of people living with diabetes throughout the area will increase by almost 100% from 12.1 million to 24 million by 2030.

The disease of diabetes mellitus has now overtaken other conditions in Nigeria's endocrine-metabolic group, affecting up to 10% of the population, which totals over 7 million Nigerians. Besides killing or making people sick, the disease is harmful because it greatly increases the risk of getting cardiovascular disease, having strokes, failing kidneys, and going blind. In most cases, these problems can be either prevented or delayed if people receive proper and prompt health care. Nonetheless, health institutions in Nigeria do not always follow the approved global rules for treating diabetes.

Taking care of diabetes so that patients are likely to have the best possible health and follow the current guidelines helps to avoid serious, long-term issues. Evidence shows that better diabetes care, particularly in achieving good glycemic control, managing blood pressure and lipid levels,

and ensuring patient education, is directly associated with reductions in microvascular and macrovascular complications, decreased hospital admissions, improved quality of life, and lower health care costs. Clinical standards, such as those established by the American Diabetes Association (ADA) and the International Diabetes Federation (IDF), recommend routine monitoring of glycated hemoglobin (A1C), blood pressure, lipid profiles, eye and foot examinations, and patient self-management education as essential components of care.

On the other hand, many reports from different nations, including Nigeria, reveal that these advice points are usually not properly put into practice in healthcare settings. In Nigeria, the majority of diabetic patients (more than 60%) do not achieve the glycemic goals that are advised, and problems such as neuropathy, retinopathy, and ulcers of the feet keep occurring. In addition, even though many technical measures are used to evaluate diabetes care, doctors now also focus on patients' satisfaction and how well they perceive the disease is being controlled.

Patients' views give important information about the quality, availability, and timeliness of medical care. It has been shown that patient information can vary from information gathered by clinicians, which means the care gaps that surface from patients' views could be missed otherwise. Regular check-ups, gathering supplies, proper learning, and decent discussions with healthcare staff all affect diabetes patients' satisfaction and treatment follow-up.

Since diabetes is putting a greater strain on Nigerians and since both medical recommendations and patients' needs should be important in healthcare, we need to evaluate quality in diabetes care from the perspective of patients. In this study, the authors evaluated what contributes to excellent diabetes care at LUTH via patients' views on care guidelines, control over diabetes, and their satisfaction level. To help diabetes patients in Nigeria, local health policies and specific interventions should be based on these important aspects.

Methods

Study Design

This was a descriptive cross-sectional study conducted to assess the quality of diabetes care from the patients' perspective. The study focused on evaluating patient-perceived adherence to recommended diabetes management guidelines and associated outcomes in a tertiary healthcare setting.

Study Area

The study was carried out at the Diabetes Clinic of Lagos University Teaching Hospital (LUTH), Idi-Araba, Lagos State, Nigeria. LUTH is a major federal tertiary health institution and a referral center serving both urban and semi-urban populations in Lagos and neighboring regions. The hospital hosts a large diabetes outpatient clinic which operates twice weekly and attends to an average of 120 patients per clinic day. As of December 2012, a total of 5,125 type 2 diabetic patients were registered for follow-up care at LUTH.

Study Population

The target population included all adult type 2 diabetes mellitus (T2DM) patients aged 15 years and above, who had been in active follow-up care for a minimum of one year at the LUTH diabetes clinic.

Inclusion Criteria

- Diagnosed with type 2 diabetes mellitus.
- Aged 15 years and above.
- On regular follow-up at LUTH for over one year.
- Receiving care exclusively from the diabetes clinic.

Exclusion Criteria

- Pregnant women.
- Type 1 diabetes mellitus patients.
- Type 2 diabetic patients with co-management in other clinics.
- Children under 15 years.
- Patients with severe psychiatric disorders, renal impairment, or sensory/physical disabilities that could hinder participation.
- Unwilling participants.

Sample Size Determination

The minimum sample size was calculated using the Fisher's formula for a population less than 10,000:

$$n = \frac{z^2 pq}{d^2}$$

Where:

- $z = 1.96$ (standard normal deviate for 95% confidence)
- $p = 0.36$ (proportion of patients who perceived quality of care as optimal in a similar study)
- $q = 1 - p = 0.64$
- $d = 0.05$ (margin of error)

$$n = \frac{(1.96)^2 \times 0.36 \times 0.64}{(0.05)^2} = 354$$

Given the population size (N = 5125), adjustment was made using the finite population correction formula:

$$nf = \frac{n}{1 + \left(\dfrac{n}{N}\right)} = \frac{354}{1 + \left(\dfrac{354}{5125}\right)} = 331$$

Accounting for a 10% non-response rate, the final sample size was increased to 370.

Sampling Technique

A systematic random sampling technique was used. The sampling interval (*k*) was calculated by dividing the estimated

population size (5125) by the required sample size (370), giving a sampling interval of approximately 14. On each clinic day, every 14th eligible patient presenting at the clinic was selected after the first participant was chosen at random.

Data Collection Instrument and Procedure

A structured, interviewer-administered questionnaire was developed based on the American Diabetes Association (ADA) and International Diabetes Federation (IDF) guidelines, as well as literature on diabetes quality indicators and patient satisfaction. The questionnaire comprised five sections:
1. Socio-demographic characteristics.
2. Patient-reported adherence to recommended diabetes care.
3. Perceived diabetes status and control.
4. Perceived complications and comorbidities.
5. Level of satisfaction with care and services received.
   The tool was pre-tested on 30 patients in another teaching hospital to ensure clarity, reliability, and validity, and adjustments were made accordingly.

Data Quality Control

Data collectors were trained health workers familiar with diabetes management. Supervisors cross-checked 10% of filled questionnaires daily for completeness and consistency. Any discrepancies were immediately rectified.

Ethical Considerations

Ethical approval was obtained from the Health Research and Ethics Committee of the Lagos University Teaching Hospital. Informed verbal and written consent was obtained from all participants. Confidentiality was assured, and participation was voluntary with the right to withdraw at any stage without penalty.

Patient Perception of Diabetes Care Quality (N=370)
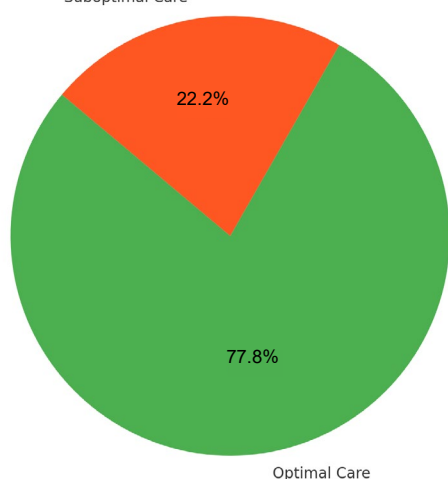
Fig. 1: The pie chart shows the patient perception of diabetes care quality at LUTH. It visually represents that 77.8% of patients perceived their care as *optimal*, while 22.2% viewed it as *suboptimal*.

Data Analysis

Data were entered and analyzed using SPSS version 20. Descriptive statistics were used to summarize socio-demographic variables, frequency of care received, and levels of satisfaction. Chi-square tests assessed associations between variables such as adherence to recommended care and perceived outcomes. Logistic regression analysis was used to explore predictors of perceived diabetes control and satisfaction. A p-value of less than 0.05 was considered statistically significant.

Results

A total of 370 patients with type 2 diabetes mellitus participated in the study. Of these, 123 (33.2%) were males and 247 (66.8%) were females. The mean age of respondents was 51.3 ± 8.5 years, while the mean duration since diagnosis of diabetes was 9.2 ± 7.4 years. The majority of the participants were between 41 and 60 years old, and most had secondary or tertiary education.

Quality Measures of Diabetes Care

Participants were asked to report on the frequency of various clinical assessments and lifestyle education received over the preceding 12 months, in line with international diabetes care guidelines.
- Glycated Hemoglobin (A1C) testing was reported by only 41.1% of respondents.
- Blood Pressure (BP) monitoring was the most commonly received service, reported by 93.5%.
  Other assessments received included:
  1. Weight monitoring: 91.9%
  2. Blood glucose checks: 91.6%
  3. Urinalysis: 91.6%
  4. Foot examinations: 88.4%
  5. Lipid profile: 84.3%
  6. Eye examinations: 82.2%
  In terms of lifestyle management and education:
- 90.0% of patients received diabetes education and counseling on physical activity.
- 72.7% reported having received self-management education.
- Dietary and nutritional counseling was less consistently provided.

Perception of Diabetes Care Quality

When asked to evaluate the overall quality of care received:
- 288 participants (77.8%) perceived the quality of care as optimal.
- 82 participants (22.2%) perceived it as suboptimal.

Perceived Diabetes Status and Complications

Regarding perceived diabetes control:
- 51.0% believed their diabetes was well controlled.
  48.9% perceived it as poorly controlled.
  Concerning complications:

- 43.8% of participants indicated the presence of one or more diabetes-related complications, including neuropathy, retinopathy, and hypertension.

There was a statistically significant association (p < 0.05) between the presence of complications and longer duration of diabetes (>10 years).

Satisfaction with Care

Overall satisfaction with services was high:

- 346 respondents (93.5%) expressed satisfaction with the care and services received.
- 24 respondents (6.5%) expressed dissatisfaction, citing long waiting times and inconsistent communication as reasons.

A positive association was observed between perceived care quality and satisfaction levels (p < 0.05). Patients who rated their care as optimal were significantly more likely to be satisfied with the services provided.

Associations Between Recommended Care and Outcomes

Using logistic regression adjusted for age and diabetes duration:

- Receipt of recommended annual foot exams, lipid profiles, and eye exams was positively associated with better self-reported diabetes control (OR: 1.72; 95% CI: 1.11–2.66).
- Patients who received structured self-management education were less likely to report complications (p = 0.03).

Discussion

This study assessed the quality of diabetes care from the perspective of patients receiving treatment in a tertiary healthcare facility in Lagos State. The findings provide critical insight into how well the care provided aligns with internationally recommended guidelines and patient expectations. Despite high satisfaction levels and reported adherence to some care components, notable deficiencies in guideline implementation and suboptimal patient outcomes persist.

Process of Care vs. Patient Outcomes

While a majority of patients reported receiving regular blood pressure (93.5%), weight (91.9%), and glucose (91.6%) monitoring, only 41.1% had glycated hemoglobin (A1C) testing in the preceding year far below the recommended standard of biannual or quarterly testing for uncontrolled cases. This result is consistent with previous Nigerian studies where A1C was either underutilized or completely unavailable in routine care settings. Given the critical role A1C plays in assessing long-term glycemic control and predicting complications, the lack of its regular use suggests a systemic gap in diabetes management.

Despite the high rate of guideline-recommended process measures, only 51% of respondents perceived their diabetes as well-controlled, and up to 43.8% reported having complications such as neuropathy or retinopathy. This indicates a disconnect between the care process and health outcomes, a phenomenon documented in both developed and resource-limited settings. Similar to findings from the TRIAD study in the U.S. and the DiabCare Nigeria study, this

Comparison Between Care Received and Perceived Diabetes Control
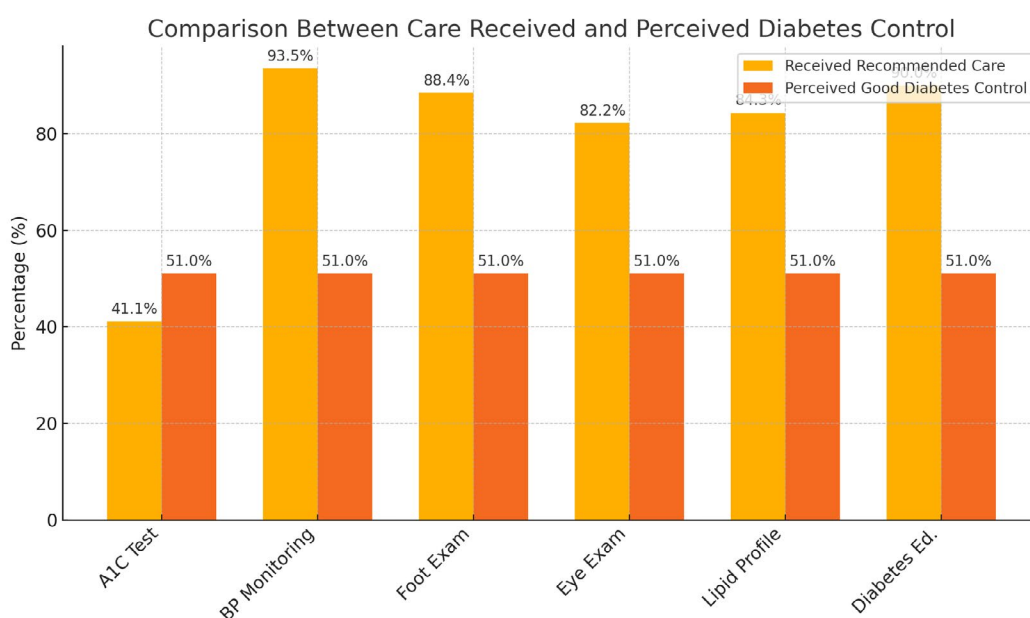
Fig. 2: The graph shows the comparison between the percentage of patients who received each recommended diabetes care component and those who perceived their diabetes as well-controlled. It visually highlights the gap between care processes and perceived outcomes, supporting the discussion's conclusion.

discordance points to the need for evaluating not just the frequency but the effectiveness and timing of interventions delivered.

Education, Self-Management, and Lifestyle Support

An encouraging 90.0% of participants reported receiving diabetes and physical activity education, while 72.7% had received some form of self-management education. However, the high rate of complications and poor perceived control imply that these education efforts may not be sufficient or well-tailored to patient needs. Existing literature stresses that simply providing information does not equate to improved behavior change or metabolic control unless supported by ongoing self-management support and follow-up systems.

The implications of this are profound; without actionable education, patients may be unaware of how to interpret symptoms, manage their medications properly, or make lasting lifestyle modifications. In the context of a low-resource healthcare system like Nigeria's, where outpatient clinics are often overcrowded, it is possible that the quality and depth of education are compromised.

Satisfaction vs. Quality

Interestingly, 93.5% of the participants reported satisfaction with the diabetes care and services received. Yet, this satisfaction did not correspond with a high level of control or the absence of complications. While this may initially seem contradictory, it is consistent with several international studies which found that patient satisfaction often reflects interpersonal aspects (e.g., empathy, communication, accessibility) rather than clinical effectiveness.

This raises a cautionary note: satisfaction metrics, while important for gauging acceptability of services, should not be used as the sole proxy for care quality. Effective quality assurance should triangulate patient satisfaction with objective clinical indicators and patient-reported health outcomes.

Socio-Demographic Factors and Care Equity

The study also explored associations between socio-demographic characteristics and the perceived quality of care. Although the results were mixed, previous studies have shown that older patients, those with lower education levels, and those of lower socioeconomic status often receive poorer quality care and education due to systemic barriers. In this study, there is an opportunity to further explore whether these social determinants influence both the access to A1C testing and self-management outcomes.

Conclusion

It gives important information about the quality of care given to diabetes patients at a tertiary health facility in Lagos as reported by patients. Many patients had several important clinical interventions checked, and yet, the rate of glycated hemoglobin (A1C) was very low even though it is vital for controlling their blood glucose levels.

Even though the majority of patients considered diabetes care to be optimal, this mental picture did not reflect their real health condition. About half (48.9%) of the patients said they do not handle their diabetes well, and a similar number (43.8%) admitted to complications from diabetes, making it obvious that service delivery is not meeting the expected outcomes. Even though a major part of the sample was satisfied with their care, there were still a lot of complications and uncontrolled blood sugar levels, suggesting that clinical results could be affected by these problems.

Even though basic practice guidelines such as using routine measurements are being met fairly well, outcome measures concerning disease control are still behind. Since self-management education is insufficient and many patients do not use structured diabetes classes or exercise advice, we should work on supporting ways that focus on each patient. Improving how much support, counseling, and empowerment diabetes patients receive is vital for them to experience better diabetes care.

To sum up, better diabetes care in this place needs to focus on both following the guidelines and helping patients improve how they care for themselves. Efforts should be directed at applying more recommended medical practices as well as at narrowing the divide between care and improvements in people's health. They should listen to patients regularly, look at different factors influencing results, and overcome any hurdles preventing people with diabetes from getting full care. When all these methods are followed, it is much easier to control and sustain diabetes in health systems that lack resources.

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