

Original Research Article

Prospects of diabetes registry in suburban community of Nigeria: experience at a private general practice

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ABSTRACT

Background: As part of series of advocacy on development of diabetes register, one of the target health facilities is private general practices. In suburban Kwale community Delta State, Donak hospital was chosen to study the process of developing and implementing diabetes register program. Specific objectives include to evaluate the extent of completeness of data for patients follow-up, diabetes services within the private practice based on data collection, prevalence of high blood pressure, and patients' compliance with medical appointments.

Methods: The study followed a clinical observational method and after necessary ethical considerations, medical information was gotten from the record unit Donak Hospital, Kwale. The patients identified as potential diabetes or prediabetes were contacted for follow-up and 113 (65 females and 48 males) participants consented, all adults. Data collection were those required for a diabetes register proforma and were analyzed using Microsoft Excel Analysis Tool-pack.

Results: There was no dedicated diabetes register per se except for usual medical records. The private practice has 100% record of contact details and blood pressure completeness for the participants. The scope of service offered to the patients was basically primary healthcare services. Over 50% of the participants have high blood pressure. On the patients' compliance with medical check-up; only 23% of the participants complied with check-up appointments.

Conclusions: The development of diabetes register in private practices can improve services. These services include documentation of appointments to enable follow-up strategies to encourage compliance to medical check-ups and a record diabetes education that may be provided.

Keywords: Diabetes register, Documentation of records, Medical check-up, Patient compliance

INTRODUCTION

The importance of a diabetes register is not clearly emphasized upon although diabetes register is useful for healthcare professionals to track diabetes patients including the compliance of the patients to treatment programs and it is also useful for healthcare policy

makers to ascertain budgetary costs and/or needs. In the agenda for development of diabetes register, the private general practice is one of the focus.¹⁻³

Delta state comprises 25 local government areas including Ndokwa West, which has an area of about 816 Km² and population of 149 325 during 2006 census; with Kwale as headquarter for the local government; and Abbi

as another big rural town. The entire local government is serviced by a government secondary healthcare level general hospital. As in most countries, people prefer private healthcare facilities to state facilities and since endocrinologists are limited most patients are managed by the general private practitioners.

Given the 'kick-off' experience at the Catholic Hospital Abbi, focus was on Kwale community as a suburban town and local government headquarter. For this study, Donak Hospital Kwale, was the private health practice discretionally chosen, after approval by the Medical Director. Methods were as described in the kick-off experience (#2 article in this series). The main aim of this research was therefore to develop a diabetes register in a private health facility. Specific objectives are to ascertain availability of diabetes register, completeness of data for patient's follow-up, diabetes services within the private practice based on data collection, prevalence of high blood pressure, and patients' compliance with medical appointments.

METHODS

Study design

The study followed a clinical observational method and after necessary ethical considerations with the authority.

Study setting

Donak Hospital Kwale, Delta State Nigeria

Selection criteria

The population of this study includes type 2 diabetes mellitus patients including both genders that are patients of the private health practice. The population also included patients that reside in Kwale and neighboring communities like Ashaka, Emu and Ogume. The patients identified as potential diabetes or prediabetes were contacted for follow-up. 81 participants (46 males and 35 females) case file was examined for the second, third and fourth objectives while the fifth objective included additional 56 participants (31 females and 25 males). Hence 'N=115' for the evaluation of compliance with medical check-up.

Data collection

Medical information was gotten from the record unit Donak hospital in suburban Kwale community of Delta State. For this report, data were collected between October 2018 and April 2019.

Statistical analysis

Data collection were those required for a diabetes register proforma and were analyzed using Microsoft Excel Analysis Tool-pack.

RESULTS

Availability of a diabetes register in the private health facility

There was no dedicated diabetes register per se, except for the usual private practice medical records. Attempt was therefore made to develop a register with the diabetes patients identified in the medical records (N = 81: 46 females and 35 males). Data available for evaluation of CVD complication was blood pressure only and none of the patients has cholesterol profile results. The cohort's clinical indices show that 84% and 53% had abnormal levels fasting blood sugar and random blood sugar, respectively (Table 1). While 35% presented with normal diastolic and systolic blood pressure levels, the rest had both abnormal levels systolic and/or diastolic blood pressure (Figure 1).

Table 1: Descriptive statistic of patients entered into the register.

Measurement	N	Normal [‡]	Frequency
FBS	62	10	16%
RBS	19	9	47%
SBP	81	34	42%
DBP	81	45	56%
> 120/80	81	28	35%

[‡]Number of patients with normal measurements.

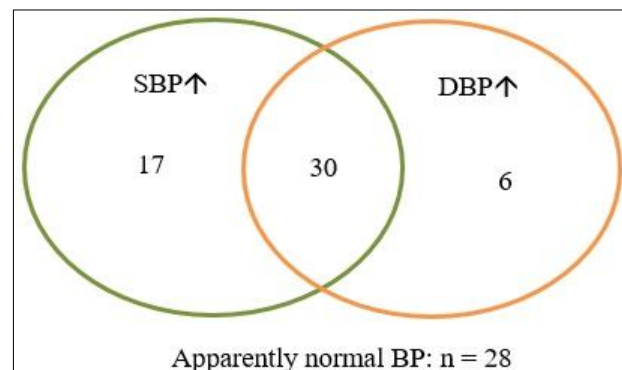


Figure 1: Distribution of blood pressure readings.

Level of completeness of data for patients follow-up

A review of patients' data entered into the diabetes register being developed indicates no appointment for follow-up; and 7.4% of cases missing date of patient's booking. Inquiry revealed that patients were given appointments for check-up, but these were not documented due to high rate of non-adherence. In this study, complete contact details was defined to include medical record number, house address (street and/or postal) and telephone number. Review of contact details showed that 76% addresses were complete (Figure 2). While 24% of patients' files are missing complete addresses, only 6% of patients' file are missing (perhaps

patients don't have) phone numbers, only 2% are missing both address and phone number of patients.

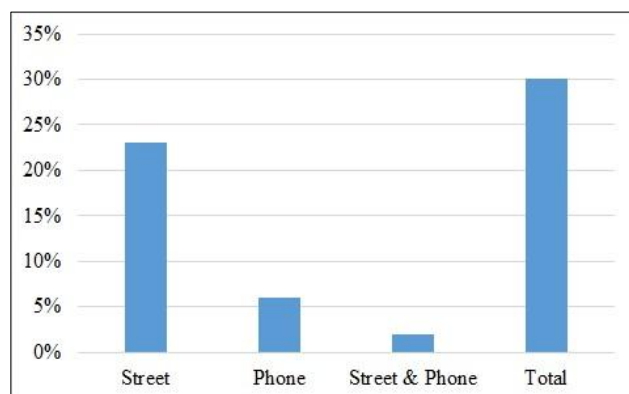


Figure 2: Frequency of incomplete contact details.

Scope of services at the private health facility

In this study, quality service was defined by percentage of 'necessary basic' primary level diabetes care services available. The necessary basic services were in turn defined by the list of clinical measure that constitute standard of care from the World Diabetes Foundation. Results show 100% assessment of blood glucose and blood pressure, while assessment of BMI was absent (Table 2).

Table 2: Quality of service assessment.

Test	Measures*	Completeness
Blood pressure	Stethoscope	100%
	Sphygmomanometer	100%
Blood sugar level	Glucometer	100%
Renal function	Urine strips	Variable [†]
	Weigh scale	
Others	Height measure	0%
	Measuring tape	

*Reference 4, [†]Albumin/creatinine ratio also recommended, but urinalysis is routinely performed.

Percentage of persons with probable high blood pressure and/or uncontrolled diabetes

All participants (i.e. N = 81) have clinical diagnosis of 'type 2 diabetes mellitus'. Probable high blood pressure was defined by reading above both 120 mmHg systolic and 80 mmHg diastolic. It is acknowledged that > 140/90 mmHg may be queried as diagnostic for hypertension yet the absolute normal level is ≤ 120/80. Hence, the terminology 'probable high blood pressure', which is not definitive hypertension. Evaluation showed that 28/81 presented with normal diastolic systolic blood pressure (Table 1), while 35% had both abnormal level at 120/80 mmHg. In the absence of HbA1c, uncontrolled diabetes

was implied from FBS ≥ 110 mg/dL (6.1 mmol/L) or RBS ≥ 200 mg/dL (11.1 mmol/L) (Figure 3).

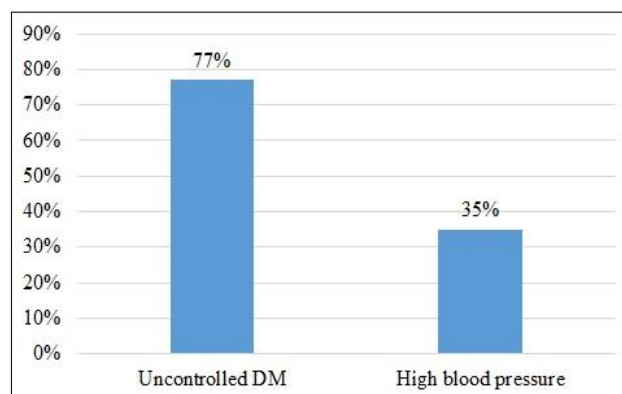


Figure 3: Percentage of participants with high BP and uncontrolled DM.

Table 3: Gender distribution and compliance with medical appointment.*

Schedule	Invitation (N)	Attendance	Compliance (%)
1 st	55	12	11%
2 nd	62	21	29%
3 rd	68	14	28%
4 th	68	9	24%
Average	63	14	23%
	Female	Male	Subtotal
1 st	7	5	12
2 nd	13	8	21
3 rd	6	8	14
4 th	5	4	9
Total	31	25	56

*Based on four schedules.

The extent to which diabetics comply with medical appointments/visit for check-up

For this analysis, patients were re-invited to the clinic for further clinical assessments, especially BMI, lipid profile and physical activities of daily living. Breakdown by gender indicate 31 females and 25 males attended their appointments out of the original 81 participants. Compliance was calculated as percentage of those who attended the appointments relative to number of invitations and the results show average of 23% (Table 3). Further analysis to determine the gender group that is more compliant shows higher proportion of men than women (Figure 3).

In the process of checking the records to invite the 81 patients, additional 34 files of clients living with diabetes were identified. Hence, total invitations were 'N=115' for the evaluation of compliance with medical check-up. This on its own constitutes an empirical observation of

tendency to miss information that exist on the medical records and a call for vigilance.

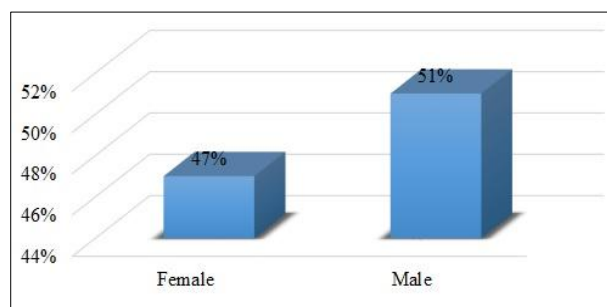


Figure 3: Proportions of gender groups that complied with medical appointment.

DISCUSSION

This report contributes to the capacity to develop diabetes registry, and a highlight the level of medical records quality that needs to be improved. Although, a dedicated diabetes register has yet to be considered in the private general practice, the private GP has a general register. Therefore, for behavioral change wheel to establish diabetes register in the facility, the need and knowledge-based capacity as well as opportunity for practiced are present, but motivation is warranted. This observation advances the previous expository review that “the task to reduce diabetes risk and improve self-management will benefit from establishment of registers in all health facilities”.⁵

The second evaluation show some incompleteness of data, which mainly indicate service availability at the health facility. However, the third really shows the capacity of private GPs in Nigeria to offer standard diabetes care. For instance, the evaluation of fourth objective indicate prevalence and record of high blood pressure that is comparable with services at tertiary health facility.⁶

On the fifth study objective, which is on compliance with medical appointment, this report adds to empirical epidemiological data on adherence to medical appointment in the kick-off project from rural community. The 23% response rate to medical appointment translates to 77% ‘no show’ and compared to report of non-adherence to medical appointment from international community e.g. from South Africa, and the United States;⁸ this is observation is higher.⁷ It may be misleading to take absolute number of attendance as observed to conclude that women attend the clinic more than men. The result shows that the proportion of men that kept appointments were more than women. It has been debatable whether women seek medical care more than men.^{9,10} Thus, while the observation reported here is not in agreement with the report that investigated the use of health care services by men and women, it is noteworthy from the findings of an Australian study that

men and women may show higher levels of adherence to different perspectives and it will be inductive fallacy of generalization to claim that a specific gender is less adherent.^{11,12} Indeed, it is known that different factors are at play for either gender group.¹³

CONCLUSION

Given the level of completeness of medical records and observation that clinicians often give appointments for next medical visit without documentation albeit because of non-adherence attitude. Suffice to conclude that the agenda of improving patient care by developing diabetes register need to be developed starting with completeness of data records. The necessary regard for patients’ adherence to appointments can be logically addressed as a second agenda.

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Conflict of interest: None declared

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