

Original Research Article

Development of diabetes register in low-mid income country VII: summary of series

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ABSTRACT

Background: This is a summarizing discussion of the series. Six pieces of articles have been presented including two pilot studies and survey of the perception of healthcare professionals. The other four presented case observations from the different levels of health facilities.

Methods: In this summary, a comparison between the four grades of facilities is presented with focus on completeness of patients' contact details and clinical information regarding basic anthropometric data that can be easily collected anywhere.

Results: It shows evidence that capacity and scope of diabetes services are in tandem i.e., least at the primary level and most at the tertiary facility. It also shows albeit anecdotal that the private general practices may be doing best in what they have capacity to do.

Conclusions: The capacity for diabetes service in all tiers of the healthcare system. The need to advocate for diabetes register as a means to improve quality of service is highlighted.

Keywords: Blood pressure, Body mass index, Diabetes register, Medical records, Patient follow-up

INTRODUCTION

Based on previous research on diabetes and cardiovascular complications, a translational program was envisioned and one perspective of the proposal focuses on Nigeria.¹⁻⁴ This was because of the prevalence and projected incidence being higher than the world's average.⁴ It is known that some of the burdens or deaths from cardio vascular diseases are preventable, especially since they are due to avoidable lifestyle risk factors such as unhealthy diet, physical inactivity and smoking.⁵ Four years into the project, the vision to develop diabetes register was developed as an imperative.⁶

Thus, the add-on piece of project aimed to establish diabetes register and determine data collection on all aspects of the disease, completeness of documentation, standard of diabetes care inclusive of available service, and incidence rate. The levels of morbidity and mortality were also investigated. The agenda of background pilot is graphically presented below (Figure 1). For the purpose of this summarizing discuss, focus was on availability of contact details (phone and home addresses) that enable patient recall and extent of basic standard diabetes services as defined by the World Diabetes Foundation.

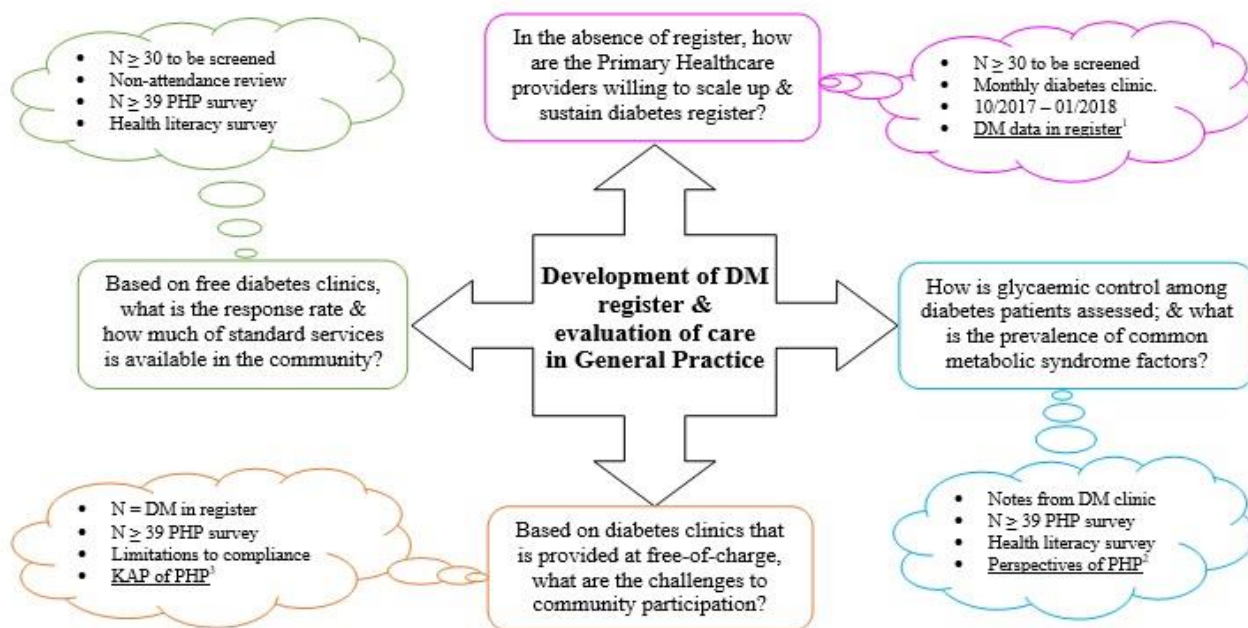


Figure 1: Summary of pilot plan.

METHODS

Study design

This was a purposive observational descriptive study.

Study setting

All the three tiers of private and public hospitals in Delta State Nigeria (Table 1). Similar to the work of other authors; this was in order to evaluate the capacity to develop and sustain diabetes register in different healthcare facility settings of low-mid income country.⁷

Selection criteria

In all the case settings, only patients identified as diagnosed and living with diabetes were selected for entry vis-à-vis inclusion onto the diabetes register.

Data collection

Sampling methods and procedure involved development of diabetes registers with simultaneous audit of medical records. First, at the Catholic hospital Abbi (CHA), the Australian diabetes register proforma was adopted and edited together with the medical team including resident medical officer, nursing matron, laboratory and medical records personnel as well as hospital administrator. Considering applicability to Nigeria, 44 pieces of clinical and demographic information were selected to be put into Excel sheet on computer. Afterwards, the scaling up study involved audit of screening program at the hospital as briefly described for the various pieces of the series. At the public hospitals, medical records were audited and clinic attendees followed-up to identify diabetes cases. All data collection in this series of work occurred during October 2017-February 2019.

Table 1: Settings of the health facilities where works were performed tier level.

	Management	The facility setting	Geographical type
Primary	Government	Ogume Primary Health Care	Rural
	Non-governmental	Novena University Health Centre	Rural
Secondary	Government	General Hospital Obiaruku	Suburban
	Non-governmental	Catholic hospital Abbi	Rural
		Donak Hospital Kwale	Suburban
Tertiary	Government	Eku Baptist Government Hospital	Suburban

Statistical analysis

The data were entered into the register and evaluated, descriptively.

At the Ogume primary health care, there were no medical records. Community members were invited for diabetes screening, and those with hyperglycaemia were referred to nearby University Health Centre, which provides more advanced primary care service and has diabetes register

being developed. At the other facilities, diabetes patients were identified from medical records or our diabetes screening follow-up.

RESULTS

Firstly, a remarkable opportunistic observation was in March 2018 when a non-governmental organization (NGO) organized medical screening in collaboration with our research team at Catholic hospital Abbi. One hundred lipid profile tests were performed, but by the time test reports were ready, there were no patients’ files to associate and enter the results. One year running, tracing of patients is still going.

Secondly, at the public hospitals, approximately 52% of the 44 itemized information are being collected, of which completeness of data/documentation was as low as 3%. Otherwise zero in many of the items. Blood pressure assessment was done on 70% of patients, while height and weight of patients for body mass index (BMI) assessment was done only on 16% of patients at the secondary facility (Figure 2).

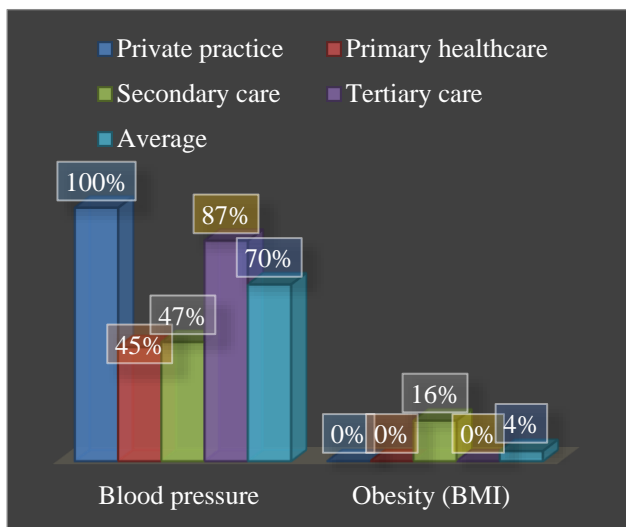


Figure 2: Percentage of blood pressure and BMI monitoring among patients in the records.

Lifestyle regimen monitoring was not documented (if assessed). Capability for standard service (including foot, lipid profile, renal and retinal assessment) was available at the tertiary health facility i.e., for referral from other hospitals. Neither incidence nor morbidity and mortality rate could be definitively ascertained.

A total of ‘n=295’ files were audited across the four facilities. The private practice performed best in completeness of contact details documentation (96%) and recall capacity 91% of patients through their phones. This is followed sequentially by the tertiary, secondary and primary healthcare facilities (Figure 3).

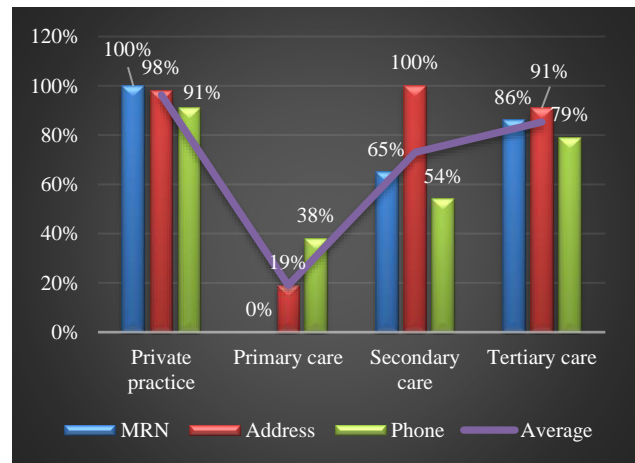


Figure 3: Available contact details in medical records.

It was observed at one of the health facilities that 62/93 patients missed blood sugar tests, out of which 29% had missing phone numbers. This implies 71% of the patients could be follow-up by phone. In terms of complications, the tertiary facility performs best, as expected, with evidence of eye and foot examinations. However, there was indication of absolute failure to assess obesity/BMI of the patients, except at the secondary facility with 16% record. One intriguing observation is that capabilities for lipid profile assessment are available, but yet to be performed on any of the clients among the records audited (Table 2).

Table 2: Complications monitoring rate in the health facilities among records audited.

	Private GP (%)	Primary (%)	Secondary (%)	Tertiary (%)	Average (%)**
Lipid profile	0	0	0	0	0
Retinal exam	0	0	0	3	1
Foot exam	0	0	0	16	4
Average (facility)*	20	9	13	21	16

*: Including levels of blood pressure and BMI shown on Figure 2; **: Cross-sectional average.

DISCUSSION

The focus of this summarizing discuss is to articulate: firstly the availability of contact details (phone and home addresses) that enable patient recall, and secondly the

extent of basic standard diabetes services as defined by the World Diabetes Foundation. This report highlights poor adherence to diabetes care practices by stakeholders, including NGOs that run medical programs at health facilities. It underscores the need to improve the quality

of data vis-à-vis documentation that enables prediction of diabetes epidemiology, especially in rural areas.

The opportunistic observation indicates where NGO may run health fair and leave no record of participants at the health facility. There has been debate over ethics of health fair services.⁸⁻¹² The core concern of the proponents of ethical oversight borders on failure of companies and hospital systems to inform potential consumers all that they need to know in advertisement-driven fairs.¹³ Perhaps the need to go a bit beyond ‘ticking the box’ in ethical compliance,⁹ and think follow-up.^{14,15}

On the first main objective of this discourse, quality of medical records is found to be poor in rural low and middle-income countries due to limited resources. However, abysmal 4% of accessible data being the average of patients with complete documentation indicate an issue of lapse in diabetes care practice. In particular, some of the health facilities are not collecting data to manage obesity, at least in the case files audited (Figure 2). Also, there is capacity to perform lipid profile tests (even if by referral to reference laboratories), but none of the audited patients’ case files has a result (Table 2). The importance of improved medical record system cannot be overemphasized and has been hallmarked by development of electronic medical record system.^{16,17} Suffice to say that challenges as well as relevance to diabetes services are also known.¹⁸ Therefore, this report advance a measure of community needs assessment from research sites in Delta State Nigeria; and advocates developing diabetes register that constitutes application of known idea to address the issue.

With regards to the second objective bordering on “basic standard diabetes services as defined by the World Diabetes Foundation” private general practice seems to perform better than public in what they have capacity to do – e.g., blood pressure assessment (Figure 2); and documentation of contact details that would enable patient follow up (Figure 3). The present level of information technology has equipped the global diabetes society with plethora of management apps. Beside the capacity to follow-up a patient by phone, it is pertinent to advocate that lifestyle with mobile phone, including the reminders and task planner capacities, can be integrated into diabetes self-management plans. This report advances the discourse on chronic disease care model, as well as translating knowledge attitude and practice to improve diabetes self-management.¹⁹⁻²² The observations reported in this series underscore the need to advocate establishment of diabetes register as a means to improve clinical data collection and diabetes care at all levels of healthcare.²³⁻²⁶

CONCLUSION

Standard protocols need to be entrenched through the use of diabetes register to improve care including assessment

and documentation of accessible and affordable tests. Healthcare personnel should be given continuous educational updates including the importance of patients’ follow-up, especially using the phone. The situation is more daring where medical records are missing and/or some clinical assessments need to be completed. This underlies the need to develop proposal for healthcare service improvement, especially diabetes care.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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