Original Research Article

Diabetes registry initiative in Delta State Nigeria: narrative of the kick-off experience

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ABSTRACT

Background: This is parallel with the piece of work on behavioral change wheel of healthcare professionals. The objective is to assess how much standard diabetes care service that is available in the community-based health facility and the barriers to patients' participation.
Methods: This was based on free diabetes clinics, which constituted the beginning of the development of diabetes register series. Observational study and surveys were conduct to determine scope service available in the hospital and factors that influence participation of patients.
Results: It is observed that lack of hospital consultants is the greatest 'health system' barrier faced by the individuals living with diabetes.
Conclusions: There is a need for individuals living with diabetes to be educated on the importance of adherence to medical check-up appointments. The healthcare professionals and providers also need professional development on the importance of diabetes register in the management of patients.

Keywords: Barriers to participation, Diabetes clinic, General practice

INTRODUCTION

Despite the knowledge of prevalence of diabetes and that in some communities, patients may not seek medical intervention for various reasons such as costs and lack of knowledge, some healthcare facilities lack mechanism to identify and follow up such patients.[1] Special disease registry is a quality improvement strategy for high-quality diabetes management system.[2] It has been noted that diabetes register can be used in the chronic care model to effectively manage patients including improving clinicians' adherence to guidelines. For instance, ensuring necessary data collection, organising patient education and communication, for patients to receive information and for reminders.[3-6]

It has been suggested on the basis of review findings that diabetes register should be an essential element, not an option, in diabetes care; especially because clinical outcomes improve.[7] Despite the known benefits, such registers are lacking while diabetes care is still needing better organization, and Nigeria is no exception.[8,9]

Therefore, this pilot study is to investigate the significance of diabetes register in management and care for diabetes patients. The research inquiries are on the basis of free diabetes clinics, to determine the:

- Response rate to diabetes clinic invitations
- How much of standard services are available in the community
- Challenges to community participation.

METHODS

Study design

The study adopted clinical observational approach, as well as questionnaire survey method. Clinical observation was based on free monthly diabetes clinic program, which was set to establish diabetes mellitus and heart disease register in the study location. The survey employed two standard questionnaires including one adopted from the UK (Figure 1); and the health literacy questionnaire in part 1 of this series. The descriptive cross-sectional method evaluated 'how glycaemic control among diabetes patients was assessed and the prevalence of common metabolic syndrome factors'.

Study setting

Clinical observational study was carried out at Catholic Hospital Abbi, Ndokwa local government area of Delta State. Survey of primary healthcare professionals (PHP) was done at the Catholic Hospital as well as in the health facilities in neighbouring rural and suburban communities in Ndokwa West and Ukwani local government areas.

Inclusion criteria

Patients included members of the community, all aged over 18 years old and comprising both gender, who were screened for diabetes at Catholic Hospital Abbi and were diagnosed as diabetic. HCPs included.

Data collection

The development of diabetes registers with simultaneous audit of medical records was during October 2017 - February 2018. First, the Australian diabetes register proforma was adopted and edited to develop Excel sheet on computer; with proposal for 44 pieces of clinical and demographic information. Participants were invited to attend diabetes clinic based on their medical records. Data collection were according the pre-developed diabetes register proforma i.e. as many of the necessary information that could be collected and therefore data collected included:

1. % attendance
2. % DM diagnosis - audit of diabetes register
3. checklist of services available/unavailable
4. Notes from DM clinic

5. Surveys - health literacy of patients and perspectives of PHP

Statistical analysis

Data generated from questionnaire and test results was analyzed using Microsoft Excel Data Analysis Toolpak 2010.

Figure 1: One of the two questionnaires.[10,11]

RESULTS

Response rate to diabetes clinic invitations in the community

It was planned that more than 30 patients would be screened from October to December 2017. Making provision for non-attendance, a total of 130 who were screened and were positive for hyperglycaemia suggestive of diabetes but did not come back to confirm previous screening results, were recalled to attend trialled monthly diabetes clinic. Further invitations were done in the months of January and March 2018 and the attendance and non-attendance rates are presented (Table 1). In the first schedule the relative frequency of attendance was higher than non-attendance and this was reversed in third schedule. In second and fourth schedules, relative frequencies of attendances and non-attendances appear to be on par. In regards to absolute frequency the non-attendance was high by comparison with attendance (Figure 2).

Table 1: Attendance at the monthly diabetes clinic.

Month	Invitation	Attendance	Non-attendance	Comment
20/10/2017	30	15	15	
11/11/2017	50	18	32	†
15/12/2017	50	14	36	
17/01/2018	50	17	33	†‡
20/03/2018	Unknown	100	Inestimable	*

†Invitation by phone calls based on previous screening records, ‡Invitees included members of civil and Church groups, *Invitation for screening was by public announcement using 'town crier' for 3 days.

Table 2: Number of entries on the diabetes register (n=42).

Variables	Number	%
Females	19	11.18
Males	23	13.53
Type 2 diabetes	36	21.18
Type 1 diabetes	4	2.35
Prediabetes	2	1.18
RBS	19	11.18
FBS	23	13.53
Total cholesterol	28	16.47
HDL cholesterol	28	16.47
BMI	27	15.88
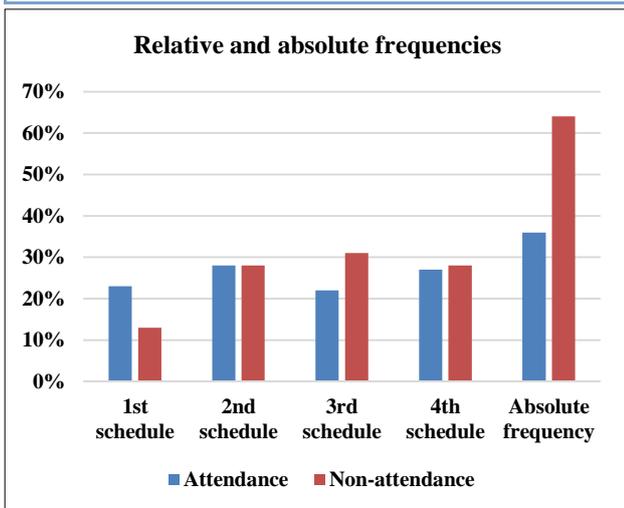
Figure 2: Frequencies of attendance and non-attendance (n=180).

Figure 3: Level and nature of metabolic syndrome in the diabetes register (n=42).

A total of 42 diagnoses of diabetes were made and entered onto the register. This constitutes 25.6% of the 164 clients who were screened. Audit of the register for available services shows some results such a BMI and cholesterol profile are not immediately entered (Table 2). On the evaluation of those with results of metabolic syndrome factors, results indicate that 9/164 (≈ 5.49%) of participants had at least two out of the three parameters for metabolic syndrome. Another 21/164 (≈12.80%) had abnormal level of BMI, HDL or total cholesterol in addition to diabetes (Figure 3).

How much of standard services are available in the community: Initial evaluation of '20 HCP' at the hospital indicate that

- 80% claim there are endocrinologist to refer patients
- 40% with to have diabetes register
- 35% think there is active record of diabetes patients, but only
  a. 10% believe the record is useful for patients' recall
  b. 20% believe the hospital has special interest in diabetes care

Evaluation of those who responded 'No' to the survey questions on "problems and barriers to care encountered in managing diabetes patients" showed that 87% respondents disagreed that inadequate foot care was a problem, while 19% disagreed on eye specialist that was a barrier (Figure 4).
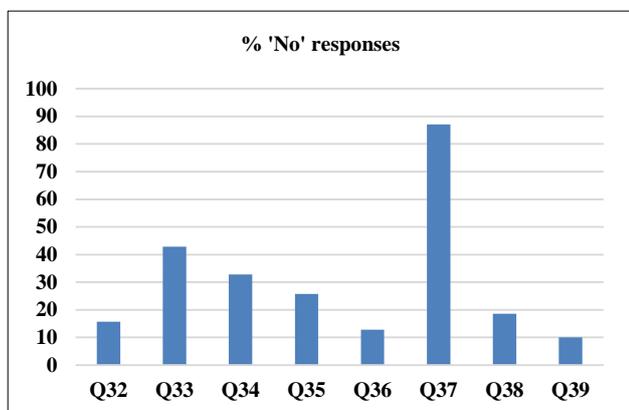

Figure 4: Percentage proportion of responses that disagreed with itemised challenges.

Keys: Q32: Getting patients to alter lifestyle; Q33: Lack of time; Q34: Communications with secondary care; Q35: Patient non-compliance; Q36: Non-attendance of patients; Q37: Inadequate chiropody services; Q38: Inadequate ophthalmology services; Q39: Lack of access to hospital consultants.

Challenges to community participation

Percentage non-attendance

Monthly diabetes clinic between 10/2017 - 01/2018; and development of register. In this evaluation, the focus on was on non-affirmative responses that indicate potential barriers to diabetes patients' health seeking behaviours. The results show that 82.9% of the 'N = 70' respondents believe their health facilities did not have special interest in diabetes, and up to 14.3% do not wish to start running a diabetes clinic (Table 3).

Reasons for non-attendance and relative frequency of 'each reason'

On analysis of the responses to the 'problems and barriers to care encountered in managing diabetes patients or relatives', getting access to consultants was indicated by 63 out of the 70 respondents, while communications with i.e. referral systems to secondary healthcare and lack of time are also indicated by over 40/70. Further critical review for the percentage distribution of barriers to care encountered in managing diabetes patients indicates that non-availability of specialist chiropody (diabetes foot care) service is the least of concerns (Table 4).

Table 3: Descriptive statistics of non-affirmative responses to questions on services (n=70).

Health facility has no	N	%
Special interest in diabetes	58	82.9
Active register of patients with diabetes	52	74.3
Dedicated time for diabetes clinics	51	72.9
Endocrinology specialist to whom diabetes patients may be referred	43	61.4
Wish to start running a diabetes clinic	10	14.3
	Mean	SD
What is the total number of people with diabetes in your hospital?	126	21
What percentage of these patients who fail to attend their routine check-up	52	2.3

Table 4: Descriptive statistics of responses to question on barriers (N = 70).

Problems and barriers	Yes	No	Total
Getting patients to alter lifestyle	59	11	70
Lack of time	40	30	70
Communications with secondary care	47	23	70
Patient non-compliance	52	18	70
Non-attendance of patients	61	9	70
Inadequate chiropody services	9	61	70
Inadequate ophthalmology services	57	13	70
Lack of access to hospital consultants	63	7	70
Absolute frequency of all barriers	388	172	

Percentage respondents on survey of health literacy

The focus here was on health literacy around diabetes in view of the concept of knowledge, attitude and practice.

Result shows that most of the respondents know the types of diabetes, but less about the signs and symptoms (Figure 5). "Do you have knowledge about diabetes?" question of yielded 36/71 (49%) responses, indicating

lack of diabetes health literacy. Further analysis of responses to knowledge of itemized causes of the health conditions show that 70 of the respondents know about family history or genetics (Figure 6).
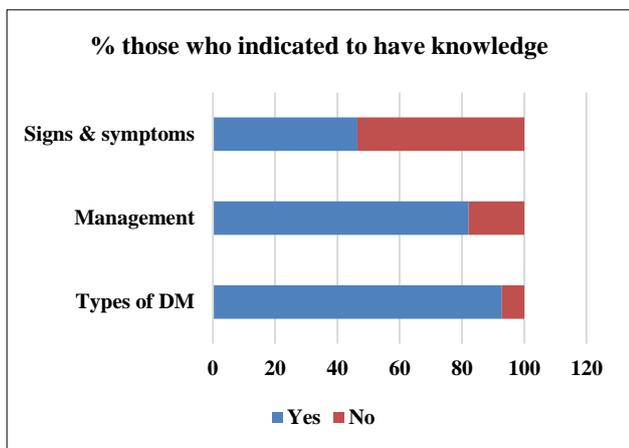

Figure 5: Percentage distribution of 'yes' respondents to the question on diabetes knowledge.
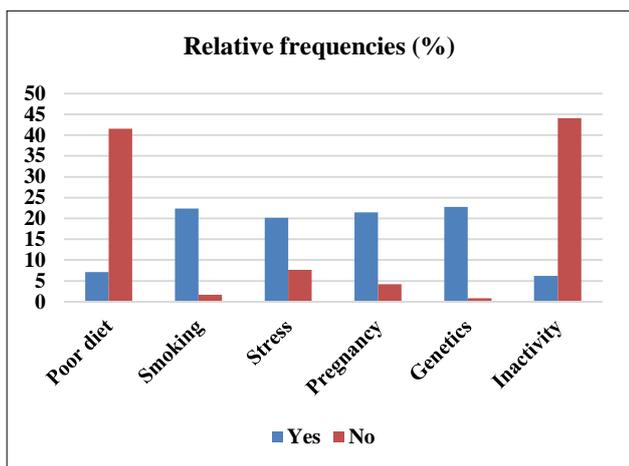

Figure 6: Relative frequencies of response on knowledge of causes of diabetes.

DISCUSSION

The pieces of the series are to present experiential note i.e. observation regarding initiation of diabetes registry program. The analysis that were performed for the first objective included levels of attendance, and DM diagnosis as well as checklist of services available/unavailable. The results show that most of the patients who were specifically invited to diabetes clinic for screening result confirmation did not attend. This observation highlights the issue of non-adherence to medical appointments by persons living with diabetes and the peoples' health seeking behaviour.[12-17] It underscores the need for disease registry.[18-21]

Data of 42 individuals living with diabetes were entered into the pilot register being developed. On the second objective, important services such as endocrinologist consultation are unavailable to the diabetes patients. While eye or foot examinations are available on locum arrangement, most respondents do not see this as barrier. While this observation affirms disparity in diabetes care services i.e. comparing rural communities with metropolitan cities, it is noteworthy that barriers to standard care implicate both patients and HCPs.[22-24]

In the third main objective, analysis emphasized non-attendance by invitees and the reasons for non-attendance. The results accentuate the previous report that while many of the healthcare professionals are interested in running diabetes clinic and register and access to diabetes foot care is the least of their problems, the lack of hospital consultants is the greatest 'health system' barrier faced by the patients. This observation further affirms barriers to standard care as including both patients and HCP factors.

CONCLUSION

Based on this pilot experience, it is recommendable that individuals living with diabetes should be educated on the need for adherence to medical check-up appointments. Also, the healthcare will benefit from further professional development regarding the importance of diabetes register in the management of patients.

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