

Factors influencing non-attendance of clinic appointments in diabetic patients at a Gauteng hospital in 2007/2008

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Abstract

Objective: To determine the factors influencing non-attendance with clinic appointments in diabetic patients at a Gauteng Hospital in 2007/2008,

Setting: Two diabetes clinics situated at a secondary-level hospital, that offer more specialised outpatient care to adult patients with type 1 and 2 diabetes.

Design: Between 21 November 2007 and 12 March 2008, a convenience sample of consecutive non-attending diabetic patients ($n = 76$) was prospectively recruited for the study. A survey of the non-attending patients was conducted, using two data collection methods, namely face-to-face interviews and telephone interviews. Patient demographics, reasons for non-attendance, perceived severity of diabetes, and perceived encouragement from others to attend were investigated. The characteristics of the non-attending patients and the reasons for non-attendance were explored.

Results: Of the 520 patients who were booked during the study period, 35% were not compliant with their clinic visit. The mean age of the patients was 51 years (range 18–85). All patients perceived diabetes to be a serious disease. Of the interviewed patients, 83% perceived their health to be either good or excellent, and 95% claimed that a clinic visit assisted them in managing their diabetes. Only 20% of the patients diarised their appointment dates, while the rest simply used the appointment card given by the clinic. Patients had various reasons for not complying with their clinic appointments, with forgetting being the most frequently dominant response (22%).

Conclusion: Forgetfulness, which was found to be the major cause of non-attendance, can easily be addressed in ensuring the attendance of scheduled clinic visits.

JEMDSA 2009;14(2):106-109

Introduction

Diabetes is the fourth leading cause of non-violent death globally. Without urgent action being taken, diabetes-related deaths are set to increase by more than 50% over the next 10 years.¹ Unless preventative measures are taken, 380 million people worldwide will have diabetes by 2025, with the largest increase occurring in the developing countries, of which most are in Africa.²

Diabetes is responsible for multiple serious long-term health complications. These include diabetic neuropathy; retinopathy, nephropathy and macrovascular disease, which can lead, and contribute, to significant morbidity related to foot ulcer amputations; renal failure, coronary heart disease and stroke.

In Africa diabetes was virtually unknown decades ago but has now become a disease of major public health concern. The exact extent of the problem in Africa is not well understood, since the disease is not a research priority.

In developing countries, diabetes is frequently diagnosed in people aged between 35 and 64, implying that diabetes is impacting on people during their most economically productive years.³

Currently, the health systems in Africa are already overwhelmed with communicable diseases, such as TB, malaria, and HIV/AIDS. The rise in diabetes prevalence has the potential of further straining the capacity of many national health care systems and thereby negatively affecting the quality of life of millions on the continent. In sub-Saharan Africa, diabetes is already a major contributor to ill health, with the overall burden currently being placed on the health system.⁴

Diabetes is an incurable disease and hence the treatment offered to diabetes patients aims to minimise complications and maximise quality of life. Diabetes requires regular and structured follow-up and surveillance by health professionals.⁵ Non-attendance of appointments is one of the major contributors to poor control in diabetic patients.⁶ Greater compliance may be associated with a decreased probability of diabetes-related complications.⁷

Numerous studies have been conducted to investigate the characteristics of the non-attending patient, and the reasons for patients' non-attendance of health care appointments.⁷⁻¹⁰ Some of the studies have revealed the effects of non-attendance on the patient, as well as the effects on the quality of service provision at the health care facility. Other studies have shown that non-attendance brings about undesirable results for both patients and clinic personnel.

Non-adherence to diabetes treatment strategies prevents patients from receiving optimal care.⁸ Jacobsen et al⁹ found that 34% of patients with type 1 diabetes who defaulted from care had poor glycaemic control, compared to those who kept their appointments. Patients who miss appointments also miss opportunities for detecting complications and treatment adjustments and, as a result, may experience poorer patient outcomes.

Non-attendance of appointments also disrupts the management of patients, in that the hospital clerks have to waste time locating records and preparing for patients who fail to arrive. Patients who need immediate care may also be required to wait longer to be seen because of a high (unanticipated) turnout of unscheduled patients. The efficiency of the health system is thus hindered.⁸

A study evaluating the financial significance of failed appointments revealed that non-attendance results in allocated resources not being utilised.¹⁰ For example, staff get paid, even when patients do not attend. Cost increases of this nature are unwelcome in developing countries, where resources are already very limited.

Various reasons for missing appointments have been reported in different studies and these include forgetfulness, financial or transportation issues, feeling that the appointment was unimportant, an inability to get time off from work, feeling too ill, administrative errors, and long waiting times.⁷⁻¹¹

A Medline search revealed that only a few studies on compliance with appointments have been done in Africa. Among these, none has been done specifically for diabetic patients.

This study seeks to identify the characteristics of non-attending patients and to determine the reasons for the non-attendance of clinic appointments in diabetes patients being treated at Kalafong Hospital in Pretoria, South Africa. It is hoped that the outcome of this study will aid in the formulation of strategies aimed at reducing the incidence of non-attendance.

Kalafong Hospital is a secondary-level hospital, with two diabetes clinics that offer specialised outpatient care to adult patients with type 1 and 2 diabetes. The clinics are attended by patients with a type of diabetes and/or hypertension that is difficult to control, diabetes-related complications or a need for treatment that is not available at primary health care level.

The two clinics operate from 08:00–13:00 on Wednesdays and Fridays. An appointment system is used by both clinics in order to manage the number of patients attending the clinic each day. Each consultation is managed according to a structured consultation schedule, which includes an eye examination, a foot examination and a kidney function test. Appointments are arranged to ensure that each patient visits the clinic four times a year (i.e. once a quarter). Both clinics keep records of the patients booked for a certain clinic date, as well as of their actual attendance.

A problem with non-attendance of such clinic appointments was noted by the clinic staff. Some patients fail to turn up for their appointments, whereas some turn up on a date later than that scheduled. Though a maximum of 40 patients were booked for each clinic per day, an average of seven patients per day attended without an appointment, with an average of eight patients per day missing their appointment. The low rate of compliance with clinic appointments was of concern for the physicians at both the diabetes clinics. Prior to the current study, the reasons for non-attendance had not been examined.

Materials and methods

A sample of consecutively non-attending diabetic patients who were willing to participate in the study were prospectively recruited for the study. All patients included in the study were older than 18 years, and able to speak and understand English or Northern Sotho. The patients had to be receiving outpatient diabetic treatment from one of the two diabetes clinics at Kalafong Hospital during the study period (i.e. November 2007 to March 2008).

Non-attending patients were defined as patients who missed at least one appointment with the diabetes clinics. Patients who attended the clinics without a prior appointment, and having missed their previous appointment, were also classified as non-attending, and, as a result, were considered for the study. All non-attending patients must have had, and attended, a previous clinic appointment, in order to be included in the study. Clinic appointment records and attendance registers were used to identify those patients who had missed appointments at the clinic.

Two data collection methods were used in this study. Non-attending patients who visited the clinic after the appointment date were asked to consent to a face-to-face interview. Those for whom contact details were available, who failed to turn up for an appointment, were phoned within seven days of the previous appointment date, and were also asked to consent to participate in the study telephonically.

A semi-structured questionnaire (available online as Appendix 1) was used to collect the data, with each interview taking an average of seven minutes. The questionnaire investigated, among other issues, the perceived severity of the patient's diabetes, the amount of perceived encouragement from others to attend, the perceived obligation to attend the visit, and the perceived difficulty with attending the clinic.

All data were entered using EpiData-Entry 3.1. STATA 10 was used to analyse the data. Other statistical packages, such as EpiData-Analysis, were also used, where appropriate.

The study protocol was submitted and approved by the Ethics Committee of the Faculty of Health Sciences of the University of Pretoria. Informed consent was obtained from all the participants in the study.

Results

During the study period, 520 patients were booked to attend the diabetes clinic and 182 patients missed an appointment. Seventy-four patients could not be contacted to participate in the study. The reasons for not being able to contact patients were: incorrect contact details recorded in the hospital files; patients' telephone number

having changed; patients giving phone numbers of relatives living apart from them; and patients not answering when phoned (after more than three attempts to phone them at different times). As a result, only 76 participated in the study (see Figure 1).

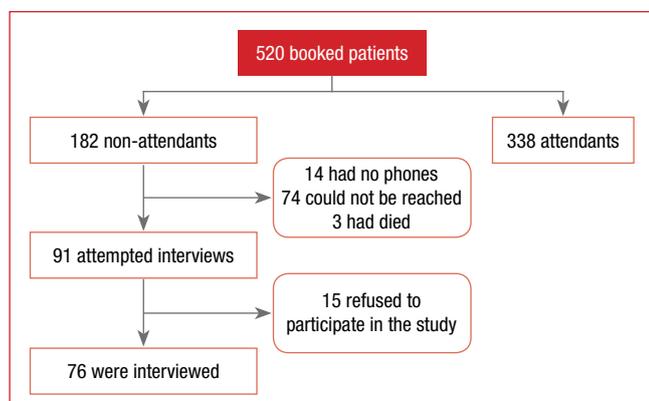


Figure 1: Flow chart of patients selected.

The mean age of the patients was 51.30 years (SD 14.01). Of the non-attending patients, 59% were married. The unemployment rate was high (43%), with 55% of the patients having only a primary education, or less (see Table I).

Table I: Characteristics of patients who participated in the study

| Variable | N (76) | (%) |
|------------------------|--------|--------|
| Female | 40 | (52.6) |
| Marital status | | |
| Never married | 19 | (25.0) |
| Married | 45 | (59.2) |
| Separated/Divorced | 3 | (3.9) |
| Widowed | 9 | (11.8) |
| Education | | |
| Primary school or less | 42 | (55.3) |
| High school | 24 | (31.6) |
| Trade/Diploma | 7 | (9.2) |
| Degree | 3 | (3.9) |
| Employment | | |
| Full-time | 15 | (19.7) |
| Part-time | 15 | (19.7) |
| Home duties/Unemployed | 33 | (43.4) |
| Student | 1 | (1.3) |
| Retired | 11 | (14.5) |

In response to being asked why it is important to control hypertension and diabetes, most (49%) patients stated that they perceived death to be a major risk, followed by stroke (22%), while 19% mentioned fainting, dizziness and weakness as the possible result of uncontrolled hypertension and diabetes. Blindness (9%) and kidney failure (1%) were perceived as unimportant risks in relation to uncontrolled hypertension and diabetes.

Of the interviewed patients, 83% perceived their health to be either good or excellent. The patients were asked how likely they thought they were to develop serious complications due to diabetes. Despite patients being very optimistic about their current health status, 74%

expressed a belief that they are very likely to develop diabetes-related complications.

Of the participants, 95% claimed that a visit to the clinic assisted them with managing their diabetes. Only 20% of the patients diarised the appointment dates, while the rest simply used the appointment card given by the clinic.

Only 46 (60%) of the patients interviewed had someone who assisted them to keep to an appointment. Difficulty with keeping a clinic appointment was expressed by 3 of the 76 patients. Two of the three patients stated that they live far from the clinic and suggested that they would prefer to be transferred to a clinic nearer to where they stay. The third patient claimed that it was difficult to keep an appointment due to financial constraints. The patient did not know that it was government policy to be treated even if you cannot pay for such treatment.

When asked where they had to wait the longest when coming to hospital to attend the clinics, 64 patients (85%) indicated that they wait the longest at the hospital pharmacy, while 6 (8%) indicated that they had to wait the longest for the administrative clerks, and 5 (7%) for the doctors and sisters, at the clinics.

Fifty-three patients (70%) reported using minibus taxis, 11 (14%) private vehicles, 7 (9%) buses, and 5 (7%) trains to get to the hospital. Patients took an average 48.86 min (SD 41.34) to travel to the clinics.

Most of the patients (69 = 91%) reported having to rely exclusively on the Kalafong diabetes clinics for the management of their diabetes. Of the 7 (9%) who sought alternative care, 3 consulted a private doctor.

All the patients stated that keeping a clinic appointment was important to them. The reasons for missing clinic appointments are illustrated in Table II. Patients had various reasons for missing clinic appointments, with 22% of the responses being forgetfulness. No patient mentioned that the clinic appointment system was an obstacle to their compliance with clinic appointments. Instead, only individual patient factors were given as reasons for missing an appointment.

When asked whether receiving a reminder of an appointment would help to boost attendance, 68 of the patients affirmed that such a reminder would help. Of the 68, 69.7% preferred receiving a telephone call, 28.8% preferred receiving an SMS, and 1.5% preferred another method of communication (e.g. the mail service).

Discussion

This study sought to identify factors influencing the non-attendance of clinic appointments by diabetic patients. The major reason given for not complying with an appointment was forgetting, followed by being out of town on the day of appointment, financial problems, and work/school commitments. The findings are consistent with other studies, which also mention forgetting as the major reason for missing clinic appointments.^{7,9,11} Some of the reasons given for not attending clinic appointments are impossible for the clinic to address, such as bad weather, funerals and travel out of town. In such cases, it is recommended that the patients be encouraged to reschedule their clinic appointment before the set date.

Table II: Reasons given for missing an appointment

| Reason | No of responses received | % |
|--|--------------------------|------------|
| Forgot the appointment date | 17 | 22 |
| Was out of town at the time | 12 | 15 |
| Could not afford to attend the clinic | 10 | 13 |
| At work/school and could not take leave to attend clinic | 8 | 10 |
| Had to attend a funeral on the appointment date | 7 | 8.9 |
| Got dates mixed up | 4 | 5.1 |
| Lost clinic appointment card giving the appointment date | 3 | 3.8 |
| Had no transport to the clinic | 3 | 3.8 |
| Had to baby-sit/did not have a baby-sitter | 2 | 2.5 |
| Could not walk, due to illness | 2 | 2.5 |
| Had some other personal appointment | 2 | 2.5 |
| Could not read my appointment card, due to bad eyesight | 2 | 2.5 |
| Misunderstood appointment requirements | 2 | 2.5 |
| Claims did attend | 2 | 2.5 |
| Arrived late at the clinic and found it closed | 1 | 1.3 |
| Weather was bad (i.e. raining) | 1 | 1.3 |
| Was an in-patient at the hospital on clinic day | 1 | 1.3 |
| TOTAL | 79 | 100 |

Note: Due to the question allowing for multiple responses, the total number of responses is more than 76 (i.e. the number of respondents).

One way of improving compliance to clinic visits would be improved the diabetes care at the local primary health care clinics, so that the patients can receive care closer to their homes.

Studies have shown that landline telephone or cellular phone reminders may reduce non-attendance.¹¹ However, a more comprehensive intervention is required in the Kalafong situation, where some patients have access to cellular phones, some have landline telephone access, and others do not have ready access to telephonic contact. Some of the latter, on registration, had given the cellular phone numbers of their next of kin or the landline telephone numbers of their neighbours. In many instances, the patients either did not reside with the next of kin whose numbers were given, or had no access to the phone for most of the day. A high turnover in cell phone numbers contributed to the large number of unreachable patients. It was therefore found necessary to confirm the correct phone numbers on each visit of the patient to the clinic. The patients should be informed of why it is important to provide reliable contact information to the medical authorities.

The clinic may also provide counselling and education to all non-attendant patients. The clinic should consider using positive reinforcement, and giving incentives to every attending patient. Care providers need to be aware of both their positive and negative communication skills, which may also impact on clinic attendance.¹¹

The recruitment process for the present study focused on those patients who came to the clinics without an appointment, having missed a prior appointment, as well as those with cellular phones or landline telephones. This might be a limitation on the study, as non-

attendant patients who did not attend one of the clinics throughout the study period, and who had no cellular phone or landline telephone were excluded from the study. This could introduce bias into the study, especially if the excluded group differs distinctly from the study group i.e. the excluded group being poorer and hence not able to afford phones.

The non-attendance of clinic appointments impacts negatively on patient care, since patients may miss out on the opportunity to receive treatment or screening for the complications of diabetes. Furthermore, the non-attendance of prescheduled appointments adds to the frustrations of health care providers who already have difficulty in planning the patient load at the clinics. More studies need to be done in possible interventions to reduce non-compliance, especially for diabetic patients in Africa.

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Appendix 1: Questionnaire

- Q1. How old are you? _____
- Q2. What is your date of birth? _____
- Q3. What is your gender? _____
- Q4. What is your marital status? _____
- Q5. What is your race? _____
- Q6. How much schooling have you had? _____

- Q7. What is your current employment status?

- Q8. Do you think diabetes is a serious disease?

- Q9. Why is it necessary to control diabetes and high blood pressure? _____

- Q10. How do you rate your health? _____

- Q11. How likely is it that you will have serious complications because of your diabetes?

- Q12. How useful do you consider a visit to the diabetes clinic?

- Q13. Has a clinic visit assisted you in your diabetes management?

- Q14. Do you write (on calendar or diary) the day of your next diabetes clinic appointment?

- Q15. Who assists you in keeping to an appointment?

- Q16. How effective do you think is a diabetes clinic visit in helping you to manage diabetes?

- Q17. How important do you think is it to keep a diabetes clinic appointment?
- Q18. How easy is it for you to keep a clinic appointment?

- Q19. If your response to Q18, is difficult or very difficult, please give reasons why _____

- Q20. If you attend the diabetes clinic where do you wait the longest? (Choose one only) _____

- Q21. How often does seeing the doctor fulfill your expectations?

- Q22. In general, how satisfied are you with the service at the clinic?

- Q23. What mode of transport do you use when coming for an appointment? _____

- Q24. How long does it usually take you to travel to hospital?
.....hoursmin
- Q25. Have you sought an alternative care facility for your diabetes other than Kalafong diabetes clinic? _____
- Q26. If yes which one? _____
- Q27. Are you aware that you missed a clinic appointment at the diabetes clinic on? _____ (date)
- Q28. Why did you miss the appointment? _____

- Q29. In relation to your response to Q28, what will help you not to miss future appointments? _____

- Q30. Would a reminder before the appointment day assist you?

- Q31. If yes, in what format will you prefer the reminder?

