

Non-attendance at a diabetes transitional clinic and glycaemic control

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Introduction

The prevalence of both type 1 diabetes mellitus (DM) and type 2 DM is increasing in young people.¹ For some time, the need for a transition period for young people between receiving care from paediatric diabetes services and adult diabetes services has been acknowledged.²

However, this transition can be problematic, as changes to the hormonal milieu during puberty may have an effect on glycaemic control,² young people may resent the change having built up long-standing relationships in the paediatric clinic,³ and support is needed both from health care professionals and family to ensure that adequate self-management skills can be learnt.⁴ In addition, high rates of non-attendance at clinic by young people after transfer to adult services have been reported,⁵ despite the perceived link in diabetes care between clinic non-attendance and poor glycaemic control.⁶

In our unit, we have a well established diabetes transitional clinic for young people aged 15–21 years, which is run in the evening to minimise disruption to education or work. The clinic is staffed by specific members of both the paediatric and adult diabetes teams to maintain continuity of care and to foster relationships between the patients and the health care professionals. As clinic non-attendance has been identified as an issue for transitional clinics,² we audited our clinic to look at non-attendance rates, and to examine the characteristics of those who miss transitional clinic appointments.

ABSTRACT

Young patients with diabetes are particularly vulnerable to long-term complications, and require a carefully planned transition to adult diabetes care. As clinic non-attendance has been identified as an issue for transitional clinics, we audited our well established clinic to look at non-attendance rates, and to examine the characteristics of those who miss transitional clinic appointments.

We conducted a retrospective analysis of audit data from the diabetes transitional clinic in January to December 2004, and September 2007 to September 2008.

The results showed that 40/53 patients missed at least one appointment in 2004, compared to 19/61 in 2007–8 ($p < 0.0001$). There was no reduction in HbA_{1c} in this group (2004: median HbA_{1c} 9.4% [range 6.8–13.2%]; 2007–8: median HbA_{1c} 9.7% [range 5.7–14.0%]). In 2007–8, the non-attender group had higher HbA_{1c} (full attenders: median [range] HbA_{1c} 8.9% [5.7–12.7%]; those who missed at least one appointment: HbA_{1c} 10.3% [7.7–14.0%]; $p < 0.001$), and were older (non-attenders mean [SD] 18.0 [1.10] years, full attenders 17.3 [1.17] years). Sex and type of diabetes did not affect 'did not attend' rates.

Those who miss diabetes transitional clinic appointments have poorer glycaemic control, although non-attendance is complex and may be due to a variety of reasons. New strategies to help young people deal with their diabetes are needed. Copyright © 2010 John Wiley & Sons.

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KEY WORDS

diabetes; transitional care; clinic non-attendance

Patients and methods

Approval for this audit was granted by the Poole Hospital NHS Foundation Trust Audit Committee. In the Poole Hospital diabetes transitional clinic, demographic data (including clinic attendance) and biomedical data are recorded in a specific diabetes database (Diabeta3, HiSL software, London). The clinic was originally audited for the period January 2004 to December 2004, and this was then repeated for the period September 2007 to September 2008.

Type of diabetes, age, sex, 'did not attend' (DNA) rates (where at least one appointment was missed without informing the Diabetes Centre) and glycosylated haemoglobin (HbA_{1c}, DCCT-standardised) in

the 2004 and 2007–8 cohorts were compared. In this analysis, continuous data were compared using unpaired t-test, and categorical data were compared using chi-squared test. Data on the characteristics of those who miss appointments were unavailable for the 2004 cohort, but these characteristics of the 2007–8 cohort were analysed. Subjects were divided into those who missed at least one appointment without informing us (DNA group) and those who attended each appointment (non-DNA group). In this analysis, characteristics of the DNA and non-DNA groups were compared using unpaired t-test for continuous data, chi-squared test for categorical data.

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Results

Data from the 2004 and 2007–8 cohorts are shown in Table 1. Despite there being a significant reduction in the number of patients who missed a clinic appointment, there was no difference in HbA_{1c} between the two cohorts.

The 42 young people who attended all their clinic visits in 2007–8 were compared to the 19 young people who missed at least one appointment during this time period. There was no difference in type of diabetes (full attenders 37 type 1 DM, five type 2 DM; those who missed at least one appointment 18 type 1 DM, one type 2 DM; $p=NS$), or sex (full attenders 18 male, 24 female; those who missed at least one appointment 12 male, seven female; $p=NS$). However, those who missed an appointment were older (full attenders mean [SD] age 17.3 [1.17] years; those who missed at least one appointment 18 [1.10] years; $p=0.02$), and had poorer glycaemic control (full attenders median [range] HbA_{1c} 8.9% [5.7–12.7]; those who missed at least one appointment HbA_{1c} 10.3% [7.7–14.0]; $p<0.001$).

Discussion

In our audit, the non-attendance rate in our diabetes transitional clinic has reduced. Our observations also show that those from our most recent cohort who missed appointments at our clinic had poorer glycaemic control, as well as being older and possibly more likely to be male.

Attendance at clinic has been used as an outcome measure, but recently it has been proposed that ensuring young people attend clinic may be an inappropriate approach in dealing with this population.² Young people with diabetes usually have different priorities compared to older people with diabetes, having to deal with issues such as changes in school/college, employment, relationships with friends and family, and leisure pursuits.³ Alternatives to the traditional clinic approach are needed to allow exploration of important issues by the patient and the multidisciplinary team. For instance, newer forms of communication, such as phone texting, e-mail and on-line discussion forums, are an everyday part of young

Table 1. Results from the two diabetes transitional clinic cohorts

	2004 cohort	2007–8 cohort	P-value
Number of registered young people	53	61	
Type of diabetes	Type 1: 51 Type 2: 2	Type 1: 56 Type 2: 5	NS
Age (median/range)	17 years (14–21)	18 years (15–20)	NS
Sex (M:F)	28:25	30:31	NS
At least one DNA	40 (75.4%)	19 (31.1%)	<0.0001
HbA _{1c} (median/range)	9.4% (6.8–13.2)	9.7% (5.7–14.0)	NS

peoples' lives, and these could be explored as alternative ways of helping young people with their diabetes.

Our data suggest that those in the transitional clinic who missed appointments had poorer control, as has been shown in the general diabetic population.⁶ There are a number of reasons why young people may choose not to attend our clinic. We hold the clinic in the evening to minimise disruption to education or employment, but many of our patients may have evening jobs even whilst at school, or may work what are usually considered unsociable hours, that would lead to non-attendance. These young people may be using non-attendance as a way to rebel against authority. Of course, they may well simply forget their appointment, in the midst of their busy, hectic lives!

We fully acknowledge that this paper is based upon two audits carried out at intervals using retrospective data, and therefore cannot be used to make a formal link between attendance and glycaemic control. The numbers in our study are small, so it may be underpowered to detect differences in some parameters – for instance, there is a trend towards non-attenders at clinic being more likely to be male, although this did not reach statistical significance. We were unable to differentiate between those who attended every appointment, and those who cancelled some appointments beforehand. It may have been helpful to compare these groups as there may be some patients who continually cancel clinic appointments in order to miss them, rather than

Key points

- Care of adolescents and young adults with diabetes is complex
- Non-attendance at a transitional diabetes clinic for young people was associated with poorer glycaemic control compared to those who came to the clinic
- Those who missed appointments tended to be older and male
- Alternative models of care to those of the traditional clinic may be required for this group

simply not turning up, thus avoiding contact with the diabetes team.

In summary, we have shown a reduction in non-attendance at a transitional diabetes clinic for young people over a period of time, but still overall sub-optimal glycaemic control in this group. We have characterised those who miss transitional clinic appointments, showing that they have poorer glycaemic control, and may thus need targeted diabetes care to prevent long-term diabetes complications.

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Conflict of interest statement

There are no conflicts of interest.

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