Do people with type 2 diabetes receive enough diabetes education?

Elizabeth Gilbert

Introduction

According to the World Health Organization the number of global cases of type 2 diabetes in adults will more than double between 1997 and 2025, increasing from 143 to 300 million as a result of population growth, ageing and urbanisation (WHO, 1998). The United Kingdom will be part of this pandemic to some extent because of the rising incidence of type 1 diabetes, but mainly due to the 'gathering storm' of type 2 diabetes (Williams, 2001).

Research has shown that intensive treatment of type 2 diabetes reduces long-term complications. The United Kingdom Prospective Diabetes Study (UKPDS, 1998) found that a reduction in glycated haemoglobin (HbA_{1c}) of 1% was associated with 14% fewer myocardial infarctions, 21% fewer deaths related to diabetes and 37% fewer microvascular complications (MacKinnon, 2001). This reduction in HbA_{1c} was achieved by intensive use of diet control, oral diabetic agents and insulin, either individually or combined in conjunction with lifestyle advice.

Potential problems at instigation of intensive treatment

An audit was carried out at Blackwater Valley and Hart Primary Care Trust to investigate the two potential problem areas that people who are new to medication for diabetes come across: hypoglycaemia and driving laws.

Hypoglycaemia

Hypoglycaemia is generally regarded as occuring if blood glucose falls below 3.0 mmol/l (MacKinnon, 2001). It is associated with impaired awareness of surroundings, which can eventually result in loss of consciousness without treatment. The UKPDS showed that intensive treatment increased the risk of hypoglycaemia (UKPDS, 1998).

Hypoglycaemia can be debilitating and frightening. It is paramount that the person with diabetes understands the causes of hypoglycaemia, is able to recognise signs and knows how to take appropriate corrective action. Education of the person with diabetes from diagnosis is the key to reducing the incidence of hypoglycaemic episodes.

Driving laws

Driving laws change once a person starts oral medication or insulin therapy for diabetes. By law, this group of people are required to inform the Driver and Vehicle Licensing Agency (DVLA) of their diabetes, as there is a potential risk that hypoglycaemia and possible loss of awareness could lead to road accidents. The Secretary of State for Transport, Local Government and the Regions (Department for Transport) has responsibility, via his medical advisors at the Drivers Medical Group at the DVLA, to ensure that all licence holders are fit to drive (Durston, 2002). The person with diabetes needs to be informed that they will be subject to this law when oral medication or insulin treatment is initiated.

Recently in our clinic, issues have arisen relating to diabetes and hypoglycaemia and driving laws. One patient who was started on insulin had a hypoglycaemic episode resulting in a hospital admission. It was unclear as to whether he had received hypoglycaemia education. A second individual was commenced on insulin without discussion about driving laws. It subsequently arose that he held a large-good vehicle licence, which was revoked. If education is given at the

ARTICLE POINTS

1 Education of the person with diabetes from diagnosis is the key to reducing the incidence of hypoglycaemic episodes.

2 By law, people with diabetes who are starting oral medication or insulin therapy are required to inform the Driver and Vehicle Licensing Agency (DVLA) of their diabetes.

3 We did an audit in our clinic to establish whether hypoglycaemia and education about driving laws is given at the appropriate time.

4 The results showed that levels of education and advice about hypoglycaemia and driving law were below optimal.

5 This audit has shown the need to develop standards of care for people with diabetes who are starting a form of medication.

KEY WORDS

- **Type 2 diabetes**
- **Diabetes education**
- **Hypoglycaemia**
- **Driving laws**
- **Standards**

Elizabeth Gilbert is a Community Diabetes Specialist Nurse, Blackwater Valley and Hart PCT (NHS).

Table 1. Audit criteria for diabetes education

Criteria	Target	Level achieved
Hypoglycaemia education to be given and documented in notes at initial consultation when commencing insulin therapy	100% (52)	88% (46)
Driving laws to be discussed and documented in notes at initial consultation when commencing insulin therapy	70% (36)	63% (33)

PAGE POINTS

1 The aim of this audit was to establish if hypoglycaemia and education about driving laws is given at the appropriate time, and to recommend and implement change in practice.

2 The results showed that levels of education and advice about hypoglycaemia and driving law were below optimal.

3 It was hoped that 100% of people in the sample group would receive documented hypoglycaemia education; the audit showed that this number was in fact 88%.

appropriate time, the anxiety and stress that people, such as these, undergo may be vastly reduced.

The audit

Clinical audit is defined by NICE as a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and implementation of change. Aspects of the structure, processes and outcomes of care are selected and systematically evaluated against explicit criteria. Where indicated, changes are implemented at an individual, team or service level and further monitoring is used to confirm improvement in healthcare delivery (NICE, 2002).

The aim of this audit was to establish if hypoglycaemia and education about driving laws is given at the appropriate time, and to recommend and implement change in practice.

Method

The DSN team active caseload from January to December 2002 included 503 people with diabetes. Of these, 299 were converted to insulin therapy for varying reasons.

Conversion to insulin therapy is the major part of the workload for the DSN team. A computer system was used to identify people with type 2 diabetes who had been directly referred to the team by their GPs as their blood glucose levels could not be controlled with oral medication. All of these people (52) had been converted to insulin therapy.

A data collection sheet was used to collect information following the criteria and standards set out below.

Criteria and standards

The criteria and standards were as follows:

- Hypoglycaemia education to be given to all patients, and documented in the patient notes at initial consultation when insulin therapy is commenced.
- Driving laws to be discussed with 70% of patients, and documented in the patient notes at initial consultation when insulin therapy is commenced.

Standards need to be set at a realistic level. Achievement of 100% for hypoglycaemia education may seem high, but the patient's potential risk of harm without education is high. An achievement level of 70% for advice about driving laws takes into account that some people may not hold a current driving license.

Results

The results showed that levels of education and advice about hypoglycaemia and driving law were below optimal.

Hypoglycaemia education

It was hoped that 100% (n=52) of people in the sample group would receive documented hypoglycaemia education at initial consultation when commencing insulin. The audit showed that this number was in fact 88% (*n*=46), so there was a shortfall of 12% (see *Table 1*).

Driving law education

It was hoped that 70% (*n*=36) people in the sample group would receive documented driving law advice at initial consultation when commencing insulin. The audit demonstrated that this number was 63% (*n*=33), so there was a shortfall of 7% (see *Table 1*).

Discussion

Healthcare educators in the field of diabetes are responsible for ensuring that people with diabetes have sufficient information to make choices regarding the management of their diabetes. We must not underestimate the importance of this role. The goal of both healthcare professionals and people with diabetes is usually optimal glycaemic control. This can only be achieved by providing a package of care incorporating medical assessment,

pharmacology review and education.

Hypoglycaemia is one aspect of this education. It can be debilitating and frightening for people with diabetes:

> ***'About 25–30% of people with diabetes treated with insulin suffer one or more severe hypoglycaemic episodes every year (requiring assistance of others). It creates as much anxiety ... as long-term tissue complications, blindness and renal failure'.***
>
> (Williams and Pickup, 1999)

It is essential that healthcare providers address this issue from the moment oral medication or insulin commences, and reiterate advice during future consultations.

On reflection, to implement change and improve care for people with diabetes, our diabetes team needs to look at what the present hypoglycaemia education consists of. Currently, all we know is that some form of education is being given. I suspect there is a disparity in the advice given by different healthcare professionals, but to assess this requires research.

A standard of hypoglycaemia education should be formulated as a reference guide for our diabetes team. Documentation can then be designed so that when hypoglycaemia education is given, the diabetes team as a whole knows exactly what this should cover. This will lead to equality of care and improve the quality of education to all people with diabetes.

Driving law advice is closely linked to potential risk of hypoglycaemia. As healthcare providers, we must understand the laws that people with diabetes are subject to, and potential legal repercussions for both these people and ourselves. The results from the audit showed that 63% of our target 70% of people with diabetes received driving law advice. This shortfall of 7% is similar to the 12% who did not have hypoglycaemia education. This shows the same amount of importance is currently placed on two closely linked areas of education.

To implement change and improve care we need to create a standard of driving-law advice. Documentation can be designed so that we know what advice has been given. This should lead to equality in care, thus improving the quality of advice to all patients.

Figure 2. Recommendations for change in practice

Develop a standard for hypoglycaemia education covering:
- Who requires hypoglycaemia education
- What hypoglycaemia is
- Why it may occur
- Signs and symptoms
- Corrective action to take
- Preventable measures
- Backed-up with written information

Develop a standard for driving law advice covering:
- Who requires driving law advice
- Legal issues arising
- Insurance issues arising
- Blood glucose levels suitable to drive with
- Hypoglycaemia
- Potential issues arising from long journeys
- Effects of alcohol
- Backed-up with written information

Develop documentation covering the above two points in patient notes for legal and audit purposes.

Conclusion

This audit has shown the need to develop standards of care for professionals to work within, specifically related to education about hypoglycaemia and driving laws for people with diabetes who are starting a form of medication. By formulating standards of care, the potential outcome would be two-fold; equality and improved quality of care for patients; and a tool of measurement for care given for professionals. Once standards have been developed, I plan to do another audit in 6 months, which incorporates the newly developed standards of care. ■

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