

Keeping abreast of the latest diabetes research: Impact of diabetes, hypoglycaemia awareness and GLP-1 analogues

Too busy to keep up to date with the latest research? Maureen Wallymahmed, a Nurse Consultant at Aintree University Hospital NHS Foundation Trust, selects the latest papers of interest to diabetes nurses.

Diabetes and daily life

Agard A et al (2016) *Pract Diabet* 33: 49–53

There are times when diabetes management is a low priority in an individual's life. This qualitative study from Sweden aimed to identify factors that influence an individual's ability to adhere to good lifestyle choices and medications. The study involved 24 adults with T2D from a variety of age groups and socioeconomic backgrounds. One main open-ended interview question was asked: "Can you describe what living with diabetes means to you?" Additional questions were then asked for clarification.

Results revealed 4 main themes:

- A lifelong follower, but not a real problem (diabetes was perceived as a minor issue).
- A trifle in relation to the daily struggles with difficulties (diabetes was considered to be less important than other life circumstances, such as other diseases, social and work problems, or concern about relatives in a home country).
- Something out of one's control (diabetes is a predetermined condition).
- Not worth giving up the good things in life for (the social elements of eating were more important).

It is difficult to generalise these findings to other populations, as over 50% were born outside of Sweden and some had concerns about family in their home countries. However, throughout the world many people live away from their home countries and will have similar concerns. The paper ended with a quote from a Danish philosopher: "If I want to succeed in bringing a person towards a specific goal, I must first find where she is and start from there" – good advice for all of us.

Problematic hypoglycaemia

Speight J et al (2016) *Diabet Med* 33: 376–85

Impaired awareness of hypoglycaemia can have a negative effect on an individual's quality of life and their ability to work. It is estimated that after 25 years of T1D, almost 50% of people are affected. This paper describes the development and psychometric validation of the new Hypoglycaemia Awareness Questionnaire (Hypo A-Q). The questionnaire was designed following interviews with 17 people with T1D and problematic hypoglycaemia. Findings from the interviews were then discussed by diabetologists and psychologists. The final questionnaire consisted of 33 items relating to a variety of areas, including perceived awareness of symptoms, perceived diminished awareness, blood glucose levels when symptoms commence, recall of mild and severe hypoglycaemic events and the need for third-party assistance. It includes items about awareness of hypoglycaemia when awake and asleep. Psychometric evaluation of the questionnaire was undertaken by 120 people with T1D and identified 3 subscales: impaired awareness, symptom level and symptom frequency. Convergent validity was indicated by strong correlations between the impaired awareness subscale and existing measures of hypoglycaemia awareness. The impaired awareness subscale was able to distinguish between those with impaired and intact awareness. The authors conclude that the Hypo A-Q is likely to enable a more definitive diagnosis of impaired hypoglycaemia awareness and may have benefits for clinical practice.

GLP-1 analogues' impact on HbA_{1c} and weight

Curtis et al (2016) *Pract Diabet* 33: 13–7

Poorly controlled T1D is associated with micro- and macrovascular complications. GLP-1 analogues are licensed for use as add-on therapy in people with T2D and suboptimal glycaemic control, but not for use in T1D.

This retrospective observational study looked at adding a GLP-1 analogue to insulin treatment in 33 people with poorly controlled T1D (HbA_{1c} >57 mmol/mol [7.4%]), obesity (BMI >30), or progressive weight gain. HbA_{1c} and weight were recorded at baseline and then 6 monthly intervals for up to 30 months. The choice of agent was based on patient preference. The primary endpoints were improved glycaemic control and/or sustained weight loss of >5%. The mean follow up time was 16 months.

HbA_{1c} improved significantly from baseline to 6 months (79 mmol/mol [9.4%] versus 71 mmol/mol [8.6%; $P=0.3$]) and this was maintained at 12 months (70 mmol/mol [8.6%; $P<0.001$]). From this point, HbA_{1c} increased, but remained improved from baseline at 18, 24 and 30 months (77 mmol/mol [9.2%; $P=0.35$]; 77 mmol/mol [9.2%; $P=0.43$] and 74 mmol/mol [8.9%; $P=0.320$], respectively). Weight decreased significantly: 104.9 kg at baseline, 98 kg at 6 months ($P<0.0001$), 98.5 kg at 12 months ($P=0.0016$), 96.2 kg at 24 months ($P=0.0024$) and 92 kg at 30 months ($P=0.018$). However, so far, only 8 people have reached a follow up duration of 30 months. Fourteen people discontinued GLP-1 therapy for various reasons. The authors acknowledge that this was not a case-controlled study and that only people who were likely to benefit were selected.