Keeping abreast of the latest diabetes research: Apps, low-carb diets, Charcot neuroarthropathy and non-attendance

Too busy to keep up to date with the latest research? In this series, Julie Brake, a Diabetes Specialist Nurse in Liverpool, selects the latest papers of interest to diabetes nurses.

Mobile apps for diabetes self-management

Brzan PP et al (2016) *J Med Syst* **40**: 210

In today's age of technology, chronic diseases such as diabetes can be made manageable for some people with the support of mobile apps. In this study, the authors performed a systematic review of free apps for smartphones available in three of the most popular mobile app stores – Google Play, the Apple App Store and the Windows Phone Store.

Sixty-five apps were tested and evaluated, of which 56 failed to meet minimal requirements or did not work properly. While a wide selection of mobile apps are available to aid self-management of diabetes, only nine of the 65 reviewed were versatile and useful in terms of monitoring blood glucose level and medication, nutrition, physical exercise and body weight.

The results of this study can be used as a basis to provide app developers with certain recommendations, but also, I believe, as a guide for healthcare professionals who recommend apps to people with diabetes. Not all apps appear to be fit for purpose or to do what they suggest.

Low- versus high-carbohydrate diets for type 2 diabetes

Tay J et al (2015) *Am J Clin Nutr* **102**: 780–90

In this randomised controlled trial, 115 obese adults with type 2 diabetes were assigned to a calorie-deficit diet with either low- or high-carbohydrate components, along with three supervised, 60-minute exercise sessions per week. Over the 52-week trial, both diets achieved substantial weight loss and reduced HbA_{1c} and fasting glucose levels. The two diets were similar in terms of completion rates and reductions in weight, blood pressure, HbA_{1c} and LDL cholesterol levels. However, the low-carbohydrate diet resulted in greater improvements in lipid profiles, blood glucose stability and reductions in diabetes medication requirements.

The researchers suggest that a low-carbohydrate diet high in unsaturated fat would be a better option to improve type 2 diabetes owing to the greater reduction in diabetes medication seen in this group and the improved lipid profiles compared with low-carb diets from other studies, which have often been high in saturated fat.

Investigating quality of life in people with Charcot neuroarthropathy

Srivastava S et al (2016) *The Diabetic Foot Journal* **19**: 70–4

This study aimed to establish whether people with diabetes complicated by Charcot neuroarthropathy have a reduced quality of life compared to those with peripheral neuropathy alone and those without any foot disease. A total of 118 people were enrolled. The results showed that mental health scores on the 36-Item Short Form Survey were significantly reduced in people with Charcot neuroarthropathy. Women with the condition had worse mental health quality of life scores than the men, and a high BMI was associated with worse mental health scores.

These are clinically significant findings that indicate the need for specific quality of life screening, along with appropriate follow-up and support, in people with Charcot neuroarthropathy.

Reasons for non-attendance at diabetic retinopathy screening

Strutton R et al (2016) *BMJ Open* **6**: e010952

In this study, the researchers sought to identify explanations for why patients had never attended a screening appointment for diabetic eye screening. Data on 146 people were evaluated and the investigators obtained reasons for non-attendance from participants, general practices and clinical notes.

Patient factors included having other commitments, anxiety about screening, not engaging with any diabetes care and being misinformed about screening. System-level factors included miscommunication about where the patients lived, their clinical situation and practical problems that could have been overcome had their existence been communicated with the screening service.

Improved sharing of relevant information between providers has the potential to improve uptake of screening. Greater awareness of patient-level barriers may help screening programmes to offer a more accessible service. ■