Conference report

Highlights from the Diabetes UK Professional Conference 2018

The Diabetes UK Professional Conference, held in London in March, included presentations focusing on what’s new in dietary advice, foods for glycaemic control and cardiovascular disease prevention, and the management of liver disease. Felix David here reports on key factors for diabetes care.

What’s new? Dietary advice for minority ethnic groups

The prevalence of diagnosed diabetes is significantly higher among most ethnic minorities than in the general population. In her presentation, Dr Louise Goff, Senior Lecturer in Nutrition and Dietetics at King’s College London, explained how culturally tailored prevention programmes are vital to help engage with ethnic minorities at high risk of developing diabetes.

Across all age ranges, Afro-Caribbeans and South Asians have a significantly higher risk than white Europeans of developing type 2 diabetes (T2D) in the overweight and normal weight categories. A 2004 Health Survey showed 10.4% of black Caribbean men and 8.4% of black Caribbean women were diagnosed with diabetes, compared to 4.3% of men and 3.4% of women in the host population. This disparity was also significant among men and women from Indian (10% and 5.9%, respectively), Pakistani (7.3% and 8.6%) and Bangladeshi (8.2% and 5.2%) ethnic groups.

Numerous environmental, genetic, socio-economic and cultural factors help account for this disparity in diabetes risk.

‘Language barriers, poor health literacy and low socio-economic position also all contribute to poor health care access and engagement among ethnic minorities,’ said Dr Goff. ‘Which results in poor glycaemic control and higher levels of medical complications.’ Ramadan, for example, is associated with a seven-fold higher incidence of severe hypoglycaemia in patients with T2D – yet evidence shows that structured education plans given in the weeks before Ramadan can reduce acute complications.

‘There are numerous ways in which we can tailor the treatment of ethnic minority patients with type 2 diabetes,’ said Dr Goff. ‘These include: greater community engagement; consideration of a patient’s socio-economic status and language barriers; the delivery of education information in the appropriate language; along with visual aids for low-literacy needs and providing practical advice on cultural foods and cooking methods.’ Utilising communal centres of faith, such as mosques and churches, was also demonstrated as a useful way to target high-risk minority groups that are less likely to use conventional routes to engage with the health care system.

‘The good news is that culturally tailored education programmes do seem to work,’ said Dr Goff. A Cochrane review of 33 trials demonstrated significant improvements in glycaemic control in participants with T2D that were given culturally tailored education. Glycaemic improvements were maintained at six, 12 and 24 months, with a significant reduction in HbA1c at three months (-0.39% [-1.19, -0.30], p=0.003) and at 12 months (-0.19% [-0.54, -0.04], p=0.02). At six months, the study also found significant improvement in diabetes knowledge among participants given culturally tailored education (0.50 [0.33, 0.68], p<0.001).

However, only four of the 33 trials used in the Cochrane study were based on a UK ethnic minority (each South Asian), while 27 of the trials were from US ethnic minority groups (14 Hispanic, 12 African-American and one American Samoan). ‘As the US clearly has an ethnic minority demographic different from the UK, for example by having a sizeable Hispanic population, the trial data from this study cannot simply be translated to UK minorities who have their own cultural and environmental differences. The difficulty is that there is a paucity of UK studies into diabetes prevention programmes,’ said Dr Goff.

In order to successfully create a culturally tailored intervention programme ‘it is vital to work with the community to produce it’, said Dr Goff. From the available data, reductions in HbA1c in ethnic minority groups are best achieved when face-to-face interventions are used instead of telecommunication, along with a combination of group and individual education sessions and the involvement of a peer educator.

Foods for glycaemic control and CVD prevention

Selecting which diet is best is highly controversial among the general public, as well as in health care. In his presentation, Dr Duane Mellor, Senior Lecturer in Human Nutrition at Coventry University, aimed to help clinicians negotiate the calorie minefield in the treatment of their diabetic patients.

‘So what’s new in food-based recommendations?’ asked Dr Mellor. ‘Mainly, there is an increasing move away from nutrient-based recommendations to describe food and dietary patterns. People don’t eat in terms of nutrients, they eat food – so telling them to consume the ideal proportion of macronutrients from carbohydrates is not helpful.’

But what does this mean in practice? In terms of dietary education for patients with type 1 diabetes, the recommendations have been simplified into two points to optimise carbohydrate intake for good glycaemic control: to adjust insulin-to-carbohydrate intake in patients using an insulin pump or multiple daily injections; and to aim for a consistent daily carbohydrate intake for patients on fixed insulin regimens.

In patients with T2D the emphasis away from energy advice to information on dietary patterns is noticeable. There is a continued focus on weight management – and in overweight or obese individuals a sustained weight loss of at least 5% should be prioritised while also aiming for 2150 minutes of physical exercise per week. With regard to diet, a Mediterranean-style...
or similar diet should be recommended in combination with individualised education informing patients how to use the low glycaemic index to monitor and (if necessary) reduce their carbohydrate intake.

Close monitoring is important as weight management in patients with T2D is vital to improve treatment outcomes. Results from a recent meta-analysis showed weight loss of ≥5% in patients with T2D is needed to significantly improve glycaemic control, with longitudinal studies showing that weight loss in people with T2D was a significant predictor in being able to achieve HbA1c targets.1 In people with newly-diagnosed T2D, one study found that 86% of those who lost >15kg achieved remission of their T2D,2 while in bariatric surgery weight loss was not sustained post-surgery in the majority of patients.3

‘However, in terms of what diet we should be recommending to achieve treatment targets, the evidence is conflicting,’ said Dr Mellor. ‘Terms like Mediterranean-style diet and Nordic-style diet are bandied around, but we don’t really know what they include.’ A meta-analysis did show the Mediterranean diet can reduce HbA1c by up to 5mmol/mol (0.47%) when compared to a standard care or low fat diet;4 however, ‘diets like the Mediterranean-style one may not be suitable for all cultures and they may not always be realistic for people on the low economic spectrum to afford,’ said Dr Mellor.

Similar confusion surrounds carbohydrate diets, despite the importance of carbohydrate in glycaemic control. A recent clinical trial found similar reductions in weight and HbA1c in patients with T2D who were placed on either low or high carbohydrate diets, though an increased reduction in diabetes medication was also seen in the low carbohydrate group.5 Generally though, ‘there is a lack of long-term studies on the effect of carbohydrate diets and a lack of clarity on what constitutes the definition of low carbohydrate,’ said Dr Mellor. ‘What we do know is that reducing saturated fats and replacing with good fats reduces the risk of cardiovascular disease, and there is good evidence that refined carbohydrates and saturated fats are bad.’

Rather than focusing on the superiority of a single diet in the long-term glycaemic management of T2D, it is better to combine a range of diets based on their nutritional quality and patient preference. If long-term adherence is to be realistically expected from patients, then diet plans need to be tailored to that individual. ‘We really need to start having conversations about how people can follow these diets and still enjoy food, rather than giving them as an all or nothing battle,’ concluded Dr Mellor.

NASH: When do I refer? What should I measure?

Type 2 diabetes is a leading cause of liver disease and its progression. In his presentation, Professor Quentin Anstee, Professor of Experimental Hepatology and Honorary Consultant Hepatologist at Newcastle University, informed the audience why it is vital that they look out for fatty liver disease in their diabetic patients.

In the UK, liver disease stands out among chronic disorders such as heart disease, stroke and most cancers, as the only condition that has seen a significant increase in mortality over the last 30 years. This trend is peculiar to the UK, which has had a significantly higher increase in liver disease incidence than in other Western European countries – with a mortality rate that has increased by 400% since 1970.6

Liver disease is now the third most common cause of premature death in the UK, with a noticeable increase in the younger generation (the mortality of liver disease increased by five times in people aged <65 years since 1970).7 One of the reasons for this shift is that ‘we are all getting fatter,’ said Professor Anstee. ‘We are seeing an increase in cases of liver cancer that are not related to alcohol, with non-alcoholic fatty liver disease rapidly becoming the underlying aetiology of liver disease.’

Non-alcoholic fatty liver disease (NAFLD) is the broad term used to define the accumulation of abnormal fats in the liver in cases when alcohol consumption is <20/30g per day and when other causes for liver dysfunction, such as hepatotoxins, have also been excluded. The main histological features of NAFLD are steatosis, Mallory-Denk bodies, ballooning hepatocyte degeneration and megamitochondria; with non-alcoholic steatohepatitis (NASH) a progressive subtype of NAFLD.

Risk factors associated with NAFLD and its progression are insulin resistance, obesity, cardiovascular disease, dyslipidaemia, and metabolic syndrome, ‘but the single biggest cause of liver disease progression is type 2 diabetes and this is key to understand the pathophysiology of this disease,’ said Professor Anstee.

Estimates on the prevalence of NAFLD in the general population vary, but one European study found it present in 94% of obese patients (BMI >30) and in 67% of overweight patients (BMI >25).8 ‘Even in organ donors, who we presume to be healthy, we find that 3–15% have fatty liver disease,’ said Professor Anstee. ‘In patients with NAFLD, screening for diabetes is mandatory, and the EASD-EASL-EASO clinical guidelines recommend that we need to also be testing all patients with [type 2] diabetes for fatty liver deposits even if they do not present with liver problems.’

Thankfully, for patients with T2D, when asked if a liver biopsy is always necessary Professor Anstee responded ‘the answer is a resounding NO’. Liver disease is often asymptomatic and the majority of cases are discovered by chance, commonly in annual reviews in diabetes and hypertension clinics, or through statin monitoring.

If liver disease is suspected, then the first steps are to gather a patient’s history regarding alcohol intake (<14/21 units/week), and, if there is any pre-existing liver disease, followed by investigation into their liver biochemistry, primarily aspartate transaminase and alanine transaminase; and ultrasound imaging to detect steatosis and the level of fat deposit. ‘The use of biomarkers such as NFS or FIB4 in combination with a non-invasive test, for example FibroScan or an MR elastography, can help rule out patients unlikely to have significant disease,’ concluded Professor Anstee.

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References

References are available online at www.practicaldiabetes.com.
References


