Diabetes and mental health: often an ‘evidence-free zone’

The link between diabetes and mental health issues is well-recognised. However, as Mark Greener reports, there seems to be an ‘evidence-free zone’. Positive attempts are now being made to ensure patients receive the right care in a timely manner.

Clinicians have recognised the intimate link between diabetes and mental health for centuries. During the 17th century, for instance, the English physician Thomas Willis suggested that diabetes was caused by ‘long sorrow and other depressions’. In the 19th century, Sir Henry Maudsley argued that diabetes ‘often shows itself in families in which insanity prevails’.1

Today we recognise that about one in 10 people who experienced several episodes of severe mental illness – schizophrenia, bipolar disorder or major depression – have type 2 diabetes (T2D). Indeed, people with severe mental illnesses are about twice as likely as the general population to develop T2D.2 Numerous other mental illnesses – including dementia, alcohol abuse and anxiety – can also undermine glycaemic control, increase the risk of developing diabetes, or both. In people with diabetes, mental health issues can reduce the effectiveness of psychological treatments, make remission of either disease less likely and promote diabetic complications.3

‘We now know that the entire spectrum of mental health issues can influence diabetes-related outcomes,’ says Hermione Price, Consultant Diabetologist, West Hampshire Community Diabetes Service. ‘Experiencing depression, anxiety and schizophrenia can undermine diabetes control. Often diabetes control mirrors the severity of the psychiatric symptoms.’ Yet despite widespread awareness of the issues, optimally managing this pervasive problem is proving difficult. However, new guidelines drawing on the expertise of diabetologists and psychiatrists aim to improve diabetes management in adults and children with psychiatric disorders in inpatient settings.

A range of issues
Numerous mental health issues can compromise diabetes-related outcomes. For instance, between 13–20% of people with dementia also have diabetes.4 Epidemiological studies suggest that the relative risk of dementia among people with T2D ranges from 1.2–2.8 compared to controls without diabetes, although the difference was not significant in some studies.5 ‘People with dementia may forget how to test their blood glucose. They may even forget to eat,’ says Dr Price. ‘People with learning disabilities may not be able to self-manage their diabetes at all.’ However, in some cases, she comments, people with learning disabilities ‘may be able to fully manage their diabetes with a little help and support.’ Nevertheless, the support needed by people with diabetes and learning disabilities or dementia is not always available.

Diabetes is also more common in people with severe mental illness – especially if they are taking certain psychotropic medicines – than in the general population. One meta-analysis, for example, included 118 studies encompassing 438 245 people with severe mental illness and 5 622 664 controls. The authors reported that 12.2% of individuals who had endured several episodes of severe mental illness had T2D, a rate that was 85% higher than that in the general population. Compared to controls, patients with schizophrenia or related psychotic disorders were twice as likely to develop T2D (relative risk 2.04). In people with bipolar and major depressive disorder, the risk of T2D was 89% and 43% higher, respectively. Furthermore, among people with these severe mental illnesses the risk of T2D was 43% higher in women than in men.6

Several factors seem to contribute to these well-established links. For instance, using antidepressants, lithium and antipsychotics are all associated with higher T2D prevalence. In the meta-analysis mentioned above, the prevalence of T2D in antipsychotic-naïve participants was 2.9%. Aripiprazole (6.7% prevalence of T2D) and amisulpride (3.9%) were not associated with a significantly increased prevalence of T2D. However, the prevalence of T2D was significantly higher in those treated with olanzapine (10.6%), risperidone (13.2%) and quetiapine (16.0%). While the weight gain and lipid changes associated with atypical antipsychotics attract attention, one in 10 (10.6%) of people taking typical antipsychotics developed T2D.5

Numerous other factors contribute to the high rates of diabetes among people with severe mental illness, include lifestyle factors, cognitive issues and substance abuse. ‘People with schizophrenia may have good control and are well engaged during remissions,’ says Dr Price. ‘However, florid schizophrenia can have a major impact on management. People with severe mental illness may also face practical problems. For example, people admitted to secure mental health facilities are not allowed access to lancets and the choice of food and opportunities for exercise may be limited.’

In addition, people with mental health problems more commonly abuse alcohol – which can damage the pancreas, undermine self-management and trigger hypoglycaemia – than healthy controls. A meta-analysis of seven studies encompassing 3998 people with alcohol use disorders reported that 12.4% had T2D. The authors note that the prevalence of T2D in people with alcohol use disorders is similar to that in people with severe mental illness (11.3%). As mentioned above, the latter was double the relative risk for T2DM in a matched general population, although the authors were unable to find a study that compared the risk in people with alcohol use disorders compared to age- and sex-matched controls.2,6

‘People with mental illness may be more likely to smoke, abuse alcohol or drugs, and take less exercise,’ says Dr Price. ‘However, many people with serious mental illness live in areas that lack support, are socioeconomically deprived or are unsafe. In a psychiatric hospital, the person may have access to and use a gym. But when they return
home, they may feel unsafe exercising outdoors. The circumstances that people with mental illness find themselves in, often for financial reasons, can frustrate their best intentions.’

**Anxiety and depression**

Depression and anxiety exemplify the two-way relationship between diabetes and mental illness. Depression and anxiety seem to increase the risk of diabetes and can arise from the burden imposed by the disease and its treatment.3 Being diagnosed with diabetes or developing a complication can cause considerable distress and mental health issues, says Dr Price.

Indeed, such problems are relatively common. Up to 40% of people with diabetes experience anxiety, with 14% experiencing current generalised anxiety disorder (GAD).3 In an Australian study of 1298 people with T2D, 34.2% reported mild to severe depressive symptoms and 15.7% were taking antidepressants. Moreover, 15.9% had a history of lifetime major depressive disorder. 7.1% had a lifetime history of GAD and 17% had a lifetime history of both diseases. A lifetime history of major depressive disorder was associated with higher HbA1c and BMI, a greater likelihood of current smoking, and reduced the likelihood of self-monitoring of blood glucose. People with a lifetime history of depression and GAD showed higher HbA1c and worse diabetes management.3

Psychological distress in people with diabetes can manifest in other ways. Insulin and other drugs are occasionally used in suicide attempts, for example.7 Moreover, Dr Price points out, people with type 1 diabetes (T1D) may deliberately modify their insulin dose to lose weight. A study of 356 females aged 12–19 years with T1D and 1098 age-matched controls reported that 10% and 4% respectively had an eating disorder (odds ratio 2.4). Subthreshold eating disorders were also more common in those with diabetes (14%) than in controls (8%; odds ratio 1.9). Mean HbA1c was higher in diabetic subjects with an eating disorder (9.4%) than in those without (8.6%).8

Furthermore, 11% of patients reported currently taking less than their prescribed dose of insulin to lose weight. Indeed, 42% of subjects with T1D and an eating disorder reported insulin misuse; the rate was significantly higher than the proportion among those with subthreshold disorders (18%) and controls (6%).8

Ketoacidosis and severe hyperglycaemia can also express psychological distress, Dr Price points out. ‘In some patients, regular ketoacidosis and severe hyperglycaemia are forms of self-harm,’ she notes. ‘Anyone can develop hyperglycaemia from time to time or ketoacidosis when they have an infection or intercurrent illness. However, if severe hyperglycaemia occurs regularly despite modifying treatment or ketoacidosis occurs without a trigger, the person may be psychologically unwell and could benefit from a psychiatric assessment.’

**Services struggle to deliver**

Dr Price notes that psychiatrists and diabetes specialists both recognise the link between mental illness and diabetes. ‘However, services often struggle to deliver care,’ she says. For example, relatively few areas can access support from a psychiatrist or psychologist with experience in diabetes. Moreover, GPs and diabetes teams may refer people with depression or anxiety to Improving Access to Psychological Therapies (IAPT) services, which are often not equipped to deal with the specific problems facing people with diabetes. ‘IAPT services rarely appreciate the nuisances of diabetes management and the need for cognitive behavioural therapy [CBT] in this setting,’ Dr Price comments. ‘For example, CBT may not be necessary to help people with needle-phobia who need a couple of blood tests each year. But it’s a very different problem if a needle-phobic person needs insulin injections several times a day.’

In addition, psychiatrists and diabetes specialists recognise that certain drugs used to treat severe mental illness have adverse metabolic consequences. ‘In many parts of the country, patients are screened for metabolic changes when they receive their depot neuroleptic,’ Dr Price says. ‘The problem arises when a psychiatrist notices a change in glycaemic control or a diabetes specialist notices a change in mental health. In these circumstances, clinicians can be at a loss about what to do. In most parts of the country, there isn’t a joined up service.’

**New guidelines**

Against this background, the Joint British Diabetes Societies and the Royal College of Psychiatrists recently developed guidelines on the management of diabetes in adults and children with psychiatric disorders in inpatient settings. The publication is, says Dr Price, the first to draw on the expertise of diabetologists and psychiatrists. The guidelines comment that the inpatient setting offers ‘a window of opportunity to effect better shared care planning and decision making’.

The working group calls for ‘equivalent levels of care for diabetes in people with and without mental illness in order to improve mental health and reduce the risk of diabetes complications’. The guidelines encourage collaborative working and note that ‘local variation in diabetes outcomes in those with and without mental illnesses should be audited’. Commissioners should be ‘held to account if services are not meeting the needs of this high risk and vulnerable group’.

‘The guidelines have been welcomed when we presented them at meetings,’ Dr Price reports. ‘Psychiatrists and diabetes specialists recognise that services need to improve. They want to do more. However, in many places they didn’t know where to begin. The guidelines, we hope, will go some way to helping local services to look at potential solutions and improve the prospects for patients.’ Dr Price hopes that, for example, the guidelines ‘will help start local conversations between commissioners and providers’.

Nevertheless, numerous questions remain unresolved. ‘People with serious mental illnesses are generally excluded from clinical trials of new medicines for diabetes. So we simply don’t know how well widely-used drugs for diabetes work in people with serious mental illness,’ Dr Price concludes. ‘We also need more studies assessing the value and role of family therapy and other psychological interventions. All too often, the management of diabetes in people with serious mental illness and vice versa is an evidence-free zone.’

Mark Greener, BSc(Hons), MRSB, Medical Correspondent

**References**

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

Diabetes and mental health: often an ‘evidence-free zone’

References