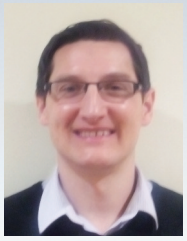
Mental Health *versus* Physical Health

Managing a patient with schizophrenia within secure mental health services

Nicola Wolfe, Lead Specialist Dietitian, and **Andrew Simmons**, Specialist Dietitian, St Andrew's, Northampton, UK

On average, individuals with severe mental illness die at least 10 years younger than the rest of the population.[1] The prevalence of diabetes in schizophrenia has been found to be about 20 per cent.[2] Weight gain of 7-11 kg in adults is associated with a two-fold increase in the risk of diabetes.[3] This amount of weight gain can often be seen in individuals with severe mental illness. This has been linked to a number of factors, including lack of activity, antipsychotic medication, patient's motivation, over feeding, and snacking behaviours. Several atypical antipsychotics are particularly associated with weight gain; olanzapine and clozapine lead to the most weight gain, with some individuals gaining up to 30 per cent of their initial weight.[4] There has been some evidence that antipsychotic medication may directly lead to people developing diabetes.[5] Weight gain caused by antipsychotics is generally thought of as the most important factor in the increased risk of diabetes.[6]

Case study

Robert (patient's name has been changed to maintain confidentiality) has been detained under the Mental Health Act 1983 for over 22 years, with a diagnosis of paranoid schizophrenia.

Robert was diagnosed with Type 2 diabetes in 1998, following treatment with risperidone whilst detained in a high secure unit. Robert was commenced on insulin therapy in 2007.

On admission to a medium secure unit Robert weighed 131 kg, height 1.87 m, BMI 37.4 kg/m2, HbA1c of 107 mmol/mol. Due to Robert's obesity and poorly controlled diabetes he was referred to the dietitian and was offered monthly individual sessions.

Robert showed signs of retinopathy in 2011 and this required laser eye surgery at the general hospital.

NICE (2006) recommends that structured education is offered to every person with diabetes and is an integral part of diabetes care. In early 2011, Robert attended a programme of structured diabetes education sessions utilising the conversation maps kit which was facilitated by the dietitian. The conversation maps were created by Healthy Interactions, in collaboration with Diabetes UK and sponsored by Lilly, to engage people with Type 2 diabetes through interactive discussions. The diabetes conversation map package contains four separate maps: managing my diabetes; diabetes and a healthy lifestyle; starting insulin; and experiencing life with diabetes. Following the completion of this education programme Robert's HbA1c improved from 104 mmol/mol to 97 mmol/mol (**Figure 1**). Target HbA1c is below 48 mmol/mol.[7]

At this time Robert commenced sessions with a psychologist to address his snacking habits with the aid of dialectical behaviour therapy (DBT).

Robert showed further signs of retinopathy in 2012, which required further laser eye surgery at the general hospital.

Robert's weight had increased to 145.5 kg, BMI 41.6 kg/m^2, HbA1c had risen to 107 mmol/mol. Fortnightly sessions were commenced with the dietitian to provide education and support to Robert to help address these physical health issues. Within these sessions blood sugar readings and weight were reviewed. Robert was also encouraged to undertake regular physical activity in line with government recommendations of two hours and 30 minutes per week. This included the use of the ward exercise bike, skipping in his bedroom area, twice weekly gym sessions and walks within the grounds. Robert's body composition was initially measured in June 2012 (see **Figure 2**). This result showed that Robert had a higher than recommended amount of fat, with a fat percentage of 47.7 per cent (recommended healthy range 8-20%).

Robert has progressed to a low secure unit, where he has been offered individual sessions with the dietitian every three weeks. During these sessions, Robert has been offered the opportunity to discuss concerns he may have regarding his diet. These have included menu choices and portion guidance. Within these sessions blood sugar readings and weight have been reviewed. Robert now has leave off the ward with access to the immediate grounds and the local community, thus increasing Robert's access to takeaway establishments and confectionary food items. This has changed the focus of sessions with the emphasis now on providing information and education to support Robert's food choices while utilising his ground and community leave. This has included literature detailing low calorie confectionary and savoury snacks. Education has been offered by using food picture cards. These have a picture of an individual food on one side, with the nutritional content of a portion of the food on the reverse of the card. Robert was offered the opportunity to guess the fat and sugar content of these products.

Robert's weight has increased to 156.5 kg, BMI 44.8 kg/m^2. However, Robert's body composition has shown his fat mass has reduced from 52.4 kg to 43.3 kg and Robert's muscle mass has increased from 87.1 kg to 97.1 kg to 105 kg. This explains why overall no improvement in Robert's total weight has been demonstrated as Robert has clearly gained muscle and lost fat.

Robert's HbA1c has reduced from 107 mmol/mol to 75 mmol/mol which represents an improvement in Robert's diabetes control. However, this remains higher than the recommended target of 48 mmol/mol.

This case study highlights that, despite the many challenges to physical health within a secure setting, improvements to physical health are achievable.

References: **1.** Joukamaa M, et al (2001). Mental disorders and cause-specific mortality. British Journal of Psychiatry; 179: 498-502. **2.** Busche C, Leonard B (2004). Association between atypical antipsychotic agents and type 2 diabetes: review of prospective clinical data. British Journal of Psychiatry; 184 (suppl 47): s87-93. **3.** Colditz GA, et al (1995). Weight gain as a risk factor for clinical diabetes mellitus in women. Ann Intern Med.; 122: 481-486. **4.** Henderson DC, et al (2000). Clozapine, Diabetes Mellitus, Weight Gain, and Lipid Abnormalities: A Five-Year Naturalistic Study. American Journal of Psychiatry; 157: 975–981. **5.** Connolly M, Kelly C (2005). Lifestyle and physical health in schizophrenia. Advances in psychiatric treatment; 11: 125-132. **6.** American Diabetes Association American Psychiatric Association, American Association of Clinical Endocrinologists and North American Association for the Study of Obesity (2004). Consensus development conference on antipsychotic drugs and obesity and diabetes. Diabetes Care; 27: 596-601. **7.** NICE (2009). Clinical Guideline 87. Type 2 Diabetes. London. Accessed online: www.nice.org.uk (January 2014).

Figure 1: Robert's HbA1c Measurements

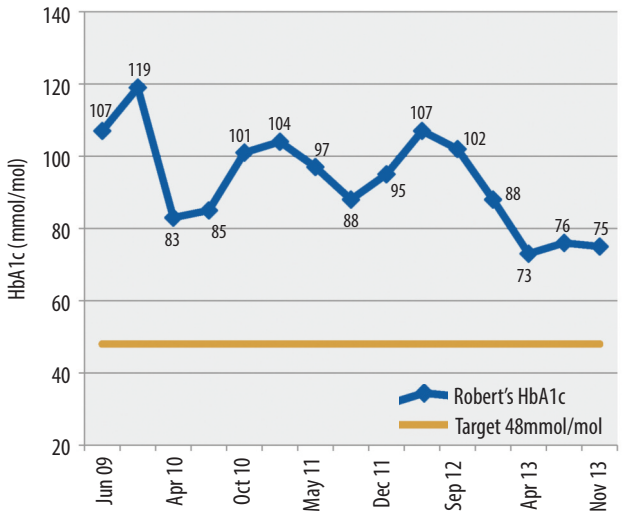


Figure 2: Body composition from Tanita bio-impedence scales