Psychotic disorders and diabetes: going beyond screening—time for integrated care.

Schizophrenia and other psychotic disorders affect up to 3.5% of persons during their lifetime. The National Mental Health Commission in 2012 identified the poor physical health of people with mental illness as one of the major issues for the Australian health care system as well as being “a national disgrace...an injustice that runs contrary to the United Nations’ Principles for the Protection of Persons with Mental Illness.” In a recent Australian study of mortality in schizophrenia, the mean age of death for men was 45 years and for women, 47 years, compared to the general population’s male and female life expectancy of 79 and 84 years, respectively.

The higher prevalence of diabetes and the failure to adequately manage these individuals’ cardiometabolic risk factors such as obesity, dyslipidaemia, hypertension and smoking may at least partly explain this ‘mortality gap’. In the Clinical Antipsychotic Trials of Intervention Effectiveness study, 13% of participants had diabetes (compared with 3% of aged-matched controls), 68% of participants smoked (compared with 35% of controls) and 27% had hypertension (compared with 17% of controls). The high prevalence of diabetes and metabolic disorders has also been emphasised locally: the 2012 National Report Card on Mental Health and Suicide Prevention in Australia highlighted the major physical health problems co-existing with schizophrenia, including: (a) three times the rate of diabetes; (b) one in three patients would expect to experience a cardiovascular event within five years; and (c) half of the patients had the ‘metabolic syndrome’. More than three quarters of patients have abdominal obesity, nearly half are hypertensive, two thirds are current smokers, half have abnormal low-density lipoprotein (LDL) cholesterol and triglycerides, and one third have elevated fasting glucose levels. These rates are all far exceeding the rates seen among the age-matched Australian general population.

WHY DOES HAVING A PSYCHOTIC ILLNESS PREDISPOSE TO DIABETES AND CARDIOMETABOLIC DISEASE?

The advent of first- and subsequently second generation or ‘atypical’ antipsychotic medications has been accompanied by an increase in rates of detection of diabetes, obesity and metabolic disease. The increased prevalence of these cardiometabolic risk factors has frequently been attributed solely to the use of antipsychotic medications. This is erroneous. Many drug-naïve patients with first episode psychosis show evidence of metabolic disorders such as hyperglycaemia and hyperlipidaemia. Studies indicate that increased ectopic fat stores and visceral fat, associated with cardiovascular disease risks, are frequently present prior to drug therapy, further highlighting the
intriguing possibility that schizophrenia and cardiometabolic genetic risks may co-segregate.

Although the medications play a significant role and can result in significant increases in weight, traditional modifiable risk factors, which are usually more adequately addressed in the general population, are significant. For example, there are high rates of smoking and a significant proportion of patients have poor nutrition, obesity, and limited physical exercise. Many patients do not seek medical help for physical ailments, which leads to late detection and management. Sleep and circadian disorders have a central role in the development of metabolic disease. Sleep problems in patients with schizophrenia patients are almost universal even when stable; especially disorganised sleep and circadian misalignment, which predispose to metabolic disease. Over 50% of patients with schizophrenia have at least moderate obstructive sleep apnoea (OSA). OSA may contribute to a worsening of the patient's cardiometabolic risk status and may also have the potential to worsen deficit and cognitive symptoms.

**THE APPROACH TO MANAGEMENT**

There have been valuable lessons from the diabetes prevention studies as well as from those highlighting the benefits of multifactorial risk reduction (e.g. the Steno-2 study). Management in patients with psychosis should include lifestyle advice, pharmacotherapy, and monitoring as in the general population, but will need to be individualised to take into account the particular needs of those with psychosis, e.g. tailored exercise and dietary plans. Patients with psychosis will respond to antihypertensive agents, statins and other agents as long as they take them. There is little utility in placing a patient with diabetes on a basal-bolus regimen of insulin if there are no systems in place to ensure adherence. In addition, results of the STRIDE Study and other trials in patients with mental illness demonstrate benefits in terms of lipids, glucose, weight and Framingham Risk Scores after lifestyle intervention. There are however major impediments to improving health care specific to this population. These include a lack of coordination of the physical and mental health care of the patients, many of whom do not have a general practitioner (GP). There is often no consensus as to which health practitioner should take responsibility for the patient's physical health care. Geographical segregation and separation of health services translate to poor adherence and low rates of attendance at appointments. Patients are often poor advocates for themselves and physical complaints may be perceived as being psychosomatic in origin. Financial constraints further hinder management.

National and international guidelines recommend screening for diabetes and metabolic disease. In Australia, there is no evidence that there has been systematic uptake in screening for diabetes and co-morbidities, management of these patients, or referral to diabetes or metabolic services by those working in mental health. A recent survey (in press) of Australian psychiatrists, conducted more than a decade after the publication of the Australian consensus statement in 2004, indicated that there remains a large gulf between guidelines and actual clinical practice. Appropriate management would need to go beyond screening for cardiometabolic risk factors and would need to include interpretation of these results and institution of considered pharmacotherapy. A vital component of management is to confirm that patients are reviewed regularly to confirm that these recommendations are implemented. There needs to be the recognition that diabetes and metabolic disease can be complex to manage, but clinicians need to set goals to achieve adequate levels of care despite this. Treatment algorithms may provide guidance but are not a substitute for management by an experienced clinical team. Most importantly, a referral pathway to an appropriate clinical service for management of a patient's particular needs would need to be established.

The geographical and organisational separation of physical and mental health facilities and health care workers can hinder adherence for attendance at appointments. Depending on resources, we would propose an assertive multidisciplinary service which does not artificially segregate physical and mental health. In New South Wales, the Collaborative Centre for Cardiometabolic Health in Psychosis (ccCHIP) provides the model for one such service. The Centre is an initiative of the Concord Medical School (of the University of Sydney) and the Sydney Local Health District (SLHD), with clinical and research services at Concord Repatriation General Hospital and at the Charles Perkins Centre. Figure 1 indicates the structure of ccCHIP.

In this model of care, a core multidisciplinary team assesses and manages each patient with psychosis and develops a comprehensive management plan in association with the patient's
GP and case manager. The core team consists of those working in psychiatry (psychiatrists and mental health nurses), medicine (endocrinologists and cardiologists), allied health (exercise physiologists, dietitians, and sleep disorder clinicians), and dentistry. This model of care has been iteratively refined in SLHD clinical settings over the last 8 years. Going forward, it is envisaged that ccCHIP will serve as a clinical, research, and training hub within the NHMRC Sydney Health Partners translational health research program, with the aim of improving health outcomes for the population with psychosis.

It is recognised that not all health services will be able to provide a service as comprehensive as this. However, all health services can provide appropriate education to health care workers and ensure that there are referral pathways (where required) to a diabetes service or endocrinologist. It is also recognised that GPs play a central and key role in the care of all patients, and every effort should be made to ensure that each patient has access to a GP.

The test of whether the physical health outcomes of patients with psychosis are actually improving will be to observe a reversal of the negative slope on longevity — this is an essential issue of equity.

REFERENCES (OTHERS AVAILABLE ON REQUEST)


Figure 1: ccCHIP structure.