Diabetes and Mental Health Literature Review: Narrative

There is a strong correlation between diabetes and mental illness. El-Mallakh (2007) states that diabetes mellitus is more common among individuals with schizophrenia and schizoaffective disorders than in the general population. For bipolar disorder, Cassidy et al. (1999) report a higher overall frequency of diabetes mellitus in hospitalized patients diagnosed with bipolar disorder than the general population. They state that the association between bipolar and diabetes is clinically relevant and underscores the importance of screening for diabetes in the bipolar population. As well, in their review of the literature, Anderson et al. (2001) found that individuals with diabetes were twice as likely to have depression when compared to individuals in the same setting without diabetes. Anderson et al. also found that the reported rates of depression were approximately two to three times higher in studies that used self-report measures compared with studies using diagnostic interviews.

There is a proven link between the use of antipsychotic medication and the development of diabetes in mental health patients (Citrome, 2004; Dixon et al., 2004; El-Mallakh, 2007; Farwell et al., 2004; and Hammerman et al., 2008). Farwell found that olanzapine was found to be a statistically significant risk factor for the development of diabetes. They suggest that new onset diabetes associated with olanzapine is not caused by weight gain but by an effect of the atypical antipsychotic on metabolism. Hammerman et al. (2008) found that the strongest association between antipsychotics and diabetes was seen with clozapine, phenothiazines, thioxanthines, sulphiride, and haloperidol. They found diabetes was more prevalent among patients treated with antipsychotics (11.1%) compared to patients not on antipsychotics (4.4%), and that the prevalence of diabetes was higher among recipients of antipsychotics in younger age groups. However, contrary to previous studies, Hammerman et al. found that although both typical and atypical antipsychotic medications were associated with an increased prevalence of diabetes, the association between mental illness and diabetes was higher with typical antipsychotics as compared to atypical antipsychotics. Okumura et al. (2010) recommend from their study that patients with schizophrenia be monitored for the occurrence of diabetes regularly regardless of antipsychotic class.

It is unclear what the linkage is between diabetes and depression. Anderson et al. (2001) found that the severity of the diabetes increased the risk for depression. They also noted that the prevalence of depression was higher in individuals with uncontrolled diabetes compared with those who had controlled diabetes. Lustman et al. (1998) found that improved mental health was related to improved medical outcome for diabetic patients, while Jackson et al. (2007) suggest that mental health care workers should consider educating patients in order to prevent diabetes and to manage weight gain. Although they recognize the strong correlation between diabetes and depression, Brown et al. (2006) state that type 2 diabetes does not increase the risk of depression and that both diabetic and non-diabetic patients had similar incidents of new onset depression. They state that
patients with comorbid conditions in addition to diabetes, such as stroke or peripheral arterial disease, place individuals at increased risk of depression. As well, Rhee et al. (2008) state that they found no association between depressive symptoms and glucose intolerance but did find other factors had an association. They suggest further investigation to determine whether patients with newly diagnosed diabetes would benefit from screening for the development of depression, and vice versa. Riley et al. (2009) looked at the relationship between diabetes and depression in an overview of the literature. They found there was support of depression as a result of diabetes, as well as depression as a precursor to diabetes, and suggest the relationship may be bidirectional. Russel et al. (2009) in their review of the literature found that there is emerging data that suggest the association between diabetes and depression is in fact bidirectional, and that it cannot be conclusively said whether the higher rate of depression in diabetic patients is due to an increased rate of depression in patients with diabetes, or an increased rate of diabetes in patients with depression.

Several studies describe the link between depression and non-adherence to diabetic treatment. Ciechanowski et al. (2000) conducted a limited study which showed that individuals with medium to high severity depressive symptoms were less likely to adhere to a dietary treatment of diabetes and that high severity depressive symptoms were associated with a greater percentage of interruptions in the use of oral hypoglycemic therapy. Katon et al. (2010) also found that patients with diabetes and persistent or worsening depressive symptoms over a five year period showed significantly worse adherence to dietary and exercise regimens than patients without depression. Egede and Ellis (2010a) agree that the coexistence of diabetes and depression is associated with decreased adherence to treatment, however in a subsequent study (2010b) they found that measures of metabolic control did not differ significantly between depressed and non-depressed patients. Piette et al. (2007) in a study of male veterans found that participants were most likely to have poor adherence to their diabetic medication regimen as compared to their mental health medication regimen. Dickerson et al. (2005) state that recognizing cognitive deficits in patients may be important in the development of specialized education programs for individuals with mental illness. They found that the mean diabetes knowledge score was lower among participants with schizophrenia than among those with mood disorders, and that the score was associated with education levels. As well, the study showed that the knowledge scores of individuals with schizophrenia were lower than those of individuals with type 2 diabetes in the general population.

There is evidence of lower quality of diabetic care for those with serious mental illnesses. Goldberg et al. (2007) found that individuals with mental illness received fewer services and less education regarding diabetes from health care providers than those without mental illness. As well, Sullivan et al. (2006) state that individuals with diabetes and mental illnesses were significantly less likely to be hospitalized for diabetes after presenting in the emergency department than were those without mental illness. They found that patients with depression and anxiety were more likely not to be admitted than those with psychotic disorders. Patients with comorbid psychiatric disorders which influence some aspects of their self-reports of quality of life may be misunderstood by
clinicians who use this information to guide therapeutic decisions (Jacobson et al., 1997). For patients with schizophrenia, El-Mallakh (2007) found that the social and economic consequences of their mental illness interfered with the ability to access the resources for adequate diabetic self-care. In general, the coexistence of diabetes and depression is associated with significantly increased health costs (Egede & Ellis, 2010; Katon, 2008; and Unutzer et al., 2009).

There is consensus that when treating diabetes, treatment of mental illness should be a priority for patients (El-Mallakh, 2006; Goldney et al., 2004; Russel et al., 2009). Russel et al. suggest that prompt treatment of depression may prevent the progression of mood to suicidality and may reduce the burden of long-term diabetes related complications. In a retrospective study Katon (2008) found that 31% of patients with comorbid diabetes and depression received adequate treatment for depression. Comorbid mental disorders are found to be associated with lowered quality of life for individuals with diabetes (Egede & Ellis, 2010b; Goldney et al., 2004; Hutter et al., 2009; Jacobson et al., 1997). Goldeny et al. found that the highest quality of life scores are experienced by those without diabetes and without depression, and the lowest quality of life scores are those with diabetes and depression. Goldberg et al. (2007) suggest that more effort needs to be made in order to provide optimal care for diabetics with a mental illness.

Patients with depression and diabetes are at increased risk for developing comorbid conditions. In their work with individuals with bipolar, Cassidy et al. (1999) state that early detection and control of diabetes is important for the prevention of medical comorbidity of diabetes and for the prevention of cerebral microvascular disease that may exacerbate the course of bipolar disorder. Comorbid illness such as hypertension, cardiovascular risks, hyperlipidemia, and obesity occurred more frequently in patients with diabetes and depression than in those with diabetes alone (Glassy et al., 2005; Neumiller et al., 2009; White, Gray, & Jones, 2009). White, Gray, and Jones estimate that cardiovascular disease is two to three times higher in individuals with serious mental illness and they die ten to fifteen years earlier than the general population. The coexistence of diabetes and depression alone is also associated with an increased risk of death (Egede & Ellis, 2010; Jackson et al., 2007; Katon et al., 2008).