The Dialogue on Diabetes and Depression (DDD)

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During the past decade it has become abundantly clear that individuals with bipolar disorder (BD) are differentially af- fected by being overweight, obesity, abdominal obesity, type II diabetes mellitus, and metabolic syndrome. The robust corpus of descriptive data across multiple countries, cultures, and ethnic/racial groups indicates that there are a host of broad-based and specific factors that conspire to increase the risk of metabolic abnormalities in individuals with BD. The immediate clinical implications of metabolic morbidity in BD is the observation that metabolic comorbidity acts as a "mood destabilizer", decreases cognitive performance, and contributes to excess and premature mortality (1,2). For example, it is now established that the presence of type II diabetes mellitus is associated with a more com- plex BD illness presentation, lower rate of recovery, higher rate of recurrence, as well as fostering a "depression-prone" illness course (3). Preliminary results also indicate that metabolic abnormalities in BD contribute to cognitive impairment in BD; a principle determinant of psychosocial outcome in BD (1). Like most other mental disorders, BD begins prior to the age of 25 in most affected individuals. Conceptually, it is now believed that "progression" of illness occurs in a large subset of individuals with BD. Available evidence provides rationale for hypothesizing that type II diabetes mellitus may accelerate illness progression in BD, resulting

in further "off-trajectory" development for affected individuals.

Fortunately, the robust descriptive literature has now been yoked to endeavors that broadly aim to elucidate media- tors of the BD-metabolic association as well as interventional efforts to treat and prevent metabolic comorbidity. For example, iatrogenic factors are well established as risk factors for type II diabetes mellitus in BD as are family history, and co-existing medical comorbidity (e.g., obesity) (4). The observation from longitudinal studies that type II diabetes mellitus and mood disorders may predate each other indicates that type II diabetes mellitus may not only be consequential but may also be causative of mood disorders in some cases (5-7). It is tempting to speculate, now sup- ported by a modicum of data, that type II diabetes mellitus in BD changes brain structure and function resulting in a "metabolic connectopathy"; a pathophysiological nexus of sorts wherein convergent mechanisms implicated in the pathophysiology of BD and type II diabetes mellitus affect central nervous system function.

A major (modifiable) contributor to elevated risk for metabolic disorders in BD is insufficient access to primary, preventative, timely, and coordinated health care. All of us have lamented at how suboptimal physical health care in general has been for individuals with BD particularly as it relates to medical comorbidity with direct implications on bipolar outcome (e.g., type II diabetes mellitus). Replicated evidence indicating that most individuals with BD do not receive general health advice, risk factor modification (e.g., treatment of hypercholesterolemia), physical examinations, and or surveillance for the presence of metabolic comorbidity (despite taking weight-gain promoting agents!) leaves us all with a sense of disquiet (8,9). There clearly is a need to disseminate knowledge as it relates to the interface of BD and type II diabetes mellitus with a particular focus on the clinical ecosystem across multiple settings, cultures, and countries. Against this background, it would be opportunistic to partner with an organization that has established the foregoing as its clarion call.

The Dialogue on Diabetes and Depression (DDD) has been inspired

by the observation of a bidirectional relation- ship between mood and metabolic disorders. The goals of the DDD have been endorsed by well over a dozen na- tional and international non-governmental organizations and its activities include the coordination of research, the development of training materials, the organization of symposia and training courses, the production of reviews of knowledge, as well as the facilitation of collaboration in matters related to the prevention or reduction of problems of comorbid diabetes and depression among countries, organizations, and experts (10,11). The Chairman of the DDD is Norman Sartorius, and Larry Cimino serves as the program director.

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The International Society for Bipolar Disorders (ISBD) endorses the goals of the DDD broadly encompassed by the aim to improve outcome of illness and quality of life of persons with comorbid mood disorders and diabetes with a plan to participate in its activities and agreed to be recognized as a participating organization on the materials that concern the DDD's work and the publications that the DDD will produce. As a North American Representative for the ISBD as well as someone who has been working with the DDD, I am pleased to serve as the liaison for establish- ing and promoting this partnership.

References

1. Yim CY, Soczynska JK, Kennedy SH, Woldeyohannes HO, Brietzke E, McIntyre RS. The effect of overweight/ obesity on cognitive function in euthymic individuals with bipolar disorder. Eur Psychiatry 2012 Apr; 27(3): 223-8. 2. Osby U, Brandt L, Correia N, Ekbom A, Sparen P. Excess mortality in bipolar and unipolar disorder in Sweden. Arch Gen Psychiatry 2001 Sep; 58(9): 844-50.

3. McIntyre, Danilewitz M, Liauw S, Kemp DE, Nguyen HT, Kahn LS, et al. Bipolar Disorder and Metabolic Syn- drome: An International Perspective In Press. J Affect Disord 2010. 4. McIntyre RS, Konarski JZ, Misener VL, Kennedy SH. Bipolar disorder and diabetes mellitus: epidemiology, etiology, and treatment implications. Ann Clin Psychiatry 2005 Apr; 17(2): 83-93.

5. Rasgon NL, Kenna HA. Insulin resistance in depressive disorders and Alzheimer's disease: revisiting the missing link hypothesis. Neurobiol Aging 2005 Dec; 26 Suppl 1: 103-7. 6. McIntyre RS, Soczynska JK, Konarski JZ, Woldeyohannes HO, Law CW, Miranda A, et al. Should Depressive Syndromes Be Reclassified as "Metabolic Syndrome Type II"? Ann Clin Psychiatry 2007 Oct; 19(4): 257-64.

7. Rasgon NL, Kenna HA, Reynolds-May MF, Stemmle PG, Vemuri M, Marsh W, et al. Metabolic dysfunction in women with bipolar disorder: the potential influence of family history of type 2 diabetes mellitus. Bipolar Disord 2010 Aug; 12(5): 504-13. 8. McIntyre RS. Understanding needs, interactions, treatment, and expectations among individuals affected by bipolar disorder or schizophrenia: the UNITE global survey. J Clin Psychiatry 2009; 70 Suppl 3:5-11.

9. Ng F, Mammen OK, Wilting I, Sachs GS, Ferrier IN, Cassidy F, et al. The International Society for Bipolar Dis- orders (ISBD) consensus guidelines for the safety monitoring of bipolar disorder treatments. Bipolar Disord 2009 Sep; 11(6): 559-95. 10. Holt RI, Katon WJ. Dialogue on Diabetes and Depression: Dealing with the double burden of co-morbidity.

J Affect Disord 2012 Oct; 142 Suppl: S1-S3. 11. Sartorius N, Cimino L. The Dialogue on Diabetes and Depression (DDD): Origins and achievements. J Affect Disord 2012 Oct; 142 Suppl: S4-S7.