

Metabolic disturbances in mental illness

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The target audience of this thesis is people with serious mental illnesses (SMI), namely schizophrenia and related disorders, bipolar disorder and depressive disorders, and their healthcare givers. The societal relevance of this thesis is to exploring the factors that leads increased cardiovascular disorder related morbidity and mortality rates in people with SMI. The outcomes of this thesis add knowledge to how people with SMI become a vulnerable population to the various medical problems, and how these problems can be prevented or improved.

Several findings of this thesis show new insights of the interaction between having an SMI and metabolic problems, which can lead innovative healthcare procedures in people with SMI. Specifically, this thesis lay out: 1. The genetic disadvantage of developing glucose metabolism abnormalities in first episode patients with SMI, 2. Specific body weight change estimations of individual antipsychotics in first episode patients with SMI by considering of natural growth in youth individuals, 3. Increased risk of gestational diabetes with antipsychotic exposure in pregnancy, and 4. Impaired psychological and physical outcomes with a disordered eating pattern in major depression. An additional meta-analytic study of body weight loss effects of Alpha-Lipoic Acid (ALA) showed that ALA may help patients with SMI to lose body weight. Finally, this thesis also showed the effectiveness of curcumin, a derivative of turmeric root, on inflammation and cognition in people with SMI.

Overall, these findings provide valuable information to help improving general health in people with SMI. The lifespan of people with SMI is shorter than to the general population. The major contributor of the shortened life span in this population is physical illnesses, particularly obesity, diabetes and cardiovascular disorders. The risk of both diseases is not just only increased, mortality rates are also higher than expected based on their incidence alone in this population. In people with SMI, the poorer physical outcomes are associated with various factors contribute to, including life style factors, genetic factors and antipsychotic medication adverse effects. Understanding

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the effects of these factors in people with SMI is essential to provide better health care, and consequently improve outcomes in this vulnerable population.