Metabolic abnormalities are frequent in patients with schizophrenia and bipolar disorder (BD), leading to a high prevalence of diabetes and metabolic syndrome in this population. Moreover, mortality rates among patients are higher than in the general population, especially due to cardiovascular diseases. Several neurobiological systems involved in energy metabolism have been shown to be altered in both illnesses; however, the cause of metabolic abnormalities and how they relate to schizophrenia and BD pathophysiology are still largely unknown. The “selfish brain” theory is a recent paradigm postulating that, in order to maintain its own energy supply stable, the brain modulates energy metabolism in the periphery by regulation of both allocation and intake of nutrients. We hypothesize that the metabolic alterations observed in these disorders are a result of an inefficient regulation of the brain energy supply and its compensatory mechanisms. The selfish brain theory can also expand our understanding of stress adaptation and neuroprogression in schizophrenia and BD, and, overall, can have important clinical implications for both illnesses.

Keywords
Schizophrenia, bipolar disorder, metabolism, brain metabolism, stress, allostasis.