



PhD student:

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Research project:

Metabolic Syndrome in Severe Mental Illness: From Multidimensional Risk Profiling to a Precision Psychoeducation Intervention

Abstract:

Individuals with schizophrenia spectrum disorders (SSD) or bipolar disorders (BD) experience premature mortality, with a life expectancy reduced by 15-20 years, largely due to cardiovascular disease and diabetes. Metabolic syndrome (MetS) is a crucial clinical predictor of these conditions and is strongly associated with the use of second-generation antipsychotics (SGAs), the pharmacological treatment of choice. This is compounded by at-risk lifestyles, characterized by sedentary behavior and poor dietary habits.

This research project aims to investigate the clinical, biological, and behavioral risk factors for the development of MetS in patients with SSD or BD treated with SGAs, with the ultimate goal of developing a personalized psychoeducation intervention.

Fifty outpatients (aged 18-65) will be recruited and divided into a case group (n=25, MetS+) and a control group (n=25, MetS-), stratified by age, sex, and illness severity. An additional group of 25 healthy controls will be included for a lifestyle comparison. Assessments, conducted at baseline (T0) and at 3 months, will integrate clinical data (anthropometric measurements, psychiatric assessment, and standardized scales such as the CGI and BPRS), biological data (blood biomarkers including glucose, lipids, inflammatory cytokines, and mRNA profiles), and behavioral data. The latter will be measured ecologically over a full week using wrist-worn actigraphy (physical activity, sleep) and a smartphone app (using the experience sampling method paradigm), which will deliver questions at random intervals to assess mood and current activities.

The collected data will be analyzed to define specific risk profiles. These profiles will inform the content of an 8-week psychoeducational intervention based on the precision psychiatric rehabilitation paradigm, the effectiveness of which will be evaluated using a pre-post design.