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PREDICTIVE MODELS OF METABOLIC SYNDROME FOR PATIENTS WITH SCHIZOPHRENIC OR BIPOLAR DISORDERS

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**Introduction:** Metabolic syndrome is a frequent, severe, undiagnosed physical comorbidity in patients with severe mental disorders.

**Aim:** To develop a predictive model of metabolic syndrome for patients with schizophrenic or bipolar disorders, useful for both clinical practice and research.

**Methods:** Naturalistic, one-year follow-up study conducted in Asturias, Spain. A total of 172 patients with schizophrenic (Sch-P) or bipolar (BD-P) disorders (ICD-10 criteria), under maintenance treatment, who gave written informed consent were included. Metabolic syndrome was defined according to the modified NCEP ATP-III criteria. Multivariate Adaptive Regression Splines (MARS), Genetic Algorithms (GA), and Support Vector Machine (SVM) analysis were performed.

**Results:** Starting from a large set of demographic and clinical variables, and by means of intermediate MARS and GA models, an SVM model able to classify if a patient with schizophrenia or bipolar disorder suffers from metabolic syndrome with an accuracy of 98.68% (sensitivity 100%, specificity 94.4%) was obtained. The final model only needs 6 variables: Sch-P:

- (1) Low HDL-cholesterol,
- (2) Fasting glucose level,
- (3) Family history of obesity,
- (4) Triglyceride level,
- (5) Family history of dyslipidemia, and
- (6) Use of antidepressants; BD-P: (1), (2), (3),
- (7) Use of lipid-lowering medication,
- (8) Use of antipsychotics, and
- (9) Use of mood stabilizers.

**Conclusion:** We developed a simple and easy to use predictive model to identify metabolic syndrome in patients with schizophrenic or bipolar disorders.