**EPP0700**

**Systematic review of economic evaluation studies in psychiatric pharmacogenomics**

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**Introduction:** Nowadays, many relevant gene-drug associations have been discovered, but pharmacogenomics (PGx)-guided treatment needs to be cost-effective as well as clinically beneficial to be incorporated into standard health-care.

**Objectives:** To address current challenges, this systematic review provides an update regarding previously published studies, which assessed the cost-effectiveness of pharmacogenomics testing for the prescription of antidepressants and antipsychotics.

**Methods:** Our initial screening revealed 1159 articles, which was subsequently reduced to 32 articles, deducted by analysis of their abstract. Full-text analysis performed by all authors resulted in 18 papers that were further included in the analysis.

**Results:** Of the 18 studies evaluations, 16 studies (88.89%) drew conclusions in favor of PGx testing, of which 9 (50%) were cost-effective and 7 (38.9%) were less costly based on cost analysis. In brief, we found sufficient evidence on the cost-effectiveness of PGx in psychiatric disease care. More precisely, supportive evidence exists for CYP2D6 and CYP2C19 gene-drug associations and for combinatorial PGx panels, but evidence is limited for many other drug–gene combinations. Amongst the limitations of the field are the unclear explanation of perspective and cost inputs in many economic studies, as well as the underreporting of study design elements, which can influence significantly the economic evaluations.

**Conclusions:** Overall, this systematic review highlights the need for additional research on economic evaluations of PGx implementation with an emphasis on psychiatric pharmacogenomics.

**Keywords:** Pharmacogenomics; Cost-effectiveness analysis; cost analysis; Systematic review

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E-Poster Presentation

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**The role of GSK-3 in mood disorders: Preliminary data from an experimental study**

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**Introduction:** The identification of potential biomarkers is crucial to improve the management and treatment of mood disorders. Glycogen synthase kinase-3 (GSK-3) is a multifunctional enzyme with an important role in the etiology of mood disorders. Recent findings suggested GSK-3 as a putative biomarker in mood disorders.

**Objectives:** The aims of the study are: to evaluate GSK3 as potential biomarker for differential diagnosis (MDD and BD); to analyze the regulation of GSK3 by psychopharmacological treatments.

**Methods:** Patients included fulfill the following criteria: (a) principal diagnosis of MDD or BD (DSM-5); (b) age ≥ 18 years; (c) drug-free for at least 4 weeks before the inclusion. For each patient included a healthy control is enrolled, matched by gender and age. All included subjects at the study entry point (t0) are assessed through: - semistructured clinical interview and clinical rating scales (Hamilton Depression Rating Scale, Hamilton Anxiety Rating Scale; Young Mania Rating Scale, Clinical Global Impression) - blood draw, to measure GSK-3 levels Patients with MDD or BD are assessed again after 1 week (T1) and after 2 month (T2) of specific pharmacological treatment.

**Results:** So far, we enrolled 16 patients and 16 healthy controls. The enrollment is still ongoing.

**Conclusions:** We expect to find GSK-3 levels differently expressed between healthy controls, patients with DDM and patients with BD. This finding would be crucial as it could contribute to the improvement of differential diagnosis. Moreover, we expect to observe a change in GSK-3 levels after psychopharmacological treatments.