Pharmacogenetic tests and depressive symptom remission: A meta-analysis of randomized controlled trials

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Introduction
Between 30 – 50% of patients with major depressive disorder (MDD) do not respond to their first antidepressant trial. Genetic variants contribute to the variance in antidepressant response rates. The clinical utility of pharmacogenetics-based decision-support tools (DSTs) is uncertain and has been the topic of much debate.

Objectives
To conducted a systematic review and meta-analysis of prospective, randomized controlled trials (RCTs) that examined pharmacogenetic-guided decision support tools (DSTs) relevant to depressive symptom remission in major depressive disorder (MDD).

Methods
Random-effects meta-analysis was performed on RCTs that examined the effect of DSTs on remission rates in MDD. RCT quality was assessed using the Cochrane Collaboration Criteria.

Findings
A total of 1737 eligible subjects from five RCTs were examined. Individuals receiving pharmacogenetic-guided DST therapy (n = 887) were 1.71 (95% CI = 1.17 – 2.48, p = 0.005) times more likely to achieve symptom remission relative to individuals who received treatment as usual (n = 850).

Conclusions
Meta-analysis results showed pharmacogenetic-guided prescribing has a positive effect on the likelihood of achieving symptom remission in MDD. Pharmacogenetic-guided prescribing of antidepressants is superior to prescribing as usual in relation to remission likelihood, specifically among those with inadequate response or intolerability to previous psychotropic medications.

References
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