Does Pharmacogenetic Testing in Psychiatric Populations Influence Clinician Treatment Selection and Confidence?
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Background
Response to psychotropic therapy is highly variable and an estimated 30%-50% of treated patients show inadequate response1. Genetic variations lead to alterations in protein expression that can contribute to disease etiology and treatment variability2.

Pharmacogenetics is the study of the relationship between single nucleotide polymorphisms (SNPs) and drug response2. Subtle molecular variations resulting from SNPs may lead to changes in CNS signal transduction and treatment variability2.

Genetic tests available for psychiatric disorders are largely limited to pharmacokinetic genes, those related to the metabolism of medications. A noticeable void exists for pharmacogenetic tests which analyze pharmacodynamic genes, those related to interactions of the drug with the body. The extent to which testing for such variations in clinical contexts may influence clinical practice and treatment outcomes has not been established.

Study Objectives

This study aims to demonstrate the distribution of psychiatric disorders among patients selected by their providers to receive pharmacogenetic testing and to examine effects of availability of genetic results on clinician treatment decisions.

Methods

Design: Retrospective, cross-sectional analysis of clinician surveys
Inclusion: Clinician members of the Neuroscience Education Institute (NEI)
Prescriptive Authority: Completion of Clinical Decision Survey (CDS) for each patient tested
Exclusion: None
Recruitment: Email invitation to all NEI members
Sample Collection and Analysis: Simple, non-invasive saliva collection method in clinician's office; samples sent by clinician to a CLIA-certified lab for analysis

Results

- 175 clinicians chose to participate
- Genetic testing was performed for 296 patients
- 69 clinicians returned CDSs related to 105 distinct patients

As a result of the assay report, I have elected to: (n=105)

No or little change
Change to a different medication in a different dose class
Change the starting dose, or the 10-day hold schedule, but leave the same medication in the same dose class

Among clinicians who indicated they did not make a change in medication after receiving the assay report...

76% of clinicians reported that having the genetic assay results influenced their treatment, and 87% reported that having the results influenced their confidence in treatment decisions.

Further prospective research is needed to demonstrate utility of this genetic assay as it relates to specific treatment guidance.

References


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Disclosure

None