Depression Management in Psychiatry and Primary Care: The Impact of Online CME on Physician Knowledge, Competence, and Confidence Related to Pharmacogenetics

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BACKGROUND

Major depressive disorder (MDD) is the most common mental disorder in the United States. Despite the morbidity and mortality associated with MDD and the considerable toll on productivity and quality of life, many patients do not receive adequate treatment. [APA 2010; Combs 2014; Katzman 2014] Pharmacogenomic testing, and particularly combinatorial pharmacogenomics testing, represents a potential means for delivering personalized treatment selection or treatment adjustments for patients with MDD. This study examined whether online continuing medical education (CME) could improve the knowledge, competence, and confidence of psychiatrists and primary care providers (PCPs) regarding the role of pharmacogenetic testing in the management of MDD.

METHODS

PRE-ASSESSMENT

POST-ASSESSMENT

Psychiatrists (n = 1,250)

Primary Care Physicians (PCPs) (n = 195)

Psychiatrists (n = 1,250)

Primary Care Physicians (PCPs) (n = 195)

This CME program was a 30-minute online video-based roundtable discussion led by 3 expert faculty members.

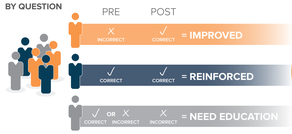
Data were collected from 10/15/2021 to 6/6/2022. A total of 195 PCPs and 1250 psychiatrists completed both the pre- and post- assessments. The results demonstrated a high baseline of knowledge/competence among psychiatrists and a significant improvement in knowledge, competence, and confidence related to the role of pharmacogenetic testing in depression management across all learners.

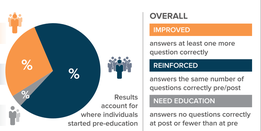
How to Read the Linked Learner Assessment

OUTCOMES COMPLETERS
Each individual completed BOTH the pre and post-education questions
SAME individuals pre and post-education

SUMMARY STATISTICS FOR PARTICIPANTS WHO PROVIDE COMPLETE DATA

LINKED LEARNER
Each individual tracked pre and post-education
Learners serve as their own controls





Results account for where individuals started pre-education

OVERALL

IMPROVED
answers at least one more question correctly

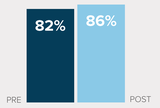
REINFORCED
answers the same number of questions correctly pre/post

NEED EDUCATION
answers no questions correctly at post or fewer than at pre

RESULTS

Psychiatrists (n = 1,250)

AGGREGATED RESULTS



COHEN'S d

0.21

EFFECT SIZE	EDUCATIONAL IMPACT
< .20	MODEST
.20 - .49	**SMALL**
.5 - .79	MODERATE
≥0.80	LARGE

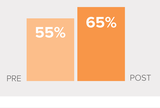
CHI-SQUARE TEST

***P* <.001**

SIGNIFICANCE (*P* <.05)

PCPs (n = 195)

AGGREGATED RESULTS



COHEN'S d

0.42

EFFECT SIZE	EDUCATIONAL IMPACT
< .20	MODEST
.20 - .49	**SMALL**
.5 - .79	MODERATE
≥0.80	LARGE

CHI-SQUARE TEST

***P* <.001**

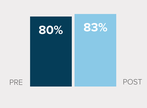
SIGNIFICANCE (*P* <.05)

KNOWLEDGE REGARDING CLINICAL DATA ON THE GENETIC VARIANTS THAT MAY AFFECT CLINICAL RESPONSE TO ANTIDEPRESSANT THERAPY

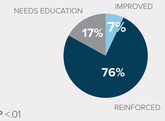
Among PCPs, there was a 60% relative increase in knowledge regarding the clinical data on the genetic variants that may affect clinical response to antidepressant therapy. Psychiatrists had a 4% relative increase in knowledge with this learning objective and demonstrated a high level of baseline knowledge.

Psychiatrists (n = 1,250)

AGGREGATED RESULTS



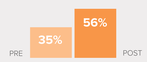
LINKED LEARNING RESULTS



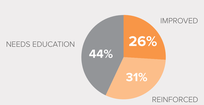
P <.01

PCPs (n = 195)

AGGREGATED RESULTS



LINKED LEARNING RESULTS



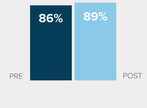
P <.001

COMPETENCE RELATED TO SELECTION OF ANTIDEPRESSANT THERAPIES BASED ON THE RESULTS OF PGX TESTING IN PATIENTS WITH DEPRESSION

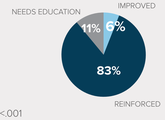
Among PCPs, there was an 8% relative increase in competence related to the selection of antidepressant therapies based on the results of PGx testing in patients with depression). Psychiatrists showed a 3% relative increase in competence and demonstrated a high baseline in competence.

Psychiatrists (n = 1,250)

AGGREGATED RESULTS



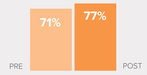
LINKED LEARNING RESULTS



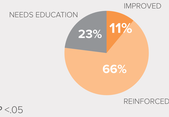
P <.001

PCPs (n = 195)

AGGREGATED RESULTS



LINKED LEARNING RESULTS



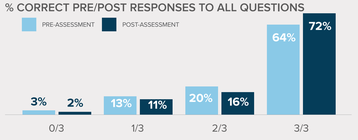
P <.05

PSYCHIATRISTS AND PCPS ANSWERING ALL QUESTIONS CORRECT

Psychiatrists were 13% more likely and PCPs were 110% more likely to answer all questions correctly at post vs pre (*P* < .05).

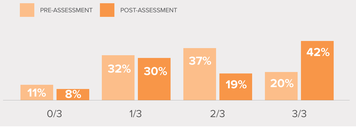
Psychiatrists (n = 1,250)

% CORRECT PRE/POST RESPONSES TO ALL QUESTIONS



PCPs (n = 195)

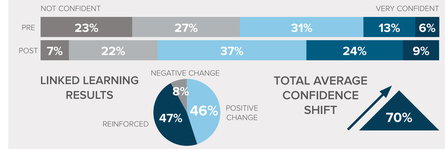
% CORRECT PRE/POST RESPONSES TO ALL QUESTIONS



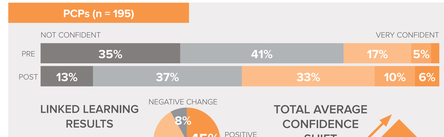
CONFIDENCE IDENTIFYING PATIENTS WITH DEPRESSION WHO MAY BENEFIT FROM PHARMACOGENOMIC TESTING

45% of PCPs and 46% of psychiatrists increased (*P* < .001) their confidence in their ability to identify patients with depression who may benefit from pharmacogenomic testing resulting in 16% of PCPs and 33% of psychiatrists being "mostly confident" or "very confident" post-education (PCPs: pre 6%, psychiatrists: pre 18%).

Psychiatrists (n = 1,250)



PCPs (n = 195)



CONCLUSIONS

This study demonstrated the success of online, video-based panel discussion CME on improving knowledge, competence, and confidence related to the role of pharmacogenomics in the management of MDD. Additionally, the results revealed a higher level of knowledge and competence among psychiatrists regarding pharmacogenomics in depression care. These findings suggest that future educational programs should tailor education to these physician learner groups to address their different needs along the adult learning continuum.

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For more information, contact:
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