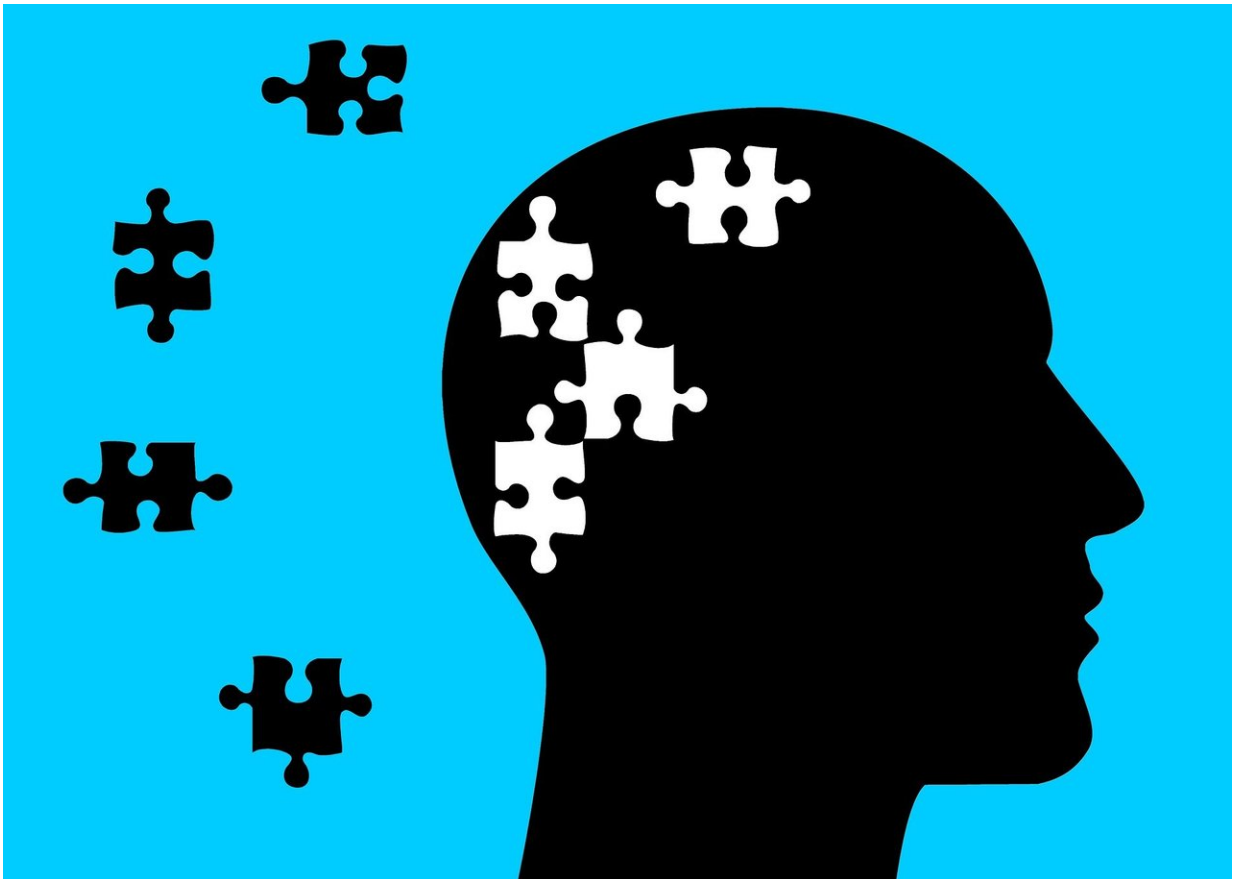# New study helps those with depression pick antidepressant based on health history

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Credit: CC0 Public Domain

Although antidepressants are one of the most frequently taken medications in the United States (11% of the population takes

antidepressants) 60% of depressed patients do not benefit from their first antidepressant. The sales of antidepressants exceed several billion dollars annually.

According to a new study published today from George Mason University, a person's existing medical conditions can have an influence on which antidepressant may work best. The data from the study can help millions alleviate depression symptoms more effectively and is now available to clinicians and patients in an online database.

"Effectiveness of Common Antidepressants: A Post Market Release Study," released today in *EClinical Medicine* (published by *The Lancet)*), summarizes the experiences of patients who have multiple comorbidities, or medical conditions, with using 15 different antidepressants. The study, by Farrokh Alemi, Ph.D., professor in Mason College of Health and Human Services Department of Health Administration and Policy, and collaborators, analyzed data from more than 3.6 million patients with major depression who had more than 10 million antidepressant treatments. Patients were broken into more than 16,000 subgroups based on conditions, demographic information, and prescribed medications to analyze their experiences using antidepressants.

Janusz Wojtusiak, Ph.D., associate professor, used the data to build a web site designed to help individuals with depression find what will work best for them. By entering a patient's medical history into the site, users can find similar cases in the data and receive recommendations for antidepressants based on the experience of symptom remission in other patients. Patients can share those recommendations with their clinicians to ensure their appropriateness for their individual case.

"Unlike with previously published randomized studies, the remission rates in the study differed significantly based on the subgroup's medical

history," says Alemi. "The choice of the optimal antidepressant depended on the subgroup matched to the patient's medical history."

As an example, Alemi says, in the age and gender subgroups, the best antidepressant had an average remission rate of 50.78 percent, 1.5 times higher than the average antidepressant, which has a 30.3 percent remission rate. This was 20 times higher than the worst antidepressant used in the age and gender subgroup.

Alemi's Mason colleagues in the study included Hua Min, Ph.D., associate professor, and Janusz Wojtusiak, Ph.D., associate professor in the Department of Health Administration and Policy; Melanie Yousefi, DNP, assistant professions in the School of Nursing. Laura Becker, MS, Christopher Hane, Ph.D., and Vijay Nori, Ph.D., from OptumLabs also collaborated. Alemi was also a visiting fellow at OptumLabs.

More information: Farrokh Alemi, PhD et al, Effectiveness of Common Antidepressants: A Post Market Release Study, *EClinicalMedicine* (2021). DOI: 10.1016/j.eclinm.2021.101171

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