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Researchers validate threshold for determining effectiveness of antidepressant treatment

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More than one-third of people diagnosed with major depressive disorder don't respond sufficiently to specific antidepressant treatments. Patients

often need to try different options until one is effective. To help arrive at the right prescription sooner, a research team led by Mayo Clinic has developed and validated a threshold to determine when a patient is not getting a meaningful benefit from a medication.

There are validated definitions of good treatment effects. But the definition of ineffective treatment has been less clear, says co-author William Bobo, M.D., chair of the Department of Psychiatry and Psychology at Mayo Clinic in Florida. The study is published in in the *Journal of Clinical Psychiatry*.

"A common assumption is that a nonresponse to antidepressants is a total lack of any benefit at all. In our experience, a lot of patients improve with a given treatment but not enough for it to be continued. In other words, they are getting no meaningful benefit, and a valid definition of 'no meaningful benefit' has been lacking," Dr. Bobo says. The newly defined threshold is designed to help determine if an antidepressant used for depression is working, but not well enough to be continued.

The research compared three depression scales with a tool that captures a clinician's judgment of the degree that patients with depression improved or worsened after starting treatment. The researchers found that at four and eight weeks, the definition of "no meaningful benefit" could be defined as 30% or less improvement in depressive symptoms during acute treatment of major depression.

The study authors brought together a wide variety of disciplines, including psychiatry, computer engineering, statistical science, and molecular and clinical pharmacology to identify a numerical definition of nonmeaningful response to treatment.

"The results of this study show that a positive response to antidepressants and lack of positive response are not simple opposites of one another,"

Dr. Bobo says. "Changing treatment only after no improvement at all still risks keeping patients on treatments that may be helping some but are just not resulting in a meaningful enough level of improvement. We now have a numerical threshold for defining what is meant by a nonmeaningful response."

The study enables future research aimed at early prediction of poor outcomes of treatment with antidepressants. The ability to predict a lack of meaningful benefit may be as important as predicting good responses to an antidepressant, Dr. Bobo says.

"Patients who meet the definition of 'no meaningful benefit,' or who are much more likely than not to meet that definition on their current antidepressant, may need a change in their treatment plan sooner," he says. "This can help reduce the amount of time they remain on a treatment that is destined to fail and facilitate a quicker change to something else that may be more effective."

More information: Carl Zhang et al, Toward a Definition of "No Meaningful Benefit" From Antidepressant Treatment: An Equipercentile Analysis With Cross-Trial Validation Across Multiple Rating Scales, *Journal of Clinical Psychiatry* (2022). www.psychiatrist.com/jcp/depre … rom-antidepressants/

Provided by Mayo Clinic

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