

Study examines prescribing patterns of drug associated with cognitive impairment

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Many adults with diabetes and the associated complication of peripheral neuropathy, which can be painful as well as harmful, are often prescribed drugs at doses and for durations that could impose an increased risk of cognitive impairment.

A new study, led by Regenstrief Institute and Purdue University College of Pharmacy Research Scientist Noll Campbell, PharmD, M.S., is one of the first explorations of prescribing patterns of tricyclic antidepressants for treatment of [diabetic peripheral neuropathy](#) at [health care facilities](#) predominantly serving diverse populations of low socioeconomic status.

With a study population of adults 18 years and older that was 44% white and 42% Black, the researchers found that almost two-thirds of the prescribed tricyclic antidepressants were above the dosage threshold that has been associated with an increased risk of dementia in [older adults](#). Black patients were more likely to be prescribed these drugs at [higher doses](#), disproportionately increasing their risk for dementia compared with white patients.

The current body of evidence, much of it established and confirmed in studies by Regenstrief Institute research scientists, supports the existence of a relationship between long-term use of anticholinergic medications, such as tricyclic antidepressants, and cognitive impairment, including dementia. Research suggests the use of anticholinergics in older adult populations increases the risk of dementia by 30 to 50%.

Diabetic peripheral neuropathy, a syndrome which occurs when neurons are damaged and impairs neurological function in the extremities causing pain, numbness, susceptibility to infection and other complications, is relatively common among adults living with long-term or uncontrolled Type I or Type II diabetes.

Current diabetes care guidelines include the use of tricyclic antidepressants to manage pain and co-existing depression; however, these guidelines don't describe the risks of long-term use of these drugs, which are intended to work in the nerves and brain.

"Using data from [electronic health records](#), we found tricyclic

antidepressants being prescribed to people with diabetes for periods of five years, sometimes up to eight or nine years, at a rate that puts about two thirds of tricyclic antidepressants users at higher risk of dementia," said Dr. Campbell, an aging brain and pharmacy services researcher.

"Deprescribing may modify risk for dementia and there are other options of medications not associated with [cognitive impairment](#) that may be as effective, but we found very, very little evidence of routine evaluation of drug efficacy occurring in the clinical care environment.

"Older Black adults in the U.S. are disproportionately diagnosed with [dementia](#) as compared to older white adults. Is it disease or is it medication they are taking? It's difficult to modify disease but it's within our control to modify the types of medicines that we are using to manage disease states."

["Evaluation of Tricyclic Antidepressant Deprescribing in the Treatment of Diabetic Peripheral Neuropathy within Federally Qualified Health Centers"](#) is published in *Journal of the American Pharmacists Association*.

More information: Chelsea Herrarte et al, Evaluation of Tricyclic Antidepressant Deprescribing in the Treatment of Diabetic Peripheral Neuropathy within Federally Qualified Health Centers, *Journal of the American Pharmacists Association* (2024). [DOI: 10.1016/j.japh.2024.102113](#)

Provided by Regenstrief Institute

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