

Medications found to cause long term cognitive impairment of aging brain

July 13 2010

Drugs commonly taken for a variety of common medical conditions including insomnia, allergies, or incontinence negatively affect the brain causing long term cognitive impairment in older African-Americans, according to a study appearing in the July 13, 2010 print issue of *Neurology*, the medical journal of the American Academy of Neurology.

These drugs, called anticholinergics, block acetylcholine, a nervous system neurotransmitter, and are widely-used medical therapies. They are sold over the counter under various brand names such as Benadryl®, Dramamine®, Excedrin PM®, Nytol®, Sominex®, Tylenol PM®, and Unisom®. Other anticholinergic drugs, such as Paxil®, Detrol®, Demerol® and Elavil® are available only by prescription. Older adults most commonly use drugs with anticholinergic effects as sleep aids and to relieve bladder leakage problems.

Researchers from Indiana University School of Medicine, the Regenstrief Institute and Wishard Health Services conducted a six-year observational study, evaluating 1,652 Indianapolis area African-Americans over the age of 70 who had normal cognitive function when the study began. In addition to monitoring cognition, the investigators tracked all over-the-counter and [prescription medications](#) taken by study participants.

"We found that taking one anticholinergic significantly increased an individual's risk of developing [mild cognitive impairment](#) and taking two of these drugs doubled this risk. This is very significant in a population -

African-Americans - already known to be at high risk for developing cognitive impairment," said Noll Campbell, PharmD, first author of the study. Dr. Campbell is a clinical pharmacist with Wishard Health Services.

"Simply put, we have confirmed that anticholinergics, something as seemingly benign as a medication for inability to get a good night's sleep or for motion sickness, can cause or worsen cognitive impairment, specifically long-term mild cognitive impairment which involves gradual memory loss. As a geriatrician I tell my Wishard Healthy Aging Brain Center patients not to take these drugs and I encourage all older adults to talk with their physicians about each and every one of the medications they take," said Malaz Boustani, M.D., IU School of Medicine associate professor of medicine, Regenstrief Institute investigator and IU Center for Aging Research center scientist.

"The fact that we found that taking anticholinergics is linked with mild cognitive impairment, involving memory loss without functional disability, but not with Alzheimer Disease, gives me hope. Our research efforts will now focus on whether anticholinergic-induced cognitive impairment may be reversible," said Dr. Boustani, who added that "this study offers a new window to change the burden of dementia" for the individual, the caregiver and the healthcare system."

"This finding of a link between anticholinergics and long term mild cognitive impairment complements our previous work which confirmed a link between anticholinergics and delirium, which is a sudden onset cognitive impairment," said Dr. Campbell.

Although this study, which was funded by the National Institute on Aging, looked at only African-Americans, both Dr. Campbell and Dr. Boustani believe future studies will find that the results are generalizable to other races.

Provided by Indiana University School of Medicine

Citation: Medications found to cause long term cognitive impairment of aging brain (2010, July 13) retrieved 26 April 2024 from <https://medicalxpress.com/news/2010-07-medications-term-cognitive-impairment-aging.html>

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