



ARC BITE

Brokering Innovation Through Evidence

Do anticholinergic drugs cause dementia?



Results

People in the highest group of anticholinergic drug use had a 50% increase in their risk of dementia.

Who needs to know?

Health professionals, patients, the public.




What did we do?

We used a big GP database (QResearch) to identify almost 60,000 people diagnosed with dementia and over 200,000 controls. We compared the consumption of drugs with anticholinergic properties (allowing for dosage and length of time taken, a measure called total standardised daily doses or TSDD) between the two groups. The project was funded by the National Institute for Health Research (NIHR) School for Primary Care Research and supported the NIHR ARC EM.

What we found and what does this mean?

The odds ratio for dementia increased with the level of dosage, so the highest level of TSDD was associated with an odds ratio of 1.49 – that is, a 50% increased risk of dementia compared with people taking no anticholinergic medication. We made allowance for the possibility of reverse causation by only considering drugs taken 1-11 years before the diagnosis.



We also found similar results when we looked at exposure from 5-20 years before diagnosis. The association does not prove that these drugs cause dementia but it is suggestive that they do contribute since the drugs were taken before the condition was recognised. Overall among people aged 55 or older, reduced exposure to anticholinergic drugs could reduce the number of people diagnosed with dementia each year by up to 10%.

How did we involve people?

We discussed our study with a public group while we were designing it and we shared the results afterwards.

What next?

We are looking at how best to build into routine practice an alert system about anticholinergic drug prescribing that will help prescribers to make safe and sensible choices.

What is NIHR ARC EM?

NIHR Applied Research Collaborations (ARCs) support applied health and care research that responds to, and meets, the needs of local populations and local health and care systems. We do this by working collaboratively with our partners and patient groups to bring the best applied health and care evidence into practice.

Evidence

Coupland C, Hill T, Denning T, Morriss R, Moore M, Hippisley-Cox J. Anticholinergic drug exposure and the risk of dementia: nested case-control study. *JAMA Internal Medicine* 2019; 179 (8): 1084-1093