

MEASURING ANTI-CHOLINERGIC EFFECT IN MEDICATIONS REGIMES IN MENTAL HEALTH SERVICES FOR OLDER PEOPLE

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BACKGROUND

Anticholinergics have long been linked to impaired cognition, falls risks, and have also been linked to increased morbidity and mortality (Ruxton et al, 2015). The elderly population with or without dementia are very vulnerable in experiencing adverse effects of anticholinergics, especially as it would impact their cognitive function.

Drugs with anticholinergic effects can cause a broad range of adverse events, including constipation, dry mouth, dry eyes, urinary retention, confusion, falls, and agitation. A prospective cohort study (Gray et al, 2015) suggested the increase risk of dementia with long term exposure to drugs with anticholinergic effects, most commonly Tricyclic antidepressants, sedating antihistamines and anticholinergic drugs used to treat bladder conditions.

OBJECTIVE

To measure the number of medications with anticholinergic effect in medication regimes of older population.

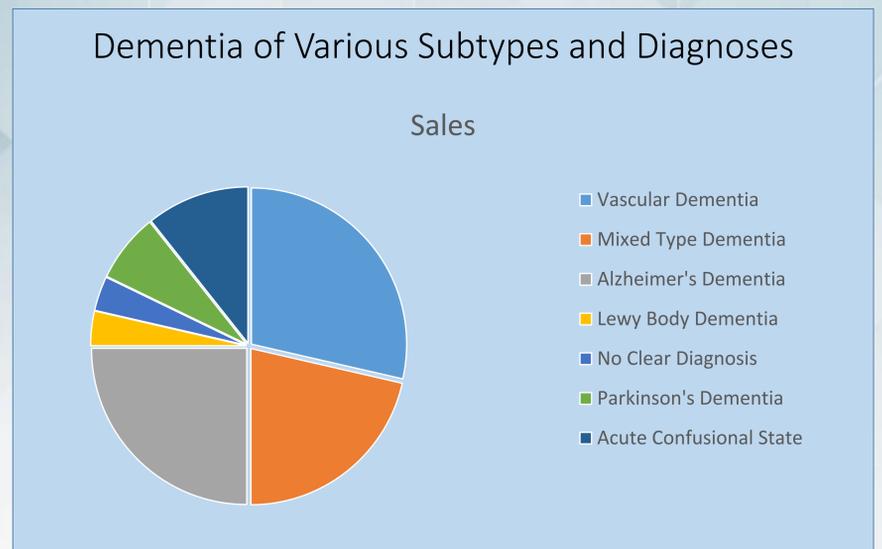
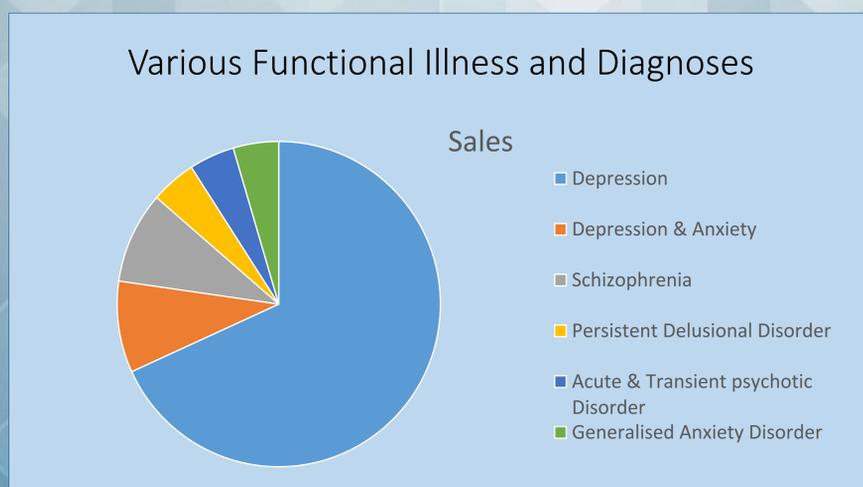
METHODS

Secretaries collected copies of ST4 letters to General Practitioners from Outpatient clinic from beginning of August 2019 until June 2020. The ST4 had copied medication lists from medications brought to the clinic, or from checking with GP referral letter, or current medication list from Welsh Clinical Portal. The first 50 were related for this study. No repeat patients were included.

The medications lists were checked against Anticholinergic Cognitive Burden Scale (Boustani 2008) extracted from the Harvard Medical School Website. Boustani suggests scores ≥ 3 represent significant anticholinergic burden.

RESULTS

- 19/50 patients had score 0
- 3/50 patients had score 4
- 9/50 patients had score ≥ 3
- Psychotropic medications were due to Olanzapine, Quetiapine, Diazepam
- 2- due to Olanzapine
- 1- due to Quetiapine
- Others Scoring of ≥ 3 is mainly due to Polypharmacy- majority due to pain killers
- Other medications were due to Amitriptyline, Codeine, Cardiac Medications (GTN)
- Amitriptyline was prescribed by the GP for other indications, not as psychotropic
- 28/50 patients had dementia of various sub types diagnoses
- 22/50 had various functional illness diagnoses



DISCUSSION

The sample and time scale are small. The data obtained was not blind. Data were collected by the secretaries and there were not aware of the purpose-merely told it was for medication review. Diagnosis was not matched against the research criteria. We did not take into account the dosage of the medication. Anticholinergic Cognitive Scale is limited to and was not fully inclusive. Eg: patients were on Tiotropium Inhaler which is clearly anticholinergic but not on the Anticholinergic Burden Scale list.

CONCLUSION

There was less anticholinergic effect overall than we feared. All but one of the ≥ 3 scores would be reduced by 2 points if Olanzapine or Quetiapine were replaced by Risperidone.

It would be worth extending this snapshot survey to a formal audit for a longer period.

RECOMMENDATION

To try an alternative medication with less cholinergic effect (Eg: to prescribe Risperidone initially instead of Olanzapine or Quetiapine). Admittedly, the option of using alternative medication is not always available for clinicians. Therefore, one should be extra cautious when prescribing medications to the elderly population.

Also to continue to educate and to request the G.Ps to use other alternatives to Amitriptyline in elderly patients.

RESOURCES

- **Anticholinergic cognitive burden scale** Harvard Health Publishing, Harvard Medical School, Dr.M Malaz Boustani https://www.health.harvard.edu/newsletter_article/anticholinergic-cognitive-burden-scale
- **Cumulative use of strong anticholinergics and incident dementia: a prospective cohort study.** Gray SL, Anderson ML, Dublin S, Hanlon JT, Hubbard R, Walker R, Yu O, Crane PK, Larson EB. JAMA Intern Med. 2015 Mar;175(3):401-7. doi: 10.1001/jamainternmed.2014.7663
- **Drugs with anticholinergic effects and cognitive impairment, falls and all-cause mortality in older adults: A systematic review and meta-analysis** Kimberley Ruxton, Richard J Woodman and Arduino A Mangoni, Br J Clin Pharmacol. 2015 Aug; 80(2): 209-220. Published online 2015 May 20. doi: 10.1111/bcp.12617/report/Background/depression.doc
- **Dr Vekneswaran Devadas et al 2018** Donegal Mental Health Services, Letterkenny University Hospital