

Reducing Polypharmacy and Anticholinergic Burden in elderly patients: A Quality Improvement Project

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INTRODUCTION

Our QIP was conducted in the Geriatric wards at Royal Gwent Hospital by doctors working in Geriatrics. **Delirium, falls, constipation and urinary retention are common causes for hospital admission in the elderly. Anticholinergic Burden (ACB)** is the cumulative impact of using multiple medications with anticholinergic properties, which can lead to more frequent hospital admissions.¹

AIMS

- To raise doctors' awareness of ACB
- To promote the review and deprescribing of medications in elderly patients to reduce ACB.

METHODS

ACB was assessed at both admission and discharge using the **Anticholinergic Effect on Cognition (AEC)**² tool. Baseline data was initially collected. To enhance awareness of ACB among doctors, **educational emails** and **posters** were used, followed by a 2nd round of data collection. **An oral presentation on ACB** was done, and **stickers** were placed on patients' drug charts and **medical notes** to prompt **medication reviews**, followed by a 3rd data collection. A questionnaire was distributed to all doctors before and after the intervention to assess their awareness of ACB and their use of the AEC tool.

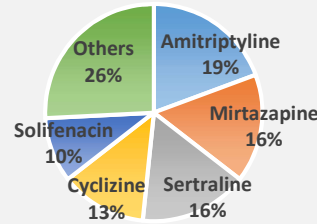
Anticholinergic Effect on Cognition (AEC) Tool to calculate the Anticholinergic Burden (ACB)



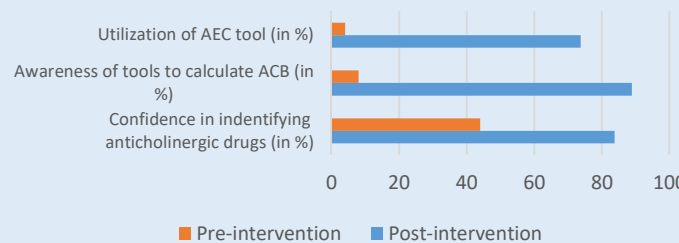
ANALYSIS

	Baseline	1 st Cycle	2 nd Cycle
No of patients	55	59	52
Patients with AEC ≥ 3 on admission	7	10	9
Patients with AEC ≥ 3 at discharge	6	7	6
% decrease of patients with an AEC score ≥ 3 at discharge	1.82 %	5.14 %	5.8 %

Most commonly deprescribed medications with Anticholinergic Burden (ACB)



Questionnaire analysis



RESULTS

- Baseline data shows the percentage of patients admitted with an AEC ≥ 3 on admission and discharge was 12.7% and 10.9% respectively. In the 3rd data collection, these figures were 17.3% and 11.5% respectively.

Most common drugs by AEC score

AEC 3: amitriptyline (n=18), promethazine (n=2)
AEC 2: prochlorperazine (n=2), quetiapine (n=2)
AEC 1: mirtazapine (n=18), sertraline (n=17)

- The percentage of patients with **reduced AEC scores** due to the interventions **rose from 16.4% (baseline) to 30.7% (3rd data)**.
- The questionnaire results before and after the interventions showed the following improvements:
- **Clinician confidence** in identifying medications with anticholinergic side effects **increased from 44% to 83.8%**.
- **Awareness of tools** to calculate ACB **rose from 8% to 88.9%**.
- Use of the **AEC tool** grew **from 4% to 73.7%**.

CONCLUSION

The project **significantly improved clinician awareness** and use of tools for assessing anticholinergic burden in elderly patients, leading to a **notable reduction in ACB**. Integrating anticholinergic assessments into routine practice will be crucial for achieving long-term reductions in anticholinergic burden and improving patient outcomes.

REFERENCES: 1. Tune LE. Anticholinergic effects of medication in elderly patients. J Clin Psychiatry. 2001;62 Suppl 21:11-4.

2. Anticholinergic Effect on Cognition (AEC) tool. Available at: <https://medicheck.com/>