



Poster 40

Polypharmacy as a risk factor for delirium: a large population-based longitudinal record linkage study

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Background & rationale

- Polypharmacy is considered a risk factor for delirium and this is usually investigated in inpatients
- We aimed to study this association in the general population

Methods

- NHS Scotland community prescribing data were linked to hospital and death certificate records
- All adults aged 50 years and over who received at least one drug in the first quarter of 2009 were included and followed for 8.5 years
- We used Cox proportional hazards models to test the association between the number of unique medications and risk of delirium diagnoses on hospital admissions and death certificates
- Models were adjusted for starting age, gender, care home residence status and Scottish Index of Multiple Deprivation decile



Results

Sample description

- There were 1 225 894 patients aged ≥ 50 years
- The mean age was 67.4 (SD=10.8) years, 56.1% of patients were female and 3.8% were resident in a care home
- The mean number of drugs dispensed per person was 5.0 (SD=3.7)
- Over 8.5 years, 31 236 (2.6%) people had at least one admission with a delirium diagnosis and there were 689 deaths (0.1%) with delirium as a cause of death

Results

Cox regression

- Compared to 1-4 drugs, the adjusted hazard ratio (HR) for hospital admission with delirium in those taking 5-9 drugs was 1.40 (1.36-1.43, $P < 0.001$) and ≥ 10 drugs was 2.00 (1.93-2.07, $P < 0.001$)
- For mortality with delirium, compared to 1-4 drugs the adjusted HR for 5-9 drugs was 1.32 (1.11-1.57, $P = 0.002$) and ≥ 10 drugs was 2.07 (1.67-2.58, $P < 0.001$)
- These results are displayed in Figures 1 and 2

Figure 1. Hazard ratios for hospital admission with delirium diagnosis

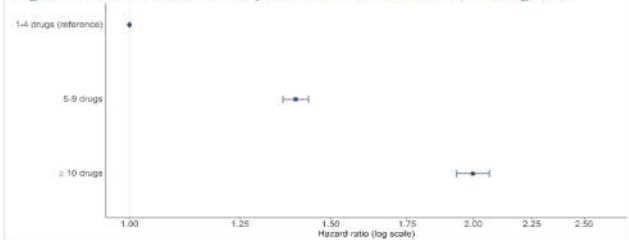
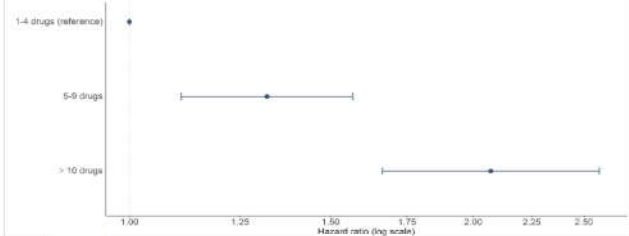


Figure 2. Hazard ratios for mortality with delirium on death certificate



Limitations

- We relied on record accuracy and could not adjust for multimorbidity (confounding by indication)
- We did not examine the contribution of individual drug classes

Conclusion

- At population level, polypharmacy is associated with delirium on hospital discharges and death certificates

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