Comorbidity medications are dispensed to more people receiving antiretroviral therapy compared with the general population in Australia

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Background

People with HIV are living longer and developing more age-related medical comorbidities1,2. Compared to people without HIV, people with HIV develop more comorbidities3-5. In 2017, 40% of people with HIV in Australia were aged 50 or older6. Australia’s National HIV Strategy has highlighted the importance of optimally managing medical comorbidities in Australia’s ageing HIV population.

AIM: To determine whether people purchasing antiretroviral therapy (ART) have a higher burden of medical comorbidities than people not purchasing ART.

Methods

A 10% longitudinal sample of PBS data was used7:

• ART-purchasing cohort:
  • Purchased ART between Jan – Dec 2016
  • Alive at the end of 2016

Non-ART purchasing “control” cohort:

• Two patients matched on age group and gender to each ART-purchasing individual
• Did not purchase ART during 2016

Comorbidity medication classes were determined using PBS coding categories:

• Anti-hypertensives
• Lipid-lowering medications
• Diabetes medications
• Anti-neoplastic medications
• Medications for osteoporosis or low bone mineral density (excluding vitamins and supplements)
• Mental health medications

Medications purchased within the same calendar year (2016) were included. Unadjusted odds ratios for ART and non-ART patients with 95% confidence intervals were calculated.

Results

1,995 patients purchased ART in our 2016 sample

22 excluded (died during 2016); 1,973 patients matched to 3,946 controls

• Overall, 88% male; median age 49 years
• A greater proportion of ART-purchasing patients purchased medications for diabetes
• Dyslipidaemia
• Osteoporosis or low bone mineral density
• Mental Health (depression, anxiety, antipsychotics)
• Fewer ART-purchasing patients purchased medications for diabetes

Significant only for oral hypoglycemics

Overall, these findings persisted when the analysis was restricted to patients >55 years (data not shown).

A greater proportion of ART-purchasing patients had two or more comorbidities than non-ART purchasing patients (Figure).

Table. Co-prescription purchases among ART-purchasing and non-ART purchasing patients in 2016

<table>
<thead>
<tr>
<th>Co-prescription Purchases</th>
<th>ART-purchasing (N=1,973)</th>
<th>Non-ART purchasing (N=3,946)</th>
<th>OR (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-hypertensive</td>
<td>283 (14.9)</td>
<td>788 (20.2)</td>
<td>0.95 (0.83–1.09)</td>
<td>0.46</td>
</tr>
<tr>
<td>Lipid-lowering medication</td>
<td>390 (19.8)</td>
<td>655 (16.6)</td>
<td>1.23 (1.08–1.42)</td>
<td>0.003</td>
</tr>
<tr>
<td>Diabetes medication</td>
<td>95 (4.8)</td>
<td>258 (6.5)</td>
<td>0.72 (0.57–0.92)</td>
<td>0.009</td>
</tr>
<tr>
<td>Oral agents</td>
<td>63 (3.2)</td>
<td>169 (4.3)</td>
<td>0.74 (0.55–0.99)</td>
<td>0.042</td>
</tr>
<tr>
<td>Insulin and oral agents</td>
<td>21 (1.1)</td>
<td>55 (1.4)</td>
<td>0.76 (0.46–1.26)</td>
<td>0.29</td>
</tr>
<tr>
<td>Anti-neoplastic medications</td>
<td>17 (0.9)</td>
<td>35 (0.9)</td>
<td>0.97 (0.54–1.74)</td>
<td>0.92</td>
</tr>
</tbody>
</table>

Osteoporosis or low bone mineral density medications 29 (1.5) 32 (0.8) 1.82 (1.10–2.90) 0.020

Mental health medications 575 (29.1) 602 (15.3) 2.28 (2.01–2.60) <0.0001

Depression 424 (21.4) 472 (12.0) 2.01 (1.74–2.30) <0.0001

Anxiety 257 (13.6) 188 (4.8) 2.99 (2.46–3.64) <0.0001

Bipolar Disorder 13 (0.7) 14 (0.4) 1.86 (0.87–3.97) 0.11

Antipsychotics 103 (5.2) 83 (2.1) 2.56 (1.91–3.44) <0.0001

* Benzodiazepines only

Lithium only

Conclusions

We identified significantly higher rates of co-prescription purchases for dyslipidaemia, bone disease and mental health, and lower rates for diabetes among ART-purchasing persons.

Dispensing data provide real-time mechanisms to understand trends in medication dispensing and may be used to characterize the burden of medical comorbidities in persons with HIV and prioritize strategies to reduce them.

References