**Identification of a complex of symptoms frequently caused by commonly prescribed drugs as a potential tool to quantify the benefits of deprescribing**

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**Introduction**

The prevalence of polypharmacy and its potential harms are well documented. By contrast, the benefits of deprescribing are more difficult to quantify. An important aim of deprescribing is to reduce symptomatic adverse drug reactions. However, in patients with multimorbidity it can be difficult to tell whether a patient’s symptoms are due to their diseases, their medications or a combination.

The aim of our study was to identify the symptoms commonly associated with the 100 drugs and classes most commonly prescribed in the UK as a prelude to developing a tool to quantify the benefits of deprescribing.

**Method**

We have previously described the 100 drugs and classes most commonly prescribed in the UK and, within classes, the most commonly prescribed individual drugs.1 For each drug on this list, the summary of product characteristics (SmPC) was used to identify all very common (≥1/10) and common (≥1/100, <1/10) undesirable effects. To ensure all common undesirable effects were captured, this was repeated using a different SmPC for each drug where possible using a different dose or manufacturer. A list of undesirable effects was generated, and frequency of occurrence was described as the number of drugs/classes from the top 100 causing each effect.

**Results**

A total of 396 different very common or common undesirable effects caused by the 100 drug classes were identified. Table 1 shows all undesirable effects caused by more than 10% of drugs, along with the number of drugs/classes causing that effect. For example 53% of drugs on the list commonly cause nausea and 47% commonly cause headache.

**Conclusions**

Adverse drug reactions are an important but under-recognised cause of illness, particularly in patients with multimorbidity. Our study highlights a complex of symptoms commonly associated with commonly prescribed drugs. Further work is now required to establish whether this could form the basis of a tool to identify patients requiring medication review and/or to quantify the benefits of deprescribing.

**References**

1. Audi S, Burrage DR, Lonsdale DO, et al. The ‘top 100’ drugs and classes in England: an updated ‘starter formulary’ for trainee prescribers. *Br J Clin Pharmacol*. 2018;84(11):2562-2571. doi:10.1111/bcp.13709

Table 1: Undesirable effects caused by more than 10% of the top 100 drugs

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| --- | --- |
| **Undesirable effect** | **Number of drug classes causing the undesirable effect** |
| Nausea | 53 |
| Headache | 47 |
| Dizziness | 41 |
| Diarrhoea | 40 |
| Vomiting | 40 |
| Rash | 30 |
| Abdominal pain / discomfort  | 29 |
| Fatigue | 28 |
| Dry mouth | 24 |
| Somnolence / drowsiness | 23 |
| Constipation | 21 |
| Dyspepsia | 20 |
| Itch / pruritis | 20 |
| Asthenia | 16 |
| Sleep disturbance | 16 |
| Hypotension | 13 |
| Paraesthesia | 12 |
| Reflex changes (increase, decrease or absence)  | 12 |
| Dysgeusia (distorted sense of taste)  | 12 |
| Tremor | 11 |
| Visual disturbance (including diplopia) | 11 |
| Flatulence | 11 |
| Confusion | 11 |