Therapeutics Today

January 2019
Number 1

Notification of change to NMIC publications distribution. From January 2019, the NMIC publications, Therapeutics Today and NMIC bulletin will be available to GMS-contracted GPs and pharmacists on the Primary Care Reimbursement Service (PCRS) website (www.pcrs.ie). The publications can be viewed via the link *'Account Details'* on the *GP Suite* and *'Useful Links'* on the *Pharmacy suite*. Paper copies of NMIC publications will no longer be posted with PCRS mailings. GPs or pharmacists who wish to receive direct email delivery of NMIC publications, should please contact nmic@stjames.ie to sign up. Previous NMIC publications are freely available at www.nmic.ie.

Anticholinergic and sedative drug burden in older people

Medications with anticholinergic (ACh) and sedative effects are associated with significant risks of adverse effects in older people, however these medications are used to treat a range of conditions occurring in later life including mental illness, sleep disturbance, pain and urinary incontinence. **Use of ACh and sedative drugs in community-dwelling older people has been linked with an increased risk of falls, functional impairment and cognitive decline**. Evidence suggests that deprescribing some of these medications may result in positive patient health outcomes. The Drug Burden Index (DBI) is a country-specific tool which evaluates individual exposure to ACh and sedative medication; DBI medication exposure has not previously been reported in the Irish older population. A cross-sectional national pharmacy claims database study was undertaken which aimed to: 1) develop a list of drugs with clinically significant ACh and/or sedative effects (DBI medications) relevant to Ireland, 2) assess, using the DBI formula, the prevalence of exposure to DBI medications in Irish community-dwelling older people and 3) assess patient factors such as age, gender and comorbidity associated with increased exposure to DBI medications ***(BMJ Open 2018;8:e022500. doi:10.1136/bmjopen-2018-022500)***. The Irish Health Service Executive (HSE) Primary Care Reimbursement Service (PCRS) pharmacy claims database was used to identify the study cohort namely older people (≥65 years) enrolled in the General Medical Services (GMS) scheme who were dispensed at least one prescription in 2016. A consensus list of DBI medications was developed identifying those with clinically significant ACh and/or sedative effects (DBI). The final list included 156 DBI medications (15 with ACh effects only, 87 with sedative effects only and 54 with both ACh and sedative effects). The study found that 282,874 (66%) of the 428,516 GMS eligible population ≥65 years in 2016, were dispensed at least one DBI medication. **Females were more likely to have DBI medication exposure compared with males** (females 71.6% vs males 58.7%, adjusted OR 1.65, 95% CI 1.63 to 1.68). The prevalence of DBI medication exposure increased with the number of chronic drugs used, rising progressively from 42.7% of those prescribed 0 to 4 chronic drugs to 95.4% of those on ≥12 chronic drugs (adjusted OR 27.81, 95% CI 26.72 to 28.96). Those aged ≥80 years had a significantly higher prevalence of DBI medication exposure than those aged <80 years (≥80 years, 71.5% vs <80 years 63.5%). The 10 most frequently used DBI medications in the study were **codeine (20.1%), tramadol (11.5%), zopiclone (9.5%), zolpidem (8.5%), pregabalin (7.9%), alprazolam (7.8%), diazepam (6.5%), escitalopram (5.9%), prochlorperazine (5.9%) and mirtazapine (4.8%)**. A main limitation of the study is that information on the clinical indication for prescription was not available and therefore it is not possible to assess the appropriateness of DBI prescriptions. In light of this limitation, the authors of the study acknowledge that DBI medication prescribing in the study may not always be inappropriate, however they conclude that the findings suggest that the majority of older people in Ireland are exposed to medications with ACh and/or sedative effects, particularly females and those with multiple comorbidities. The high use of low-dose codeine/paracetamol combination products, Z-drugs and benzodiazepines in the study also suggests there may be opportunities for deprescribing.

Restrictions on the use of fluoroquinolone antibiotics. A recent review on the benefit/risk of systemic and inhaled fluoroquinolone (FLQ) antibiotics (including ciprofloxacin, levofloxacin, ofloxacin and moxifloxacin) was undertaken by the European Medicine's Agency (EMA) Pharmacovigilance Risk Assessment Committee (PRAC) (***HPRA Drug Safety Newsletter December 2018 91st Edition***). The review evaluated data on long-lasting adverse drug reactions (ADRs) from spontaneous reports and the scientific literature, non-clinical mechanistic studies and patient experiences with use of FLQs. **The review concluded that FLQs are associated with prolonged (up to months or years), serious, disabling and potentially irreversible ADRs affecting several or multiple organ systems (musculoskeletal, peripheral and central nervous systems)**; the ADRs include tendonitis, tendon rupture, neuropsychiatric effects and neuropathies associated with paraesthesia. **The use of FLQs has been restricted and FLQs should not be used: 1) to treat mild or self-limiting conditions, 2) to treat non-bacterial infections, 3) to prevent traveller's diarrhoea or to prevent recurring lower urinary tract infections and 4) to treat mild or moderate bacterial infections** unless other antibiotics commonly recommended for these infections are contraindicated. The review acknowledges however that FLQs remain an important treatment choice for serious infections (e.g. broncho-pulmonary infections in cystic fibrosis and complicated urinary tract infections) that are susceptible to treatment with these antibiotics. FLQs should not be used to treat patients who have previously experienced serious ADRs while taking a FLQ. **FLQs should be used with caution in older patients, patients with renal impairment, patients with solid organ transplant and those who are co-administered corticosteroids, as the risk of ADRs are increased in these patients**. Patients should be informed of the risks associated with FLQ use prior to initiating treatment and to seek medical advice at the first signs of these ADRs. FLQ treatment should be discontinued and alternative treatment considered if symptoms of tendonitis, neuropathy or other serious ADRs occur. Any suspected ADR associated with FLQ antibiotics should be reported to the HPRA via their website (www.hpra.ie).

Healthcare professionals are also reminded of the **rare risk of aortic aneurysm and dissection associated with use of systemic and inhaled FLQs**; FLQs should only be used after careful benefit-risk assessment and after consideration of other therapeutic options in patients at risk of aortic aneurysm and dissection. This was highlighted in the HPRA Drug Safety Newsletter November 2018 90th Edition.

Further information is available on the HPRA (www.hpra.ie) or EMA websites (www.ema.europa.eu).

Prevalence of drug-herb and drug-supplement interactions in older adults. Polypharmacy is a recognised patient safety risk among older adults. The use of concurrent prescription drugs (PDs) with herbal medicinal products (HMPs) among older adults is under-researched. A cross-sectional anonymous survey of community-dwelling older adults aged ≥65 years (n=400) registered at two UK general practices, aimed to establish the prevalence and patterns of potential drug-herb interactions with concurrent use of PDs, HMPs and dietary supplements ***(Br J Gen Pract 2018; DOI: https://doi.org/10.3399/bjgp18X699101)***. The study which had a 39% response rate found that **the prevalence of concurrent use of HMPs and dietary supplements with PDs was 34% (n=50);** 20% of concurrent users used only HMPs (including evening primrose oil, valerian, St John's Wort) whereas the majority (78%) used dietary supplements (including cod liver oil, glucosamine, multivitamins, and vitamin D). Sixteen of the concurrent users (32%) were at risk of potential drug interactions. The authors of the study conclude that the research highlights the potential risk of interactions with certain combinations of PDs, HMPs and dietary supplements and that healthcare professionals should routinely ask questions regarding use of other medications or supplements that are not prescribed.

Every effort has been made to ensure that this information is correct and is prepared from the best available resources at our disposal at the time of issue. References are available on request. This ***newsletter is produced by the National Medicines Information Centre, St. James's Hospital (SJH) Dublin 8 and Dept of Therapeutics Trinity College, Trinity Centre, SJH.*** *Tel: Direct Line (01) 473 0589 or 1850 727 727 Email: nmic@stjames.ie*