these 32 variants were associated with the development of severe toxicity in these patients (c.257C>T, c.704G>A, c.775A>G, c.851G>T, c.1977–1984-CTCCAGAA>C, c.2197insA, c.2242+1G>T, c.2324T>G and c.2087G>A). As a result of the programme, the cause for toxicity was found in 10% (9/91) of patients. The results of the test together with a dose adjustment recommendation were communicated to patients and included in their electronic medical record to make the information available for the oncologist and the rest of the clinical team.

Conclusion and Relevance This programme helped us to identify uncommon variants in the DPYD gene that were associated with toxicity to fluoropyrimidines in a clinical practice setting. These variants will be included in a new test that is currently under development. We believe that performing this extended test before initiating treatment can improve patient safety.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of Interest No conflict of interest.

5PSQ-001 INCIDENCE OF HEPATITIS B VIRUS REACTIVATION IN PSORIASIS PATIENTS TREATED WITH CYTOKINE INHIBITORS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background and Importance The safety of cytokine inhibitors in psoriasis patients with hepatitis B virus (HBV) remains uncertain due to their exclusion from clinical trials. Observational studies have recently raised clinical concerns about HBV reactivation (HBVr) risk in psoriasis patients using cytokine inhibitors, but a comprehensive systematic review is still lacking.

Aim and Objectives This study aimed to evaluate the risks of HBVr in psoriasis patients treated with cytokine inhibitors.

Material and Methods Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses, we conducted a systematic literature search in PubMed, Embase, Web of Science, and Cochrane Central Register of Controlled Trials for relevant observational studies on 5 May 2023. We included studies with >5 cases and complete HBV status. Two independent reviewers performed the study selection and data extraction, and the discrepancies between reviewers would be solved by the full discussion. A random-effects meta-analysis assessed the pooled incidence of HBVr. We also conducted subgroup analyses to compare HBVr incidence across different cytokine inhibitors and HBsAb status.

Results Eight observational studies comprising 181 psoriasis patients were included. Among HBsAg+ individuals without antiviral prophylaxis, the pooled HBVr incidence was 25.3% (95% CI: 10.4 to 49.7%) with a median onset at 5 months (range: 3–7 months) from the cytokine inhibitor initiation. No HBVr events were observed in HBsAg+ individuals with antiviral prophylaxis. Among HBsAg−/HBcAb+ individuals, the pooled HBVr incidence was 5.0% (95% CI: 2.3 to 10.8%) with a median onset at 12 months from the cytokine inhibitor initiation. Subgroup analysis showed similar pooled HBVr incidence for IL-12/23 inhibitors (4.0%, 95% CI: 1.3 to 11.8%), IL-17 inhibitors (6.6%, 95% CI: 1.9 to 20.5%), and IL-23 inhibitors (5.0%, 95% CI: 0.3 to 47.5%). No significant risk difference was found between patients with and without HBsAb (risk difference: −0.01%; 95% CI −0.16 to 0.13%).

Conclusion and Relevance This systematic review and meta-analysis shed light on the incidence of HBVr associated with cytokine inhibitors in psoriasis patients. Prophylactic antiviral use is crucial for patients with HBV. Physicians and pharmacists must ensure proper HBV protection through prophylaxis and monitoring when administering cytokine inhibitors, in addition to adhering to recommended HBV vaccination.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of Interest No conflict of interest.

5PSQ-002 PRESCRIBING TREND OF FLUOROQUINOLONES FOLLOWING LATEST EMA RECOMMENDATIONS

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Background and Importance The European Medicines Agency (EMA), following a 2018 European-wide review to assess the risk of serious and disabling adverse reactions, has recommended that the use of fluoroquinolones should be restricted. In 2019, the use of these antibiotics was significantly limited. However, a subsequent study, showed that these drugs are still prescribed outside the recommended uses. For this reason the EMA, in May 2023, issued a reminder.

Aim and Objectives The aim is to analyse the prescribing trend of fluoroquinolones, following EMA's reminder.

Material and Methods Analysis of prescription (PR) dispensed through community pharmacies, relating to the active ingredients (p.a.) classified with the anatomic, therapeutic and chemical classification (ATC) J01MA. The period considered is from 2017 to 2022. The analysed data were in the pharmaceutical service database, grouped by p.a./ATC, patient's age and was processed via Microsoft Excel.

Results The number of PR of p.a. analysed decreases significantly starting from 2019. Pefloxacin and pipemidic acid are no longer prescribed from 2020. Approximately 50% of the PR, per single p.a., are intended for patients aged 65 or over (302314/601603 total PR in 6 years). The most prescribed p.a. are levofloxacin (273976 total PR) and ciprofloxacin (290553 total PR); the number of PR of these two p.a., in 2021, decreased by 66% (from 74705 to 25032) and 41% (from 65980 to 38916) respectively compared to 2017. However, in 2022 there was an increase of 14% (28741 PR) for levofloxacin and 7% (41785) for ciprofloxacin, compared to the previous year. In the remaining p.a., excluding moxifloxacin, no prescribing increase was observed between 2021 and 2022.

Conclusion and Relevance The restrictions introduced by EMA aim to reduce the risk of disabling and potentially irreversible side effects linked with fluoroquinolones use, especially in the elderly population. The results suggest that the restrictions introduced in 2019 have been adopted effectively, resulting in a decrease of prescriptions up to 2021. The increase of levofloxacin, ciprofloxacin and moxifloxacin observed in 2022 could be caused by reduced prescribing attention, shortage/

ineffectiveness of other antimicrobial classes, or local respiratory infections outbreak. The EMA recall released in May 2023 represents a tool to strengthen the attention about fluoroquinolones and avoid their prescription outside the recommended uses.

REFERENCES AND/OR ACKNOWLEDGEMENTS
Conflict of Interest No conflict of interest.

5PSQ-003 IMPROVING MEDICINES MANAGEMENT OF INPATIENT PARKINSON'S DISEASE PATIENTS BY MAKING PHARMACY INTERVENTIONS

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Background and Importance Hospital admissions of Parkinson's disease (PD) patients can result in medication regimen disruptions causing adverse effects for PD patients. Evidence shows that interventions can reduce medication-errors and administration of contraindicated medicines in PD patients.
Aim and Objectives The study aim was to quantify the impact of a pharmacist's involvement in optimising medicines management of inpatient PD patients.
Material and Methods A 2-month 'baseline' audit was completed prior to intervention implementation and measured patient demographics, delay in first dose following admission, medication errors (missed/delayed doses), pharmacist medicines reviews and time until completion and patient outcome (prevalence of falls, delirium, rigidity). The outcome of patients who were 'nil by mouth' was also assessed. Three interventions were implemented over a 1-month period. These were priority pharmacist medicines reviews of PD patients, PD medication ward stock optimisation and doctor/nurse PD medicine management education sessions. A post-intervention audit identical to the 'baseline' audit was completed and both audits were compared.
Results The 'baseline' audit (mean age 81, 24 patients, 1,611 due doses) and the post-intervention audit (mean age 80, 30 patients, 1,840 due doses) were analysed. Medicine reviews increased from 79% to 97% ($p=0.042$) and these were completed 38.7 hours ($p<0.001$) sooner post-admission. A reduction in first dose delay was seen (13.5 vs 4.4 hours ($p<0.001$)), along with reductions in delayed (5% to 1% ($p=0.037$)) and missed doses (8% to 2% ($p<0.001$)). Omitted pre-admission PD medications reduced from 16% to 2% ($p=0.011$). Staff education contributed to recorded due times increasing from 44% to 97% ($p<0.001$). Contraindicated medicines were administered at reduced rates in the post-intervention audit. The length of admission was shorter due to the combination of interventions (19 vs 15 days ($p=0.475$)). These improvements resulted in a reduced prevalence of falls (25% to 17%), delirium episodes (29% to 7%) and rigidity (54% to 7%). Patients were more able to interact with allied health professionals in the post-intervention audit (46% vs 100%). Improvements in non-oral PD medicines prescribing occurred in 'nil by mouth' patients.
Conclusion and Relevance This study showed the introduction of the pharmacist-led interventions can improve PD inpatient outcomes, by reducing medication errors, decreasing the administration of contraindicated medicines and preventing delays in the administration of PD drugs.

REFERENCES AND/OR ACKNOWLEDGEMENTS
Conflict of Interest No conflict of interest.

5PSQ-004 COMPARISON BETWEEN BEERS 2019 CRITERIA AND THE EURO-FORTA 2018 LIST IN THE IDENTIFICATION OF POTENTIALLY INAPPROPRIATE MEDICATION IN ELDERLY PATIENTS IN THE PRIMARY HEALTHCARE CONTEXT

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Background and Importance Inappropriate prescription is a risk factor for adverse drug reactions and hospitalisations in the elderly. Concerns about its impact in this age group have led to the development of various strategies to address this issue, with a focus on tools for detecting potentially inappropriate medication (PIM), notably the Beers criteria and the EURO-FORTA list.
Aim and Objectives To compare the 2019 Beers criteria with the 2018 EURO-FORTA list and show their applicability on the primary healthcare context.
Material and Methods We conducted a cross-sectional observational study in a population of patients over 65 years old enrolled in a family health unit in Portugal. Classification of all drugs and active diagnoses in the family health unit according to the tools under analysis. Cross-referencing drugs identified as PIMs according to both instruments with the family health unit database, resulting in the identification of PIMs for each patient, considering their conditions.
Results Twenty-nine of the PIMs according to the Beers criteria are not PIMs according to the EURO-FORTA list; 54 of the PIMs according to the EURO-FORTA list are not PIMs according to the Beers criteria; 47 drugs recommended by the EURO-FORTA list are PIMs according to the Beers criteria. The study included 2,775 patients, 59.70% of whom were on polypharmacy. The prevalence of PIMs was 13.41% according to the Beers criteria and 35.78% according to the EURO-FORTA list, with a higher number of PIMs in women in both instruments. The most frequently prescribed PIMs were benzodiazepines for both tools, followed by antipsychotics and antidepressants.
Conclusion and Relevance The levels of polypharmacy and prescription of PIMs in the presence of certain diseases are considerable in the elderly, in the context of primary healthcare, with both tools being useful in the detection of PIMs. However, there are important differences in the drugs they include, which must be individually analysed from a pharmacotherapeutic point of view. Regarding the integration of these tools into a clinical decision support system, it is concluded that both instruments should be computerised together to take advantage of the benefits of each one and to address the shortcomings that both present.

REFERENCES AND/OR ACKNOWLEDGEMENTS
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