A DESCRIPTION OF PHARMACISTS' INTERVENTIONS TO OPTIMISE THE TREATMENT OF ADULTS WITH ORALLY AVAILABLE COVID-DRUG PAXLOVID®

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Background and Importance

Paxlovid ® - the only orally-available COVID-drug - consists of two main components: Nirmatrelvir and Ritonavir. [1] Ritonavir is known for the potent inhibition of CYP (cytochrome P450)-enzymes in the liver mainly of CYP3A4 , resulting in a large number of clinically significant drug-drug interactions (DDIs). [1,2,3] This results in an increased number of adverse events, raising concerns for patient safety.

Aim and Rational for Research

Since numerous instances of inappropriate prescribing, particularly with co-medications, were noted at the pharmacy despite prescriber consideration at the point of prescribing, a pharmaceutical service was introduced to perform medication reviews.

The aim was to describe the frequency, type, and severity of detected DDIs in Paxlovid® recipients identified during pharmacy screening.

Materials and Methods

A retrospective monocentric quantitative data analysis was performed in an Austrian clinic in Vienna. Ethics approval was obtained. All patients prescribed Paxlovid® were included and data collected from the patients' electronic records. A data collection tool was developed and piloted to ensure inter-rater reliability. Drug-drug interactions including prescribing recommendations were determined using the COVID-19 Drug Interactions checker developed by the University of Liverpool.

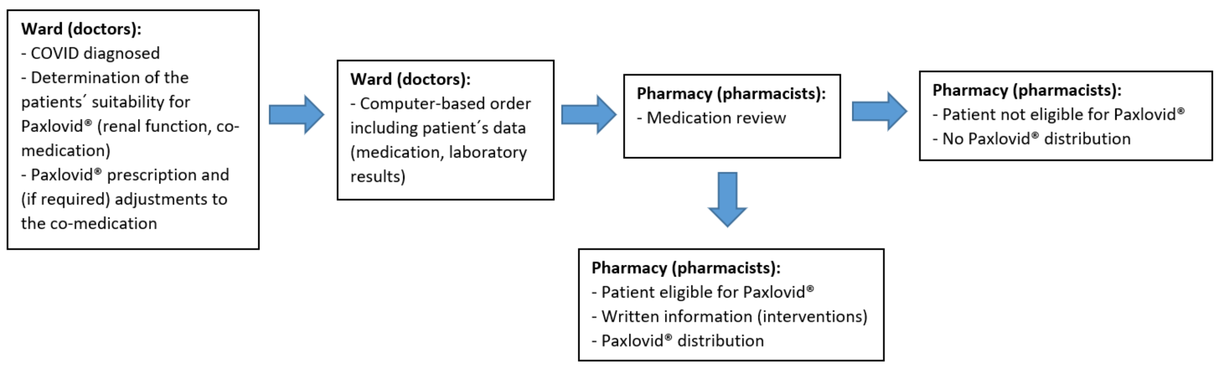

Figure 1: Pathway for prescribing and supplying of Paxlovid®

Results

- 122 of 140 (87.1%) patients whose records were reviewed required dose reduction, alternative COVID medication and/or interventions to prevent interactions or overdosing.

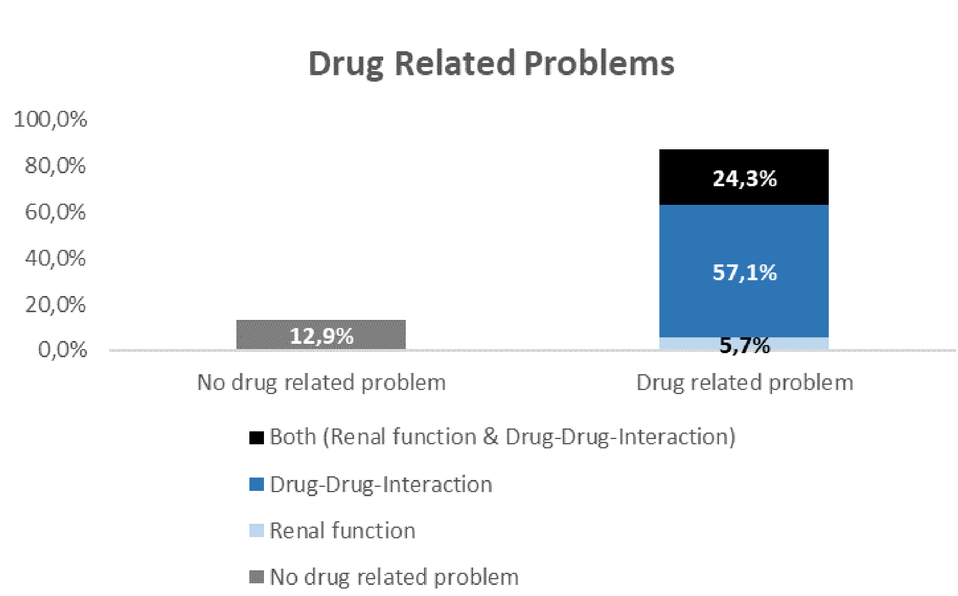

Figure 2: Drug related problems

- In 33 (23.5%) cases the necessary action was performed by the doctors at the point of prescribing.
- However, in 89 (63.6%) cases the required action was not identified at the point of prescribing but identified during the pharmaceutical medication review after Paxlovid® was ordered in the pharmacy.

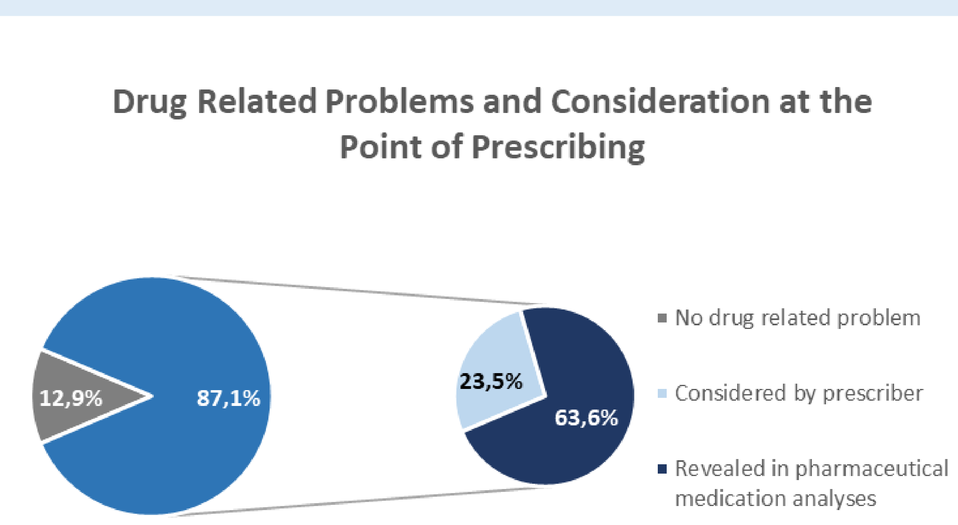

Figure 3: Consideration of drug related problems at the point of prescribing

- Since interventions were made prior to the patient receiving the supply, all patients in this group benefitted from the pharmaceutical service leading to enhancement of patient safety.

Conclusion

This study demonstrated that many drug related problems were identified through the pharmaceutical intervention. This shows that pharmacist involvement in prescribing highly interacting drugs such as Paxlovid® is beneficial to enhance patient safety and mitigate risks.

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References

[1] ELECTRONIC MEDICINES COMPENDIUM (EMC), 2022. Paxlovid 150 mg/100 mg film-coated tablets - Summary of Product Characteristics (SmPC) - (emc). [online]. Surrey: EMC. Available from: https://www.medicines.org.uk/emc/product/13145/smpc [Accessed 17 Jan 2024].
[2] LIVERPOOL INTERACTION GROUP, 2022. Evaluating the drug-drug interaction risk of COVID-19 therapies (licensed or under clinical investigation). [online]. Liverpool: University of Liverpool. Available from: www.covid19-druginteractions.org/prescribing_resources/methods-metabolism [Accessed 17 Jan 2024].
[3] HULL, M.W. and MONTANER, J.S.G., 2011. Ritonavir-boosted protease inhibitors in HIV therapy. Annals of Medicine, 43(5), pp. 375–388.