LMU KLINIKUM
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Benefit of Medication Reviews by a Renal Pharmacist in the Setting of a Computerized Physician Order Entry System

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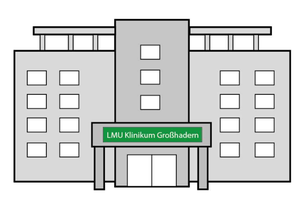
Background and Aim

A 'renal pharmacist consultant service' (RPCS) reviewing patients with renal impairment (RI) for drug-related problems (DRP) can foster patient safety [1]. However, the benefit of this service in the new setting of a computerized physician order entry (CPOE)-system with a clinical decision support system (CDSS) is unknown. The aim of the study was to evaluate a RPCS on wards with CPOE-CDSS, its need in general and its effectiveness on prescription changes and, thereby, on patient safety.

Results

During 53 working days, 712 (30.5%) of 2331 screened patients were included with an $eGFR_{absolute}$/KreaCl <60 ml/min and a pharmacist-led medication review was performed for all medication prescribed in the CPOE-CDSS (Meona®). In 79 of 712 (11.1%) patients one or more DRP were detected (median 1 DRP (1-3) per patient) and written recommendations were shared via Meona®. In total, 104 DRP were identified, mostly caused by ‚dosage too high' (n=55; 52.9%), 'dosage regime wrong' (n=13; 12.5%), and 'contraindication' (n=9; 8.7%) (Figure 1). Acceptance rate of recommendations was 74.0% (n=77/104). In nine cases (8.7%) recommendation was consciously retained after discussion because of lack of alternatives, in 11 (10.6%) prescription remained unchanged for unknown reasons and in seven (6.7%) the result was unknown due to discharge (Figure 1).

Materials and Methods



02-04/2021

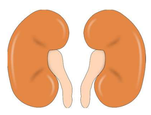
- Orthopaedic ward
- Trauma ward

Meona

Weekdays: ‚Renal Pharmacist Consultant Service'

1 Selection

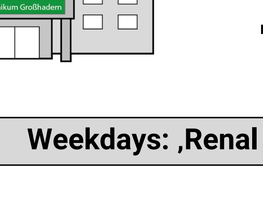
$eGFR_{absolute}$/KreaCl



< 60 ml/min

2 Pharmacist-led medication review

3 If DRP is present, written consultation via Meona®



4 Retrospective evaluation of prescription changes.

Digital consultation: Directly in the drug chart tab of the CPOE-CDSS Meona®

Körpermaße	110 kg, 174 cm, BMI: 36,3 kg/m², BSA: 2,31 m²
Diagnosen	Art. Hypertonie, Diabetes mellitus Typ 2, VHF

19.10. 20.10. 21.10. 22.10. 23.10. 24.10. 25.10. 26.10. 27.10. 28.10. 29.10.

Mo 08.11.2021 (7)

Vitalparameter

Verlaufsparameter

Stuhlgang/Erbrechen	
Notizen	*Apothekenkonsil* Laborvom 07.11.2021: eGFR (CKD-EPI): 27 ml/min/1,73qm; eGFR umgrechnet auf KOF: 36 ml/min; KreaCl (gerechnet mit adjusted body weight 86kg): 31 ml/min *Apixaban*: Indikation VHF: KreaCl >=30 ml/min abhängig von folgenden Faktoren: Alter >= 80 Jahre, KG <= 60 kg und Serum-Krea >= 1,5 mg/dl. Wenn 1 Faktor: 5 mg alle 12 h, wenn 2 Faktoren: 2,5 mg alle 12 h. KreaCl <30 ml/min 2,5 mg alle 12 h. -> Pat. 82 Jahre + Serum-Krea 2,2 mg/dl -> Dosisreduktion auf 2,5 mg alle 12 h empfohlen. APO/S. Seiberth Tel. 76600

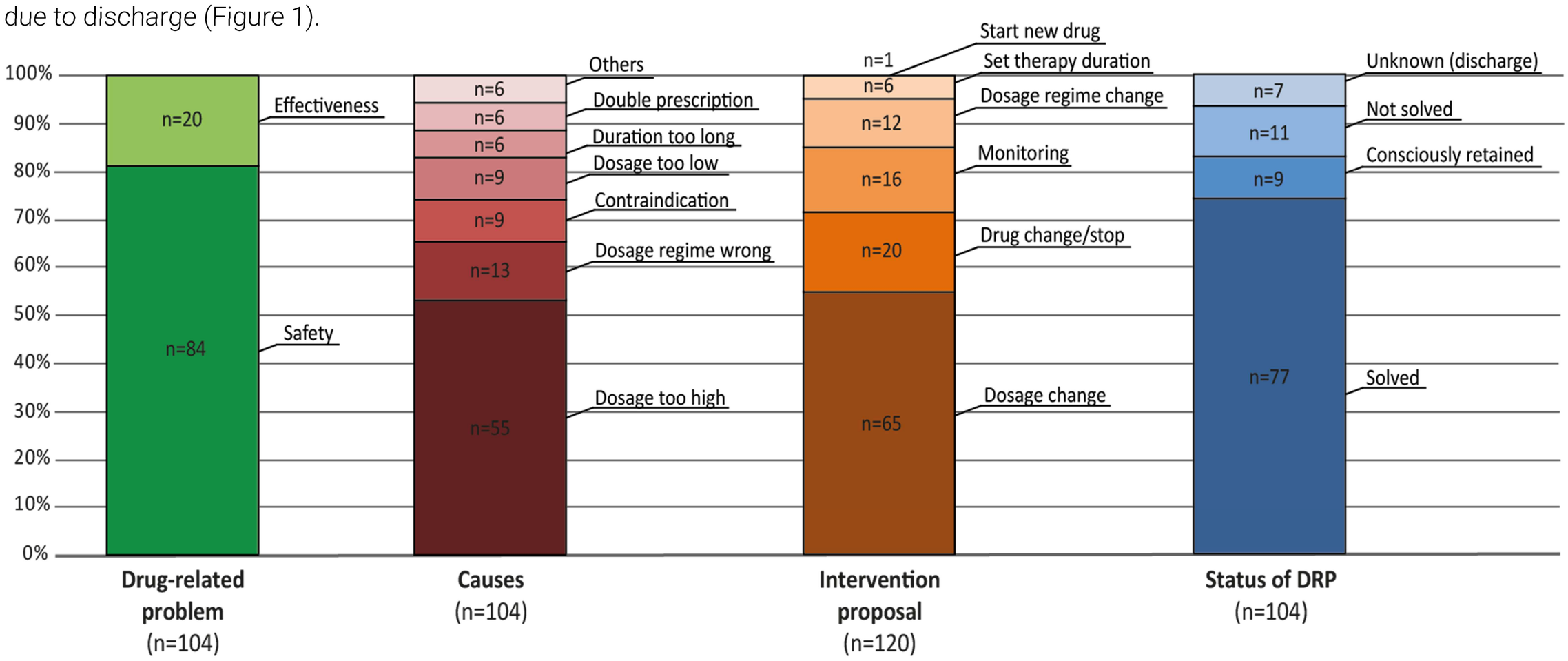


Figure 1: Identified drug-related problems (DRP; n=104) in 79 (11%) of 712 patients with $eGFR_{absolute}$/ CrCl of < 60 ml/min receiving a pharmacist-led medication review. The DRP of either treatment safety or treatment effectiveness is categorized in one main cause and more than one intervention might be necessary to solve DRP. **Monitoring**: refers to control of adverse drug events or serum blood levels (e.g. electrolytes, creatine kinase). **Consciously retained**: means that the problem was discussed with the physician but the consensus decision was to only monitor the DRP because of the lack of suitable therapy alternatives for this patient's situation.

Conclusion and relevance

The pharmacist-led medication reviews identified DRP in patients with RI even in the setting of prescribing in a CPOE-CDSS. A RPCS in this setting successfully increased appropriate prescribing by physicians and, thus, improved patient safety.

Literature

[1] Seiberth S et al. Implementation of a Renal Pharmacist Consultant Service – Information Sharing in Paper versus Digital Form. J Clin Pharm Ther. 2021;46:838-845.