PHARMACEUTICAL INTERVENTIONS IN HAEMODIALYSIS PATIENTS: A 2 YEAR OVERVIEW

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Keywords

pharmaceutical interventions; drug-related problems; haemodialysis; end-stage renal disease; prescription optimization

Background and importance

Following the implementation of an integrated disease management model for end-stage renal disease in 2008, pharmaceutical services implemented throughout Portuguese haemodialysis centres are responsible for medication management, promoting its rational use, safety and effectiveness.

Patients in end-stage renal disease undergoing haemodialysis have multiple comorbidities, complex pharmacotherapeutic regimens, high pill burden and significant haemodynamic changes to mild medication alterations.

The evidence of pharmacists' interventions in patients with chronic kidney disease is sparse and its evaluation necessary to improve quality of interventions and patient healthcare.

Aim and objectives

Assessment of drug-related problems and related pharmaceutical interventions registered by each pharmacist in our haemodialysis centers, since 2018.

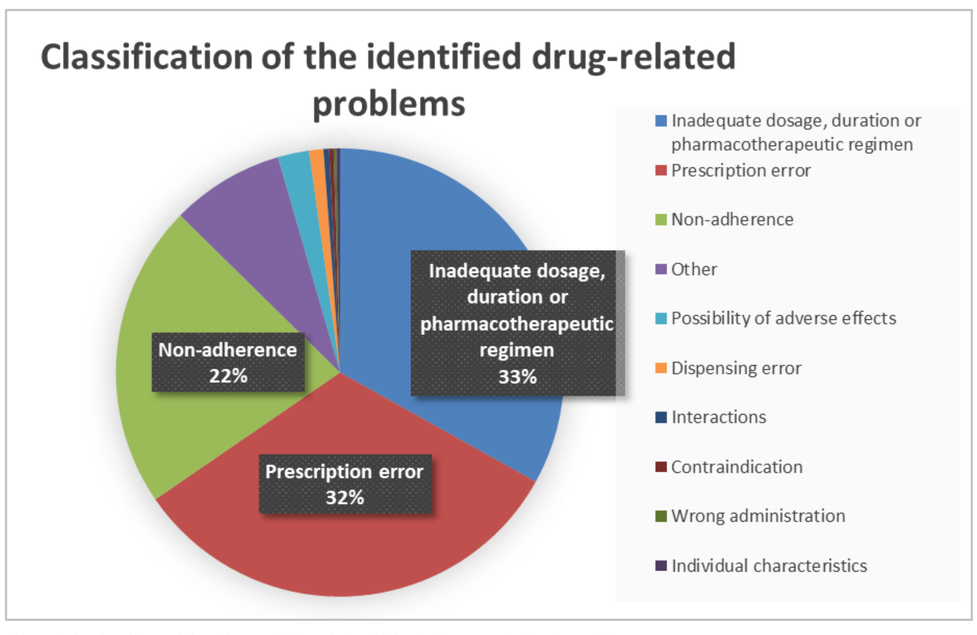
Material and methods

Pharmacists in 37 haemodialysis centers voluntarily registered drug-related problems identified during clinical practice in an internal database associating drug, patient name, pharmaceutical activity and suggested pharmaceutical intervention. Whenever possible, the result of the intervention was assigned.

A retrospective descriptive study with review and analysis of the database information was performed.

Results

Since 2018 were registered 6836 drug-related problems with pharmaceutical intervention, in 2761 patients. The most frequent were inadequate dosage, duration or pharmacotherapeutic regimen (33%), prescription error (32%) and non-adherence (22%).



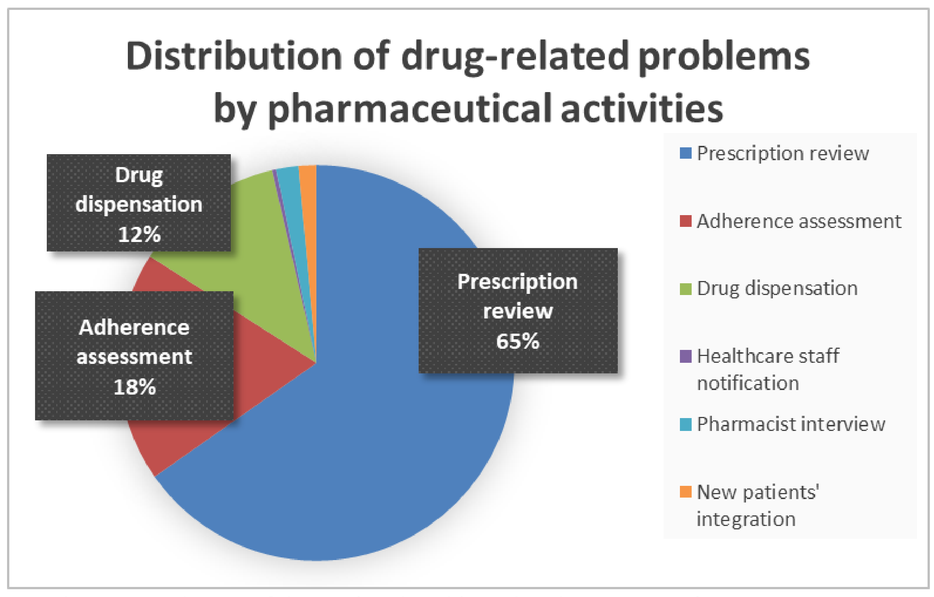
Graphic 1: Classification of the identified drug-related problems

Type of intervention	Pharmaceutical interventions	# interventions
Prescription changes (84%)	Parameterize prescription	1836
	Change administration time	1195
	Adjust dose	523
	Clarify dosage	831
	Stop medicine	569
	Change dose	300
	Change medication	260
	Update pharmacotherapeutical profile	140
	Start medicine	41
	Change route of administration	32
Information to nephrologist (6%)	Inform nephrologist	403
Patient intervention (9%)	Explain how to take	254
	Pharmacist interview	234
	Dispense medicine	137
Other (1%)	Medication information	75
	Monitor	6

Table 1: Type and number of phamaceutical interventions

Pharmaceutical interventions were grouped in prescription changes (84%), patient intervention (9%), information to nephrologist (6%), other (1%). When registered (62%), the result was: accepted (37%), not accepted (18%), not applicable (7%).

Drug-related problems were identified mainly in activities of prescription review (65%), adherence assessment (18%), drug dispensation (12%), pharmacist interview (2%) and predominantly with hypertensive agents, vitamins and phosphate binders.



Graphic 2: Distribution of drug-related problems by pharmaceutical activities

Conclusion and relevance

Results suggest using a database to register drug-related problems and pharmaceutical interventions is an applicable tool to assess the development of pharmacists' interventions, although under-reporting is admitted.

Pharmaceutical interventions were mainly directed to prescription's optimization, with parameterization for effective distribution/administration and administration time changes, specially regarding dialysed drugs. Accordingly, hypertensive agents and vitamins, mostly dialysed in hemodiafiltration and administered in ambulatory, were predominant.

Pharmaceutical interventions were generally accepted and suggest effective influence on drug therapy management of patients in haemodialysis although clinical outcomes should be considered.

References and/or acknowledgements

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