

Pharmacological awareness benefits patients

P.L.A. van Daele

Department of Internal Medicine, Erasmus MC, Rotterdam, the Netherlands,
email: p.l.a.vandaele@erasmusmc.nl

Whereas the tool of the surgeon is the scalpel, internists cure, or at least treat, with medication. However, in the past decade our toolbox has grown so rapidly that it is becoming more and more difficult to handle. The result: adverse drug events (ADE). In a meta-analysis by Hakkarainen et al., it was demonstrated that in an outpatient population up to 2% of all admissions or emergency visits are due to ADE, many of which were potentially preventable.¹ The most important risk factor for ADE in hospitalised patients is the number of drugs they use and the start of a new drug during admission.² Patients on cancer treatment sometimes start three new drugs during admission just to treat their nausea. In the current issue, Schoffelen et al. explain how various drugs given in cancer therapy may interact with each other.³

Prescription errors and drug-drug interactions are potentially preventable as a cause of ADE. Computerised prescriber order entry may help in prevention but depends on adherence and completeness.⁴ We need to do better. In the current issue of the journal, Bosma et al. demonstrated that adding a pharmacologist to the team present during rounds on the intensive care unit leads to further improvement in medication care for patients and on top of this to a decrease in costs.⁵

Luckily most patients admitted do not end up in the ICU unit, but also on general wards and in the outpatient clinic patients might benefit from better pharmacological

awareness. Apart from drug interactions, knowledge on pharmacokinetics and pharmacodynamics is becoming more and more important especially in a patient population that is gradually ageing. As Ross and Maxwell stated: 'Good prescribing requires a sound understanding of the principles of clinical pharmacology, knowledge of medicines, appreciation of uncertainty and good judgement, ideally based on experience'.⁶ Intensifying training in pharmacology ultimately will lead to better patient care.

REFERENCES

1. Hakkarainen KM, Hedna K, Petzold M, Hägg S. Percentage of patients with preventable adverse drug reactions and preventability of adverse drug reactions - a meta-analysis. *PLoS One*. 2012;7(3):e33236.
2. Van den Bemt PM, Egberts AC, Lenderink AW, et al. Risk factors for the development of adverse drug events in hospitalized patients. *Pharm World Sci*. 2000;22:62-6.
3. Schoffelen R, Lankheet AG, van Herpen CML, van der Hoeven JJM, Desar IME, Kramers C. Drug-drug interactions with aprepitant in antiemetic prophylaxis for chemotherapy. *Neth J Med*. 2018;76:109-14.
4. Vermeulen KM, van Doormaal JE, Zaal RJ, et al. Cost-effectiveness of an electronic medication ordering system (CPOE/CDSS) in hospitalized patients. *Int J Med Inform*. 2014;83:572-80.
5. Bosma LBE, van den Bemt PMLA, Melief PHGJ, van Bommel J, Tan SS, Hunfeld NGM. Pharmacist interventions during patient rounds in two intensive care units: Clinical and financial impact. *Neth J Med*. 2018;76:115-24.
6. Ross S, Maxwell S. Prescribing and the core curriculum for tomorrow's doctors: BPS curriculum in clinical pharmacology and prescribing for medical students. *Br J Clin Pharmacol*. 2012;74:644-61.