EDITORIAL

Medication Safety—Models of Interprofessional Collaboration

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Editorial to accompany the articles:

„Interprofessional Medication Management in Patients With Multiple Morbidities“ by Juliane Köberlein-Neu et al.

and

„Medication and Treatment Adherence Following Hospital Discharge“ by Claudia Greißling et al.

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Medication safety comprises the entire process, from prescription to application, and therefore constitutes an extension of the regulatory term of drug safety (1). It addresses not only the pharmacological risks of a medical drug but also the risks inherent in the process chain of different actors—that is, pharmacists and physicians, nursing staff, but also patients, their relatives, and other persons who may be involved in the medication process. Especially multimorbid patients receive many different drugs, often from different prescribers, whose interactions and adverse effects are not straightforward. Moßhammer et al. (2) have recently shed light on this problem and investigated the available algorithms and tools for reducing and improving inappropriate polymedication.

Multiprofessional approach

Physicians, pharmacists, and nursing staff are completely familiar with the processes that may incur errors in their own areas of competence or at the transition between these areas. It is therefore a logical consequence that attempts to optimize and improve medication safety require the cooperation of different persons and professions. This is predicated on mutual understanding, articulating expectations vis-à-vis the partner, and awareness and appreciation of the expertise of the other professions involved. What is of crucial importance in this context is not only the bringing together of several professions (multiprofessional) but also interprofessional communication and cooperation. All attempts to implement new processes have to be regarded as complex interventions and as such require testing in methodologically sophisticated studies (3).

In the WestGem study, Köberlein-Neu et al investigated whether a medication review by a pharmacist can improve the quality of medication in the outpatient setting (4). Medication quality—that is, prescriptions that are appropriate for the indication in question, the absence of undesirable drug interactions, correct dosages, and tolerability were measured by using a validated score, the Medication Appropriateness Index (MAI). The WestGem study is a methodologically valuable study in a clearly defined setting. The model provides for a home visit by a home-care specialist and a medication review conducted by a pharmacist. Communication between pharmacist and doctor—already much practiced these days—which is now also necessary because of the medication plan (5), did not happen directly but, for the reasons explained, through the representative of a third profession. The intention was to have the answers to two important questions after the study:

- Does an improvement in the MAI score also lead to fewer adverse effects and a better quality of life for patients?
- Is it possible to conduct this time-consuming intervention in the context of the German healthcare system?

With regard to the first question, the results of systematic reviews to date have been disappointing. To date, no study has been able to show that a complex intervention in the outpatient setting, which resulted in improvements to the medication quality (mostly captured by using the MAI score), simultaneously led to improvements in the quality of life, reductions in the number of visits to the doctor, number of hospital stays, or even reductions in mortality (6, 7). It seems almost more important to analyze the possibility of adopting such projects into routine healthcare practice. The present study does not provide any concrete answer to the second question, for the simple reason that it is necessary to identify the patient cohort that would benefit most from such a complex intervention. Only then will discussions take place regarding the implementation of a medication review by the pharmacist and the financial feasibility of such a project.

Medication at points of intersection

Greißing and colleagues studied a known problem: medication at the transition between outpatient care—inpatient care—outpatient care (8). Patients without a current medication plan constitute a challenge to the admitting hospital physician, whereas a discharge letter that arrives late can present the primary care physician in private practice with a riddle. The German Agency for Quality in Medicine (*Ärztliches Zentrum für Qualität in der Medizin*, ÄZQ) published guidance on the subject as early as in 2012 (9).

The study described in this article included complex interventions by two healthcare professions. One component was an electronic medication record, documented after the medication history had been taken by the hospital physician, a changeover to the hospital formulary, and another changeover at discharge. This approach alone helps to avoid a substantial amount of friction and misunderstandings between physicians in private practice and hospital physicians. The patient

will have to be included in all this because their white, yellow, round, and oval pills with be changed seemingly willy-nilly, which in the study setting will be accompanied by detailed explanations—but in reality, things are often very different. Another component consists of the different modules that are rendered as services by clinical pharmacists. This is an additional element, which contributes to medication safety. In this course of events, the patients kept their usual contact persons, but these were complemented by an additional clinical pharmacist in the team. Both hospital physicians and patients benefited from this additional service. But again, the question that arises concerns the relevance of the prevented problems in terms if measurable outcomes, such as readmission to hospital, quality of life, adverse effects, and additional outpatient visits to the physician. And in terms of implementing this into routine practice, the question that will have to be faced head-on is that of how these additional posts will be financed. If the gaps in healthcare provision that are thus avoided and the risky medication switches thus prevented turn out to be relevant—and according to the literature this is a fair assumption—then this approach is appropriate, for example, in the context of a new form of healthcare provision.

Who is entitled to a medication plan?

Both studies address two crucial elements of medication safety: technical support as well as additional know-how and service provision close to the patient by pharmacists. Since 1 October 2016, all members of statutory sickness insurance schemes who take at least three drugs are entitled to a medication plan—initially in the form of a sheet of paper and from 2018 in electronic form. This will automatically bring doctors and pharmacists closer together, which is the legislator's intention and has the support of professional and specialist associations in their respective documentation (5). The medication plan therefore is a quasi-medium for interprofessional communication. However, this should not distract from the fact that issuing prescriptions is the remit of physicians. Essential prerequisites are detailed knowledge about patients' illnesses and their domestic/life situation and consideration of guidelines, on the basis of thorough training in clinical pharmacology and pharmacotherapy (10).

Conflict of interest statement
The author declares that no conflict of interest exists.

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