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Editorial

[Translated article] Pharmaceutical care in emergency department

Atención Farmacéutica en los servicios de urgencias

In recent years, the number of clinical pharmacists working in emergency departments (EDs) has grown dramatically due to several factors. The increased awareness of patient safety with a greater focus on the prevention of medication errors, the escalating numbers of elderly patients with polypharmacy, and the ever-growing complexity of pharmacotherapy are perceived as pressing issues within ED care teams. Such increased activity has led to growth in the number of publications showing that clinical outcomes are improved by the inclusion of pharmacists in multidisciplinary ED programs[1].

In 2008, the American Society of Health System Pharmacists (ASHP) published a document on the activities that should be provided by ED pharmacy services, which was updated in 2021[2]. Despite the undoubted usefulness of these guidelines, there are substantial differences between the USA and Spain in the degree of participation and the competencies developed by clinical pharmacists. Thus, the competencies and activities that should be developed by pharmacists in such units have to be adapted to their situation in Spain.

The wide diversity of activities conducted in EDs entails the need to prioritize those that have the greatest impact on patients and staff in these units and should guided by the scientific evidence available as well as by the experience of the physicians and pharmacists working in these areas. The joint work of hospital pharmacists coordinated by the REDFASTER group and emergency physicians of the Spanish Society of Emergency Medicine (SEMES) has resulted in the publication of *Pharmaceutical Care in Emergency Departments: a SEFH and SEMES Position Paper*[3], the aim of which is to lay the foundations for pharmaceutical activity in EDs in Spain. This joint statement describes the activities to be conducted by pharmacists working in these areas to improve clinical outcomes and is intended to act as a guideline for pharmacists who are starting their healthcare activity in these areas. The activities have been divided according to their priority, as follows: basic activities, which should provide the foundation for initiating pharmaceutical care in EDs; intermediate activities, which require some experience in the units for their implementation; and advanced activities, which would lead to optimal pharmacotherapeutic outcomes due to high levels of knowledge and experience.

The document includes 25 activities grouped into 5 major blocks: logistics management, pharmaceutical care, risk management, training, and research. All these activities are supported by measurement indicators to monitor their evolution.

Logistics management

The need for rapid health care in EDs and the wide variability of patients attended makes the acquisition and availability of medicines in these units a challenge, entailing characteristics that differ significantly from those of other hospital areas. Pharmacists play key roles in guaranteeing the availability of medications in the different areas of EDs, and should be involved in avoiding shortages, suggesting alternatives to stock-outs, participating in the decision-making process regarding which medications will be available within the unit, and developing specific programs to ensure the immediate availability of ward medication, emergency trolleys, and antidotes. Updating the availability of such medications should be based on changes in prescribing practices, updated recommendations in guidelines or protocols, and the availability and supply of medications to the centre. Likewise, maintaining updated medication administration guidelines adapted to the particularities of EDs should be one of the essential activities guaranteed by the pharmacists assigned to these units.

Furthermore, pharmacists have the skills and knowledge to actively collaborate in emergency situations, such as pandemics, natural disasters, and multiple accidents, and should be included in the hospital's action plans for emergency preparedness planning.

Pharmaceutical care

For many years, the review and validation of medical prescriptions has formed part of routine pharmacist practice in hospitals. This process has proven to be an essential tool for preventing medication errors and optimizing the patients' pharmacotherapy to their clinical situation[4]. Medication reconciliation in EDs has been shown to reduce medication errors[5], although it must be adapted to the particularities of the short stays and uncertainties inherent to these units. The physical participation of pharmacists as members of ED teams during their clinical rounds is a key factor in improving patient pharmacotherapy and should be an objective to be achieved by pharmacists assigned to these areas.

Furthermore, another basic activity is the development of antimicrobial optimization programs in these units, because they are where the first doses of antibiotics are prescribed in hospitals, as well as where a large number of antibiotics are prescribed for patients discharged directly to their homes or other healthcare centres. However, their development is still limited in EDs[6]. For this reason, objectives should include promoting the development of these programs, proposing empirical treatment protocols for the management of prevalent infections, and monitoring the use of antimicrobials in the units.

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One tool that should be developed by pharmacists is the pharmacokinetic monitoring of antibiotics, antiepileptics, or digoxin, both at the beginning of treatment for rapid optimization and in suspected cases of intentional or unintentional poisoning.

Finally, the incorporation of pharmacists in the treatment of time-dependent diseases has been classified as an advanced-level activity to be developed in these EDs, given the need for continuous care in such units. Several studies have shown that the standard inclusion of pharmacists as members of multidisciplinary initial response teams for the management of code septic infarction, stroke, or polytrauma can significantly reduce treatment time in patients attended in EDs[7–10], although their incorporation will remain a challenge in the near future.

Risk management

The environment and activity inherent to these units carries a high risk of medication-related safety failures. Pharmacists should foster and help maintain safe environments for the use of medications and continuously review the entire process of use to detect possible risks and identify improvement actions. In these areas, activity should include the protocolization of high-risk medications, which require double checking, as well as direct participation in the double-checking process in the case of staff shortages.

Care coordination is a key factor in preventing adverse drug events, especially in frail patients, who are frequently referred from one level of care to another, with EDs acting as intermediate referral points. Pharmacists in these units should actively participate in identifying and correcting treatment discrepancies and provide patient education. It has been shown that their intervention in care coordination helps to reduce adverse events and unnecessary medical costs[11].

Finally, pharmacists should be included in multiple committees in which the EDs participate, related to the quality and safety of drug use, and ensure adherence to drug recommendations and prescription criteria.

Training

The role of pharmacists in the provision of training within EDs should target healthcare staff in the unit, including associate pharmacists, interns, physicians, nursing staff, and other support staff. Such training should include providing information on the appropriate use of medications, quality improvement, the improvement of clinical outcomes, adverse drug effects, and aspects related to improving patient safety.

Regarding patient education, the elevated numbers of patients admitted to EDs entails the development of prioritization systems to identify those patients who can benefit most from this intervention, either because they are receiving high-risk pharmacotherapy or because they have been admitted to the ED as the result of an adverse event or medication error.

Research in emergency departments

The pillars of research on pharmacotherapy in EDs are related to pharmacovigilance, safety, and response to treatment. The ability of pharmacists to collaborate and lead research projects has been amply demonstrated.

Hospital pharmacists are healthcare professionals qualified to develop a wide range of activities in different areas within EDs and contribute to better patient care. Given the growing literature showing that the inclusion of pharmacists in these units contributes to improving patient safety, clinical outcomes, and the efficiency of the healthcare system, the proposed document is a starting point to develop pharmaceutical care activities in these areas. The development of these activities should be gradual and adapted to the needs, particularities, and resources of each unit or service.

Ethical responsibilities

All authors have fulfilled the responsibilities defined by the International Committee of Medical Journal Editors (available at: http://www.icmje.org/.

Authorship

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