Farmacia HOSPITALARIA
Órgano oficial de expresión científica de la Sociedad Española de Farmacia Hospitalaria

How to cite this article:
De Andrés-Lázaro AM, Miró Andreu O. Contribution of clinical pharmacists to patient's care in the Emergency Department. Farm Hosp. 2018;42(6):217-218.

EDITORIAL
Bilingual edition english/spanish

Contribution of clinical pharmacists to patient's care in the Emergency Department

La contribución del farmacéutico clínico a la atención del paciente en Urgencias

Ana María de Andrés-Lázaro[1], Òscar Miró Andreu[2]

[1]Pharmacy Unit, Parc Sanitari Pere Virgili, Barcelona. Spain. [2]Emergency Unit, Hospital Clínic, Universitat de Barcelona, Barcelona. Spain.

Author of correspondence
Ana María de Andrés-Lázaro
Parc Sanitari Pere Virgili, Xaloc.
C/ Esteve Terradas, 30.
08023 Barcelona.
Email:
ana.de.andres@gmail.com

Recibido el 26 de mayo de 2018;
aceptado el 12 de septiembre de 2018.
DOI: 10.7399/fh.11081

The Hospital Emergency Department (HED) stands out as one of the settings where patients are at a higher risk of experiencing some type of adverse event. In our setting, the EVADUR study (an observational, prospective, multicenter study, conducted in 21 Spanish HEDs), showed that some incident or adverse event occurred in approximately 12% of 3,854 patients seen[1]. Of these incidents, 70% could have been prevented. Within adverse events that caused harm to the patient, 24.1% were drug-related[1], and it is estimated that around 30% of patients admitted to hospital through the HED will present some medication error (ME)[2]. The processes of preparation of medication and its administration have been identified as critical[3].

There are many factors that converge in a HED, and these contribute to making a higher number of errors. Patients who present are unknown to the physician, and their clinical information is often difficult to obtain. Additionally, there are aspects associated with the setting (frequent interruptions, high workload, uninterrupted activity, etc.) and with the staff (high rotation, burnout, communication problems, fatigue, etc.). In the case of MEs, it must be pointed out that high-risk drugs are often used, there are verbal orders, fast management is required, and multiple routes of administration are used. Therefore, use of medication is placed among the first causes of iatrogenesis in HEDs, though this is a factor that can be prevented.

Although the presence of the Pharmacist in HEDs dates back to the 70s, initially their role was limited to managing and dispensing medications. Fortunately, in recent years an evolution has been observed towards a Clinical Pharmacist profile, able to offer a wide portfolio of services. This includes: adapting treatments to the formulary of each center, pharmaceutical patient care, conducting pharmacotherapeutic anamnesis, ensuring continuity in patient care transitions, answering to consultations, review of prescriptions, patient care in cases of intoxication, training for residents and students, etc.[4].

Currently, the Pharmacist has accepted the challenge of incorporating to the HED as a member of the multidisciplinary team. For this aim, they must not only apply their competence and knowledge as experts in pharmacotherapy (during medical rounds, review of medical orders, consultations), but they must also put into practice other skills, including the detection of drug-related problems (DRPs), the implementation of programs for the reconciliation of regular medication, conducting patient-centered care (through individualized recommendations for each patient), etc.; all this, and without leaving out their involvement in education, research and development of protocols for action in the HED.

In our setting, there has been a gradual increase in the incorporation of the Clinical Pharmacist to HEDs. The creation of the REDFASTER team work in 2006 has contributed to the development and visibility of this professional profile: its objectives include an improvement in the quality of patient care through a rational use of medication in the Emergency Unit, and the encouragement of collaboration in care, education and research with other healthcare professionals. According to data by the Spanish Society of Hospital Pharmacy (SEFH), approximately a fifth of Pharmacy Units provide, to some extent, Pharmaceutical Care for HEDs[5].

The benefits of the incorporation of the Clinical Pharmacist as a member of the multidisciplinary team in the HED include improvements both in health and economic outcomes. Through their direct involvement in the review of medications, the Pharmacist has demonstrated being an agent able to reduce the ME rate, by detecting and intercepting them before they reach the patient[6]. Moreover, half of patients managed in these units will present some DRP, mainly caused by lack of prescription of a necessary medication, or the use of treatments not recommended in their new clinical situation. The presence of the Pharmacist will ensure the detection as well as an early solution of these DRPs, representing savings of up to 20%[7].

The implementation and leadership of reconciliation programs is another field developed by Pharmacists. It has been estimated that practically all patients present discrepancies in their lists of regular medication. The Pharmacist has demonstrated the ability to obtain a correct and complete pharmacotherapeutic anamnesis, identifying a higher number of regularly used drugs per patient than the clinician, probably due to the likelihood to spend a longer time interviewing the patient or relative. Likewise, it is easy

to detect reconciliation errors in a high percentage of those patients treated at the HED; the main cause is the omission of a treatment necessary for the patient. There is a high acceptance of pharmaceutical interventions by the Emergency Specialists, and more than half of reconciliation errors detected are considered clinically relevant[8]. In the elderly population, it has been demonstrated that medication reconciliation, conducted through the incorporation of a Pharmacy Specialist, can reduce DRPs in elderly patients at high risk of experiencing them who are managed at a short-stay unit linked with a HED[9].

In recent years, the role of the Pharmacist in clinical activities has also increased its value. The interventions conducted are supported by a high level of evidence, according to the clinical practice guidelines available, and have even been associated with a theoretical reduction in morbimortality[10]. There have also been initiatives focused on highly prevalent conditions, such as atrial fibrillation and diabetes. In the case of atrial fibrillation, a high percentage of patients can present a negative result associated with medication and almost half of these cases are associated with atrial fibrillation treatment. Given the preventable nature of some of these negative results associated with medication, detection by the Pharmacist could contribute to an increase in the quality of patient care[11]. Regarding diabetic patient care, the Pharmacist intervention contributes to an increase in adherence to the recommendations by the Spanish Society of Emergency Medicine about the hypoglycemic treatment prescribed[12]. Finally, we must also highlight the creation of a work network, such as the antidote network: through a computer application, different Pharmacy Units are connected in order to ensure an effective action in cases of intoxication[13].

Regardless of positive results, the reality is that there is still an insufficient presence of the Pharmacist in HEDs. *A priori,* the main barrier is the lack of economic resources in the centers; however, this is not the only barrier. The idiosyncrasy of HEDs requires wide time coverage and reorganization both of the Pharmacy Unit and the Emergency Unit, in order to fit this new figure. A point of consensus is the need for the physical presence of the Pharmacist at the HED[14], because it facilitates access and allows a prospective validation of treatments. Therefore, it is necessary to work on the prioritization criteria for patients in this setting, for example selecting patients of advanced age, with multiple comorbidities and polymedication[15]. Another strategy to consider is the development of tools supporting clinical decision (such as assisted systems for electronic prescription); however, there is still limited evidence about their utility[15].

Summing up, in recent years there has been an evolution in the role of the Clinical Pharmacist in HEDs, until they have become one more member of the multidisciplinary team, favorably valued by the rest of professionals. Among a wide range of actions, it is worth highlighting their involvement in treatment review and optimization, as well as their role in the prevention of MEs. From the perspective of Emergency Specialists, the profile of the Clinical Pharmacist in the Emergency unit represents a major help, undoubtedly, because HEDs are an area at special risk of adverse events associated with pharmacological treatments; therefore, in this high-risk setting, the protection activity conducted by the Clinical Pharmacist can be cost-effective.

Bibliography

1. Tomás Vecina S, Chanovas Borràs M, Roqueta F, Alcaraz J, Toranzo T. EVADUR: eventos adversos ligados a la asistencia en los servicios de urgencias de hospitales españoles. Emergencias. 2010;22:415-28.
2. Gutiérrez Paúls L, González Álvarez I, Requena Caturla T, Fernández Capitán MC. Errores de prescripción en pacientes que ingresan en un servicio de medicina interna procedentes de urgencias. Farm Hosp. 2006;30(2):85-91.
3. Pérez-Díez C, Real-Campaña JM, Noya-Castro MC, Andrés-Paricio F, Abad-Sazatornil MR, Bienvenido Povar-Marco J. Errores de medicación en un servicio de urgencias hospitalario: estudio de situación para mejorar la seguridad de los pacientes. Emergencias. 2017;29:412-5.
4. Morgan SR, Acquisto NM, Coralic Z, Basalyga V, Campbell M, Kelly JJ, *et al.* Clinical pharmacy services in the emergency department. Am J Emerg Med. 2018;36(10):1727-32.
5. Sociedad Española de Farmacia Hospitalaria. Informe 2015. Sobre la situación de los Servicios de Farmacia Hospitalaria en España: Infraestructuras, recursos y actividad [consultado 10/5/2018]. Disponible en: https://www.sefh.es/bibliotecavirtual/informe-situacion-sfh-2015/libroblanco_sefhFIN.pdf
6. Patanwala AE, Sanders AB, Thomas MC, Acquisto NM, Weant KA, Baker SN, *et al.* A prospective, multicenter study of pharmacist activities resulting in medication error interception in the emergency department. Ann Emerg Med. 2012;59:369-73.
7. Ucha-San Martín M. Análisis de los problemas relacionados con los medicamentos tras la integración de un farmacéutico en un servicio de urgencias. Emergencias. 2012;24:96-100.
8. Urbieta Sanz E, Trujilano Ruiz A, García-Molina Sáez C, Galicia Puyol S, Caballero Requejo C, Piñera Salmerón P. Implantación de un procedimiento de conciliación terapéutica al ingreso hospitalario por el servicio de urgencias. Farm Hosp. 2014;38:430-7.
9. Piqueras Romero C, Calderón Hernanz B, Segura Fragoso A, Juárez González R, Berrocal Javato MA, Calleja Hernández MA. Ensayo clínico controlado y aleatorizado para evaluar el efecto que tiene la intervención de un farmacéutico especialista en los problemas relacionados con la medicación de pacientes ancianos ingresados en una unidad de corta estancia de urgencias. Emergencias. 2015;27:364-70.
10. Pérez León M, Alonso Ramos H, González Munguía S, Marrero Penichet SM, Molero Gómez R. Evaluación de la calidad de las intervenciones farmacéuticas en urgencias basada en la evidencia científica. Farm Hosp. 2014;38(2):123-9.
11. Torres-Degayón V, Montero-Pérez FJ, Torres-Murillo JM, Faus-Dáder MJ, Baena-Parejo MI, Calleja-Hernández MA. Resultados negativos asociados a la medicación en los pacientes con fibrilación auricular permanente atendidos en un servicio de urgencias hospitalario. Emergencias. 2016;28:75-82.
12. Caballero Requejo C, Urbieta Sanz E, Trujillano Ruiz A, García-Molina Sáez C, Onteniente Candela M, Piñera Salmerón P. Hypoglycemic treatment of diabetic patients in the Emergency Department. Farm Hosp. 2016;40(3):172-86.
13. Aguilar-Salmerón R, Fernández de Gamarra-Martínez E, García-Peláez M, Broto-Sumalla A, Martínez-Sánchez L, Nogué-Xarau S. Creación de una red virtual de antídotos entre los servicios de farmacia de los hospitales de Cataluña. Farm Hosp. 2017;41(3):317-33.
14. García-Martín A, Maroun-Eid C, Campino-Villegas A, Oliva-Manuel B, Herrero-Ambrosio A, Quintana-Díaz M. Encuesta de percepción del valor del farmacéutico de hospital en el servicio de urgencias. Farm Hosp. 2017;41(3):357-70.
15. Bilbao Gómez-Martino C, Nieto Sánchez A, Fernández Pérez C, Borrego Hernando MI, Martín-Sánchez FJ. Perfil de riesgo y análisis comparativo de los errores de conciliación de medicamentos según el médico prescriptor y la herramienta de prescripción. Emergencias. 2017;29:384-90.