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EDITORIAL

Hospital safety in paediatrics☆

Seguridad hospitalaria en pediatría

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Paediatrians are rendering care nowadays in environments that are increasingly complex and constantly changing. This results in multiple opportunities to cause unintended harm. In the last 15 years the world has been increasingly aware that care must be delivered in such a way as to ensure the maximum safety of the child. Since 1999, when the American Institute of Medicine published its report *To Err is Human*,[1] professionals, as well as society, have been examining that care in order to identify the possible risks and implement safety solutions. The depth and breadth of harm incurred have prompted a constant stream of publications seeking to uncover avoidable errors.

Patient safety (PS) is defined as ''freedom from accidental injury'' caused by medical care, such as harm or death attributable to adverse drug events, patient misidentification and health care-associated or health care-acquired infections.

In recent decades it has been established that medical errors, previously considered on an individual level, have more far-reaching implications, and it has become clear that the design of health care systems plays a crucial role, since their complexity also leads to mistakes being made.

In 2001 the American Academy of Pediatrics published the statement ''Principles of patient safety in pediatrics'',[2] followed by ''Prevention of medication errors in the pediatric inpatient setting'' in 2007, ''Patient safety in the pediatric emergency care setting'' and finally ''Reducing harm due to medical care'' in 2011.[3] These publications, together with those of the World Health Organization and Joint Commission International, have enabled us to learn and make progress in the field of paediatric patient safety (PPS).

To form a proper understanding of its importance we need to take three key elements into account: (1) the need for constant efforts to make professionals more aware of the importance of patient safety in hospital care of children; (2) implementing PS culture in the hospital environment as a cross-cutting element of health care quality, by changing old traditions and ideas and putting the emphasis on improving systems rather than blaming individuals; (3) creating safety strategies in all hospitals where paediatric patients are treated.

The special considerations that arise with children, in being treated in facilities very often designed for adults, and also having to rely on guardians and carers, using drugs dosed by body weight and available as different formulations, as well as being less able to recognise or communicate errors, mean that they are more vulnerable and need greater safety measures.

From an epidemiological point of view the adverse events (AEs) involved are different from those affecting adults,[4] and we therefore need to know their incidence and the types that occur while children are hospitalised in order to make progress in establishing the PS strategies that will minimise or prevent them.

Errors in paediatric inpatients are considered to represent 12.91 AEs per 1000 hospital admissions in children between birth and 15 years of age; this has been examined by various researchers.[5–7] Among the types of AE found, due to medication errors, side effects, etc., 19%

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were considered avoidable and the most severe occurred most frequently in critical care environments. An analysis of errors in NICUs in the Vermont Oxford Network[8] revealed that 47% involved medication, 11% were caused by patient misidentification, 7% were due to error or delay in diagnosis and 14% were errors in administration or method of using a treatment.

In emergency care, errors are attributable to misidentifications, inexperience, problems in performing technical procedures and calculation of drug dosages.

Transfer of patients between the different areas of the hospital and shift changes are frequent causes of errors due to faulty or non-standardised communication.

In organisations as complex as paediatric hospital environments errors inevitably occur despite efforts to detect them and foster a culture of safety. It is therefore essential to create or design barrier systems to prevent them from occurring.

In 2011 the AAP made a series of recommendations to ensure a comprehensive approach and to accelerate change towards better and greater safety[9]:

Raise awareness among all professionals involved in paediatric care to apply best practices through education in PS, including at undergraduate level; network, to foster sharing of national and regional information and experiences, by involving national and regional learned societies, as well as all organisations that treat children, so that PPS plans are adopted and disseminated.

Actions need to be established to deal with risk situations, so as to discover the specific AEs that arise at different paediatric ages, by producing reports on their incidence in children, trends and areas for action.

Foster leadership in PPS at institutional level so as to provide benchmark hospitals that raise consciousness on an ongoing basis.

Engaging families to collaborate in the safety of their children while in hospital is a basic tool for improving PPS.

Adhere to and foster best practices in PS such as vigilant hand-washing, identity checks, safe surgery, ''zero bacteraemia'', safe use of drugs, etc.

The Spanish Association of Paediatrics, recognising the need to promote these recommendations, established a working group on health care quality and patient safety, with the aim of encouraging these practices in PPS and fostering training and dissemination among paediatricians.

Points for consideration

Redesign health care systems so that their safety is analysed when any process or procedure is implemented, emphasising minimisation of risks due to human factors and incorporating new technologies (bar codes, automated storage systems, etc.).

Promote research on safety to improve identification of possible failings and to refine PPS systems, as well as increasing funding for projects on this subject in every area of health care organisation.

Implementation of new technologies, with the use of bar codes, computerised physician order entry, electronic prescriptions and automated storage systems, as well as improvements in the design of health care processes and working conditions of professionals are elements proven to contribute to reducing errors.

For all these reasons we must continue moving forward so as succeed together in:

implementing actions in PPS that have been validated in other hospitals, even if these are not paediatric hospitals;
identifying additional strategies and communicating them through training courses to raise awareness and implement them;
propagating all those actions that have demonstrated their efficacy, following the adoption of measures, in reducing error in paediatric hospitals.

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