Title: Death in Spanish pediatric emergency departments: preliminary results of a multicenter survey

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**Background:** Critically ill or injured patients are very uncommon in industrialized countries. Nevertheless, to analyze the causes of death of children in the Pediatric Emergency Departments (PED) seems mandatory to design strategies to reduce this mortality. However, no study has been carried out previously in our environment.

**Objective:** To analyze the causes of death in Spanish pediatric emergency departments and the management of these children in pre-hospital and hospital settings.

**Design/Methods:** Retrospective descriptive multicenter survey including all patients whose death was certified in 13 Spanish PEDs between January 2008 and December 2012.

**Results:** During the study period 2,566,413 episodes were registered in the 13 PEDs. Of these, 46 died in the PED (mortality rate: 0.018 died patients/1000 visits). Data of 45 are analyzed.

Thirty were male (66.7%), 25 were younger than 2 years old (55.5%) and 22 non-previously healthy children (48.8%, mainly neuromuscular -12- and congenital heart diseases -5). The main causes of death were: Event related to their previous illness 13 (28.8%, and 59% of the non-previously healthy group) Sudden Infant Death Syndrome (SIDS) 12 (26.6%), traumatism 9 (20%, 7 polytraumatism, 1 intracranial hemorrhage and 1 severe head trauma), drowning 1 and choking 1 (2.2%). In only one patient an infectious agent was identified as responsible of the death (meningococcal sepsis). The rest of the causes of death were unknown.

The transfer to the PED was by medical transport in 26 (57.7%, 3 by medical helicopter); all of these received pre-hospital cardiopulmonary resuscitation (CPR) vs 10% being brought by their families.

When arriving in the PED none of them appeared well, most of them were in cardio-respiratory failure and CPR was performed in 31 (68.9%).

In 7, no CPR was performed in any setting.

**Conclusions:** Certification of death in Spanish PEDs is very uncommon. Main causes of death are related to previous illnesses, SIDS and non intentional lesions. Prehospital advanced life support maneuvers were given to an important amount of children, but not when transferred by non-medical transport.

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