



## EDITORIAL

### Diagnosis and management of paediatric pain<sup>☆</sup>

### Diagnóstico y manejo del dolor pediátrico

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In Spain, the protection of the health of the child is recognised as one of the fundamental rights of children. This value started to get established in 1989, when Spain joined other countries in the ratification of the Convention of the Rights of the Child. This has favoured advances in paediatrics and the creation of specific laws aimed at the protection of minors.<sup>1</sup> The World Health Organization defines health as “a state of complete physical, mental and social well-being”. Pain is a medical problem that causes physical suffering with psychological, social and spiritual repercussions.<sup>2</sup> The presence of pain involves a decrease in well-being and health. In Spain, from the 1950s the field of paediatrics has progressed mainly through the introduction of preventive measures and aetiotropic treatments. Based on the data given in the state of the world’s children reports of the UNICEF, child mortality in Spain has been reduced from 95 to 3 out of every 1000 live births between 1950 and 2017. As has been the case of other European countries, this is a success due to which children born in Spain are more likely to grow in better health compared to most children born in other high-income countries. However, the management of pain and other sources of suffering in children remains in the back burner. Even though pain is considered a medical diagnosis, listed in the International Classification of Diseases, 10th revision (ICD-10) under code R-52, only rarely is it documented in the health records of children that have suffered pain due to disease or medical procedures. As paediatricians, we ought to consider whether

we can possibly be treating properly something we are not diagnosing.

It is estimated that the prevalence of pain in some areas of health care is high: up to 77% of children managed in paediatric emergency care or inpatient care settings experience pain, and this is mainly happening in paediatric patients that do not have underlying diseases.<sup>3</sup> There is evidence that pain is underdiagnosed in certain vulnerable populations, such as children with cerebral palsy,<sup>4</sup> children with autism spectrum disorders, cancer, rheumatic diseases, etc.

This issue of *Anales de Pediatría* features 2 studies related to the approach to pain management in situations frequently encountered in paediatric clinical practice. The working group of Dr Nieto García, concerned with the pain suffered by infants during vaccination, reported a prevalence of moderate to severe pain of 59.4% in the 387 patients included in their prospective study.<sup>5</sup> They analysed the effectiveness for pain relief of different nonpharmacological interventions that are inexpensive and easy to implement: breastfeeding, non-nutritive sucking with administration of a 10% dextrose solution and non-nutritive sucking alone. Using the previously validated LLANTO scale for pain measurement, they established that in the groups of infants that received 2 vaccines in a single intervention (those aged 2 months and 6 months), the patients that were breastfed suffered pain less frequently and that was less severe during vaccination compared to those managed with non-nutritive sucking alone or combined with administration of a 10% dextrose solution. These findings corroborate the effectiveness of breastfeeding for pain management.

The research group led by Dr Toledo conducted a prospective study of children and adolescents (age range, 4–15 years) admitted to the paediatric ward that required

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potentially painful invasive procedures.<sup>6</sup> They applied a multimodal approach to analgesia based on the delivery of pleasant visual and auditory stimuli (virtual reality headset), alone or combined with topical administration of local anaesthetics (prilocaine/lidocaine). Distraction methods like the one used in this study rely on the secretion of noradrenaline by the supraspinal nucleus, which inhibits the nociceptive signals sent from the nociceptor to the spinal cord (descending inhibitory pathway).<sup>7</sup> Using the Wong Baker rating scale (children aged 4–7 years) and the visual analogue scale (children aged >7 years), they established that the use of virtual reality techniques can reduce the severity of the pain experienced by patients, and that these methods are even more effective when combined with the application of topical anaesthetic creams.

The 2 studies we have just described assessed nonpharmacological analgesic methods that are inexpensive and feasible, and evinced their effectiveness in healthy infants and children with acute illness, respectively. The implementation of these techniques in paediatrics would substantially relieve pain in a very high number of children that could either suffer no pain or considerably reduced pain as a result. Adequate pain management not only reduces suffering but also prevents the nociceptive system of each individual to become more sensitive to future pain (the phenomenon of sensitisation). Therefore, it is essential that all paediatricians and nurses involved in the care of children take steps to prevent and/or minimise the pain produced by the diseases we treat and the procedures we prescribe, which is contingent on the anticipation of pain and, once pain is present, its accurate diagnosis.

These articles did not analyse the pain endured by children with chronic diseases. This is probably due to the methodological difficulties involved in conducting research in these patients, for whom most scales have not been validated and who usually have multiple and chronic pains that may make comparisons challenging, among other factors.

At present, further prospective studies are needed to improve the assessment and management of the most

common forms of pain in paediatrics, as well as the most common forms of pain specifically experienced by children suffering chronic conditions that are less prevalent. Being aware of the presence of pain is the first step towards developing an adequate treatment plan, and to facilitate this, a field for the documentation of pain should be included by default in the health records of all patients managed at any care level in the health system, and pain included as a distinct diagnosis.

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