



ORIGINAL ARTICLE

Clinical assessment of pain in Spanish Neonatal Intensive Care Units[☆]



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Abstract

Introduction: Clinical scales are currently the best method to assess pain in the neonate, given the impossibility of self-report in this age group. A study is designed with the aim of determining the current practices as regards the clinical assessment of pain in Spanish Neonatal Units and the factors associated with the use of clinical scales.

Methods: A prospective longitudinal observational study was conducted. A total of 30 Units participated and 468 neonates were included.

Results: Only 13 Units (43.3%) had pain assessment protocols. Pain was evaluated with a scale in 78 neonates (16.7%, 95% CI; 13.1–20.1) and the mean number of pain assessments per patient and per day was 2.3 (Standard Deviation; 4.8), with a median of 0.75. Of the total number of 7189 patient-days studied, there was at least one pain assessment in 654 (9.1%). No pain assessment was performed with a clinical scale on any patient in 20 (66.7%) Units. Among those that did, a wide variation was observed in the percentage of patients in whom pain was assessed, as well as in the scales used. The CRIES (C-Crying; R-Requires increased oxygen

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◇ The members of the Spanish Group of the Europain project are listed in [Appendix A](#).

PALABRAS CLAVE

Neonato;
Dolor;
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Analgésia

administration; I-Increased vital signs; E-Expression; S-Sleeplessness) scale was used in most Units. In the multivariate analysis, only invasive mechanical ventilation was associated with receiving a pain assessment with a scale (OR 1.46, $P = .042$).

Discussion: The majority of neonates admitted into Intensive Care in Spain do not receive a pain assessment. Many units still do not routinely use clinical scales, and there is a wide variation between those that do use them. These results could serve as a basis for preparing national guidelines as regards pain in the neonate.

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Valoración clínica del dolor en unidades de cuidados intensivos neonatales españolas**Resumen**

Introducción: Las escalas clínicas son hoy en día el mejor método para evaluar el dolor en el neonato, dada la imposibilidad de autorreporte en este grupo de edad. Se diseñó un estudio con el objetivo de determinar las prácticas actuales en relación con la valoración clínica del dolor en España y los factores asociados al uso de escalas clínicas.

Métodos: El estudio es de tipo observacional, longitudinal y prospectivo. Participaron 30 unidades y se reclutó a 468 neonatos.

Resultados: Solo 13 unidades (43,3%) disponían de protocolos de valoración del dolor. Se evaluó el dolor con una escala en 78 neonatos (16,7%, IC del 95%, 13,1-20,1) y el número medio de valoraciones del dolor por paciente y día de estancia fue de $2,3 \pm 4,8$, con una mediana de 0,75. Del total de 7.189 días-paciente estudiados, 654 (9,1%) conllevaron al menos una valoración del dolor. Veinte unidades (66,7%) no realizaron evaluación del dolor con una escala clínica en ningún paciente. Entre las que sí lo hicieron, se observó una gran variabilidad en el porcentaje de pacientes en los que se evaluó el dolor y en las escalas utilizadas. La escala CRIES (C-Crying; R-Requires increased oxygen administration; I-Increased vital signs; E-Expression; S-Sleeplessness) fue la que se usó en más unidades. En el análisis multivariante solo la ventilación mecánica invasiva se asoció a recibir valoración del dolor con una escala (OR 1,46, $p = 0,042$).

Discusión: La mayoría de los neonatos ingresados en cuidados intensivos en España no recibe una valoración del dolor. Muchas unidades todavía no utilizan rutinariamente las escalas clínicas y entre las que las utilizan existe una gran variabilidad. Estos resultados pueden servir de base para la elaboración de guías nacionales al respecto del dolor en el neonato.

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Introduction

Pain management is a priority in neonatal intensive care. Schematically, proper management of pain in neonatology is based on four key points: (1) the reduction of potentially painful procedures, (2) the use of non-pharmacological measures, (3) the use of analgesic drugs and (4) the use of clinical pain assessment scales.^{1,2} The self-report, which is the gold standard for pain assessment from school age, is for obvious reasons impossible in the neonate and this limitation has probably influenced the historical undertreatment of pain neonatology.³ In an attempt to objectify the presence or absence of pain and measure its intensity, clinical scales that combine a number of physiological and behavioural parameters have been developed.

While several review articles on this subject have been published recently,³⁻⁶ few studies address the frequency and type of pain assessments in neonatal clinical practice. Most of the studies that assess the use of clinical scales are based

on surveys that ask about the general approach of neonatal units to pain management.⁷⁻⁹

To our knowledge, there are no data on how pain is assessed in Spanish neonatal intensive care units (NICUs). In the framework of the international European Europain project, we designed a specific study of the Spanish sample to determine the current clinical practices in the assessment of pain based on the proportion of newborns that underwent pain assessments by means of clinical scales, the clinical scales used and the frequency of their use. We also attempted to identify factors associated with the use of clinical scales and the frequency of assessments.

Materials and methods

We conducted a prospective, longitudinal observational study. A more detailed description of the methods used is available in the recently published study on pharmacological pain management.¹⁰ Thirty neonatal units from all over

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