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REVIEW ARTICLE

Pain assessment scales in newborns: integrative review

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KEYWORDS

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Medição de dor;
Recém-nascido;
Dor

Abstract

Objective: To analyze studies on methods used to assess pain in newborns.

Data Sources: Integrative review study of articles published from 2001 to 2012, carried out in the following databases: Scopus, PubMed, CINAHL, LILACS and Cochrane. The sample consisted of 13 articles with level of evidence 5.

Data Synthesis: 29 pain assessment scales in newborns, including 13 one-dimensional and 16 multidimensional, that assess acute and prolonged pain in preterm and full-term infants were available in scientific publications.

Conclusion: Based on the characteristics of scales, one cannot choose a single one as the most appropriate scale, as this choice will depend on gestational age, type of painful stimulus and the environment in which the infant is inserted. It is suggested the use of multidimensional or one-dimensional scales; however, they must be reliable and validated.

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Escalas de avaliação de dor em recém-nascidos: revisão integrativa

Resumo

Objetivo: Analisar, em artigos científicos, os métodos utilizados para avaliação da dor em recém-nascidos.

Fontes dos Dados: Estudo de revisão integrativa de artigos publicados de 2001 a 2012, realizado nas bases: Scopus, PubMed, CINAHL, LILACS e Cochrane. A amostra constituiu-se de 13 artigos, todos com níveis de evidência 5.

Síntese dos Dados: Constataram-se pelo menos 29 escalas de avaliação de dor em recém-nascidos disponíveis em publicações científicas, sendo 13 unidimensionais e 16 multidi-

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mensionais, que contemplam recém-nascidos pré-termo e a termo, para avaliação de dor aguda e prolongada.

Conclusão: Com base nas características das escalas, não se pode eleger a mais adequada, pois a escolha dependerá da idade gestacional, do tipo de estímulo doloroso e do contexto em que o recém-nascido se apresenta. Sugere-se a utilização de escalas unidimensionais ou multidimensionais, porém, estas devem ser validadas e confiáveis.

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Introduction

The interest in studies on pain and its assessment tools is on the rise, due to the subjectivity inherent to its measurement, especially in children, which, considering the characteristics of the age group or developmental delays, fail to report or properly indicate the painful event. Considering these aspects, it is recommended the use of validated tools for pain assessment in children, especially critically ill ones.¹

The methods used for the assessment of painful events can be divided into three categories: measurement of physiological responses of pain, observations of behaviors related to pain, and verbal or written descriptions of pain and/or associated variables. There are measures of pain intensity (one-dimensional) and measures of multiple dimensions of pain (multidimensional).²

The one-dimensional tools are designed to measure the presence or absence of pain and have been frequently used in hospitals and/or clinics to obtain fast, noninvasive, valid information on pain and analgesia. As for the multidimensional tools, they are used to assess sensory, affective and evaluative components that are reflected in the language used to describe the painful experience.³

Although no specific pain scale has demonstrated its superiority as a reliable biomarker and gold standard yet,⁴ it is noteworthy that, for some authors, the use of multidimensional scales in newborns (NBs) is the most adequate, as they assess behavioral responses associated with physiological responses to pain, making the approach as comprehensive as possible, considering that the reporting of pain cannot be expressed by this population.^{5,6}

Among the several multidimensional pain scales for children and infants, the most studied are the Neonatal Facial Coding System (NFCS), the Neonatal Infant Pain Scale (NIPS) and the Premature Infant Pain Profile (PIPP).⁷

Moreover, when evaluating pain, the health professional is influenced by aspects related to professional experience, measurement methods that are easy to use, type of pain, observed signs of pain, the child's age, type of painful procedure, clinical status, psychometric properties, interpretation criteria, methods that are easy to apply, and experience of having used it in other health services.⁸⁻¹⁰

It is believed that the scarcity of teaching strategies and discussion about pain during the undergraduate, residency and post-graduate courses in the health care area, as well

as in daily clinical practice are factors that influence the difficulty of evaluating pain in the neonatal period,^{11,12} in addition to the variety of tools and the specificity of their characteristics, associated with the lack of knowledge on the variation of their applicability for pain assessment in children. Thus, the identification and characteristics of pain measurement tools published in studies in the pediatric and neonatal areas can offer health professionals a practical means to choose the most appropriate one for their area of activity, aiding in clinical decision-making.

Given this context, we aimed to search the databases of scientific literature for studies related to tools used for pain assessment in newborns. Thus, the following questions were raised: What are the tools used to assess pain in newborns? What are the main characteristics of each tool and its applicability in neonatology? The answers to these questions will help to present the evidence on the subject. Therefore, our objective was to analyze, in scientific articles, the methods used to assess pain in newborns.

Method

This is an integrative review, due to the convenience of analysis of the literature regarding the completed studies, to identify tools used for pain assessment in newborns.

The review followed these steps: establishing the guiding question of the study, formulation of inclusion and exclusion criteria, definition of information to be extracted from selected studies, assessment of studies included in the integrative review, interpretation of results, presentation of the review and synthesis of knowledge.¹³

The following questions were raised to meet the research objectives: What are the tools used to assess pain in newborns? What are the main psychometric properties evaluated and what is their applicability in neonatology?

Inclusion criteria were defined as: study available electronically in the selected databases in Portuguese, English and Spanish; which analyzed the psychometric characteristics of tools used for pain assessment in newborns, and that were published from 2001 to 2012. Editorials, letters to the Editor, reflective studies, case reports, annals of scientific events (abstracts) and duplicate publications were excluded.

The bibliographic survey was carried out in October and November of 2012 by two researchers separately,

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