

## **Assessment of the intensity of procedural pain in newborns treated in the intensive care unit measured by the Neonatal Infant Pain Scale (NIPS)**

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**A**- Conception and study design; **B** - Collection of data; **C** - Data analysis; **D** - Writing the paper; **E**- Review article; **F** - Approval of the final version of the article; **G** - Other (please specify)

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### **ABSTRACT**

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**Introduction:** Newborns born prematurely and treated in intensive care units are at greater risk of experiencing pain than patients treated in other units.

**Purpose:** To evaluate the severity of pain perceived by children during the performance of medical procedures related to the treatment and care process.

**Materials and methods:** The study was conducted at one of the Intensive Care Units in Opole. The study group consisted of 100 newborns, 60% of the subjects were prematurely born newborns, and 40% - were full-term. The degree of procedural pain associated with blood collection, peripheral puncture insertion, upper respiratory tract suction, gastric tube insertion and ophthalmic examination was assessed by an observation method using the standard Neonatal Infant Pain Scale Form (NIPS).

**Results.** Out of the analysed medical procedures, 100% of children experienced acute, severe pain

over the course of suction and ophthalmological examination. The highest perception of pain was experienced by 88.3% of premature newborns and 71.8% of full-term newborns. Over the course of medical procedures, 84% of male and 79.6% female newborns experienced acute pain. It was shown that the degree of pain perception was determined by the type of performed medical procedure ( $p=0.001$ ) and the gestational age of the newborn ( $p=0.037$ ). On the other hand, there was no correlation between the sex of the newborn child and the degree of pain perception ( $p=0.758$ ).

**Conclusions.** Based on the foregoing study result, bearing in mind the need to minimise the effects of pain stimulation, it seems important to use standardised tools to assess the severity of pain in newborns treated in Intensive Care Units on a larger scale.

**Keywords:** newborn, pain measurement, sensation, signs, symptoms, procedural pain

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