



Review

Paediatric nurses' postoperative pain management practices in hospital based non-critical care settings: A narrative review



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ABSTRACT

Objectives: To investigate paediatric nurses' postoperative pain management practices with the aim of identifying the factors associated with undermanaged paediatric postoperative pain.

Design: Systematic search and review.

Data sources: PsychInfo, CINAHL, PubMed, EMBASE and hand searching.

Review methods: English peer-reviewed quantitative, qualitative, or mixed methods research articles published between 1990 and 2012 exploring registered nurses' paediatric postoperative pain management practices were included. Articles with a primary focus on nurses' pain management practices in the neonatal or paediatric intensive care units, recovery room, and/or focused on children with cognitive impairment were excluded. The search terms used were: postoperative pain; nurs*; paediatrics; pediatrics; children; pain assessment; non-pharm*; analges*. Titles and abstracts were used for initial screening. Two researchers conducted data extraction and assessment of rigour for each paper.

Results: From the initial 248 citations, 27 studies were included. Most studies were descriptive and examined relationships between personal factors and nurses' pain management practices. Observational data from four papers added insights beyond that provided in self-report studies. Two articles used experimental designs with vignettes. Data were categorised into four topics: pain assessment; pharmacological practices; non-pharmacological practices; and factors affecting practices. Despite improvements in analgesic administration over the past 20 years, practices remain suboptimal. Children's behaviour appears to influence nurses' pain assessment more than validated measures. A significant proportion of children did not have pain scores recorded in the first 24-h postoperatively. Children receive more analgesia when ordered around the clock compared to as required. However, around the clock analgesia prescription did not guarantee administration. Nurses reported using several non-pharmacological strategies routinely but some are not evidence based.

Conclusions: The results of this review indicate nurses' assessment and management of children's pain is not consistent with published guidelines. Results of studies exploring nurse and child related factors are inconclusive. Research needs to examine the impact of organisational factors on nurses' pain care practices. Intervention studies are needed to determine the most effective strategies to support and improve nurses' pain care for children.

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What is already known about the topic?

- Despite research about the management of pain and some improvements over time to clinical practice, children continue to experience avoidable moderate to severe pain in hospital postoperatively.
- Gaps remain in nurses' knowledge about paediatric pain; knowledge alone is insufficient to change practice.
- Several reasons have been postulated as contributing to continuing suboptimal pain management including nurses' perceptions of children's pain and pain management and organisational culture.

What this paper adds

- Nurses may have preconceived ideas about how children should behave postoperatively. Behavioural cues of pain appear to take precedence over a child's self-report.
- Analgesic administration has improved over the past 20 years but practices are still not optimised.
- Non-pharmacological interventions are not used as often as they could be and are sometimes used inappropriately.

1. Introduction

There have been numerous paediatric postoperative pain management studies over the past 20 years, yet children continue to experience avoidable postoperative pain (Kozłowski et al., 2014; Twycross and Finley, 2013). This is despite evidence to guide pain management practices being readily available in the form of clinical guidelines. In England, national acute pain management recommendations are not followed in more than a quarter of hospitals (National Confidential Enquiry into Patient Outcome and Death, 2011) and children in low and middle income countries have been found to experience high rates of pain (Forgeron et al., 2005) suggesting pain management remains a global problem. Unrelieved pain has a number of undesirable physiological and psychosocial consequences that can affect the child at the time and later in life, for example, through increased sensitivity to later pain events (Grunau et al., 1998; Saxe et al., 2001; Taddio et al., 2002). It is, therefore, imperative to ensure pain is managed effectively.

The reasons why children continue to experience avoidable postoperative pain need to be the focus of ongoing research if we are to design interventions to bring about significant improvement. Despite the amount of literature available no reviews have been carried out in relation to nurses' paediatric postoperative pain management. One literature review focused on the use of pain assessment tools in acute paediatric pain and concluded there was no robust evidence to support their use in practice (Franck and Bruce, 2009). However, this study did not separate postoperative pain assessment practices from other forms of acute pain such as cancer pain and, therefore, it is not known if there are differences in how nurses use pain assessment tools when pain may change more substantially like over the course of the postoperative period. One Cochrane review looked at the effectiveness of non-pharmacological

methods for procedural pain (Uman et al., 2010) but does not describe how often nurses use these in their practice. Another review has focused on the use of relaxation for the treatment of paediatric chronic pain (Eccleston et al., 2012) and although evidence supports the use of relaxation in the treatment of paediatric headache, it does not shed light on nurses' use of relaxation or other non-pharmacological strategies in their care of children during the postoperative period. Other reviews have focused on the adult population. This systematic search and review, therefore, set out to investigate paediatric nurses' postoperative pain management practices. The aim of this review was to identify factors associated with undermanaged paediatric postoperative pain, whether improvements in practice occurred during the time period selected, and the implications for nursing practice and research.

2. Methods

A systematic search and review is the suggested approach when the question is broad as in this paper. It incorporates multiple study types to provide a complete picture of the prevalence of research on a topic (Grant and Booth, 2009). This method of review combines the search strategies and inclusion and exclusion criteria associated with systematic reviews as well as the analytical synthesis of a critical review. Although it is not necessary to subject the articles included to a methodological critique in a systematic search and review, Caldwell et al.'s (2011) framework was used to provide insights into the strengths and weaknesses of the studies included in this review. A description of this framework is provided in Section 2.2.2.

2.1. Inclusion/exclusion criteria

Inclusion criteria were:

- Peer-reviewed primary research exploring registered nurses' postoperative pain management practices
- Research carried out in the paediatric population (newborn to 18 years of age).
- Quantitative, qualitative, or mixed methods studies.
- Published in English between 1990 and October 2012 (to allow any improvements in practices over time to be identified).

Studies that included other health professionals or other patient populations were considered if the data on paediatric postoperative pain management by nurses were reported separately.

The exclusion criteria were:

- Studies relating primarily to pain management in the neonatal or paediatric intensive care unit and the recovery room as the complexity of patients (i.e. ventilated, paralysed, sedated) and the staffing ratios make comparison to ward based pain care difficult.
- Studies where the primary research population were children with cognitive impairment.
- Postoperative pain management after discharge.
- Books, book chapters, commentaries, and dissertations.

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