Original Article

Distraction Kits for Pain Management of Children Undergoing Painful Procedures in the Emergency Department: A Pilot Study

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Abstract:

To assess the feasibility, usefulness, and acceptability of using distraction kits, tailored to age, for procedural pain management of young children visiting the emergency department and requiring a needle-related procedure. A pre-experimental design was piloted. A kit, tailored to age (infants-toddlers: 3 months–2 years; preschoolers: 3-5 years), was provided to parents before their child's needle-related procedure. Data was collected to assess feasibility, usefulness, and acceptability of the kits by parents and nurses. Pain was measured pre-, peri-, and postprocedure using the Face, Legs, Activity, Cry, Consolability scale. A total of 25 infants and toddlers (mean age: 1.4 ± .7 years) and 25 preschoolers (mean age: 4.0 ± .9) participated in the study. Parents and nurses considered the kits useful and acceptable for distraction in the emergency department, especially in the postprocedural period. Addition of more animated and interactive toys to the kits was suggested. In the infants-toddlers group, mean pain scores were 1.6 ± 2.5 preprocedure, 7.1 ± 3.0 periprocedure, and 2.5 ± 2.5 postprocedure. In the preschoolers group, mean pain scores were 1.6 ± 3.0 preprocedure, 4.8 ± 3.4 periprocedure, and 2.0 ± 3.2 postprocedure. Distraction kits were deemed useful and acceptable by parents and emergency nurses. They are an interesting nonpharmacologic option for nurses to distract children, giving them a sense of control over their pain and improving their hospital experience.

Future research should address the feasibility of distraction kits for a broader population of patients and a variety of painful procedures.

INTRODUCTION

Despite the rich evidence in pediatric pain research, procedural pain management in children remains suboptimal, especially in the emergency department (ED) (Ali et al., 2014b; Trottier, Ali, Le May, & Gravel, 2015). Findings from the PAMPER study on nurses' pain management practices revealed that only 26.7% (40 of 150) of children presenting to the ED with moderate to severe pain received an analgesic and only 16.7% (25 of 150) were administered a nonpharm acologic intervention (Le May et al., 2009). Similarly, results from a provincial audit of all the pediatric pain management practices and policies found that only 29.3% (17 of 58) of EDs required mandatory pain documentation and 16.7% (10 of 60) of them had nurse-initiated pain protocols (Ali et al., 2014a). Time constraints, lack of standing orders or policies, staff education, and the need for more treatment options and parent education handouts were some of the main barriers to optimal pediatric pain management in the EDs (Ali et al., 2014a).

Needle-related procedures, such as venipuncture and intravenous (IV) catheter insertion, are one of the most common sources of pain among children treated in primary and tertiary pediatric care settings (Hands, Round, & Thomas, 2009; Jacobson, 2007; Jeffs et al., 2011; Karlsson, Rydström, Nyström, Enskär, & Dalheim Englund, 2016; Uman et al., 2013; Walco, 2008). A descriptive cross-sectional study among 252 children in the ED reported that 80.4% (369 out of 459) of the procedures provided to children were painful (Ortiz et al., 2012). Among these procedures, peripheral IV catheter insertions were rated as the most painful procedure (46.3%) (Ortiz et al., 2012).

Pain during IV catheter insertion may compromise the success of procedure attempts, induce lack of cooperation from the child (and parents), and increase the time spent on the procedure (Walco, 2008). Further, children's recall of procedural pain may also influence subsequent pain experiences, such as vaccination, resulting in apprehension and higher levels of pain (Noel et al., 2012; Noel, McMurtry, Chambers, & McGrath, 2010). Nearly two-thirds of children (63.0%) developed needle phobia related to inadequate pain management during a previous painful procedure (McMurtry et al., 2015; Taddio et al., 2012). Needle phobia usually appears around the age of 5 years (Bienvenu & Eaton, 1998) and may persist beyond childhood, contributing to a sensitivity toward and/or avoidance in seeking medical care services during adolescence and adulthood (Jenkins, 2014; Nir, Paz, Sabo, & Potasman, 2003).

A recent national survey across 15 pediatric EDs identified distraction as a procedure that could be easily implemented to manage children's pain (Trottier et al., 2015). Also, depending on their own level of anxiety, parents may have an important and active role in alleviating their child's pain by distracting them during a painful procedure (Krauss, Calligaris, Green, & Barbi, 2016). Distraction interventions are easy and helpful strategies for ED nurses at a relatively low cost (Wente, 2013). Moreover, the efficacy of distraction for relieving needle-related procedural pain in children and adolescents has been well established (Birnie et al., 2014; Uman et al., 2013). However, the barrier to translating pain management evidence-based information into practice, such as the use of distraction, stems from the lack of user-friendly devices for health care professionals (Stevens, 2009). Therefore, the aim of the present study was to assess the feasibility, usefulness, and acceptability of distraction kits, tailored to age, for procedural pain management of young children visiting the ED and requiring a needle-related procedure.

METHODS

Study Design, Setting, and Population

After approval from the Ethics and Review Board, a one-group pre-experimental design was piloted using children from two age groups. The study was conducted at a large francophone pediatric tertiary university health center located in Montreal, Quebec. Its ED receives more than 65,000 patient visits per year.

Sample and Recruitment

Convenience sampling was used to recruit participants from September 2012 to May 2013. Children (a) from 3 months to 5 years old, (b) visiting the ED, (c) requiring a needle-related procedure (e.g., IV catheter placement, venipuncture, or blood capillary sampling), and (d) accompanied by at least one parent (or legal guardian) were eligible for the study. Children with a known diagnosis of cognitive impairment (e.g., autism, cognitive disability) or severe anxiety requiring the use of sedation before the procedure were excluded. Because this was a pilot study, a sample size calculation was not a requirement (Thabane et al., 2010). According to Loiselle, Profetto-McGrath, Polit, and Beck (2011), a total sample size of 50 participants, representing the target population, is considered sufficient to achieve the objectives