Reducing Pediatric Patient Anxiety

Implementing a nonpharmacologic intervention to aid patients undergoing radiation therapy

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Pediatric patients with cancer undergoing radiation therapy present a unique problem for healthcare professionals administering oncologic treatments. Young children do not have the coping skills afforded to adults (Ritchie et al., 1988), particularly during the use of tight-fitting immobilization techniques placed under or over the patient to maintain position (Hiniker et al., 2017; Osborn & Sandler, 2004; Owusu-Agyemang et al., 2014; Scott et al., 2016; Tsai et al., 2013; Willis & Barry, 2010). Being locked down or strapped down is challenging enough for adults, let alone young children who are developmentally and behaviorally immature (Nixon et al., 2019). In addition, exposure to threatening environments and separation from caregivers during treatment may cause separation anxiety. Unfamiliar people and medical equipment can lead to exacerbation of apprehension and anxiety for both the child and the caregiver, compounding the child’s anxiety (Bearden et al., 2012; Felluga et al., 2016; Fortier & Kain, 2014; Salmela et al., 2009, 2011). These factors often require the child to receive anesthesia or sedation that may delay or extend treatment time and require higher-level nursing skills. The use of sedation medication can last for a period of as long as six weeks and may be administered twice daily in some instances (Bearden et al., 2012; Felluga et al., 2016; Fortier & Kain, 2014; Salmela et al., 2009, 2011). The correlation between successful management of anxiety and adequate sedation in children, and the increased usage of anesthesia, has previously been demonstrated (Schreiber et al., 2006). Sedatives or analgesics can lead to acute minimal, moderate, major, or long-term complications, particularly with recurrent administrations (Portney et al., 1999; Ozer & Ozcan, 2017). Minimal risks include emergence agitation, nausea, cough, and vomiting with risk for aspiration. Moderate risks include bradycardia, tachycardia, ataxia, hallucinations, and hypercapnia. Major risks include laryngospasm apnea and need for airway support (Chidambaran et al., 2015; Kim et al., 2019). Impaired cognitive development may be a long-term risk from sedation or analgesia (Chidambaran et al., 2015).

Distraction techniques have been identified as measures that are effective in reducing apprehension, anxiety, and the need for pharmacologic or sedation for children undergoing radiation therapy (Barry et al., 2010; Hiniker et al., 2017; Scott et al., 2016; Tsai et al., 2013; Willis & Barry, 2010). Nonpharmacologic interventions used to reduce pediatric preprocedural anxiety may reduce risk for infection, exposure to medication side effects, delays in treatments, and associated healthcare expenditures (Hiniker et al., 2017; Osborn & Sandler, 2004). However, use of a remote-controlled ride-on car (RC-ROC) as a distraction technique for children receiving radiation therapy has not been evaluated.

The purpose of this pilot project was to evaluate the impact of a RC-ROC as a...