

# The Effects of Distraction on Preoperative Anxiety Level in Children

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**Purpose:** *The purpose of this study was to investigate the effects of distraction on the preoperative anxiety levels of pediatric patients.*

**Design:** *A prospective, two-group experimental design was used.*

**Methods:** *This study was conducted in the clinic of pediatric surgery of a university hospital in Turkey between November 20, 2013 and January 25, 2014. The population of the study was composed of a total of 83 children (40 in the study group and 43 in the control group) who met the inclusion. The data were collected using the "Personal Information Form," "Separation Scoring," and "State-Trait Anxiety Inventory for Children-State Form." Distraction was performed on the children in the study group during the preoperative period. No intervention was applied to the children in the control group.*

**Finding:** *The results of this study demonstrated that the separation scores and State-Trait Anxiety Inventory for Children-State scores of the children in the study group, on whom distraction was applied, were lower than those of the control group.*

**Conclusions:** *Distraction applied to children in the preoperative period significantly reduced anxiety and separation anxiety.*

**Keywords:** *children, distraction, preoperative period, anxiety, nursing.*

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**SURGICAL OPERATIONS ARE** situations that develop for multiple reasons, causing stress for both children and their families. This stress is generally reflected as anxiety, fear, or anger.<sup>1-3</sup> Parental separation, pain, loss of control, a strange environment, and unknown environmental conditions are among the important causes for anxiety in children during the preoperative

period.<sup>4</sup> Additionally, children may experience feelings of anxiety, fear, anger, or uncertainty because of limited cognitive capacities, experience deficiencies, the need for other people's support, and failure in recognizing the meaning of the surgery.<sup>5</sup>

Preoperative anxiety is a picture that progresses with tension, irritability, anxiety, and increased activity of the autonomic nervous system. It is difficult to predict the preoperative anxiety because of measurement methods; however, an anxiety picture arising from both psychological and physiological findings was reported in 40% to 60% of children. The identification and treatment of these clinical phenomena are very important in terms of preventing both psychological and physiological side effects. Preoperative anxiety may obstruct anesthesia induction, extend its duration, and significantly affect early postoperative recovery.<sup>4</sup> Kain and Mayes<sup>4</sup> reported that high preoperative anxiety experienced by patients increased the

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Conflict of interest: None to report.

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postoperative pain and caused a significant increase in the need for analgesics and sedative drugs. Children may develop sleep and eating disorders, and behavior disorders, such as enuresis, in the early postoperative period. Separation anxiety, a negative prejudice for future medical interventions, difficulties in school, and socialization are among the long-term psychological effects.<sup>4</sup>

Some interventions have been asserted to reduce preoperative anxiety, including techniques such as pharmacological premedication administration, distraction interventions, parent training, and acceptance of parents in the operating room (OR).<sup>4,5</sup> Among these methods, the distraction interventions that express the preoperative psychological preparation of patients is highly efficient, easy, and economical methods, without any side effects for pediatric patients.<sup>6</sup> Previous studies have indicated that distraction interventions, such as watching cartoons, playing therapeutic games or video games, or listening to music according to the age group of the child, will be useful in reducing the intensive anxiety experienced by pediatric patients in the preoperative period.<sup>5,7-9</sup> A limited number of studies examined the effects of different distraction interventions, drawing the attention from stressful conditions, on some variables in pediatric patients.<sup>8-13</sup> But, from these studies, it is clear that a complete understanding of the effects of distraction on the preoperative anxiety in pediatric patients has not yet emerged. Based on this information, this study was conducted to determine the effects of distraction on the preoperative anxiety levels of pediatric patients.

## Methods

This experimental study was conducted in the clinic of pediatric surgery of a university hospital in Turkey between November 20, 2013 and January 25, 2014. To conduct the study, approval of the ethics committee and official permissions from the previously mentioned hospital were obtained. Additionally, informed written consent of the families and verbal consent of the children who were included in this study were obtained.

The population of this study consisted of children who were hospitalized for surgery in the pediatric surgery clinic on the dates of the study and met the inclusion criteria of the study. The study was

conducted with the entire population, without selecting the sample group. Children and families who did not wish to participate in the study were not included. The population of the study consisted, in total, of 83 children who were included in the control and study groups, respectively (control group,  $n = 43$ ; study group,  $n = 40$ ). The Java Applets for Power and Sample Size program by Russ Lenth<sup>14</sup> was used to calculate the sample size in this study. The power analysis was conducted and revealed a power of 0.82 for 40 children in each group, in the confidence interval of 95% and at the significance level of .05.

This study was first conducted with the control group to prevent the children in the control and study groups from being influenced by one another. The first 43 children who were included in the study constituted the control group, and the second 40 children constituted the study group. Distraction was performed on the children in the study group during the preoperative period. In total, parents of three children in the study and control groups withdrew from this study even though they had originally agreed to participate in the study.

The inclusion criteria for this study were as follows: age between 9 and 18 years, being literate, and willing to participate in the study. Furthermore, the children who were included in the study were evaluated according to the ASA (American Society of Anesthesiologists) Physical Status Classification System,<sup>15,16</sup> and children in the ASA I to II (normal healthy patient or patient with mild systemic disease) group were included in this study. An ASA assessment of the children was performed by a pediatric surgeon. Exclusion criteria for this study were children and families having history of chronic illness, developmental delay, ASA physical status higher than II (severe systemic disease or moribund), being illiterate, and unwilling to participate in the study.

The data were collected by the researchers using the "Personal Information Form," "Separation Scoring," and "State-Trait Anxiety Inventory for Children-State Form" using the face-to-face interview method. A "Personal Information Form" was prepared by the researchers in accordance with the literature.<sup>7-9</sup> This form consisted of nine questions about the descriptive characteristics of the child, as well as the surgical procedure.

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