

The Effectiveness of Pre-Visit Positive Imagery in Reducing Dental Anxiety

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INTRODUCTION

Childhood dental anxiety can lead to avoidance of dental visits, negatively impacting oral health and overall quality of life.¹ A key factor contributing to this anxiety is the feeling of helplessness or loss of control during dental visits.² External influences, such as parental dental anxiety may also inadvertently predispose their children to dental fear. Addressing children's dental anxiety effectively involves preparing them for dental visits by setting clear expectations, which can greatly reduce their anxiety and enhance their comfort in the dental office. Specifically, the use of pre-visit positive imagery, has shown promise in reducing anxiety by offering a detailed preview of what to expect during dental appointments, thereby making children more receptive to treatment.³

PURPOSE

The purpose of this study is to determine whether pre-visit positive imagery has an impact in decreasing dental anxiety and fear in pediatric patients as well as increasing patient cooperation during treatment visits. Another facet of this study involves evaluating parental dental anxiety to determine if there is a correlation between the anxiety levels of parents and their children.

METHODS

This study is a prospective randomized control trial. IRB approval was obtained and registered with clinicaltrials.org (#HS-23-00464). The study was conducted at the Herman Ostrow School of Dentistry Pediatric Dental Clinic and Healthy Smiles for Kids of Orange County clinic. Eligible participants were established patients of record that are 4-10 years old, ASA I or ASA II, have never had dental treatment and now require dental treatment that includes the use of nitrous oxide, local anesthetic and a composite restoration. Participants were randomly assigned to either a group that viewed a picture book explaining the dental visit (intervention) or a group that received no pre-visit imagery (control). Behavior was assessed using the Frankl Behavior Scale, and dental anxiety was measured with the Venham Picture Test (child) and Modified Dental Anxiety Scale (parent).

RESULTS

There were a total of 54 participants in this study.

In the control group, six children had increased anxiety, five children had decreased anxiety, and 14 had no change. For behavior, five children improved, four declined, and 16 showed no change (**Table 1**).

Table 1: Control Group			
	Increased	Decreased	No Change
Anxiety	6	5	14
Behavior	4	5	16

In the experimental group, five children had increased anxiety, nine children had decreased anxiety, and 13 experienced no change. Seven children in the experimental group showed improvement in behavior, four showed a decline, and 16 had no change (**Table 2**).

Table 2: Experimental Group			
	Increased	Decreased	No Change
Anxiety	5	9	13
Behavior	7	4	16

For parental perception, 27 parents reported the photobook led to “great improvement” in their child’s experience, one reported “moderate improvement,” and one parent provided “no answer” (**Table 3**).

Table 3: Experimental Group			
	Great improvement	Moderate improvement	No Answer
Parent Survey: Did the photobook help?	27	1	1

For parental anxiety, 10 parents reported low dental anxiety, 19 reported moderate dental anxiety, and eight reported high dental anxiety (**Table 4**).

Table 4: Parental Dental Anxiety	Low anxiety	Moderate anxiety	High anxiety
	10	19	8

Table 5 displays the average child pre-treatment anxiety scores grouped by parental anxiety ranges. For each group, the average child anxiety score was calculated. The chart reveals that children of parents in the high anxiety range (19–21) had the highest average anxiety score (2.13), while those in the low and moderate parental anxiety groups both had lower and similar average scores (1.30).

Table 5	
Parental Anxiety	Average Child Pre-treatment Anxiety Score
Mild Anxiety	1.30
Moderate Anxiety	1.30
High Anxiety	2.13

CONCLUSIONS

- The results suggest that the photobook intervention may be associated with reductions in dental anxiety and improvements in behavior in some children. Overall, across both groups, most children experienced no change in anxiety or behavior following treatment.
- The results also suggest a strong parental approval of the photobook intervention.
- Most parents experience a moderate level of dental anxiety. While children of highly anxious parents appeared to have noticeably higher pre-treatment anxiety than those with parents in the low or moderate categories, the sample size was small. However, this trend may warrant further investigation in future studies with larger or more diverse samples.

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