

The Use of a Desensitization Video to Improve Dental Anxiety with First Time **Operative Appointments** Anisa Tocilla DDS, Argiro Papandrikos DDS, Paul Chu DDS, Rebekah Tannen DDS, Christopher Lane DDS St. Barnabas Hospital / SBH Health System **Bronx**, NY

Introduction

Dental anxiety in children is often managed through techniques such as behavioral management desensitization, tell-show-do, voice control, positive reinforcement, and distraction. Desensitization is defined as "a psychological technique that can be applied to modify behaviors of anxious patients in the dental setting through progressive exposure to a stimuli therefore diminishing emotional responsiveness to said stimulus" (American Academy of Pediatric Dentistry, 2022-2023). This can be done through both imagery (illustrations) and direct observation (videos or observing cooperative patients) allowing the patient to familiarize themselves with the dental setting, specific steps of dental procedures, and provide them with an opportunity to ask questions.

There are many studies on desensitization as a behavior management technique and how it can be used to help reduce a patient's anxiety in the dental setting; however, few are applied to patients without any cognitive and behavioral medical conditions. Dental anxiety can result in avoidance of dental care leading to a vicious cycle of dental fear. The patient's anxiety prohibits them from seeing the dentist for regular visits leading to more dental problems requiring symptom driven treatment that is often complicated and traumatic. These patients ultimately tend to have poor oral health, more missing teeth, decayed teeth, and poor periodontal status. Desensitization can equip our pediatric patient population with the skills to help manage dental anxiety so that they can continuously receive routine dental care in the future rather than pharmacological approaches that only address immediate treatment needs.

This study will apply desensitization through a video depicting the dental setting, instruments, and materials to a patient population without any medical conditions (ASA I) undergoing first time operative work in an attempt to help reduce dental anxiety and provide an overall positive experience. A child's first dental visit and operative visit will set the tone for how they may view dentistry for the remainder of their lives. It is important to continue to study methods in which dental anxiety can be managed and ways in which time could be saved for our patient population in which they may need fewer appointments and miss less school days.

Study Objectives

The aim of this study is to see whether desensitization prior to dental treatment through the use of a video would improve patient behavior and anxiety during first time operative treatment while also saving the patient and parent an appointment. Patients would have the opportunity to ask questions after viewing the video and it was hypothesized that these patients would exhibit symptoms of decreased dental anxiety.

Methods

Subjects

Forty patients between the ages of 4 – 17 years old who did not have any operative dental (restorations) procedures completed prior were recruited to participate in the study.

Patient Selection

Inclusion Criteria: Children between the ages of 4-17 with no significant medical history, ASA I, no medications, or allergies undergoing restorative treatment in the form of fillings (Class I, Class II, Class IV, and Class V) or stainless steel crowns not involving a pulpotomy for the first time.

Exclusion Criteria: Patients under the age of 3 and over the age of 17. Children with significant medical history that are not ASA I. Children with prior restorative (fillings) and crowns) or oral surgery (extractions) treatment.

Data Collection

Patients between the age of 4 – 17 years of age who have not had any operative dental (restorations) completed prior will be recruited at the pediatric dental clinics. Patients were randomly divided into the following two groups:

1). Group I: Control (no desensitization video prior to operative appointment)

2). Group II: Experimental (Children being shown the desensitization video prior to operative appointment)

The children will be assigned to the groups at random based on a coin toss. If the coin landed on heads the child will be placed into the control group and if the coin landed on tails the child will be placed into the experimental group. Operative appointments entail the following types of procedures: fillings (Class I, Class II, Class IV, and Class V) as well as SSC's (no pulpotomy).

The subjects were asked to fill out the Wong-Baker faces pain rating scale to depict how they are feeling prior to watching desensitization video and after the operative treatment is completed. The child's heart rate was monitored once every 5 minutes during the procedure until treatment was completed.



Statistical Analyses

The data collected was analyzed by generating frequencies for each group and running chi-squares on the before and after frequencies for both the control and experimental groups.

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Discussion

The difference in mean heart rate between the control group (no video) and the experimental group was not shown to be statistically significant (P>0.05) (figure 4)

Chi-squares were run which determined no statistically significant results between the control and experimental

No change was seen for the experimental group (figure 2, figure 3b) and more negative results were seen in the control group (figure 1, figure 3a)

61.9% of the participants in the experimental group did not report any change in their anxiety toward the dental procedure after watching video. 19% reported a positive change in their anxiety and 19% also reported a negative change in their anxiety.

28.6% of the participants in the control group (no video shown) did not report any change in their anxiety toward the dental procedure, 42.9% reported a negative change in their perception of the procedure and 28% reported a positive

A large number of medium responses (neither happy nor sad) on the Wong-Baker scale perhaps affected the data. This response may be due to the stigma or societal factors around dental visits.

Conclusions

Research has shown many benefits of desensitization in patients with cognitive and behavioral medical conditions. While the results in this study were not statistically significant further research should be done to investigate how desensitization could be implemented with our pediatric dental population without any cognitive or behavioral medical

Study Limitations

Small sample size

Different age groups have different heart rate ranges making it difficult to compare the two

Heart rate is elevated with anesthesia administration and noncooperative patients making readings less accurate

Unable to accurately assess younger patient's feelings post treatment if they were uncooperative or did not like the feeling of local anesthesia

Portable pulse oximeter did not provide accurate measurements for heart rate if patients moved or played with

References

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