

Original Research

Comparative Evaluation of Effectiveness of Music Distraction in Managing Pediatric Patient in Dental Set-Up: An In-Vivo Study

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ABSTRACT:

Managing the behavior and anxiety of a child so as to become a co-operative patient is critical to the success of dental treatment. Various techniques have been used with moderate and variant success rates over the last few years. The aim of present In-Vivo study was to evaluate the effect of music distraction in management of anxious pediatric patient in dental set-up. In present study 60 children of 6-10 years were randomly selected and equally divided into two groups of 30 each. The first group was control group (group A) and the second group was music distraction group (group B). Patient requiring administration of local anesthesia was included in the study. The children included in music group were allowed to hear audio presentation throughout the treatment procedure whereas in control group treatment was done without any distraction. Anxiety was measured by using Venham's picture test. Result of present study showed that the music distraction was effective in managing the anxious pediatric patient.

Keywords: Dental Anxiety, Distraction, Music distraction

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INTRODUCTION

Anxiety is defined as an emotional response (e.g., feelings of fear, apprehension, tension, uneasiness) and/or physiological response (e.g., sweating, feeling restless or tense, rapid heartbeat) to known and/or unknown causes that may range from a normal reaction to extreme dysfunction (indicative of an anxiety disorder).¹ Dental anxiety is a significant problem for patients and dental care providers. Children who have dental anxiety tend to avoid necessary dental treatment and once in the dental chair they are often difficult to treat.²

A range of fear management techniques have been described in the literature and American Academy of Pediatric Dentistry (AAPD) has described basic concepts as basic behavior guidance such as communication, tell show do, voice control, nonverbal communication, positive reinforcement, distraction and parental absence/presence, and advanced behavior guidance such as protective stabilization, sedation, and general anesthesia.³

Although, traditional techniques may be successful, the attitude of parents and dental professionals towards these techniques is changing. This is the

reason why new non aversive techniques, which are more effective and more acceptable to the parents, are being used. Audio distraction is one such non aversive technique in which patient listens to music during the dental procedure.⁴

Hence the aim of the present study was to evaluate the role of music distraction in management of anxious pediatric dental patients during administration of local anesthesia.

MATERIAL AND METHOD

Present In-Vivo study was conducted in private dental clinic (Dental Lifestyle, Chandigarh, India) after obtaining the consent from parent/ guardian. 60 children aged between 6-10 year without any previous dental experience was selected for the study. Children during their first visit with definite indications local anesthesia (LA) administration either for the extraction or pulp therapy were included in the study. Children with previous dental experience and with any sort of mental or physical disability were excluded from the study. The children were randomly divided into two groups. First group was control group (group A) and the second group was music

group. The children included in music group were allowed to hear audio presentation throughout the treatment procedure whereas in control group treatment was done without any distraction. (Fig no 1)

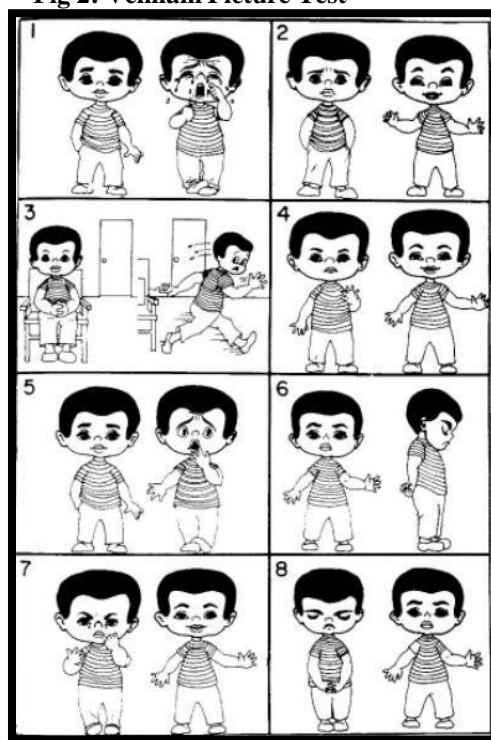
Anxiety was measured by using Venham’s picture test. The Venham Picture Test comprises eight cards, with two figures on each card, one 'anxious' figure and one 'non anxious' figure.

Fig 1: Music Distraction



(Fig 2) The children were asked to point at the figure they felt most like at that moment. The values obtained were tabulated and subjected to statistical analysis.

Fig 2: Venham Picture Test



RESULT

Self-reported measure of anxiety Venham’s scale was administered two times to each patient: Prior to each treatment session and immediately following the treatment on subsequent visits. t-test was completed analyzing the pre and post treatment values for the two groups. The mean VPT score in control group was increased (4.50 ± 0.50) after the administration of local anesthesia as compared to starting 2.10 (± 0.45) of the procedure whereas the mean VPT score in music group was decreased (1.30 ± 0.40) after the completion of restoration as compared to starting (4.10 ± 0.50) of the procedure. (Table no. 1)

Table no. 1: Change in VPT in Control group and Music Distracton group				
Group	Pre operative VPT Score	Post Operative VPT Score	Difference	P value
Group I Control Group	2.10 ± 0.45	4.50 ± 0.50	2.40± 0.05	P < 0.05
Group II Audio Group	4.10 ± 0.50	1.30± 0.40	-2.80 ± 0.10	P < 0.05

It was observed that the level of anxiety was reduced in music group; whereas level of anxiety was increased after the completion of the procedure in control group.

DISCUSSION

For many years, fear and anxiety associated with dental treatment are well-recognized factors and have a negative impact on patient's willingness to get dental treatment. Dental fear and anxiety (DFA), a common occurrence characterized by an essential and inevitable emotion that appears as a response to various dental procedures.^{5,6} Dental anxiety has been the primary reason for not seeking dental care. Children who experience high levels of dental anxiety tend to have higher caries experience.⁷

The aim of the present study was to evaluate the role of music distraction in management of anxious pediatric dental patients during administration of local anesthesia. Venham's picture test, which is used in the study, is the most reliable measure of self reported.⁸

Observations from the study indicated that VPT in control group was increase after administration of local anesthesia whereas the VPT score in music distraction group was decreased after administration of local anesthesia which indicates that the music distraction did decrease the anxiety of pediatric patient at significant level.

Reduction in anxiety can be attributed to two reasons. First, a child listening to music will tend to close his eyes to concentrate on the audio presentation thereby screening out the sight of dental treatment. Second, the sound of music will eliminate unpleasant dental sounds like the sound of hand piece and these two advantages coupled with the effect of music will provide relaxation and allow the dentist to effectively manage the anxious patient.^{10,11}

Result of our study in accordance to the study conducted by Yamini et al. (2010)² Sivakumar N et al.(2010).⁹

CONCLUSION

Music distraction did decrease the level of anxiety in anxious Pediatric dental patients although to a significant level.

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