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ABSTRACT

INTRODUCTION: Dental fear is a common emotion that appears as a response to the stressful situation, which raises children's anxiety level. Several behavior management techniques have been developed to manage children's anxious and cooperative behaviors.

AIM: To compare and evaluate the effectiveness of two different behavior management techniques: Tell- Play Do, Audio-visual distraction.

MATERIALS & METHOD: In children between age group 5 -12 years of age. A total of 50 samples were divided into 2 groups. Group 1: Tell- Play- Do Group 2: Audio-visual distraction Evaluation: Evaluation was done based on heart rate and facial image scale.

RESULT: Mann-Whitney U test showed highly statistically significant difference between the mean FIS scores was obtained between group 1 and group 2 where as ANOVA test revealed no statistically significant difference of mean scores of pulse rate before and during treatment procedure between group 1 and group 2.

CONCLUSION: Audiovisual distraction technique provides effective distraction when compared with TPD technique

KEY WORDS: Behavior Management, Audiovisual modeling, Tell-Show-Play-do.

INTRODUCTION

Cooperation of a child during dental treatment is vital to render successful and high quality treatment.¹ Child's dental anxiety has been a matter of concern for many years and can be defined as a nonspecific feeling of apprehension, worry, uneasiness or dread, the source of which may be vague or unknown.²

Behavior management techniques are a set of procedures aimed at reducing the child's perception that the dental situation is overwhelming or dangerous.³

The Tell-Show-Do technique is based on the principles of learning theory and is performed by dentists themselves in the operatory.⁴ The Tell-Show-Do technique was modified into the Tell-Show-Play-do (TPD) technique, using the concept of learning by doing.⁵ In this, children are asked to play with dental imitating toys and explained about it which includes various diagnostic

instruments, a rotor, suction and air/water syringe.⁶

“Distraction” is a tactic designed to divert a patient attention away from their current behavior to focus their interest in something else. Audio-visual distractors are stimuli that may gain some control over a patient's responding that is incompatible with disruptive behavior. Different means of audio-visual distraction includes video games, watching video, television, cartoons etc.

On search of the literature, a small number of studies could be found on the management of pediatric patients using the Tell-Show-Do technique and audio-visual distraction. This study aimed to evaluate the effectiveness of two different behavioral modification techniques; The Tell-Show-Do technique and audio-visual distraction in the management of child behavior during dental practice.

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MATERIALS AND METHODS

After obtaining the ethical clearance from the institutional review board and written consent from parents, 50 children between age 5 year and 12 years of age were enrolled in the study based on inclusion and exclusion criteria. Inclusion criteria:

- 1.Children with Frankl's behavior rating score of 2 or 3 and no prior dental experience.
- 2.Children with no previous experience of hospitalization.
- 3.Children with carious lesion and needed a restoration or direct or indirect pulp capping treatment with or without local anesthesia.

Exclusion criteria:

- 1.Children with Frankl's behavior rating score of 1 or 4.
- 2.Extensively damaged teeth.
- 3.Carious teeth with pre-shedding mobility.
- 4.Medically and developmentally compromising conditions.Using simple random sampling technique, selected children were equally distributed into two groups of 25 each, Group 1: Tell-Show-Play-do.

Group 2: Audio-visual distraction.

Samples in each group were treated in a single appointment after using either of the two behavior modification techniques.

The level of dental anxiety of each patient was assessed using a finger pulse oximeter and Facial Image Scale (FIS) at two intervals of the procedure, which were: Stage 1: Before procedure
Stage 2: During procedure

The patient was asked to select the image from the FIS that he/she can closely associate with at that moment and the patient's pulse rate was noted.

The data collected was tabulated and subjected to the following statistical analyses.

Mann-Whitney U test was used for comparison of Facial image scale and ANOVA for comparison of mean heart rate at different interval in between the two groups.

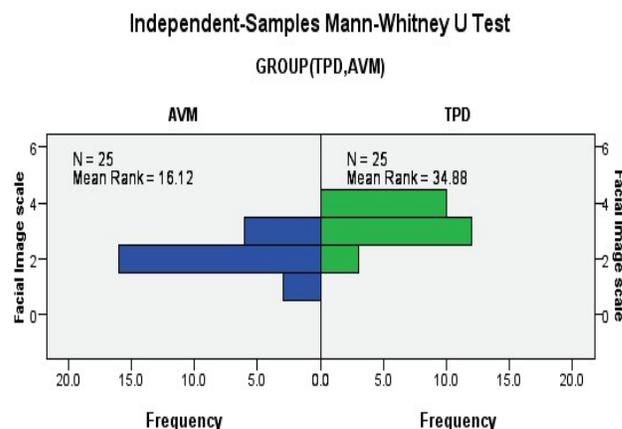
RESULTS:

A highly statistically significant difference between the mean FIS scores was obtained between Group 1 and Group 2 indicating a greater reduction of dental anxiety in group 2 (Table 1) (Graph 1).

Table 1: Facial image scale comparison between the two groups using Mann-Whitney U test

| | Mean Rank (n=25) | | Z | Sig.(two-tailed) |
|--------------------|------------------|-------|-------|------------------|
| | TPD | AVM | | |
| Facial image scale | 34.88 | 16.12 | 4.821 | 0.000(HS) |

TPD: Tell-play Do, AVM: Audiovisual Modeling, HS: Highly Significant



TPD: Tell-play Do, A V M : Audiovisual Modeling, HS: Highly Significant

Graph 1: Comparison of FIS in both groups

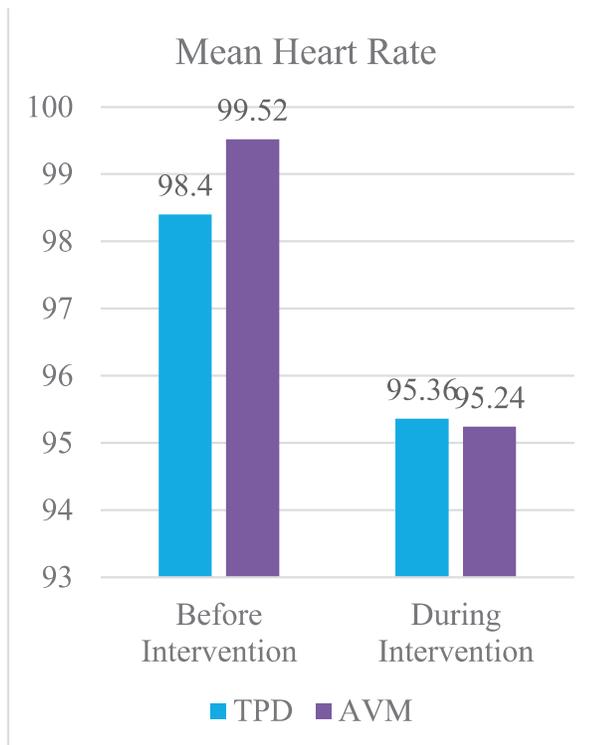
ANOVA test revealed no statistically significant difference of mean scores of pulse rate before and during treatment procedure

Thus it indicates that audio distraction and Tell-Show-Play-do had equal level of distraction effect on children (Table 2) (Graph 2).

Table 2: Comparison of mean heart rate at different interval in between the two

| | TPD (n=25) | AVM (n=25) | Mean difference | t | Sig.(two-tailed) |
|---------------------|------------|------------|-----------------|--------|------------------|
| Before intervention | 98.40±4.10 | 99.52±2.34 | -1.12 | -1.185 | 0.243(NS) |
| During intervention | 95.36±5.17 | 95.24±5.01 | 0.12 | 0.083 | 0.934(NS) |
| Difference | | | | | |
| Before-During | 3.04±3.41 | 4.28±4.62 | -1.24 | -1.079 | 0.286(NS) |

TPD: Tell-play Do, AVM: Audiovisual Modeling, NS: Not significant



Graph 2: Comparison of mean heart rate at different interval in between the two groups.

DISCUSSION:

The management of children's behavior is an integral component of pediatric dental practice. Behavior modification techniques are employed by dental practitioners to alleviate fear, establish communication and anxiety, facilitate delivery of quality dental care, build a trusting relationship between dentist, child, and parent, and promote the child's positive attitude towards oral healthcare.³

TPD technique may give more relevant information to children about various dental instruments and dental procedures and can be a more practical way to understand the dentist frame of reference.⁸ Because of audio-visual distraction success in medical settings and in adult patients, many dentists believe that this technique may be successful and fruitful in the management of anxious pediatric dental patients.⁷ Therefore, the aim of this study was to compare Tell-Show-Play-do and audiovisual distraction aids in management of anxious pediatric dental patient.

The age group of 5-12 years was selected for the study because dental problems are difficult to treat in this age group as they exhibit more disruptive behavior and dental anxiety and are most difficult to manage. Similar age criteria was chosen by Pffifner LJ (2014)⁹.

Heart rate, which was used in the study according to Mccarthy (1957)¹⁰ acted as a reliable indicator of stress and anxiety. Similar criteria was chosen by Vishwakarma AP (2017)¹. The FIS is repeatable, easy to use, quick, reliable and valid. It has been used to quantify anxiety in children in various studies by Rank RC (2017)¹¹, Abanto J (2017)¹². In the present study, it was observed that there was no statistically significant difference in mean scores of pulse rate before and during treatment

procedure in both the groups. Thus, it indicates that audio distraction and Tell-Show-Play-do had equal level of distraction effect on children, which is contradictory to study conducted by Kevadia MV (2020)⁶. Whereas a highly statistically significant difference between the mean FIS scores of both the groups was obtained, indicating a greater reduction of dental anxiety in audio-visual distraction. Similar observations were seen by Prabhakar *et al* (2007)¹³, Florella *et al* (2010)¹⁴. On the contrary Vishwakarma AP *et al* (2017)¹ in his study concluded that TPD technique was more effective than live modeling on child anxiety.

Thus, audiovisual distraction was found to be a more effective mode of distraction in the management of anxious children when compared to Tell-Show-Play- do.

CONCLUSION:

It is the responsibility of pedodontists to make dentistry as child-friendly and pain- free as possible to bring about positive changes in the behavior of children during dental treatment.

According to the methodology and the results of the present study, we can conclude that, audiovisual distraction technique provided effective distraction

when compared with TPD technique. Therefore, it is suggested that audiovisual distraction aids may be considered as a good alternative in managing anxious child patients in dental operatory.

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