



Comparative Evaluation of the Effectiveness of Peer Video Modelling and Tell-Show-Do in Reducing Dental Anxiety Among Children Aged 4 to 6 Years: A Randomized Controlled Trial.

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Abstract

Background: Essential methods shape how children are guided during dental visits. As social platforms shape how children act, peer modelling through video might ease anxiety in dental settings. **Objective:** This investigation aimed to evaluate how pre-recorded peer testimonial videos performed in reducing anxiety and improving cooperation for dental treatment. **Methods:** Thirty young patients, between four and six years old, took part in this research during their initial restorative dental appointment. The study participants were randomized into two groups (15 per group); the test group saw a brief recording where another child described a positive treatment encounter; the control group experienced traditional tell-show-do instruction. Each individual had Interim Therapeutic Restorations (ITR) placed with glass ionomer material, ensuring consistency across cases. Venham's Anxiety Scale (subjective measure) and heart rate monitoring (objective measure) was assessed both prior to and following clinical procedures. **Results:** The test group experienced a larger drop in average anxiety levels - shifting from 2.6 to 1.1, while those in the control group moved less markedly (3.3 to 2.8). A parallel pattern emerged in pulse rates: participants receiving the intervention had their heartbeats per minute fall by 10ten, going from 108 down to 98. In contrast, individuals without the intervention recorded a more modest decline of 5 beats, beginning at 106 and reaching 101. **Conclusion:** It appears that these recorded testimonials may support children during dental visits by using observed behaviors through familiar technology. The method fits within evolving care approaches where psychological ease matters as much as clinical procedure.

Keywords: Behavior management techniques; Child psychology; Observational learning; Pediatric dentistry.



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INTRODUCTION

Fear of the dentist affects many children, commonly seen in young patients who show resistance or distress during visits. This unease stems from discomfort linked to treatments or even being inside a clinic setting. Ages four through six face higher risk due to how their thinking skills develop - new situations can feel threatening without complete understanding. When left unattended, such tension tends to continue into later life, shaping habits around check-ups and hygiene routines. Managing such discomfort thoughtfully becomes necessary so appointments go smoothly, allowing better engagement from the child throughout care sessions.[1,2]

Essential methods shape how children are guided during dental visits. Rather than medication, behavioral strategies stand as preferred choices according to experts in pediatric dentistry. Found across clinical practice often, the Tell-Show-Do approach holds consistent favor among professionals. Starting with words (tell) that clarify each step comes before any instrument appears near the patient (show). This is followed by performing the procedure (do).. Trust builds slowly through repetition of clear, predictable actions. A sequence of clear steps helps children become comfortable with dental visits by easing uncertainty around new experiences. Research findings, noted in multiple reports, link the Tell-Show-Do method to lower levels of anxiety during care along with improved willingness to participate.[3,4]

Beyond standard methods for managing behaviour, observational learning techniques such as modelling - have drawn interest within pediatric dental care. Stemming from Bandura's concept of social-based learning, this method relies on

young individuals adopting actions seen in others. Within clinics, the approach may unfold via real-time examples or recorded visual material. When using recordings, a child views someone their age tolerating dental work without distress, offering clarity about what to expect and fostering inner assurance. Evidence suggests clips showing calm participation lead to lower anxiety levels and more willingness to engage during treatments.[5,6]

Progress in audiovisual technology has strengthened how models are used when treating young patients in dental care. Animated videos and recorded demonstrations of dental procedures now assist kids in getting ready for appointments. Because these show what happens step by step, fear often decreases prior to treatment. One study found such recordings work better - compared to standard ways of behaviour management techniques during checkups.[7]

Even with recent progress, very few investigations target peer video modelling directly - children watching someone their own age handle dental visits without distress. Because children tend to identify more strongly with counterparts than grown-ups, such observation might build assurance. Calm behaviour seen in others around their age could ease anxiety ahead of appointments, while also prompting mimicry of calm participation. Yet solid experimental comparisons between this approach and standard Tell-Show-Do practices remain sparse, especially for children between four and six. Understanding which strategy works best matters greatly when aiming to support cooperation during dental visits.

For this reason, this study aimed to compare and contrast between peer video modelling and the Tell-Show-Do method - as a way to address dental anxiety in children from age four to six. The objective of the study was to evaluate dental anxiety prior to any procedure, then once interventions completed, evaluating changes in anxiety levels.

MATERIALS AND METHODS

Inclusion criteria

The following were the inclusion criteria. Children aged 4 to 6 years; Children with no past dental history; Children with no systemic illness / medical history; Children who are willing to participate in the study.

Exclusion criteria

Children with the following criteria were excluded: Children in other age groups; Children with no restorable teeth; Children undergoing invasive procedures; Children with prior dental experience; Children with special health care needs; Children / parents not willing to participate in the study.

The present study was conducted in the Department Of Pediatric Dentistry, PMS College Of Dental Science And Research, and included 30 children aged 4 -6 years who reported for their first dental visit. All participants were randomly divided into two groups (test and control), with each group comprising 15 children. During the visit, Interim Therapeutic Restorations (ITR) using Glass Ionomer Cement (GIC) were given as part of the treatment procedure.

In the test group, children were shown a one-minute prerecorded peer testimonial video prior to treatment. The video featured a child narrating her own dental experience, describing her feelings and reactions throughout the procedure, with the intent to model positive behavior and reduce anticipatory fear. The video featured a single child patient recorded in the same clinical setting and seating position as the participants, ensuring relatability. In contrast, the control group received the conventional Tell-Show-Do (TSD) technique, which served as the standard method of behavior guidance.

At first, baseline recordings were obtained for each child. Subjective anxiety was recorded using Venham's Anxiety Scale, and objective assessment was carried out by measuring the heart rate with the help of a pulse oximeter.

Following the initial recordings, the dental procedure, namely interim therapeutic restoration (ITR), was performed. After completion of the procedure, anxiety was reassessed using Venham's Anxiety Scale, and heart rate measurements were again recorded using the pulse oximeter.

RESULTS

A total of 30 children participated in the study, with 15 children in each group.

In terms of subjective anxiety assessment using Venham's Anxiety Scale, the control group (Tell-Show-Do) demonstrated a mean pre-anxiety score of 3.3 and a mean post-anxiety score of 2.8, reflecting a mean reduction of 0.5 units. The test group, which viewed the pre-recorded peer testimonial video, showed a mean pre-anxiety score of 2.6 and a mean post-anxiety score of 1.1, corresponding to a mean reduction of 1.5 units (table 1).

For the objective physiological assessment, the mean heart rate in the control group decreased from 106 beats per minute (bpm) before the intervention to 101 bpm after the intervention, indicating a reduction of 5 bpm. In the test group, the mean

heart rate decreased from 108 bpm before the intervention to 98 bpm after the intervention, showing a greater reduction of 10 bpm (table 1).

Data were entered into Microsoft Excel and analyzed using SPSS statistical software. Descriptive statistics, including mean and standard deviation (SD), were calculated for all variables. Intragroup comparisons (pre- vs. post-intervention) were performed using the paired t-test for normally distributed data. Intergroup comparisons (Control vs. Test groups) for mean changes were analyzed using the independent t-test. A p-value of <0.05 was considered statistically significant.

It appears that children who viewed the peer testimonial showed more noticeable decreases in anxiety and psychological arousal. In contrast, standard Tell-Show-Do methods produced less pronounced effects on these measures. The presence of fellow children sharing experiences seemed to influence outcomes differently than step-by-step guidance alone.

Table 1: Changes in the anxiety score and heart rate

Parameter	Group	Pre (mean $\pm$ SD)	Post (mean $\pm$ SD)	Mean difference	P value (intragroup)	P value (intergroup)
Anxiety score	Control	3.3 $\pm$ 0.67	2.8 $\pm$ 0.63	0.5 $\pm$ 0.25	<0.05	-
Anxiety score	Test	2.6 $\pm$ 0.69	1.1 $\pm$ 0.47	1.5 $\pm$ 0.38	<0.001	<0.01
Heart rate (bpm)	Control	106 $\pm$ 3.2	101 $\pm$ 2.8	5 $\pm$ 1.9	<0.05	-
Heart rate (bpm)	Test	108 $\pm$ 3.4	98 $\pm$ 2.9	10 $\pm$ 2.1	<0.001	<0.01

DISCUSSION

Often seen in children, unease about dental visits tends to result in resistance or refusal of care. Triggered by anxiety, earlier unpleasant appointments, or adult reactions nearby, the tension builds quietly. In clinical settings, visual and sound tools supported better child conduct. Surprisingly, children often picked footage of peers recording casual moments instead of classic animated stories, pointing toward a deeper engagement with familiar social examples.

This research drew from Bandura's theory[8] on social learning, where young individuals absorb actions and feelings by watching others their age or trusted figures. Because of such influence, using recorded peer experiences in children's dental care may shape expectations - lessening anxiety while building assurance ahead of treatments.[9]

A young girl, age six, appeared in the footage speaking about her time at the clinic. At first there was worry in her voice - yet that shifted as she continued. The child said words from the dentist helped most; explanations made things less strange; and mentioned small tokens were offered when she cooperated well. Her message carried forward: discomfort faded, especially when repeated steps are taken gently.

Venham's Anxiety Scale allowed measurement of how children reacted emotionally(anxiety) when receiving dental care.[10] Though straightforward in design, the tool captured subtle shifts in behavior that reflected anxiety levels. Because it relied on visible actions rather than verbal feedback, it worked effectively even with children who could not express feelings clearly. Its structure required minimal training, which supported consistent use across different practitioners. Overall clarity helped maintain smooth workflow within busy clinics.

From another angle, subjective behavioral evaluation with recorded heart activity offered deeper insight into how the children responded emotionally and physically during dental procedures.[11] Though less common, this method paired child's emotional and physiological reactions to capture a fuller picture of reactivity under clinical conditions.

Earlier studies show predictable visuals ease anxiety in children.[12,13] Despite earlier work on audiovisual support, actual patient footage remains unexplored in studies focused on children. Where one trial used animated guides, another leaned on narrative clips - yet both pointed to steadier reactions in children. As of now, no study has used videos of real child patients as peer models, though several have examined the effects of educational or instructional videos in pediatric dental settings.

Pre-recorded testimonials by peers bring tangible benefits when used in pediatric dental settings.[14] Since kids often look up to others close to their age, such clips feel authentic and build confidence naturally.[15] Found playing quietly in waiting rooms or treatment spaces, these recordings turn unfamiliar places into calmer ones. Once created, they run repeatedly. Because preparation shifts ahead of appointments, less time is needed during sessions for reassurance.

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One must recognize specific constraints tied to this research. Findings might not apply widely due to limited participants, which affects how results extend to children overall. A key factor was the video format - delivering messages without space for replies likely reduced active involvement from children. Differences among children, such as mood patterns or past visits to dentists, could shift how each responds to what they see. Influence levels may therefore differ across individuals. Still, reliance on technological tools limits applicability where such resources are unavailable.

CONCLUSION

Within the limitations of the present study, it appears that the recorded testimonials may support children during dental visits by using observed behaviors through familiar technology. The method fits within evolving care approaches where psychological ease matters as much as clinical procedure. Future research might include broader groups alongside testing at various locations. Over time, repeated check-ups could reveal if watching peer videos continues lowering anxiety.

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