

Introduction

Local anesthesia is almost universally utilized for pain management during invasive dental procedures. However, for many pediatric patients, the administration of local anesthesia provokes the most pain and anxiety of the entire dental appointment. Therefore, a large body of research has focused on behavioral techniques to reduce pain and anxiety during local anesthesia administration.

Two often-utilized behavior management techniques for pediatric dental patients are active and passive distraction. Whereas passive distraction does not require patient participation, active distraction involves the patient's conscious participation in the activity. Examples of active distraction methods include games, stress balls, and fidget spinners. There is still much ongoing research on which distraction techniques have the greatest efficacy in the pediatric dental office.

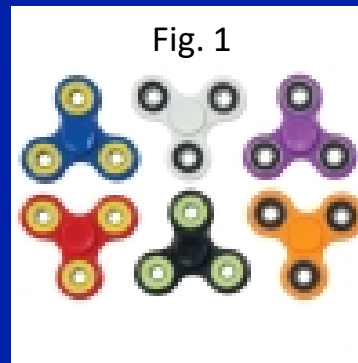
Purpose

The purpose of this research study is to evaluate the efficacy of fidget spinners— an active distraction technique— in reducing pain and anxiety in pediatric dental patients undergoing buccal infiltration local anesthesia.

Methods

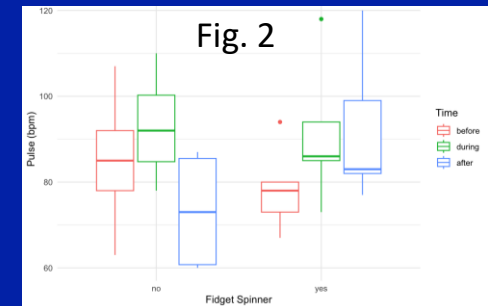
Patients requiring buccal infiltration local anesthesia for posterior restorative dental work were recruited from the Saint Louis University Pediatric Dentistry clinic. Subjects were randomly assigned to the control or experimental group, with the latter being given a fidget spinner during local anesthesia administration [Fig. 1]. The control group received no distraction intervention.

All subjects received 40% nitrous oxide and 1 carpule (34 mg) of 2% Lidocaine 1:100,000 epinephrine as a buccal infiltration. Anxiety was measured via pulse rates recorded before, during, and 30 seconds after local anesthesia administration. Pain was measured via the Faces, Legs, Activity, Cry, Consolability (FLACC) scale. Pulse rates and FLACC scores were compared between the control and experimental groups for statistical significance.

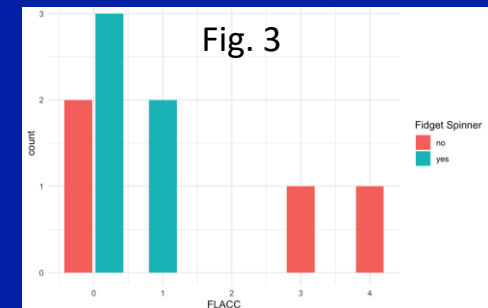


Results and Conclusion

Welch two sample t-tests were used to compare mean heart rates, changes in heart rates, and FLACC scores between the two groups. No significant differences were found in heart rates ($p=0.545$) and heart rate changes ($p=0.140$) [Fig. 2].



Additionally, no significant differences were found in FLACC scores ($p=0.284$) [Fig.3].



Therefore, fidget spinners do not appear to affect pain or anxiety during buccal infiltrations.