# Analyzing the efficacy of dental desensitization appointments for patients with Autism Spectrum Disorder (ASD): A Pilot Study

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## INTRODUCTION

- Autism spectrum disorder (ASD) is a common neurodevelopmental disorder, with a prevalence of 1 in  $59^{1,2}$ .
- ASD results in varying levels of severity depending on how much support is needed (Level 1/Mild, Level 2/Moderate, Level 3/Severe) and also results in deficits in social-emotional reciprocity.
- ASD can be diagnosed as early as 18 months of age.
- Between 69-95% of ASD patients have some degree of sensory processing challenges, which can make home care difficult<sup>3</sup>.
- The dental environment can be overstimulating. Dental desensitization is a non-pharmacological method of behavior management that can help patients with ASD become more comfortable with the dental environment<sup>4</sup>.

#### PURPOSE

This study aimed to analyze the efficacy and parental perceptions of a desensitization program for patients with ASD at a community health center. A secondary goal was to identify variables that predict the success of desensitization. This is considered a pilot for a larger study in the future.

#### METHOD

The study is a longitudinal, parent-reported survey administered from August to November 2024. Seven parents of children diagnosed with ASD, aged 4-16 years old, with at least 2 months of continued desensitization visits and no history of papoose treatment, were given a 25-item survey. A 3-month follow-up survey was then given to track progress in desensitization visits. Quantitative descriptive and qualitative statistical analysis was completed. Due to the small sample size, a descriptive statistical approach was employed to analyze survey responses.

#### **FIGURE 1**





#### FIGURE 2

Activity	Initial	Follow Up	p-value
Comfortable being inside dental office	5	4.75	0.4
Sitting on dental chair	4.14	4.5	0.4
Using a mouth mirror	4.57	4.75	>0.9
Using suction device	2.85	3.5	0.9
Brushing their teeth	4.71	5	>0.9
Flossing their teeth	4.57	3.75	0.8
Having a healthier diet	4.43	4.25	0.7

Average score of perceived progress as reported by parents, 1 being 'not at all helpful', 2 being 'slightly helpful', 3 being 'somewhat helpful', 4 being 'very helpful', and 5 being 'extremely helpful'. (T0: n=7, T1: n=4).

# RESULTS

There are a total of 7 participants who completed the initial survey at Time Zero (T0). 4 out of the 7 participants completed the 3-month followup survey (T1). The mean age of study participants was 10 years old (± 2.29 years). Most study participants were White and Hispanic (50%) and 83%, respectively). Most children did not have another sibling with ASD, as only 14% (n=1) of parents reported having another child with ASD. 36% of children (n=4) were reported by parents as needing treatment under general anesthesia at some point. Most children present for dental desensitization visits monthly (86%, n=6), although one parent preferred to bring their child every other month (14%). All children were diagnosed as having Level 3/Severe autism by their primary care provider, which matched the parents' self-reported autism level for their child. Overall, 75% of parents reported that the dental desensitization program had been extremely helpful in increasing their child's comfort level the dental office and had aided their children develop new skills, such as using a mouth mirror and sitting on the dental chair.

Most children in the study were well connected with auxiliary services, such as speech therapy (71%), occupational therapy (71%), and an Individualized Education Program (IEP) at school (86%). The lowest number of children were enrolled in Applied Behavior Analysis (ABA) therapy (43%) (Figure 1). Toothbrushing was the highest reported self-care activity reported by parents that children can do on their own (43%), followed by hair brushing (29%), and bathing (14%) (Figure 1).

Figure 2 outlines the average score of perceived progress from both T0 (n=7) and T1 (n=4). Most parents reported that desensitization had been 'very helpful' or 'extremely helpful' for their child in all categories except using the suction device-however, p-values were not significant.

#### CONCLUSIONS

- dental office.
- mirror and sitting on the dental chair.
- specific goals for patients such as placing sealants.
- potentially affected by insurance coverage.
- desensitization and are not generalizable.

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1. 75% of parents reported that desensitization was 'very helpful' at having their child be comfortable inside a

2. 75% of parents reported that the dental desensitization program had been extremely helpful in increasing their child's comfort level in the dental office and had aided their children to develop new skills, such as using a mouth

3. The average age of dental desensitization in this patient population is around 10 years old, allowing there to be

4. Most parents prefer to bring their child consistently for a dental desensitization visit monthly, which can be

5. Due to the small sample size, the results did not identify specific variables to predict the success of

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