



Effect of Anxiolytic Premedication on Dental Behavior in Autistic Children

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OBJECTIVE

To evaluate the effect of anxiolytic medication on behavior in autistic pediatric dental patients by comparing Frankl behavior scores between an initial visit without medication and a subsequent visit with medication.

BACKGROUND

Providing dental care for patients with autism spectrum disorder (ASD) presents challenges due to sensory sensitivities, communication differences, heightened anxiety, and difficulty with unfamiliar environments. These factors often result in uncooperative or negative behaviors during dental visits, which can limit the ability to safely and effectively complete necessary treatment. Non-pharmacologic behavior guidance techniques are not always sufficient for this population, and anxiolytic medications are frequently used to reduce anxiety, improve cooperation, and enhance the overall dental experience.

Benzodiazepines are among the most utilized for this purpose. Diazepam (Valium) and lorazepam (Ativan) differ in pharmacokinetic profiles and clinical application. Diazepam has a longer half-life and active metabolites, making it a commonly used option in younger pediatric patients due to its established safety profile and prolonged anxiolytic effect. In contrast, lorazepam has an intermediate duration of action, lacks active metabolites, and provides more predictable sedation, making it a preferred option in older children and adolescents. Despite widespread use, there is limited data evaluating the effectiveness of these medications specifically in autistic dental patients using within-subject comparisons.

MATERIALS AND METHODS

This study was designed as a retrospective paired analysis of autistic pediatric dental patients (n = 134). Patient behavior was assessed using a standardized 4-point behavior scale, where a score of 1 represented the most negative behavior and a score of 4 represented the most positive behavior.

Each patient served as their own control, with behavior compared between two visits: an initial visit without anxiolytic medication and a subsequent visit with anxiolytic administration. Operative visits with treatment were not included in the study. An age-based medication protocol was utilized, in which patients 12 years of age and older received lorazepam (Ativan), while patients younger than 12 years received diazepam (Valium).

RESULTS

A total of 134 pediatric patients with autism spectrum disorder (ASD) met inclusion criteria. Behavior improved in 27.6% of patients (n = 37) following anxiolytic premedication.

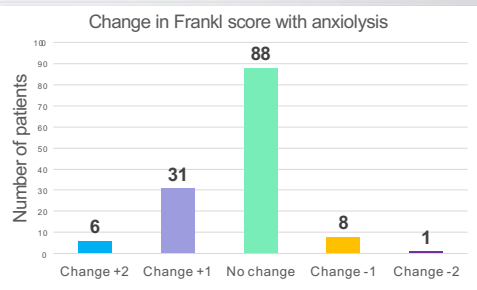
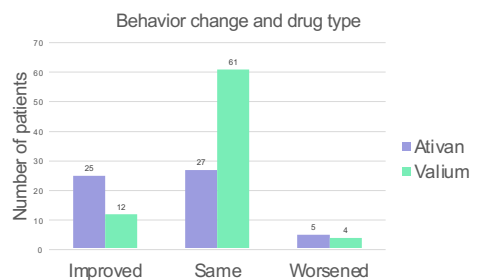
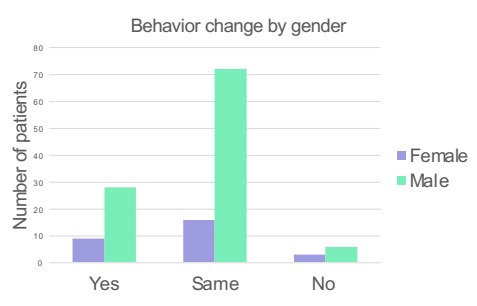
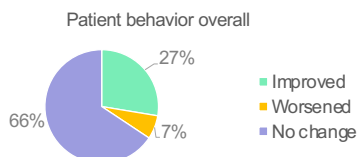
- Improvement of +1 in 31 patients
- Improvement of +2 in 6 patients

No change in behavior was observed in 65.7% (n = 88)

Behavior worsened in 6.7% of patients (n = 9)

- Decrease of -1 in 8 patients
- Decrease of -2 in 1 patient

Overall, it was shown that most patients' behavior did not change with use of anxiolysis medication.



DISCUSSION

Anxiolytic premedication was not associated with a meaningful overall improvement in dental behavior, as most patients (65.7%) demonstrated no change in Frankl scores. Although 27.6% showed improvement, responses were inconsistent, and a small proportion worsened, suggesting limited reliability of anxiolytics as a standalone intervention.

Variability in outcomes may reflect differences in medication administration, timing, concurrent medications, and patient familiarity with the dental environment. Gender-based differences in response were observed, as well as variation between medications, with lorazepam (Ativan) appearing to yield greater improvement than diazepam (Valium). However, these findings are likely influenced by confounding factors, including the age-based prescribing protocol. Overall, anxiolytic premedication demonstrated inconsistent effects, underscoring the need for more controlled studies to better define its role in this population.

CONCLUSION

Anxiolytic premedication did not result in a consistent improvement in dental behavior, with most autistic pediatric patients demonstrating no change. While some subgroup differences were observed by gender and medication type, these findings were variable and likely influenced by confounding factors. Anxiolytics should not be relied upon as a sole behavior management strategy, and individualized, multimodal approaches remain essential. Further research is needed to clarify which patients, if any, may benefit most from anxiolytic premedication.

REFERENCES

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