

## Introduction

Pediatric dental specialists are often faced with the challenge of treating young patients who experience fear and anxiety related to dental treatment. The goals of behavior guidance are to manage patients' anxiety and behavior in order to provide safe and effective treatment, minimize psychological harm, and prevent future avoidance of dental care. While local anesthesia and inhalation nitrous oxide are some of the more commonly used and accepted pharmacological adjuncts, other forms of pharmacological management may be necessary at times.

Oral conscious sedation is often used to achieve mild sedation - a minimally depressed level of consciousness that retains the patient's ability to independently and continuously maintain an airway and respond appropriately to physical stimulation or verbal command.<sup>1</sup> According to the AAPD, indications for sedation include patients: who are fearful and anxious; for whom basic behavior guidance techniques have not been successful; who cannot cooperate due to lack of psychological or emotional maturity and/or mental, physical, or medical disability; and for whom the use of sedation may protect the developing psyche and/or reduce medical risk.<sup>2</sup>

While oral midazolam is consistently safe and widely-used for ASA-I and ASA-II patients,<sup>3</sup> a minority of adverse events may stem from the inability to titrate and predict sedation depth. With over-sedation, complications such as respiratory obstruction and even death may occur when providers are unable to resuscitate a patient.<sup>4</sup> Despite potential risks, multiple previous studies found the majority of parents still consider oral sedation to be generally safe and may even prefer it over general anesthesia when both options are presented.<sup>5,6,7</sup> However, with increased access to social media, news, and online information, and the media highlighting on the rare adverse events during dental sedations, public opinion may change.

## Objective

The purpose of this study was to assess:

1. Parental perceptions about oral conscious sedation for pediatric dental procedures, including the risks, benefits, and alternatives.
2. Their experience and satisfaction with their child's oral conscious sedation procedure.

## Hypothesis

Parents are most likely to have hesitations regarding safety prior to oral sedation procedure but feel satisfied with the experience afterward.

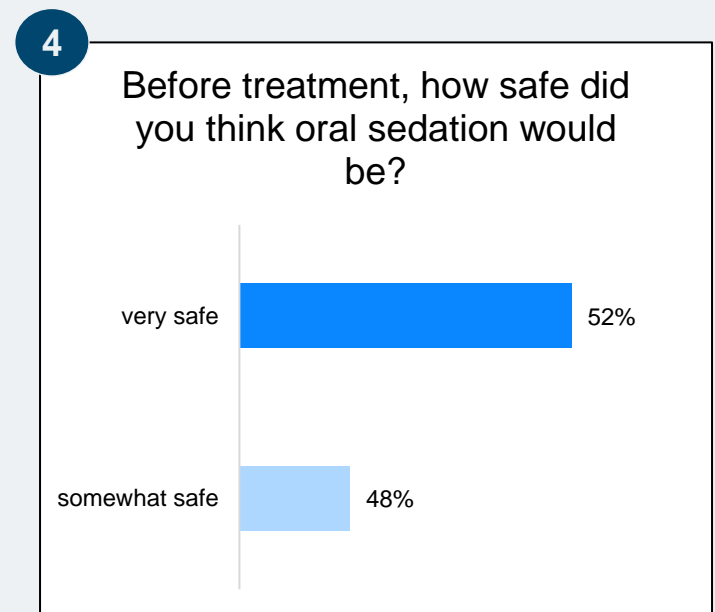
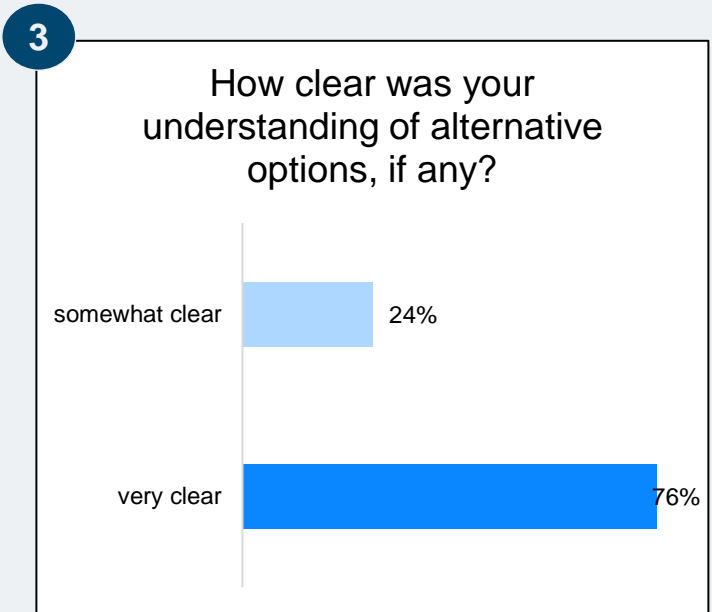
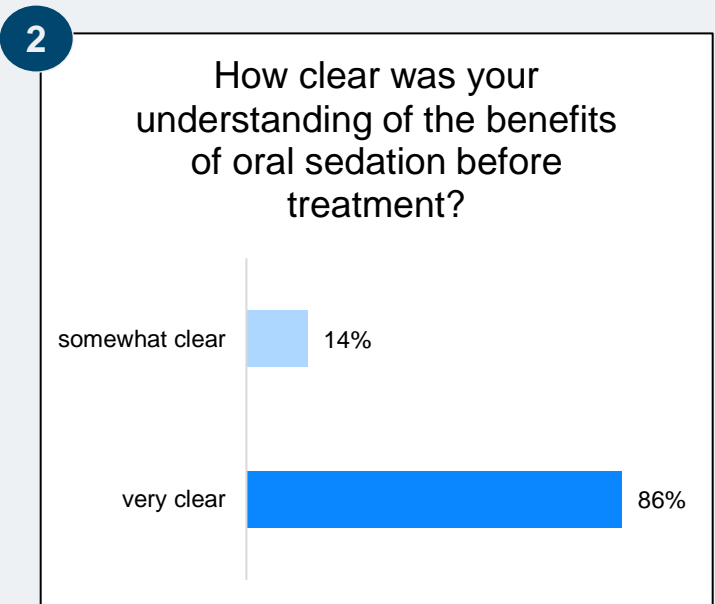
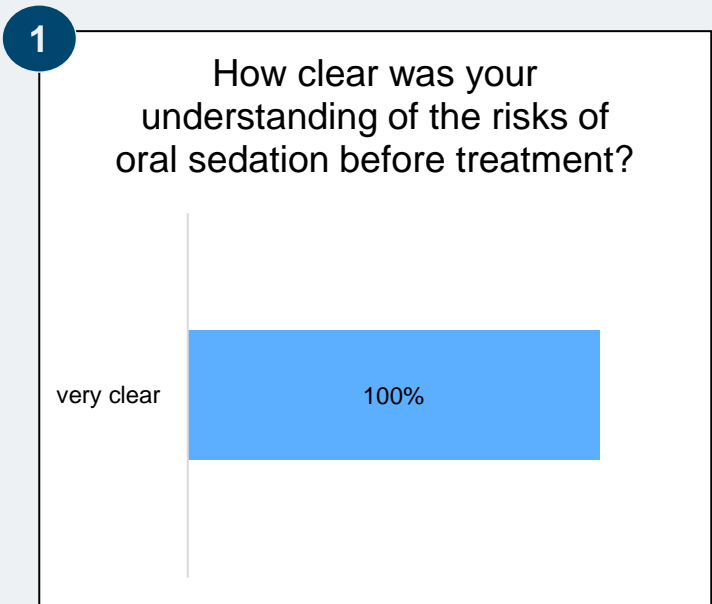
## Study Population

Parents of all patients who received dental treatment at Montefiore Pediatric Dentistry utilizing oral sedation from fall 2021 to spring 2022. There were no exclusions based on gender, race, or ethnicity.

## Study Design and Methods

A nine-question survey was given to parents of oral sedation patients who returned for post-sedation follow-up visit.

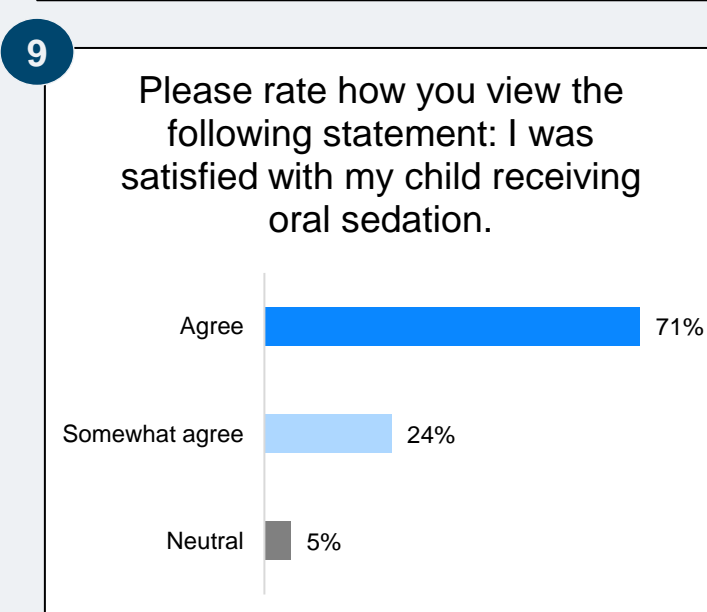
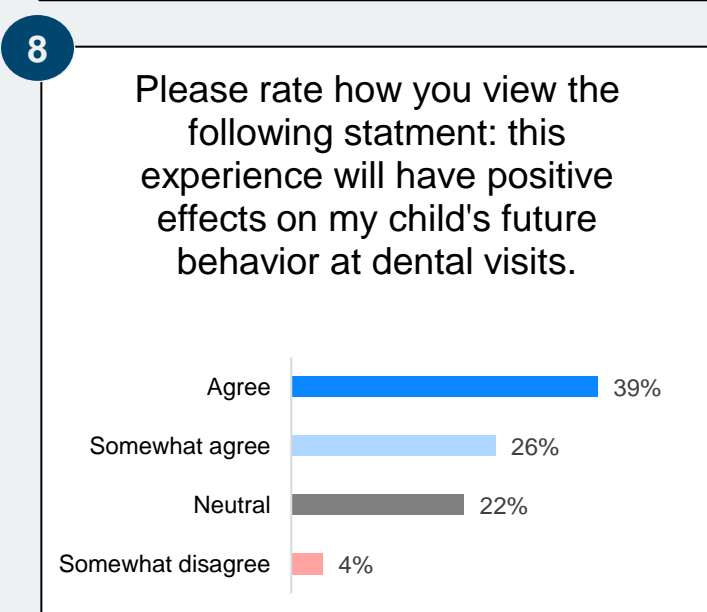
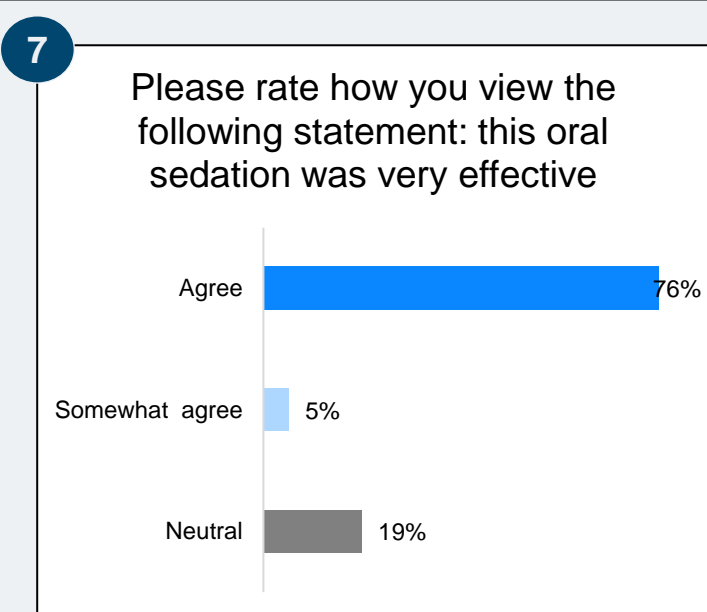
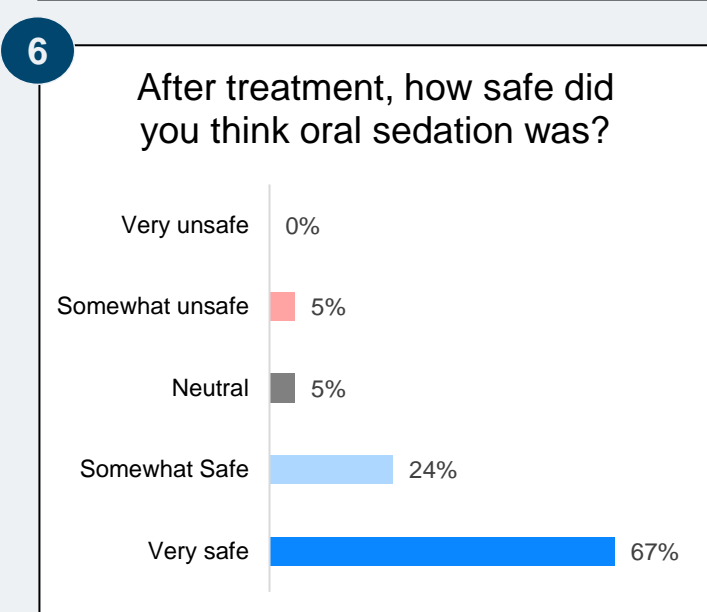
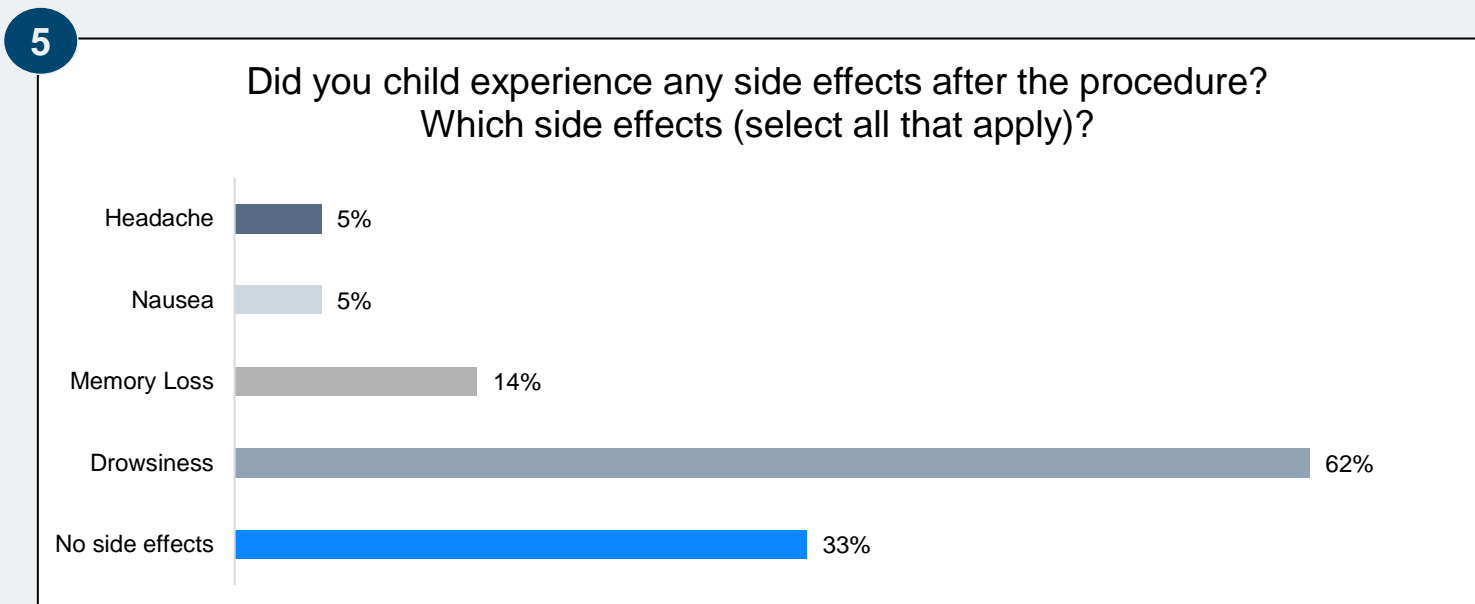
## Survey Responses



Q1-3:    Very Unclear    Somewhat Unclear    Neutral    Somewhat Clear    Very Clear

Q4,6:    Very Unsafe    Somewhat Unsafe    Neutral    Somewhat Safe    Very Safe

Q7-9:    Disagree    Somewhat Disagree    Neutral    Somewhat Agree    Agree



## Results

87 oral sedations were completed during the study period, and only 21 patients (24.1%) returned for a routine post-sedation follow-up visit and filled out the survey to completion. All parents (100%) responded that they felt very well-informed about the risks of oral sedation. The majority of parents felt very well-informed about the benefits (86%) and alternative treatment options (76%), while the remaining felt somewhat clear about the benefits (14%) and alternative treatment options (24%); no parents felt at all unclear about the benefits and alternatives. Before the procedure, 52% of the parents thought the procedure would be very safe, and the remaining 48% thought the procedure would be somewhat safe.

The most common post-operative side effect experienced was drowsiness (62%), followed by no side effects at all (33%), and memory loss (14%). Following sedation, 67% of parents still believed oral sedation was very safe. In terms of their overall experiences, 76% of parents strongly agreed that the oral sedation was effective, and 71% of parents were strongly satisfied with their child receiving oral sedation. However, in regard to the parents' belief about how much of a positive impact oral sedation would have on their child's future behavior at dental visits, 39% strongly believed it would have a positive effect, 24% somewhat believed it would have a positive effect, 22% felt neutral, and 4% somewhat disagreed.

## Discussion

All parents felt they had a very clear understanding of the risks of oral sedation, and at least a somewhat clear understanding of the benefits and alternatives. This may be due to the pre-operative protocols our residents follow when scheduling a patient for oral sedation. All of the parents felt the oral sedation would be somewhat safe (48%) or very safe (52%). Perhaps no one thought the procedure would be unsafe or else they would not have opted for this modality of treatment.

Following sedation, the majority of patients either experienced the expected side-effects (drowsiness, memory loss) or no side-effects at all. Only 5% of patients experienced negative side effects such as headache or nausea. No patients experienced severe side-effects like vomiting or fever. The minimal amount of post-operative side effects along with the completion of dental treatment probably contributed to the strong satisfaction levels of the overall experience.

The greatest variation in responses was when parents were asked if the sedation experience will have a positive effect on the child's future behavior at dental visits with 39% agreeing, 26% somewhat agreeing, 22% neutral and 4% somewhat disagreeing.

The small sample size (N=21) and poor follow-up rate (24.1%) were limitations to the study. The research was conducted during the Omicron wave of the COVID-19 pandemic, reducing the amount procedures completed.

Future studies conducted with a larger sample size may provide a more accurate view of parental attitudes toward oral sedation.

## Conclusion

Most parents felt they had adequate knowledge about oral sedation and felt it was a safe and worthwhile experience.

## References

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## Acknowledgements

We would like to thank the Montefiore pediatric dental residents for administering the survey to parents at follow-up visits.