

Effectiveness of Opioids vs. Benzodiazepines in Success Outcomes of Oral Conscious Sedations

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Introduction

- Oral conscious sedation is an advanced behavior management technique used in pediatric dentistry to perform dental procedures on children who may be anxious or unable to tolerate treatment through basic behavioral methods alone.
- Sedative selection may depend on the child's characteristics, procedure factors, and the clinician's skills and preferences.
- Commonly used medications for oral sedation at the NYU Langone Pediatric Residency in Tampa, Florida, include Midazolam, Diazepam, Hydroxyzine, and Meperidine.



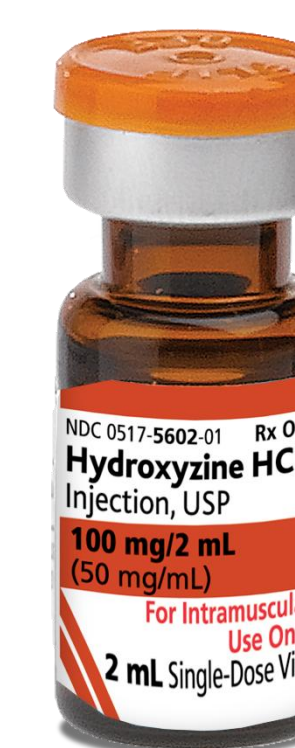
Objectives

- The purpose of this research project was to determine if there is a **difference in overall effectiveness of pediatric dental oral conscious sedations when utilizing one medication class over another.**
- The two medication classes that were compared in this research project include **benzodiazepines** (including Diazepam and Midazolam) and **opioids** (Meperidine).
- The outcomes of this study may help guide the selection of sedative medications, ultimately supporting better clinical decisions and improving treatment outcomes and oral health for pediatric dental patients.



Methods

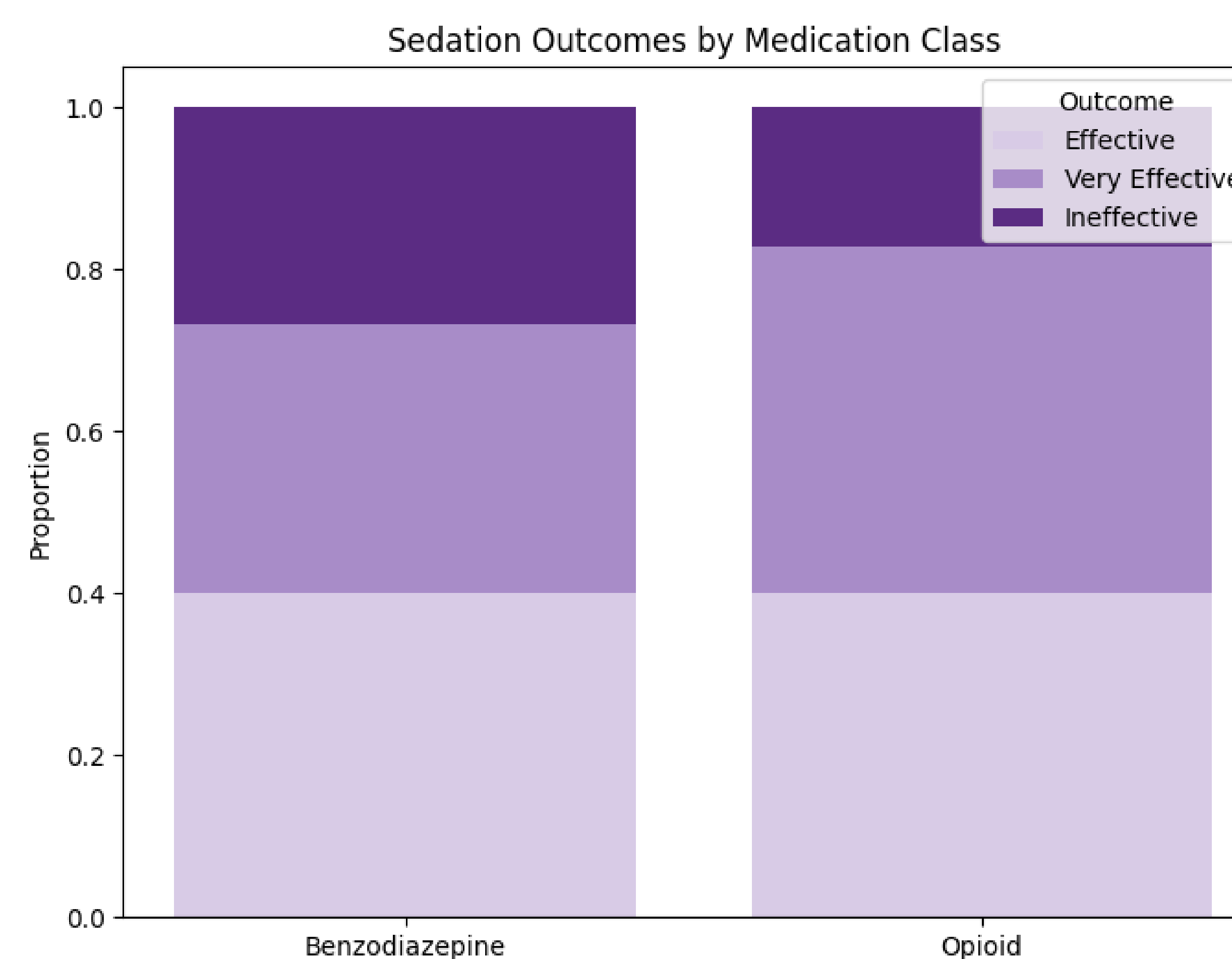
- The charts of a 100 patients who underwent oral conscious sedation by pediatric dental residents at Suncoast Community Health Centers were reviewed.
- To reduce the impact of confounding variables, only cases where **Hydroxyzine** was used as an adjunctive agent were included.
- Sedation outcomes were assessed using a three-tier scale: *ineffective*, *effective*, and *very effective*.
- Comparisons between regimens were analyzed using descriptive statistics and chi-square tests.



Results

- Opioid sedation showed a slightly higher rate of *very effective* cases, while benzodiazepine sedation had a higher proportion of *ineffective* cases, though these differences were **not** statistically significant.
- Overall, both regimens were successful, with satisfactory sedation achieved in most pediatric patients, **73.3%** in the benzodiazepine group and **82.9%** in the opioid group.

Characteristic	Benzodiazepine N = 30	Opioid N = 70	P-value ²
Patient Age	6.00 (5.00, 8.00)	7.00 (6.00, 8.00)	0.056
Effectiveness			0.5
Effective	12 (40%)	28 (40%)	
Ineffective	8 (27%)	12 (17%)	
Very Effective	10 (33%)	30 (43%)	



Conclusion

- This study suggests that both benzodiazepine and opioid-based oral sedation protocols are similarly effective in pediatric dentistry.
- The findings of this study suggest that the choice of oral sedation medication in pediatric dentistry is a **multifactorial** decision and may be influenced by the patient's characteristics, the operator's clinical judgment and experience, and the procedural context.
- The present data indicate that sedation success cannot be attributed solely to medication class, but consideration should also be given to pharmacologic selection, patient behavior, and procedure itself.
- Further research is recommended to explore additional variables that may influence the success of oral conscious sedation in pediatric patients.



Acknowledgments

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Selected References

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