

Oral Sedation Effectiveness with Midazolam/Hydroxyzine Regimens in a Pediatric Dental Residency Program

Motavalli A, Kurian S, Schultz K, Bowers M

Department of Pediatric Dental Medicine – Donald and Barbara Zucker School of Medicine at Hofstra/Northwell)

Introduction

Many dental providers refer pediatric patients to other specialty dental offices to perform treatment under oral sedation. These referring doctors often do not screen these patients medically or behaviorally. This study's purpose is to observe how the analysis of pre-sedation variables (age, Frankle scale behavior, cooperation level, behavior interaction) in the pediatric patient population can result in a more successful sedation appointment. Our definition of a successful sedation appointment is completing the proposed treatment safely and with minimal disruption from the patient during treatment. This data will help us with appropriate patient selection for oral sedation cases. This study aims to help limit negative experiences in the dental chair for children.

Methods

In this retrospective study, cases using a cocktail mixture of midazolam/hydroxyzine were reviewed by running a report of the Oral Conscious Sedation Code (D9248) in the Northwell - Cohen's Children Medical Center Pediatric Dental Clinic. Data reviewed in the 79 cases included age, pre-sedation cooperation level, pre-sedation behavior interaction, pre-sedation Frankl behavior score, patient's ability to take medication at-home well, day-of sedation cooperation level, day-of sedation behavior interaction, day-of sedation Frankl behavior score, overall sedation level, and overall effectiveness of sedation. The data collected was analyzed using Chi-squared probability tests (significant level 0.05). We hypothesized that patients with a better pre-sedation cooperation level, approachability, and Frankl behavior score were more likely to have successful sedation.

Figure 1

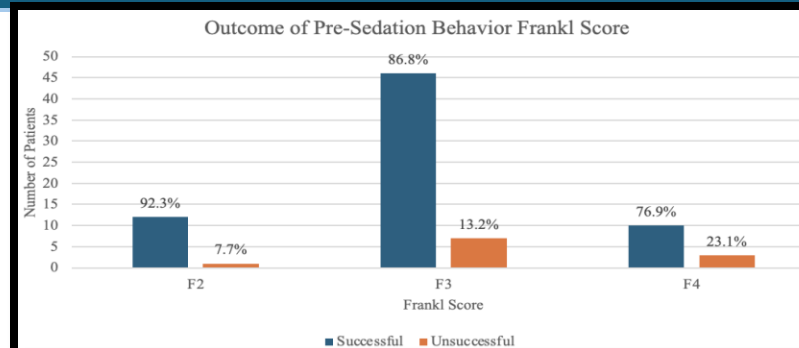


Figure 2

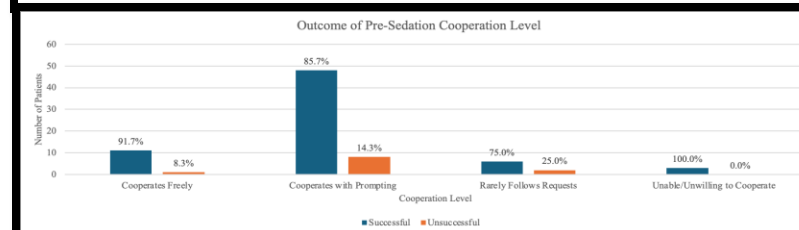
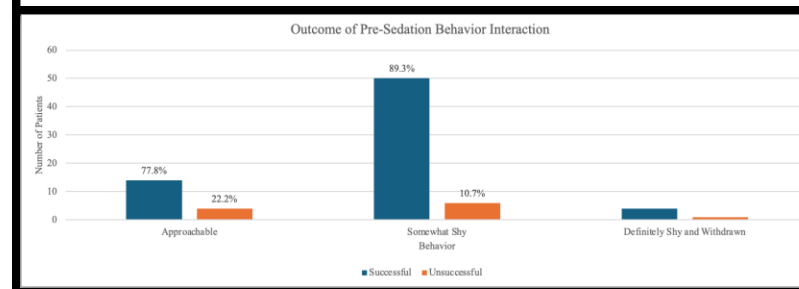


Figure 3



Results/Discussion

The chi-square tests run for the sample data (tables 1-5) show a non-significant association, meaning the proportion of successful outcomes within each treatment bucket are similar indicating no clear trend; however, this doesn't mean there is no association. Given a larger sample size, these proportions could see a greater differentiation. For the sample data of table 6, we do see increasing proportions of successful outcomes as we move up in Frankl Score, which is further advocated with our rejection of the null hypothesis. Further studies need to be performed to overcome the multiple limitations present in this study, which include having a small sample size, various practitioners referring for sedation in the clinic, and pre-screening candidates prior to sedation appointments (patients were not randomly selected for sedation). If sedation was unsuccessful, patients were referred for general anesthesia.

Figure 4

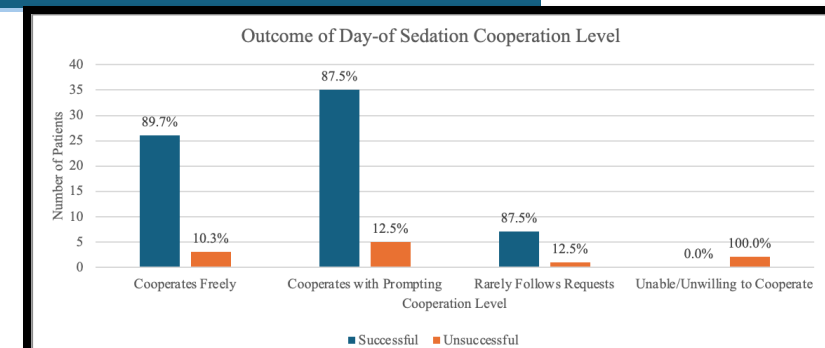


Figure 5

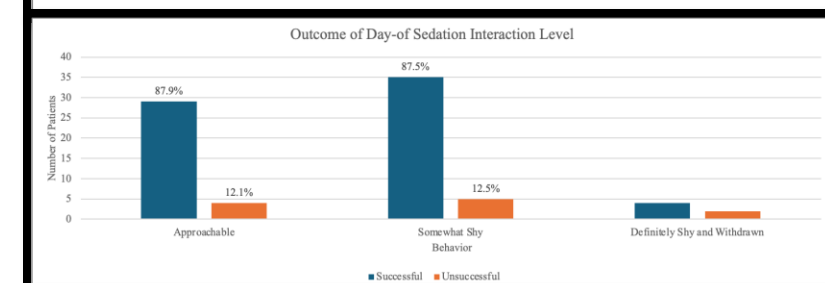
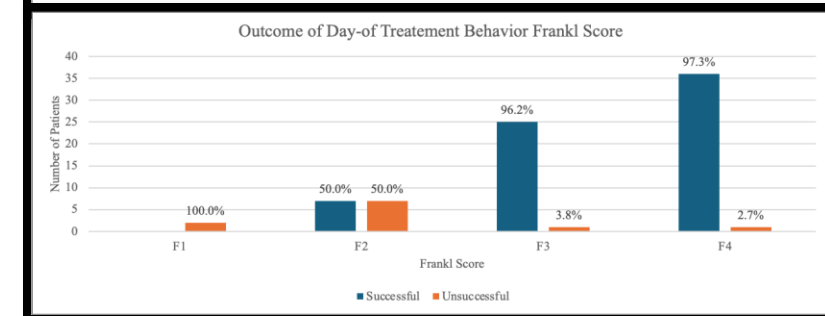


Figure 6



Conclusion

Conclusion: Overall, pediatric dental patients need to undergo proper medical and behavioral screening to be deemed appropriate sedation candidates.

References

