"The Impact of Previous Negative Dental Experiences on Oral Conscious Sedation"

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Introduction

Oral conscious sedation is utilized by pediatric dentists to help minimize anxiety and mitigate uncooperative behavior of children during dental treatment[1]. Since failed sedations can result in a negative outcome for the child, it is essential to rely on sedation outcome predictors to best set up patients for successful outcomes. Factors such as gender, age, temperament, willingness to swallow medicine, impulsivity, and drug regimens have all shown to serve as predictors for sedation outcomes [2-6].The aim of this study is to determine if a previous negative dental experience can aid as a predictor for "failed" or "poor" outcomes of oral conscious sedation for children receiving dental treatment. The research hypothesis is that "children with a failed operative appointment or previous negative dental experience, are more likely to have a poor or failed outcome of oral conscious sedation." By understanding and broadening our knowledge on the predictors of failed sedations, providers can improve their ability to safely screen and select patients who will successfully undergo oral conscious sedation for dental treatment.

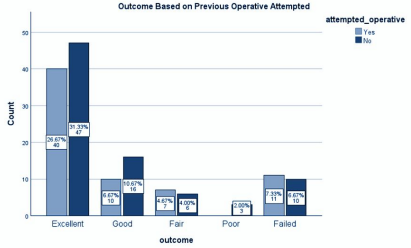
Methods

This retrospective study was completed after approval from the Colorado Multiple Institutional Review Board (#22-2144). Data was retrieved from previously completed oral conscious sedations utilizing Demerol with either Hydroxyzine or Phenergan, at Denver Health Medical Center, and 150 subjects fit the inclusion criteria. Records were reviewed to include patient demographics, medical histories, dental history including previous treatments and associated Frankl Scores, as well as sedation regimens and outcomes. Descriptive statistics were used to analyze the recorded data, and a Pearson Correlation test was used to assess whether previous operative attempted and operative Frankl scores (1 to 4) were related to the level of sedation outcomes (excellent, good, fair, poor, failed).

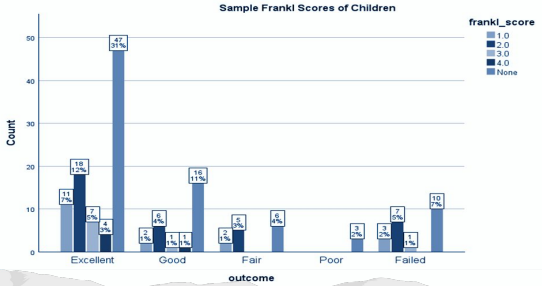
Results

Demographics: 150 patients in the dataset ranged from ages 2 to 9, with an average age of 5 years and a standard deviation of 1.53. 52.7% (n=79) were male and 47.33% (n=71) were females.

Sedation Outcomes: Out of the 150 samples in the data, 58% (n=87) had an excellent outcome, 17.3% (n=26) had a good outcome, 8.67% (n=13) had a fair outcome, 2% (n=3) had a poor outcome, and 14% (n=21) had a failed sedation outcome.



Frankl Scores & Sedation Outcomes: Of the subjects that had an excellent sedation outcome with a prior operative attempted, 72.5% had a previous negative dental experience classified with a Frankl 1 or 2 (n=29), and 27.5% had a previous operative attempted that was classified as a positive experience of either Frankl 3 or 4. Furthermore, of the patient's with a previous negative dental experience classified by a Frankl 1 or 2 (n=54), 81.5% had a "successful" sedation outcome.



Discussion

The study's analysis is based on a relatively small sample size of 150 children, which may constrain the generalizability of its findings to a larger population. The current study endorses the idea that children with no prior operative treatment are more likely to have an excellent sedation outcome, however children with previous negative dental experiences can still have successful sedations. Therefore, oral conscious sedation can be considered a useful tool for pediatric dental providers aiming to complete treatment on patients who have previously failed operative utilizing nitrous or non-pharmacological behavior management techniques.

Conclusions

1. Oral conscious sedation can be considered a useful tool for pediatric dental providers aiming to complete treatment on patients who have previously failed operative while utilizing nitrous or non-pharmacological behavior management techniques.
2. Patients with no prior dental treatments had the highest percentage of "excellent" and "good" sedation outcomes.
3. A previous operative attempt may have a negative effect on the outcome of an oral sedation prior to an operative procedure; although no statistically significant evidence.
4. Providers should take into account Frankl Scores when screening a patient for sedation, as a more positive Frankl score can correlate to a more positive and predictable sedation experience; however patients with poor Frankl scores showed a wide variety of outcomes for oral sedation.

References:

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