ORAL SEDATION WITH BENZODIAZEPINE IN DISABLED PEOPLE FOR DENTAL TREATMENT: A SAFE AND EFFECTIVE APPROACH

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INTRODUCTION

DENTAL CARE FOR PATIENTS WITH SPECIAL NEEDS (PSNS)
Presents unique challenges, particularly in ensuring patient cooperation.

FACTORS THAT CAN HINDER PATIENT COOPERATION
Fear, anxiety, or limited intellectual development

CONSCIOUS SEDATION IS A VIABLE ALTERNATIVE
When psychological conditioning methods may be insufficient

ORAL BENZODIAZEPINES (BZDS)
Reduces anxiety, fear, nausea, and salivary flow, promoting cooperation and minimizing trauma.

Acts on the central nervous system, providing sedation with minimal cardiovascular and respiratory effect.

Common BZDs: Diazepam, Lorazepam, Midazolam, and Triazolam.

AIM

The objective of this study is to evaluate the contribution of conscious sedation with benzodiazepines at dental care for patients with special needs, demonstrating the indication, safety and efficacy of this technique.

MATERIALS AND METHODS

40 patients treated

Dental Center for Special Patients of the Brazilian Dental Association

Between the years of 2015 and 2016

PATIENTS INCLUDED
Severe fear or anxiety, neuromuscular disorders, or intellectual disabilities

Midazolam at doses of 7.5 or 15 mg or with titration based on application of 0.5 mg/kg, limited at 20 mg per consultation

Blood pressure, heart rate and oxygen saturation were monitored in the pre, trans and postoperative periods, at intervals of 15 minutes between each.

The demographic and clinical data collected from patients corresponded to sex, skin color, age, body mass and diagnosis

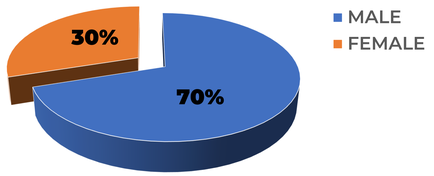
The study used SPSS (version 22.0) for statistical analysis. Descriptive statistics included standard deviations, minimum-maximum, and median values. The Student's t-test assessed differences in continuous variables, with p≤0.05 considered significant.

This study was approved by the Research Ethics Committee of the Hospital Universitário Pedro Ernesto, Universidade do Estado do Rio de Janeiro (HUPE/UERJ) with the number CAAE: 24279314.1.00005259.

RESULTS

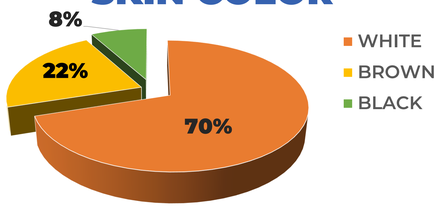
The study included 40 patients, predominantly male (70%) (Grafic 1), and mostly white (70%) (Grafic 2), with ages ranging from 6 to 73 years (average 18 years) (Grafic 3). The mean body mass was 46 kg, with males averaging 55 kg (Grafic 4). Autism was the most common condition (28%), followed by intellectual disability (15%) and Down syndrome (12%) (Grafic 5). The most frequent dental procedures were restorations (32%) and extractions (30%) (Grafic 6).

GENDER



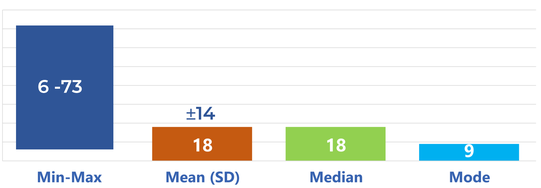
Grafic 1 – Participants gender, with a prevalence of males.

SKIN COLOR



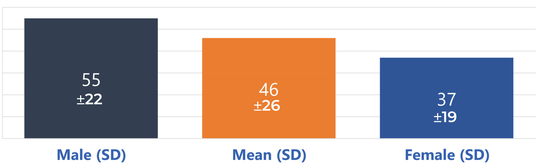
Grafic 2 – Skin color of participants, with a prevalence of white skin.

AGE (YEARS)



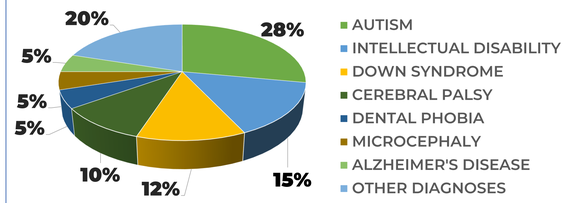
Grafic 3 - Participants age, with an average of 18 years old.

BODY MASS (KG)



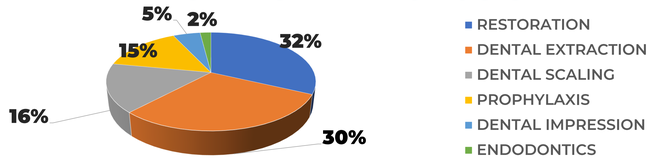
Grafic 4 – Body mass of the participants

CLINICAL DIAGNOSIS



Grafic 5 – Participants clinical diagnosis, with autism being the most common condition

CLINICAL DIAGNOSIS



Grafic 6 – Participants clinical diagnosis, with restoration and extractions being the most common conditions

During monitoring, there was a mean decrease of 2 mmHg in systolic blood pressure, 1 mmHg in diastolic blood pressure, and 6 bpm in heart rate on average, from preoperative to intraoperative periods. There was a statistically significant reduction in systolic and diastolic blood pressure parameters, as well as heart rate, between the pre and postoperative periods, demonstrating the efficacy of BZDs in anxiety control (Table 2). There was a statistically significant reduction in blood pressure and heart rate ($p<0.01$, Student's t-test), with maintenance of satisfactory levels of oxygen saturation. In most cases (83%), sedation was shown to be safe and effective, as reported by professionals.

PARAMETERS	PREOPERATIVE	TRANS-OPERATORY	POSTOPERATIVE	P*
ARTERIAL SYSTOLIC PRESSURE	116 mmHg	117 mmHg	118 mmHg	p=0.01
ARTERIAL DIASTOLIC PRESSURE	80 mmHg	79 mmHg	73 mmHg	p=0.01
HEART RATE	92 bpm	83 bpm	82 bpm	p=0.01
OXYGEN SATURATION	97%	98%	98%	Not significant

bpm = beats per minute. p* = value of p≤0.05.

CONCLUSIONS

In conclusion, benzodiazepine sedation, when well employed, is a safe and effective technique, constituting an option for ambulatory care of patients with special non-cooperative needs. However, thorough knowledge of this technique, its risks and benefits, and the monitoring of vital signs (blood pressure, heart rate and oxygen saturation) of the patient are essential.

REFERENCES

1. Salerno C, et al. Conscious Sedation for Dental Treatments in Subjects with Intellectual Disability: A Systematic Review and Meta-Analysis. Int J Environ Res Public Health. 2023.18;20(3):1779.

2. 1. Chavez EM, Wong LM, Subar P, Young DA, Wong A. Dental Care for Geriatric and Special Needs Populations. Dent Clin North Am. 2018;62:245-67.

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