Abstract:

**Objective:** To present comparative data with the aim of assisting the practitioner to choose between behavior modification (BM) techniques, pharmacologic sedation ($N_2O-O_2$ alone or combined with midazolam 0.5 mg/kg) or routine general anesthesia (GA) for the most successful approach in enabling pediatric dental care. **Study design:** Dental records of 56 children treated in a university dental clinic between 2006-2016 were reviewed, and data on age, gender, required treatment (amalgam restorations, composite restorations, pulpotomy, and stainless steel crowns [SSC]), treatment approaches and therapeutic success at final follow-up were retrieved.

**Results:** Treatment under GA had the best success rates compared to both BM and pharmacologic sedation. $N_2O-O_2$ alone had a 6.1-fold greater risk of failure compared to $N_2O-O_2+midazolam$ ($p <0.008$). Amalgam restorations had a 2.61-fold greater risk of failure than SSC ($p <0.008$). **Conclusions:** The GA mode yielded significantly greater success than the $N_2O-O_2$ mode alone. There were no significant differences in success rates between GA and combined midazolam 0.5 mg/kg+$N_2O-O_2$. When choosing restoration material, it is important to remember the high success rate of SSC compared to amalgam restoration.