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**Corresponding author:** Ravinder Saini

rsaini@kku.edu.sa

Author Affiliation: King Khalid University.

# INTRANASAL VERSUS SUBLINGUAL SEDATION IN PEDIATRIC DENTISTRY: A SYSTEMATIC REVIEW

Saini, R; Kaur, K; Heboyan, A.

#### **ADMINISTRATIVE INFORMATION**

Support - King Khalid University.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202550016

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 9 May 2025 and was last updated on 9 May 2025.

## INTRODUCTION

Review question / Objective To systematically compare the efficacy of intranasal versus sublingual sedation in pediatric dental patients.

**Rationale** Comparative performance between intranasal and sublingual methods remains underexplored.

**Condition being studied** Dental anxiety and uncooperative behavior in pediatric patients requiring sedation for dental procedures.

## **METHODS**

**Search strategy** Databases (PubMed, Embase, Scopus, Web of Science, Cochrane Library) searched using keywords related to pediatric dentistry, sedation, and specific routes/agents.

Participant or population Children (ASA I/II) undergoing dental sedation; excluded those with

severe medical conditions or requiring general anesthesia.

Intervention Intranasal sedation.

Comparator Sublingual/buccal sedation.

**Study designs to be included** Randomized controlled trials (RCTs) and non-randomized comparative studies; excluded case reports.

**Eligibility criteria** Direct comparison of intranasal vs. sublingual routes, English-language studies.

**Information sources** Electronic databases, manual reference checks, and review articles.

Main outcome(s) Sedation success and child cooperation.

Additional outcome(s) Onset time, route acceptance, adverse events.

**Data management** Dual independent extraction using standardized forms; discrepancies resolved via consensus.

**Quality assessment / Risk of bias analysis** Cochrane RoB 2.0 for RCTs; Newcastle-Ottawa Scale for non-randomized studies.

**Strategy of data synthesis** Narrative synthesis for qualitative data; meta-analysis (random-effects model) for quantitative outcomes.

Subgroup analysis By sedative agent and study design.

**Sensitivity analysis** Exclusion of high-risk bias studies to assess result robustness.

Language restriction Only articles published in English.

Country(ies) involved Saudi Arabia, India.

**Other relevant information** PRISMA 2020 compliance; nitrous oxide use noted but not analyzed separately.

**Keywords** Paediatric dental sedation, intranasal midazolam, sublingual sedation, child cooperation, sedation onset, route acceptance, systematic review.

**Dissemination plans** Publication in peer-reviewed journals; implied conference presentations.

#### **Contributions of each author**

Author 1 - Ravinder Saini - Conceptualization, Methodology, Investigations. Email: rsaini@kku.edu.sa Author 2 - Kanwalpreet Kaur - writing original draft, scientific investigations. Email: kanwalpreet.k@rutgers.edu Author 3 - Artak Heboyan - Funding acquisition, Publications, Project administration. Email: heboyan.artak@gmail.com