

INPLASY

Impact of Different Toothpaste Ingredients on Dentin Hypersensitivity Relief: Systematic Review and Meta Analysis

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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: INPLASY202480074

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 August 2024 and was last updated on 15 August 2024.

INTRODUCTION

Review question / Objective To assess the desensitizing efficacy of some toothpastes which contain active ingredients.

Rationale This research intends to examine if there exists adequate proof demonstrating their efficacy versus negative controls using air blast test scores as measures for DH relief.

Condition being studied Tooth Paste Ingredients and Dentin Hypersensitivity.

METHODS

Search strategy Extensive search across four databases: PubMed, Cochrane, Dimensions.ai, and Google Scholar.

Participant or population Human participants diagnosed with dentin hypersensitivity.

Intervention Effectiveness of toothpaste ingredients.

Comparator Dentin hypersensitivity relief.

Study designs to be included Randomized controlled trials (RCTs), clinical trials.

Eligibility criteria Studies published in English. Studies published as original research articles.

Information sources PubMed, Cochrane, Dimensions.ai, and Google Scholar.

Main outcome(s) Stannous fluoride toothpastes are highly effective in reducing dentin hypersensitivity.

Additional outcome(s) NA.

Data management Microsoft Excel (Excel 365; Microsoft Corp., Redmond, WA, USA). For export and data manipulation, Google Sheets (Alphabet Inc., Mountain View, CA, USA) were also used.

Quality assessment / Risk of bias analysis Two researchers independently assessed the risk of bias of the included articles using —JBI critical appraisal tools. The potential risk of bias was categorized as low if a study provided detailed information pertaining to 70% or more of the applicable parameters.

Strategy of data synthesis Two review authors (RS and JH) used the studies to help select studies and document their decisions. This was done in two stages, with the first stage consisting of a title and abstract screening of all studies against the inclusion criteria, and the second stage being a full text assessment of papers that were deemed potentially relevant based on the initial screening. RS and AK, the review's authors, discussed and settled their differences by consensus after consulting the procedure.

Subgroup analysis The data was compiled from a variety of articles:

- Author(s), year of publication, country, study design.
- Total number of patients/datasets.
- Training/validation datasets.
- Test datasets.
- Aim of the study.

Sensitivity analysis None.

Language restriction Articles only in english were selected.

Country(ies) involved Saudi Arabia.

Other relevant information NA

Keywords Dentin hypersensitivity; Toothpaste ingredients; Stannous fluoride; Potassium nitrate.

Dissemination plans Data will be shared after the publication.

Contributions of each author

Author 1 - Ravinder Saini - Conceptualization, Original Drafting, Data Analysis.

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