INPLASY

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Role of Different Water Irrigation Devices on Gingival Health and Plaque Reduction: A 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: INPLASY202480085

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 18 August 2024 and was last updated on 18 August 2024.

INTRODUCTION

*R*eview question / Objective • What is the role of oral water irrigators in optimizing gingival health and reducing plaque.

Rationale • How can water irrigators be optimized to maximize their effectiveness in improving gingival health and reducing plaque.

Condition being studied Gingival Health, Plaque.

METHODS

Search strategy Conducted using the following keywords: Irrigation devices, portable irrigators, countertop irrigators, oral irrigators.

Participant or population Human Polupation.

Intervention Effectiveness of oral irrigators.

Comparator Manual Brushing.

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 Cochrane Library, Dimensions, Sciencedirect, Cinahl.

Main outcome(s) significantly reduced gingival inflammation and bleeding on probing in water irrigation than conventional toothbrushing alone.

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 The Risk of Bias in Non-randomised Studies - of Interventions (ROBINS-I) and the risk-of-bias visualization (Robvis 2.0) tools developed by the Cochrane Collaboration.

Strategy of data synthesis Two review authors (RS and KK) 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 , US.

Keywords Water Irrigation Devices; Gingival Inflammation; Plaque Reduction.

Dissemination plans Data will be shared after the publication.

Contributions of each author
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