

"Is Dental Implant Material a Risk Factor for Peri – Implantitis? A Systematic Review and Meta – Analysis of Clinical Studies"

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ADMINISTRATIVE INFORMATION

Support - The authors thank the Deanship of Scientific Research at King Khalid University, Abha, Saudi Arabia for supporting the present research study through (GRP/37/43).

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

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 30 August 2023 and was last updated on 30 August 2023.

INTRODUCTION

Review question / Objective To determine the following: Overall effect of dental implant material on the development of peri-implantitis.

Rationale Assessing whether there are differences in the risk of peri-implantitis among different materials used for dental implants.

Condition being studied Periimplantitis, Dental Implants.

METHODS

Search strategy A comprehensive literature search was conducted in the PubMed database using the MeSH keywords "Dental Implant Material" or "Dental Implantation"[Majr] combined with "Implantitis" or "Peri-Implantitis"[Majr].

Participant or population None the study is only related to the materials.

Intervention Intervention/ includes different types of materials used for dental implants, such as titanium, zirconia, or ceramic.

Comparator Periimplantitis.

Study designs to be included We took into account both descriptive (case control and cohort) and interventional (trials) based research that was written in English for this review.

Eligibility criteria 1. Research on implant materials and peri-implant inflammation in clinical trials, cohort studies, case-control studies, and cross-sectional investigations.

Information sources Pubmed, Web of Science, Medline, Google Scholar.

Main outcome(s) The findings of this investigation demonstrated that titanium implants exhibited greater effectiveness compared to zirconia implants in relation to marginal bone loss, probing depth, bleeding on probing, plaque index, and pink aesthetic score.

Additional outcome(s) The meta-analysis reveals that titanium has a somewhat higher mean value than zirconia in the specific situation.

Data management Descriptive statistical analysis of the research data was carried out using MS Excel 2021 (Microsoft Corporation, Redmond, Washington, USA), and meta-analysis was performed using Meta-Essentials 2017(16).

Quality assessment / Risk of bias analysis Two researchers independently assessed the risk of bias of the included articles using - JBI critical appraisal tools.

Strategy of data synthesis Two review authors (AK and RS) helped select studies and document the decisions. This was done in two stages , with the first stage consisting of 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.

Subgroup analysis The data was compiled from a variety of articles: Authors, Year of Publication; Total no of datasets; Training/ validation datasets.

Sensitivity analysis N/A.

Language restriction Articles only in English were Selected.

Country(ies) involved India , Saudi Arabia.

Other relevant information Supplementary files made in excel.

Keywords Dental Implants, Peri implantitis.

Dissemination plans All the data and article will be shared after the publication.

Contributions of each author

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