

Diabetes Management in Edentulous Patients
Receiving Prosthodontic/Denture Care: A
Systematic Review and Meta-Analysis

INPLASY202540111
doi: 10.37766/inplasy2025.4.0111
Received: 30 April 2025
Published: 30 April 2025

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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: INPLASY202540111

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 30 April 2025 and was last updated on 30 April 2025.

INTRODUCTION

Review question / Objective To evaluate how managing diabetes improves denture-related results in edentulous patients.

Rationale Diabetic edentulous patients face oral health challenges (e.g., poor glycemic control, delayed healing), but evidence-based guidelines for their prosthodontic care are lacking.

Condition being studied Type 2 diabetes, complete edentulism.

METHODS

Search strategy Google Scholar, PubMed, Cochrane Library, ScienceDirect, Scopus.

Participant or population Older adults with type 2 diabetes and edentulous patients undergoing prosthetic treatment.

Intervention Patient education, Glycemic control, dietary adjustments, denture modifications.

Comparator Routine dental care without targeted diabetes interventions.

Study designs to be included RCTs, prospective, cross-sectional, and in vivo studies with control groups.

Eligibility criteria Only English studies focusing on diabetic, complete edentulous patients included.

Information sources Major medical databases searched include PubMed, Cochrane Library, ScienceDirect, Scopus, and Google Scholar.

Main outcome(s) Oral mucosal health, denture stability, patient satisfaction, HbA1c levels.

Additional outcome(s) Cost-effectiveness and systemic glycemic control.

Data management Data extraction into standardized Excel forms ; quantitative data meta-analyzed in RevMan 5.4 software.

Quality assessment / Risk of bias analysis Cochrane RoB tool for RCTs; MMAT for non-RCTs.

Strategy of data synthesis Narrative synthesis for qualitative data; meta-analysis (RevMan 5.4) for quantitative data.

Subgroup analysis Compared outcomes between insulin users and non-users.

Sensitivity analysis Heterogeneity checks performed.

Language restriction Only studies published in English included.

Country(ies) involved Saudi Arabia, India.

Other relevant information Gaps in non-insulin interventions highlighted; calls for more long-term studies.

Keywords Diabetes, edentulous patients, diabetic edentulous patients, prosthodontic care, partial denture care, complete denture care.

Dissemination plans To publish findings in peer-reviewed dental and diabetes care journals.

Contributions of each author

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