

INPLASY

Immediate Loading Implants in Fixed Partial Dentures

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ADMINISTRATIVE INFORMATION

Support - No financial support.

Review Stage at time of this submission - Data analysis.

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 27 December 2024 and was last updated on 27 December 2024.

INTRODUCTION

Review question / Objective This review aims to study the current knowledge on immediate loading in fixed partial dentures, specifically in implant-supported rehabilitations for partially edentulous areas. The objective is to evaluate the survival rates of these rehabilitations to assess whether this minimally invasive approach is truly beneficial for addressing oral rehabilitation needs.

Background In modern dentistry, a tendency toward less invasive procedures seems to be predominant. The approach of using the least invasive surgical technique as much as possible, minimally invasive dentistry will effectively achieve its objectives and its therapeutic goals by reducing treatment durations and expenses, lowering postoperative pain and morbidity, and raising patient satisfaction.

Moreover, in dental implantology, the process of placing a dental prosthesis on an implant soon

after its surgical insertion—usually within 48 hours—is referred to as immediate loading. This method is in contrast to the conventional waiting time of many months, which is used before functional loading is administered while the alveolar bone integrates with the implant. Essentially, strict patient selection is necessary for immediate loading to provide adequate primary stability of the implant and ideal bone conditions. The accuracy of the surgical technique and the proper control of occlusal stresses to prevent micromovements that might jeopardize osseointegration that is crucial to the success of rapid loading.

Rationale Numerous studies have been conducted to evaluate the therapeutic success of immediate loading in full-arch restorations, using between three to four implants, as well as in single-tooth restorations in the anterior region. Immediate-loading implants have been shown to that it can help preserve bone and gingival architecture, preventing bone resorption and maintaining the natural gingival contour, which is

crucial for optimal aesthetic outcomes by integrating the principle of immediate loading into implantology practice, we adhere to the principles of minimal invasive dentistry, enhancing patient experience and optimizing clinical outcomes.

METHODS

Strategy of data synthesis An electronic search was carried out and a thorough search strategy was created based on the PICO criteria. The following is how the PICO question was phrased: What is the current knowledge about immediate loading implants in the posterior region of fixed partial dentures?

A comprehensive literature search was conducted on PubMed and Scopus databases to identify relevant studies. The search was limited to articles published in English from inception to the present. The exclusion criteria were set to letters to editors, Review articles, Animal studies, in Vitro study. Moreover, studies were excluded if the full text was unavailable or inaccessible. Two independent reviewers screened the titles and abstracts of the retrieved articles to identify potentially relevant studies. Full-text articles were then assessed for eligibility based on the inclusion criteria outlined above. The quality of included studies was evaluated using appropriate quality assessment tools, such as the ROBINS I for evaluate Prospective and retrospective study. RoB 2 Tool for randomized controlled trials.

Eligibility criteria Studies were selected focusing on partially edentulous patients in the posterior or anterior regions, either in the mandible or maxilla, where implants were placed along with the simultaneous positioning of a provisional prosthesis. Partially edentulous patients in the posterior, anterior regions, in the mandible or maxilla. Placement of implants and simultaneous positioning of the provisional prosthesis.

Source of evidence screening and selection

From the selected articles, we gathered the following information: the names of the author(s), the publication year, the country of origin, and the study design. We also noted the total number of patients included in the interventional studies. Additionally, we documented the study's aim, conclusions, and outcomes reported by the authors. From the selected articles, we gathered the following information: the names of the author(s), the publication year, the country of origin, and the study design. We also noted the total number of patients of the interventional studies. Additionally, we documented the study's aim and the conclusions and outcomes reported

by the authors. The scoping review protocol outlines the process for source selection at all stages. This includes the initial screening of titles and abstracts, followed by a full-text review. Any disagreements between reviewers during the selection process were resolved through discussion and consensus. If a consensus could not be reached, a third reviewer was consulted to ensure a balanced and unbiased decision-making process.

Data management All the collected data were statistically analyzed, with a particular focus on evaluating whether there is a statistically significant difference in survival rates between the upper and lower arches. Additionally, differences in survival rates between anterior and posterior sectors were also analyzed.

Language restriction English.

Country(ies) involved Italy, Saudi Arabia.

Keywords Immediate Loading, Fixed Partial Dentures, Dental Implants, Oral Rehabilitation.

Contributions of each author

Author 1 - Giuseppe D'Albis - Drafted the manuscript and was involved in all phases of the study, including the design, conceptualization, literature search, data collection, statistical analysis, and interpretation of results.

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Author 2 - Abdulrahman Omar Alrashadah - Conducted the literature search, data collection, and statistical analysis. Provided critical revisions to the manuscript and contributed to the interpretation of results.

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