

Improvement in Oral Health-Related Quality of Life of Adult Patients After Rehabilitation With Partial Dentures: A Systematic Review and Meta-Analysis

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Abstract : Background: Loss of teeth has a negative influence on essential oral functions such as phonetics, mastication, and aesthetics. Dentists treat people with prosthodontic rehabilitation to recover essential oral functions. The oral health quality of life inventory reflects the success of prosthodontic rehabilitation. In many countries, the current conventional care delivered to replace missing teeth for adult patients involves the provision of removable partial dentures. Aim: The aim of this systematic review and meta-analysis is to gather the best available evidence to determine patients' oral health-related quality of life improvement after treatment with partial dentures. Methods: We searched electronic databases from January 2010 to September 2019, including PubMed, ProQuest, Science Direct, Scopus and Google Scholar. In this paper, studies were included only if the average age was 30 years and above and also published in English. Two reviewers independently screened and selected all the references based on inclusion criteria using the PRISMA guideline, and assessed the quality of the included references using the Joanna Briggs Institute quality assessment tools. Data extracted were analyzed in RevMan 5.0 software, the heterogeneity between the studies was assessed using Forest plot, I² statistics and chi-square test with a statistical P value less than 0.05 to indicate statistical significance. Random effect models were used in case of moderate or high heterogeneity. Four studies were included in the systematic review and three studies were pooled for meta-analysis. Results: Four studies included in the systematic review and three studies included in the meta-analysis with a total of 285 patients comparing the improvement in oral health-related quality of life before and after rehabilitation with partial denture, the pooled results showed a better improvement of oral health-related quality of life after treatment with partial dentures (mean difference 5.25; 95% CI [3.81, 6.68], $p < 0.00001$) favoring the wearing of partial dentures. In order to ascertain the reliability of the included studies for meta-analysis risk of bias was assessed and found to be low in all included studies for meta-analysis using the Cochrane collaboration tool for risk of bias assessment. Conclusion: There is high evidence that rehabilitation with partial dentures can improve the patient's oral health-related quality of life measured with Oral Health Impact Profile 14. This review has clinical evidence value for dentists treating the expanding vulnerable adult population.

Keywords : meta-analysis, oral health impact profile, partial dentures, systematic review

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