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Original article

Location of prosthodontic treatment and oral health-related quality of life – An exploratory study



Smitha Sukumar BDS, MSc, FRACDS^a, Mike T. John DDS, MPH, PhD^b,
 Oliver Schierz DDS, Dr Med Dent^c, Ghazal Aarabi DDS, Dr Med Dent^a,
 Daniel R. Reissmann DDS, Dr Med Dent^{a,b,*}

^a Department of Prosthetic Dentistry, Center for Dental and Oral Medicine, University Medical Center Hamburg-Eppendorf, Martinistrasse 52, 20246 Hamburg, Germany

^b Department of Diagnostic and Biological Sciences, School of Dentistry, University of Minnesota, 515 Delaware Street SE, Minneapolis, MN 55455, USA

^c Department of Prosthodontics and Materials Science, University of Leipzig, Liebigstrasse 10-14, 04103 Leipzig, Germany

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ABSTRACT

Purpose: Prosthodontic treatment has a positive effect on oral health-related quality of life (OHRQoL); however, there is a paucity of studies assessing the impact of OHRQoL based on where in the mouth (“location”) the treatment is performed. This exploratory study investigated the association of the location (anterior, posterior region) of prosthodontic treatment with magnitude and nature of OHRQoL changes.

Methods: In this non-randomized prospective clinical study, 190 adult patients (17–83 years) were recruited at baseline and 104 were available for the follow-up analyses. Of those, 50 patients received treatment only in the posterior segment and 54 patients in both anterior and posterior regions. Treatment included conventional fixed partial prostheses, removable prostheses or a combination of both. OHRQoL was assessed with the German language version of the 49-item Oral Health Impact Profile (OHIP) at baseline and the questionnaire was repeated 4–6 weeks post-treatment. Magnitude and effect size of changes in summary and sub-scale scores were calculated and data analyzed.

Results: Patients experienced a substantially impaired OHRQoL (mean OHIP score: 32.3 points) at baseline and an improvement in OHRQoL of 6.8 OHIP points following treatment. This study showed a greater improvement in OHRQoL in patients treated in both regions compared to those treated in the posterior region alone, especially in the function and aesthetic domains.

Conclusions: This explorative study suggests that OHRQoL improvement is affected by where prosthodontic treatment is performed in the mouth. Greater understanding of qualitative aspects of reconstructive therapies is needed for improved treatment planning and patient consent.

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* Corresponding author at: Department of Prosthetic Dentistry, Center for Dental and Oral Medicine, University Medical Center Hamburg-Eppendorf, Martinistrasse 52, 20246 Hamburg, Germany. Tel.: +49 40 7410 53267; fax: +49 40 7410 54096.

E-mail address: d.reissmann@uke.de (D.R. Reissmann).

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1. Introduction

It is well established that quality of life (QoL) assessments of treatment modalities are both valid and necessary for a comprehensive evaluation of treatment outcomes [1]. Studies have utilized oral health-related quality of life (OHRQoL) measures to assess perceived benefits of treatment amongst patients [2,3]. Prosthodontic treatment in general has a large positive effect on OHRQoL with clinically relevant and statistically significant observed treatment effects [4-8]. However, prosthodontic therapy is a heterogeneous group of treatments which may be distinguished by type of prosthesis (removable or fixed), type of denture-bearing structure (implant, tooth, mucosa), or location where the treatment is performed (anterior, posterior region). OHRQoL assessments have demonstrated differences between types of prostheses in favour of fixed prosthesis [4,5,7]. On the other hand, where the treatment is/will be performed, may also be clinically relevant for the perceived change in OHRQoL.

To date, only a few studies have investigated the implications of the location of prosthodontic treatment on OHRQoL. A recent Danish study investigated the effects of removable and fixed prosthodontic treatment on the change in OHRQoL in relation to location - aesthetics (anterior region) and mastication (posterior) [9]. They found that partial removable dental prostheses (RDP) replacing posterior teeth did not result in a significant improvement in OHRQoL. Moreover, OHRQoL deteriorated in patients who had treatment (fixed or removable) in the anterior region. This is supported by an earlier study, which reported a decrease in OHRQoL post-cosmetic treatment (orthodontics, crowns, veneers and bleaching) of anterior teeth [10]. Levi et al. came to the conclusion that patient satisfaction with anterior maxillary implant treatment was multidimensional, taking into account both aesthetics and function (speech and chewing ability) [11]. In the posterior region, investigators measured QoL in patients with unilateral

mandibular distal edentulism who were treated with implant-retained fixed dental prostheses (FDP), RDP and those who had no treatment at all [12]. Implant patients reported a better QoL compared to the other two groups. A subsequent study examined the effects of posterior prosthodontic treatment on OHRQoL and found that OHRQoL improved dramatically in elderly patients treated with conventional and implant-retained FDP [13]. Thus the location of prosthodontic devices is likely to have an influence on OHRQoL and hence is clinically relevant.

The aim of this study was to investigate the association of location of prosthodontic treatment with the change (magnitude and nature) in OHRQoL.

2. Materials and methods

2.1. Subjects and setting

In this non-randomized prospective clinical study, a consecutive sample of 190 adult patients (17-83 years) was recruited from the Department of Prosthodontics and Materials Science, University of Leipzig (Leipzig, Germany) between July 2005 and June 2006. Patients did not undergo a screening process, thus, the sample was representative of patients attending a university-based prosthodontic clinic over the course of one year. One hundred and twenty-three (64.7%) of the 190 initially recruited patients completed prosthodontic treatment (Fig. 1). Patients who only received treatment in the anterior region ($n = 4$) were excluded from the further analyses, as the sample size was deemed insufficient to provide a meaningful result. Only patients without a treatment-related change in prosthesis status were included in the follow-up analyses to make sure that OHRQoL changes are only due to the treatment and not due to a change in prosthodontic status, resulting in 104 patients (posterior only: $n = 50$; anterior and posterior: $n = 54$) for the analyses.

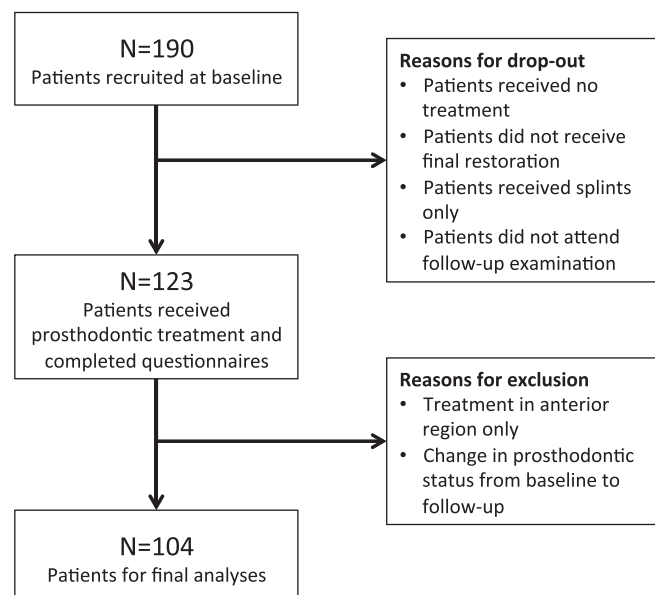


Fig. 1 – Patient recruitment for study: reasons for drop-out and exclusion from final analyses.

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