Implant-supported restorative therapy in a Swedish population
Complications and cost evaluations

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av

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I. Karlsson K, Derks J, Håkansson J, Wennström JL, Molin Thorén M, Petzold M, Berglundh T (2018). Technical complications following implant-supported restorative therapy performed in Sweden. Clinical Oral Implants Research 29: 603-611.

II. Karlsson K, Derks J, Håkansson J, Wennström JL, Petzold M, Berglundh T (2019). Interventions for peri-implantitis and their effects on further bone loss: A retrospective analysis of a registry based cohort. Journal of Clinical Periodontology 46: 872-879.

III. Karlsson K, Derks J, Wennström JL, Petzold M, Berglundh T (2020). Occurrence and clustering of complications in implant dentistry. Clinical Oral Implants Research 31: 1002-1009.

IV. Karlsson K, Derks J, Wennström JL, Petzold M, Berglundh T (2021). Health economic aspects of implant-supported restorative therapy. Manuscript.

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Abstract

Replacing missing teeth through implant-supported restorative therapy is a common treatment procedure. While high survival rates have been reported, complications affecting the implant and/or the implant-supported reconstructions may occur. Such biological or technical complications require additional investment in treatment.

The aim of this thesis was (i) to evaluate the occurrence, consequences and possible clustering of implant-related complications, (ii) to assess interventions offered to patients diagnosed with advanced peri-implantitis and (iii) to evaluate costs associated with implant-supported restorative therapy and complications. All evaluations were performed in a Swedish population provided with implant-supported restorative therapy under everyday conditions, and based on analyses of patient records including radiographs.

Out of a cohort of 596 subjects, the proportion of patients experiencing technical and/or biological complications over a 9-year period was 42% **(Study III)**. One out of four patients experienced technical complications, chipping being the most common. The extent of restorative therapy was the strongest risk indicator for technical complications **(Study I)**. Patients diagnosed with peri-implantitis (n = 98) rarely received surgical therapy. Non-surgical interventions were insufficient in arresting disease progression **(Study II)**. Accumulated costs during the observation period were significantly higher in patients with full-jaw restorations compared to patients with partial-jaw and single-tooth restorations. Among all complications, implant loss generated the greatest additional costs **(Study IV)**.

Keywords: dental implant, complication, peri-implantitis, risk factors, interventions, cost.

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