**Abstract**

**Title:** System to support decission making in dental implantology – quality of life of patients with dental implants
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Dental implants are the method of choice in the treatment of missing tooth/teeth replacement. Implant therapy must be preceded by a detailed examination and the overall treatment plan. As an aid for decision-making for dentists was created decision-making scheme, which gradually, logically and schematically guides the dentists in this particular situation. Health is closely related to the quality of life. Our work evaluates the oral health-related quality of life (OHRQoL) of patients with dental implants. The aim of our study was to determine whether treatment with a dental implant(s) improve(s) OHRQoL. We created a questionnaire to determine the quality of life before and after implantation. In our study, we evaluated only patients who were treated by the only one implantological system to eliminate the influence of other systems on the quality of the results of the study; we evaluated a total of 297 implants. It was assessed a total of 97 completed structured questionnaires that were sent by mail. The evaluation questionnaire was used for pairwise comparison of the five-point Lickert scale describing the frequency of problems before and after implantation, and comparing scores before and after OHRQoL implantation in two domains - functional and aesthetic. Then it was measured total OHRQoL that included changes in OHRQoL in all 12 issues of questionnaire. For evaluation of our study we used advanced statistical tests. In both domains - aesthetic and functional, it was observed significant improvement in OHRQoL due to implant in patients with at least one implant in the frontal area. In the aesthetic domain, there was discovered further improvements in conjunction with the increasing number of implants in the frontal area, the patient's interest in his/her professional and personal appearance. Also, marital status has changed significantly influence on OHRQoL. The functional domain further improvement was observed in patients who reported problems with grinding/chewing as one of the reasons to have implant surgery, there was also found a link between the number of implants in the frontal area and improved mental state. Marital status also had an impact on OHRQoL of patients treated by implant. Multivariate analysis helped us to find a model independent

variables responsible for the differential prediction score values in different domains of QoL (the number of implants in the frontal area, age, marital status, and three possible reasons for undergoing surgery: problems with grinding/chewing, professional and personal appearance). We have shown that dental implant increases OHRQoL.