

Oral Health-Related Quality of Life (OHRQoL) Before and After Prosthodontic Treatment with Full Removable Dentures

SUMMARY

The aim was to present a possibility of the use of OHIP-MAC49 questionnaire, by determination of changes in relevant aspects of quality of life in patients with full removable dentures, before and after prosthodontic treatment. The OHIP-MAC49 questionnaire was administered to a total number of 35 participants (evaluated by sex, age, ethnics). Participants were edentulous patients attending the University Dental Clinic Centre "St. Pantelejmon" in Skopje. Authors selected a convenience sample of patients aged 45-83 years, who fulfilled the OHIP-MAC49 questionnaire twice, before the prosthodontic treatment and 1 month after the treatment with full removable dentures. The gathered values of total OHIP scores and all 7 subscales before and after treatment were compared using *t*-test.

The statistical analysis showed significant difference of OHIP scores before and after treatment with full dentures in relation to functional limitations ($p < 0.01$), physical pain ($p < 0.01$), psychological discomfort ($p < 0.01$), and psychological disability ($p < 0.01$). In other subscales - physical disability, social disability and handicap, there were no statistically significant differences of the OHIP score before and after prosthodontic treatment. Statistically significant difference was registered for the total OHIP score before and after prosthodontic treatment with full dentures ($p < 0.01$).

The presented results indicate an impact of oral conditions associated with full denture wearing on the oral health-related quality of life. There is quality of life improvement in relation to oral health after prosthodontics treatment with full removable dentures, compared to the situation before treatment in certain wellbeing aspects defined by the OHIP model.

Keywords: Oral Health; Quality of Life; OHIP-MAC49

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Introduction

Regarding the relationship of oral health and disease to quality of life, there appears to be an association between these domains, which is not clearly defined. Locker suggested that health problems may affect quality of life, but such a consequence is not inevitable^{10,11}. Traditionally, dentists have been trained to recognise and treat disease, such as caries, periodontal disease and tumours, but they give no indication on the impact of the disease process to function or psychosocial well-being

of patients. Usually, patients' assessment of their health-related quality of life is often markedly different to the opinion of health care professionals.

The combination of clinical and subjective indicators provides a more comprehensive and multidimensional assessment of a patient's oral health condition, resulting into benefits for clinical decision making and oral health research¹⁹. The impact of oral disorders and interventions on patients' perceived oral health state and oral health-related quality of life is an important component of health⁵. Oral healthcare researchers and policymakers

have recognised that assessment of oral health outcomes is vital to planning oral healthcare programmes¹; so, according to modern aspects, oral health evaluation of a population must include social-dental indicators, beside clinical indicators (KEP, CPITIN). This means realizing the influence of an oral disease over physical, psychical and social wellbeing of humans, i.e. their subjective health. Being a physician, a dentist must estimate the influence of his therapy on the patient's general health and life quality, besides just resolving the oral disease.

Oral health-related quality of life is a multi-dimensional concept, meaning patients personal estimation of his/her wellbeing in relation to: 1. Functional factors (mastication, swallowing, and speech); 2. Psychical factors (personal appearance, self-respect); 3. Social factors (social interaction, communication, socializing); and 4. Factors related to pain and discomfort (acute and chronic).

In order to determine the relation between oral health and life quality, several instruments are developed. The Oral Health Impact Profile (OHIP-49) is accepted as one of the most widely used and sophisticated methods of estimation⁷. It's most important feature is the possibility to measure oral health improvement or decline given by the patient. Original version of the OHIP-49 has been developed in Australia and was adopted in many countries worldwide^{5,9,12-14,17}. Now, it is available in many languages, which makes the instrument as an excellent tool for conducting cross-cultural research in the realm of oral health-related quality of life². In the Balkan region, the translation and adaptation of the instrument are already completed in several countries: there is a Turkish, Romanian, Croatian, Greek and Serbian version^{3,15,16,18,20}.

In order to use this instrument in the FYROM, i.e. to measure quality of life of population in relation to oral health, a Macedonian version of the OHIP was needed (OHIP-MAC 49). The elaboration of the Macedonian version means adequate translation of the original, cultural adaptation and review of the psychometrical characteristics⁸. The Faculty of Dental Medicine in Skopje (University Ss. Cyril and Methodius) developed the Macedonian version of OHIP (OHIP-MAC49) in collaboration with experts from the Faculty of Philosophy. In this paper, we used OHIP-MAC49 instrument to evaluate the quality of life in patients after prosthodontics treatment with full removable dentures. The **aim** of this paper was to present a possibility of the use of OHIP-MAC49, by determination of changes in relevant aspects of quality of life in patients with full removable dentures, before and after prosthodontics treatment.

Material and Methods

The OHIP-MAC49 questionnaire was administered to a total number of 35 participants (evaluated by sex, age,

ethnics). Participants were edentulous patients attending the University Dental Clinic Centre "St. Pantelejmon" in Skopje. Authors selected a convenience sample of adult patients aged between 45 to 83 years. The participants fulfilled the OHIP-MAC49 questionnaire twice, once before the prosthodontic treatment and the second time 1 month after the treatment with full removable dentures.

According to the adequate epidemiological design, we used the questionnaire and interview method. This instrument consisted of 49 questions divided in 7 subscales: functional limitation (9), physical pain (9), psychological discomfort (5), physical handicap (9), psychological handicap (6), social handicap (5) and handicap (6). The subjects answered questions in which they evaluated how frequent an oral health problem occurred before and after prosthodontics treatment with removable dentures. Answers were evaluated by the Lickert scale (0 = never, 1 = very rare, 2 = sometimes, 3 = relatively often, 4 = very often). 0 presented absence of problems.

Besides the OHIP-MAC 49 questionnaire, the subjects answered questions about their personal oral and general health perception, using an analogue scale from 1 to 5 (1 = bad; 5 = excellent). These data were used to compare 2 examined variables.

The gathered values of consecutive measurements for the total OHIP score and all 7 subscales before and after treatment were compared using t-test.

Results

The statistical analysis showed significant difference of OHIP scores before and after treatment with full removable dentures in relation to functional limitations ($p < 0.01$), physical pain ($p < 0.01$), psychological discomfort ($p < 0.01$), and psychological disability ($p < 0.01$). In other subscales - physical disability ($p > 0.05$), social disability ($p > 0.05$) and handicap ($p > 0.05$), there were no statistically significant differences of the OHIP score before and after prosthodontic treatment. Statistically significant difference was registered for the total OHIP score before and after prosthodontic treatment with full removable dentures (Tab. 1).

Arithmetic means along with the standard deviations of OHIP-MAC subscales before and after the prosthodontic treatment are presented in figure 1, and the arithmetic means of total OHIP score before and after the treatment with full removable dentures is presented on figure 2.

Table. Differences before and after prosthodontic treatment with full removable dentures

	Subscales OHIP	M	N	SD	t	df	p
Pair 1	Functional limitation 1	13.71	35	4.50	3.329	34	0.002**
	Functional limitation 2	10.6	35	4.30			
Pair 2	Physical pain 1	11.69	35	4.87	7.140	34	0.000**
	Physical pain 2	6.46	35	3.76			
Pair 3	Psychological discomfort 1	7.57	35	3.78	2.772	34	0.009**
	Psychological discomfort 2	5.71	35	3.64			
Pair 4	Physical disability 1	10.34	35	4.71	2.004	34	0.053
	Physical disability 2	8.49	35	4.91			
Pair 5	Psychological disability 1	6.23	35	4.21	2.241	34	0.032*
	Psychological disability 2	4.83	35	4.82			
Pair 6	Social disability 1	3.74	35	3.49	.548	34	-0.607
	Social disability 2	4.17	35	4.02			
Pair 7	Handicap 1	5.49	35	3.38	1.835	34	0.75
	Handicap 2	4.03	35	4.11			
Pair 8	OHIP total score 1	58.77	35	20.96	3.428	34	0.002*
	OHIP total score 2	44.28	35	25.19			

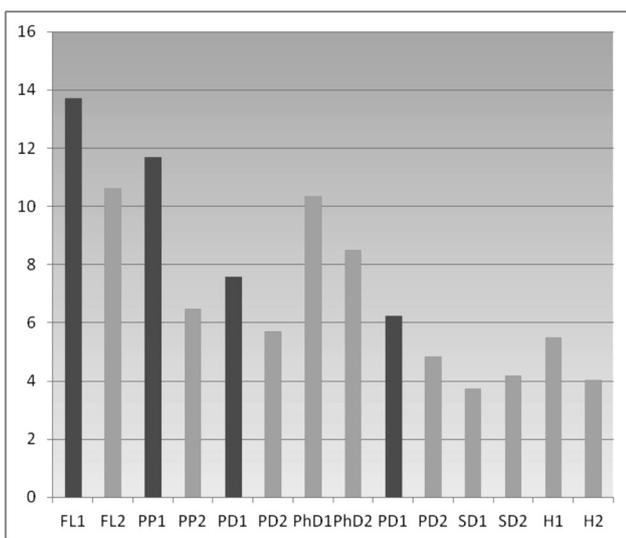


Figure 1. Arithmetic means of OHIP-MAC49 subscales before and after prosthodontic treatment

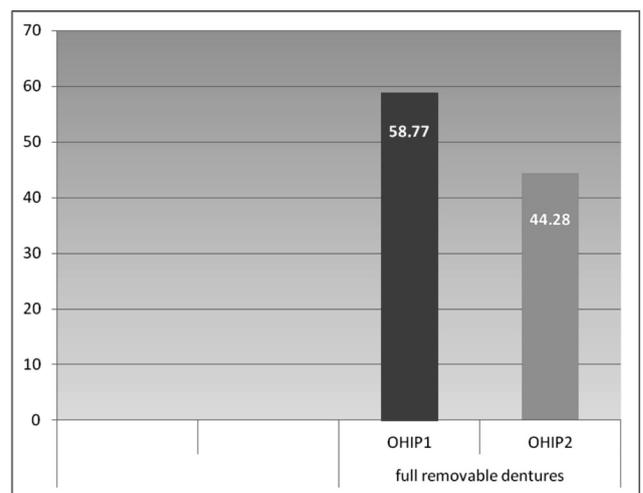


Figure 2. Arithmetic means of total OHIP-MAC49 scores before and after prosthodontic treatment

Discussion

Problems with chewing and eating dominated first month after prosthodontic treatment with full removable dentures. These problems were followed by the problems in pronunciation of some sounds.

The influence of oral diseases and interventions from the patient's perspective, i.e. their personal estimation of oral health status and oral health-related quality of life (OHRQoL) presents a very important social-dental indicator. This aspect is especially relevant in elderly population, in which edentulism is at raise and needs a broad oral health concept⁶.

Location of tooth loss is very important for patients and influences the quality of patient's life. Based on the systematic review and meta-analysis, Gerritsen et al⁴ concluded that there is a fairly strong evidence that tooth loss is associated with impairment of oral health-related quality of life (OHRQoL), and location and distribution of tooth loss affects the severity of the impairment.

The fact that most of the problems disappear after prosthodontic treatment with full dentures, especially after 6 to 12 months period of adaptation, is promising²¹.

Conclusion

The gathered data showed quality of life improvement in relation to oral health after prosthodontic treatment with full removable dentures, compared to the situation before treatment in certain wellbeing aspects defined by the OHIP model. Beside our better results after the treatment with full removable dentures, the challenge for permanent improvement in the prosthodontic treatment still persists. The OHIP-MAC49 can be a valuable instrument for evaluation of prosthodontics therapy.

The present results indicate an impact of oral conditions associated with full denture wearing on oral health-related quality of life.

OHIP-MAC49 can be use in future in cross-sectional studies on general population in order to determinate the impact of oral health to quality of life of population

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