

RESEARCH ARTICLE

Influence of age and gender on oral health impact profile among dental implant patients in alkarkh district in Baghdad / Iraq: cross-sectional study

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Abstract

Objective: To evaluate the age and gender influence on the quality of life of patients with a dental implant.

Methods: The cross-sectional study was conducted from February to April 2022 at Al-Mammon Specialised Dental Centre in the Al-Karkh sector of Baghdad, Iraq, and comprised healthy adult subjects of either gender who had dental implant treatment in the preceding 2 years and their dental implant was in place for at least 6 months. Data was collected using the Oral Health Impact Profile Questionnaire to measure oral health quality of life. Data was analysed using SPSS 22.

Results: Of the 103 subjects, 55(53.4%) were females and 48(46.6%) were males. There were 41(39.81%) subjects aged 18-37 years, 42(40.78%) aged 37-56 years and 20(19.42%) aged 57-74 years. Of the total, 50(48.5%) subjects had moderate health quality, followed by 26(25.24%) low and 27(26.21%) high. There was a significant association of age and gender on the quality of life ($p < 0.05$).

Conclusion: Age and gender were found to be important factors influencing the quality of life of dental implant patients.

Key Words: Quality of life, Oral health impact profile, Dental implant patient.

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Introduction

Quality of life (QOL) is a major objective in the fields of health and wellness¹. QOL studies have gained momentum among scholars and researchers who show passion and concerns about human lives, and QOL researchers examine different aspects of human anatomy that may affect understanding of one's wellbeing². QOL is critical to enhancing patient symptom alleviation, treatment, and rehabilitation. QOL is also essential for medical decision-making³. The ability to participate in activities of daily living (ADLs), which is determined by elements, such as social circle, economic status, and stress, clearly influences one's QOL⁴. Because dental health is linked to socioeconomic and psychological factors, it is a critical component of determining QOL, oral health-related QOL (OHRQOL) has been acknowledged by the World Health Organisation (WHO) as an important component of worldwide oral health programmes⁵. Teeth are an important part of one's personality, as they are essential for communication, mastication and aesthetics. Having dental prosthesis instead of natural teeth can have a negative influence on a patient's QOL, including probable functional or cosmetic constraints, lack of retention or stability, and psychological effects⁶. OHRQOL has evolved in the last 4 decades, but the shift occurred in

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the second half of the 20th century as part of a "silent revolution" in highly industrialised societies⁷. In contrast to clinical assessments of the illness state, this has created a desire for novel health status metrics to evaluate physical, psychological and social impacts of oral disease on individuals using standardised questionnaires instead of traditional indicators⁸. The influence of age and gender on QOL has been the focus of interest in many studies internationally^{9,10}. Older subjects have generally shown higher level of satisfaction and QOL than their younger counterparts, while studies have shown that gender has little or no influence in this regard¹¹. In one study, females demonstrated more emotional distress than males, and while the difference was not statistically significant, it underlined the gender-based difference in lifestyle¹².

To our knowledge, the influence of age and gender on OHRQOL has not been studied in Iraqi population. The current study was planned to fill the gap by evaluating the age and gender influence on the QOL of patients having a dental implant.

Patients and Methods

The cross-sectional study was conducted from February to April 2022 at the Department of Oral Implantology, Al-Mammon Specialised Dental Centre, in Al-Karkh sector of Baghdad, Iraq. After approval from the ethics review committee of the College of Dentistry, University of Baghdad, the sample size was calculated using G*Power 3.1.9.7¹³ with power 80%, two sided alpha error of

probability 0.05 and effect size 0.3 (medium). A pilot study on 20 subjects was done to measure the correlation between implant failure and OHRQOL. The sample was inflated by 10% for probable error rate adjustment. The sample was raised using simple random sampling technique. Those included were healthy adult subjects of either gender who had dental implant treatment in the preceding 2 years and their dental implant was in place for at least 6 months. Those with life-threatening conditions, physical and psychological elements, treated by non-specialists, and patients with history of malignancy, chemotherapy or radiotherapy in the head and neck region were excluded, and so were those who were illiterate.

After taking informed consent, all patients were evaluated at a review appointment and examined by the researchers under the supervision of a specialist dental surgeon. Data was collected using the Oral Health Impact Profile (OHIP) questionnaire¹⁴. The main domains assessed in the OHIP questionnaire were functional limitation (FL), physical pain (P1), psychological discomfort (P2), physical disability (D1), psychological disability (D2) and social disability (D3). The OHIP total score was calculated and divided into 3 main levels; ≤ 9 low, 10-28 moderate and > 29 high.

The original version of OHIP questionnaire was translated into the Arabic language using the back-translation technique. To establish the reliability of the translated instrument, internal consistency and test-retest reliability Cronbach's alpha was used, which was found to be 0.81

Data was analysed using SPSS 22. Qualitative variables were expressed frequencies and

Table-1: Oral health impact profile domains and age-based data.

Index1		Age (years)						P value	Total	
		18-37		37-56		57-74			N.	%
		N.	%	N.	%	N.	%			
Functional disability	Low	19	34.55	22	40.00	14	25.45	0.217	55	53.40
	High	22	45.83	20	41.67	6	12.50		48	46.60
Physical Pain	Low	18	32.73	20	36.36	17	30.91	0.006	55	53.40
	High	23	47.92	22	45.83	3	6.25		48	46.60
Psychological discomfort	Low	14	29.79	18	38.30	15	31.91	0.010	47	45.63
	High	27	48.21	24	42.86	5	8.93		56	54.37
Physical disability	Low	21	33.87	24	38.71	17	27.42	0.035	62	60.19
	High	20	48.78	18	43.90	3	7.32		41	39.81
Psychological disability	Low	20	35.09	22	38.60	15	26.32	0.136	57	55.34
	High	21	45.65	20	43.48	5	10.87		46	44.66
Social disability	Low	32	35.96	38	42.70	19	21.35	0.117	89	86.41
	High	9	64.29	4	28.57	1	7.14		14	13.59

percentages, while quantitative variables were expressed as mean and standard error (SE). Inferential analysis included analysis of variance (ANOVA) and chi-square test. $P < 0.05$ was considered statistically significant.

Results

Of the 105 individuals contacted, 103(98%) responded; 55(53.4%) females and 48(46.6%) males. There were 41(39.81%) subjects aged 18-37 years, 42(40.78%) aged 37-56 years and 20(19.42%) aged 57-74 years. Of the total, 50(48.5%) subjects had moderate health quality, followed by 26(25.24%) low and 27(26.21%) high.

There was a significant association of age ($p \leq 0.001$) and gender ($p \leq 0.003$) with OHIP category (Figure).

Concerning OHIP domains, there was a significant association of age with P1, P2 and D1, but not with FL, D2 and D3 (Table 1). The association of gender was significant with OHIP domains P1, P2 and D1, but not with

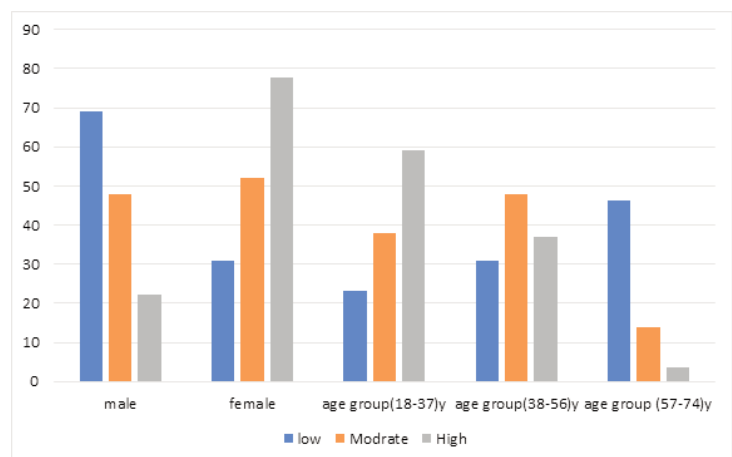


Figure: Age and gender distribution.

Table-2: Oral health impact profile domains and gender-based data.

Index1	Gender				P value
	M		F		
	N.	%	N.	%	
Functional disability					
Low	29	52.73	26	47.27	0.182 NS
High	19	39.58	29	60.42	
Physical Pain					
Low	35	63.64	20	36.36	0.001
High	13	27.08	35	72.92	
psychological discomfort					
Low	28	59.57	19	40.43	0.000
High	20	35.71	36	64.29	
Physical disability					
Low	37	59.68	25	40.32	0.016
High	11	26.83	30	73.17	
Psychological disability					
Low	28	49.12	29	50.88	0.568
High	20	43.48	26	56.52	
Social disability					
Low	43	48.31	46	51.69	0.380
High	5	35.71	9	64.29	

FL, D2 and D3 (Table 2).

Discussion

The current study revealed a significant association between age and OHIP score, which is in line with a study that found an independent inverse relation between age and adverse impact on oral health¹⁵. Younger patients regardless of gender are more affected by the loss of teeth across all OHRQOL. The findings, however, disagreed with a study¹⁶ which concluded that elderly people were more affected by the loss of tooth due to the aging process and other causes.

Based on the association between gender and OHIP, the current study found a significant association. Females are generally more aware of their oral health and their appearance compared to males. However, the current result is in disagreement with a study which reported no significant gender-based differences in terms OHRQOL¹⁷⁻¹⁸.

Limitation: The study has limitations as due to the coronavirus disease-2019 (COVID-19) pandemic, it faced difficulties in establishing contact with different patients.

Conclusion

Age and gender were found to be important factors influencing the QOL of dental implant patients.

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