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Original Article

Oral health related quality of life among adults reffered to dental clinic of Babol Faculty of Dentistry in 2009-2011

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Abstract

Introduction: The quality of life is defined as the individual's sense of well-being and their satisfaction with daily work as influenced by dental and oral conditions. Oral diseases are very common and have impacts on the different aspects of individual's life and can change their social performances roles, in other words, they can change the quality of life. The aim of this study was to evaluae the impact of oral problems on quality of life in adults who referred to Babol Faculty of Dentistry during 2009-2011.

Methods: This cross-sectional study was performed using a non-randomized sampling method. In this study, 500 patients who referred to Babol Faculty of Dentistry age 20-50 years were selected. Then all the questions in OIDP (Oral Impact on Daily Performance) questionnaire which were translated into persian from english were asked and completed. These questions are valuable and reliable for Iranians based on the previous studies. Finally, the data were analyzed by SPSS statistical software.

Results: According to this study, oral problems have effected on (80.6%) of the patients' quality of life. Gender, occupation, level of education and general health have impacted on OIDP score changes. There were significant differences in gender, occupation and level of education. In this study, the general and oral health conditions scores showed a significant association with OIDP score. Most of the patients' complaint was about eating (64.4%), but going outside and shopping were the least (10%).

Conclusions: According to the results of this study, tooth pain was the most oral and dental problem and tooth shape and size were the least effective on the oral health related quality of life. This shows that the most needed treatment are tooth restoration، root canal therapy and surgical treatment for pain relief.

Keywords: Adult, Oral health, Quality of life

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بررسی کیفیت زندگی بالغین مبتلا به مشکلات دهانی مراجعه کننده به دانشکده دندانپزشکی بابل در سال ۸۹-۱۳۸۸

چکیده

مقدمه: کیفیت زندگی در واقع احساس سلامتی و رضایت فرد از عملکردهای روزانهٔ زندگی می‌باشد که به وسیلهٔ شرایط دهان و دندان، تحت تأثیر قرار می‌گیرد. بیماری‌های دهان بسیار شایع‌اند و روی جنبه‌های مختلف زندگی افراد اثر می‌گذارند و باعث تغییر در انجام فعالیت ها و ایفای نقش اجتماعی و به عبارتی تغییر در کیفیت زندگی افراد می‌شوند. هدف از این مطالعه، بررسی کیفیت زندگی بالغین مبتلا به مشکلات دهانی مراجعه کننده به دانشکده دندانپزشکی بابل در سال ۸۹-۱۳۸۸ بود.

مواد و روش ها: این مطالعه به صورت مقطعی با روش نمونه گیری غیر احتمالی-آسان انجام گرفت. جهت انجام این طرح ۵۰۰ نفر از بیماران مراجعه کننده به دانشکدهٔ دندانپزشکی بابل که سن آنها بین ۲۰ تا ۵۰ سال بود، انتخاب شدند. سپس سؤالات پرسشنامه OIDP(Oral Impact on Daily Performance) که از روی نمونه انگلیسی، به فارسی ترجمه شده است و بر اساس بررسی‌های گذشته برای جمعیت ایران دارای ارزش و قابل اعتماد است، پرسیده شده و تکمیل گردید. سرانجام داده‌ها جمع آوری و توسط آزمون های آماری Chi-Square، ANOVA، وT-Test و نرم افزار SPSS آنالیز گردید.

یافته ها: بر طبق این مطالعه، کیفیت زندگی در ۸۰/۶ درصد از بیماران مراجعه کننده به دانشکده دندانپزشکی بابل تحت تأثیر مشکلات دهان و دندان قرار گرفته بود. از نظر جنسیت، زنان کیفیت زندگی پائین تری نسبت به مردان داشته واز نظر شغل و میزان تحصیلات گروه خانه دار یا بیکار با تحصیلات ابتدائی کیفیت زندگی پائین تری نسبت به سایر گروه ها داشتند. میانگین نمره OIDP در افراد با اظهار سلامت عمومی و سلامت دهان ضعیف، بالاتر بود که بطور معنی داری کیفیت زندگی پائین تری نسبت به سایر گروه ها داشتند. بیش ترین شکایت بیماران در مورد غذا خوردن (۶۴/۴٪) و کم ترین شکایت مربوط به بیرون رفتن از منزل و خرید کردن (۱۰٪) بود.

نتیجه‌گیری: بر طبق نتایج این مطالعه، بیش ترین مشکلات دهان و دندان تأثیرگذار، درد دندان و کم ترین آن، شکل و سایز دندان بود. این بیانگر آن است که بیش ترین نیاز درمانی، ترمیم و معالجهٔ ریشه و درمان های جراحی جهت تسکین درد می‌باشد.

واژگان کلیدی: بزرگسالان، سلامت دهان، کیفیت زندگی

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Introduction

The term quality of life (QOL) refers to the general well-being of individuals and societies. The concept of HRQOL acknowledges the impacts of health and diseases on individuals` lives (1). It aims to assess the impact of diseases or treatments on individuals` lives, even the un-attended treatment needs of patients (2). Oral health is a standard of health of the oral and related tissues that enables an individual to eat, speak and socialize without active disease, discomfort or embarrassment which contributes to general well-being (3).

Oral diseases are usually assessed with DMF and CPITD Indexes, which can show the clinical functions, current or previous diseases and treatment needs, but they cannot show the functional and psychosocial impacts of oral disorders (4).

Oral diseases and their complications can affect individuals` lives. 'Oral Health-Related Quality of Life' (OH-QOL), emphasizes the impact of oral diseases and disorders on an individual's functioning and psychosocial well-being. such indexes are mainly used for describing which oral diseases can affect and change the individual`s behavior, functions or social performances (5).

To assess the impact of oral diseases on quality of life, OIDP (Oral Impact on Daily Performance) questionnaire has been suggested. OIDP was first used in England in 2001 (6). OIDP is a professional index and helps to assess the impact of oral diseases on the daily performances of individuals. This index is used for studying stomatognathic diseases in adults and teenagers. It also assesses the adults` self- expressed needs helping the programming for the adult population (7).

Dorri et al. (8), assessed the OIDP index in Persian. Dorri in his pilot study used easy sampling for 48 Iranian adult employees aged 20-40 years in Mashhad. In his major study, he assessed 285 adult employees aged 20-50 years in Mashhad according to the Persian version. He concluded that 64.9% of the study population, had at least one oral condition which could affect their quality of life, mostly eating, sleeping, relaxing and job related issues.

It was concluded that OIDP in adult employee population in Iran is perpetuated and accurate. The aim of this study was to evaluate the oral health related quality of life and the most effective factors on individual`s life. It could help us improve the quality of life by knowing the treatment needs.

Methods

The study was a cross-sectional and easy sampling method survey on 500 patients aged 30-50 years with no sex preference, referred to Babol Faculty of Dentistry. First, the aim of the study was to explain the evaluation method to them. Then they were asked to specify their age, sex, occupation, education and living city.

The English version of OIDP questionnaire was linguistically translated to the Persian version (8). It only took 20 minutes to fill out the questionnaire. There were questions about every person`s main daily schedule; such as: eating, talking, brushing teeth, light physical and outdoor activities, relaxing, smiling, sleeping, emotional stability, enjoyable social communications and the ability of handling their own profession.

There were qualitative and quantitative answers to these questions. Then**,** the impact of each mentioned function was related to various oral health conditions such as toothache, missing tooth , oral malodor etc. The score in each function was represented as OIDP scores. (Performance Score=Severity Score × Frequency Score).

The individuals were asked about their self-perceived oral health, general heath and also oral pain in past six months. After gathering the data, the data were transferred into SPSS and analyzed by Chi-Square, T-test and ANOVA tests and Pearson's Correlation Coefficient.

Results

In In this survey, 500 patients who referred to Babol Faculty of Dentistry were evaluated. There were 219 males (43.8%) and 281 females (56.2%). The average age was 33.87±9.33 years (20-50). The average age of men and women was 34.04±9.11 and 33.73±9.5 respecftively.

OIDP scores were calculated to evaluate quality of life. The average OIDP in the sample group was 26.15±33.15 with a median of 15. OIDP in women was 30.27±35.79 (median=16) and in men was 20.86±28.65 (median=9) p=0.002. It meant that women had a lower

quality of life compared to men. According to table 1, most patients had problems in "eating" (64.4%).

There were less number of patients who had problems with "shopping and outdoor activities" (10%) and "light physical activities" (11.4%). In the fields of "sleeping", "social communications" and "job related activities", men had more problems than women but in "smiling", it was converse. There were no statistically significant differences between the patients with/without problems in "sleeping", "relaxing", "enjoying social communications" and "job-related activities" (p<0.005).

Table 1. The prevalence of population and sex prevalences in every aspect of life with/without problems

Function	Problem (%)		P value (%)	Sex	Prevalence (%)	OIDP Mean±SD
Eating	Yes	322 (64.4)	0.059	F	191 (68)	6.13±7.39
				M	131 (59.8)	
	No	178 (35.6)		F	90 (32)	
				M	88 (40.2)	
Talking	Yes	83 (16.6)	0.07	F	54 (19.2)	1.69±4.84
				M	29 (13.2)	
	No	417 (83.4)		F	227 (80.8)	
				M	190 (86.8)	
Brushing teeth & dentures	Yes	134 (26.8)	0.45	F	79 (28.1)	2.73±5.97
				M	55 (25.1)	
	No	366 (73.2)		F	202 (71.9)	
				M	164 (74.9)	
Light physical activity	Yes	57 (11.4)	0.40	F	35 (12.5)	1.14±4.05
				M	22 (10)	
	No	443 (88.6)		F	246 (87.5)	
				M	197 (90)	
Shopping & outdoor activities	Yes	50 (10)	0.56	F	30 (10.7)	0.82±3.17
				M	20 (9.1)	
	No	450 (90)		F	251 (89.3)	
				M	199 (90.9)	
Sleeping	Yes	137 (27.4)	0.02	F	66 (23.5)	2.31±5.13
				M	71 (32.4)	
	No	363 (72.6)		F	215 (76.5)	
				M	148 (67.6)	
Relaxing	Yes	94 (18.8)	0.37	F	49 (17.4)	1.46±4.12
				M	45 (20.5)	
	No	406 (81.2)		F	232 (82.6)	
				M	174 (79.5)	
Smiling, laughing	Yes	123 (24.6)	0.002	F	84 (29.9)	2.95±6.12
				M	39 (17.8)	
	No	377 (75.4)		F	197 (70.1)	
				M	180 (82.2)	
Emotional situations	Yes	154 (30.8)	0.77	F	88 (31.3)	3.21±6.27
				M	66 (30.1)	
	No	346 (69.2)		F	193 (68.7)	
				M	153 (69.9)	
Enjoyable social communications	Yes	94 (18.8)	0.02	F	43 (15.3)	2.33±5.59
				M	51 (23.3)	
	No	406 (81.2)		F	238 (84.7)	
				M	168 (76.7)	
Job related-activities	Yes	73 (14.6)	<0.0001	F	25 (8.9)	1.35±4.22
				M	48 (21.9)	
	No	427 (85.4)		F	256 (91.1)	
				M	171 (78.1)	

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Regarding the "frequency" and "continuity" of these functions in past 6 months, there was a significant relation between sex and job-related activities (p=0.04) based on "continuity"; 100% of men and 33.3% of women had problems every day. Based on the "frequency", for more than 3 months, women had more problems than men in "eating" (p=0.006), "speaking" (p=0.001), "brushing" (p=0.042), "light physical activities" (p=0.019), "sleeping" (p<0.001),"relaxing" (p=0.001) and "smiling" (p=0.009).

Regarding "intensity ", women had more problems in "eating" (p<0.0001) and "speaking" (p=0.001). About "sleeping" (p<0.0001), men expressed it as a "slightly unimportant" problem more than women, but women expressed it as a "slightly intense" problem more than men. The "intensity" of "relaxing" (p=0.02) and "job-related activities" (p<0.0001) problems were more in men than women.

"Tooth pain" was the most significant dental and oral complications reported in all the functions: (eating 37.22%), (brushing 29.21%), (light physical activities 64.61%), (shopping and outdoor activities 63.79%), (sleeping 71.24%), (relaxing 66.08%) and (emotional situations 53.22%).

Tooth pain (22.22%) and tooth extractions (20.20%) were the most problem while speaking. The most significant problems while "smiling" were found to be caused by the "tooth position" (17.8%), "tooth caries" (15.75%) and "missing teeth " (15.06%); however, in the case of face-to-face speaking the problem is the "halitosis" (22.77%).

The least significant problems with "eating" were the "tooth position" and "orthodontic appliances" (0.22%). The least significant problem with "speaking", was maxillofacial malformations (1.01%). The least significant problems with "brushing" were maxillofacial malformations, dental calculus and orthodontic appliances (0.56%).

The least significant problems with "light physical activities" were dental calculus, gingival bleeding, missing teeh and tooth fractures (3.07%). The least problems with "shopping and outdoor activities" were the size, shape and position of teeth (1.72%). The least significant problems with "sleeping" were dental sensivity and orthodontic appliances (0.65%). The least significant problem with "relaxing" was gingival swelling (90.86%). The least significant problems with "smiling" were halitosis, maxillofacial malformations and denture instability (0.68%).

The least significant problems with "emotional situations" were teeth position and denture instability (0.53%). The least significant problem with "social communications" was gingival bleeding (1.85%). The least significant problems with "job-related activities" were missing teeth (1.17%), gingival bleeding, halitosis and denture instability (2.35%).

According to table 2 the mean score and standard deviation of OIDP has a significant relation with education, occupation, general health and oral health. There was a perfect positive association between age and the different OIDP scores in "eating" (r=0.141, p=0.002), talking" (r=0.121, p=0.007), "light physical activities" (r=0.092, p=0.04), "relaxing" (r=0.093, p=0.038), "social communications" (r=0.153, p=0.001).

Regarding DMFT score, there was a perfect positive association between total OIDP score (r=0.17, p<0.0001) and "eating" (r=0.157, p<0.0001), "talking" (r=0.208, p<0.0001), "light physical activities" (r=0.123, p=0.006), "shopping and outdoor activities" (r=0.12, p=0.007), "sleeping" (r=0.106, p=0.018), "emotional situations" (r=0.139, p=0.002), "social communications" (r=0.09, p=0. 044).

There was a perfect negative association in some behavioral contacts, between total OIDP score (p<0.0001, r=-0.202) and "eating" (p=0.016, r=-0.107), "talking" (p<0.0001, r=-0.175), "light physical activities" (p<0.0001, r=-0.191), "shopping and outdoor activities" (p<0.0001, r=-0.191), "sleeping" (p=0.033, r--0.095), "relaxing" (p=0.013, r=-0.111), "smiling" (p<0.0001, r=-0.173), and social communications" (p=0.001, r=-0.144).

Regarding the number of empty anterior spaces, there was a perfect positive association between the total OIDP (r=0.115, p=0.01) and "eating" (r=0.097, p=0.029), talking (r=0.281, p<0.0001), "shopping and outdoor activities" (r=0.145, p=0.001) and "smiling" (r=0.139, p=0.002).

According to Tukey test there are significant difference between un-occupied and housekeepers and students (p=0.036) and employees (p=0.004), primary and PhD education (p=0.001) and excellent and poor oral health (p<0.001) (table 2).According to table 3, there was a significant relation between the mean and standard deviation of OIDP score and restorative, surgery and prosthetic treatment needs.

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Table 2. The mean score and standard deviation of OIDP according to occupation and education

Variable	OIDP	Number	Mean±SD	Median	P value
occupation	Unoccupied or housekeeper	186	32.76±39.15	16	0.003
	Student	84	22.04±24.91	12.5	
	Employee	230	22.3±29.59	10	
education	Primary	91	36.32±47.37	16	0.006
	Secondary	64	24.1±30.59	15	
	Post-secondary	172	26.2±29.58	15	
	Associate's degree	39	29.94±31.29	15	
	Bachelor	101	17.78±21.66	12	
	PhD	33	22.9±33.66	10	
General health	Excellent	150	18.84±23.84	9	0.005
	Very good	22	23.31±32.42	10	
	Good	208	27.83±35.04	15	
	Fair	103	31.3±34.27	20	
	Poor	17	42.64±56.78	12	
Oral health	Excellent	40	9.73±71.13	4	<0.0001
	Very good	12	19.25±20.63	11	
	Good	178	22.1±27.34	15	
	Fair	164	24.95±33.91	15	
	Poor	106	41.8±40.98	31	

Table 3. Mean and standard deviation of OIDP according to the different treatment needs

Variable	OIDP	Number	Mean±SD	Median	P value
Treatment needs	Yes	451	26.2±33.46	15	0.929
	No	49	25.76±30.53	20	
Restorative needs	Yes	300	23.54±30.75	15	0.036
	No	200	30.08±36.19	16	
Endodontic needs	Yes	173	29.13±33.38	16	0.144
	No	327	24.58±32.98	16	
Surgery needs	Yes	123	32.82±40.45	15	0.027
	No	377	23.98±30.14	15	
Prosthetics needs	Yes	281	29.42±37.31	15	0.009
	No	219	21.96±26.39	15	

Discussion

In this survey, the impact of oral health on quality of life of 500 individuals' referred to Babol Faculty of Dentistry was studied. The conclusions declared the impact of oral health conditions on Babol adults` quality of life. According to analysis, 80.6% of the study population had dental and oral problems which had affected their quality of life. It was more than "Jung" survey on Korean adults (>45years) or "Kida" survey on Tanzanian adults population or "Jung"and "Srisilapanan" on the adult population of the north of Thailand. The variation is caused by the differences in diseaseconditions according to different populations, places and cultures in these studies (5, 9,10). Our study had higher statistics than "Dorri" survey on Mashhad population because of the differences in samples. Our sample was from patients referred to Babol Faculty of Dentistry, basically with oral diseases and low socio-economic situation. But "Dorri" sample was from the

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Imam Reza Shrine pilgrims in Mashhad. We had a rather similar result with "Gherunpong" study in Thailand, with a little difference because of different cultural conditions (11). In our study, the socio-economic factors: sex, occupation and education and the impacts of these factors on OIDP score changes were studied. It was declared that "sex", "education" and "occupation" could affect OIDP.

The greatest impact on quality of life according to "sex" was in women, according to "occupation" was in more on the unemployed and house keeper, and in "education" was in primary level. This difference in "education" and "occupation" groups was because of this fact that most women were housekeepers and had primary level of education.

In other studies, assessing the impact of socio-economic factors on quality of life;"sex" was an important factor in Montero et al's. study, women were more disabled and less satisfied with their oral conditions (12).

"Sex" and "age" were the two important factors in "Masalu's" and "Astrom's" studies, young students and women were more affected (13). In the present study, it was concluded that there was a significant relation between OIDP score and general health represented by samples which had impact on their quality of life, the less they represented their general health, the lower quality of life they had.

In Dorri et al.'s study, there was a significant relation between the represented general health and quality of life (8). In this study, OIDP score was closely related to "oral health". The higher OIDP scores belonged to individuals with poor oral health. In Sheiham " and " Srisilapanan " project, there was a significant relation between OIDP score and clinical variables of individual`s oral condition such as lacking of gingival fibers or teeth. There were similar results in Dorri et al.'s study too (6, 10).

In this study, the most significant chief complaint was eating function because of tooth pain and the least significant chief complaint was shopping and outdoor activities. In Tubert-Jeannin et al.'s study in France, the most significant chief complaint was "eating" and "brushing" because of tooth positions and oral scars (14). In "Jung et al" study, the most significant chief complaint was "eating" and the least significant chief complaint was "relaxing" (9). In "Dorri et al" study, the most significant chief complaint were 1-"eating", 2-"job problems" ,3-"sleeping" ,4-"relaxing" and the least significant chief complaint was "shopping and outdoor activities" (8). In this study, it was concluded that the main reason for daily poor performances was tooth pain, the main problems with smiling were tooth decays, tooth malposition's and missing tooth and the main problem with social communication was halitosis.

The least importants problem with individual`s daily performance were orthodontic appliances, and tooth shape and position. This study declared that the quality of life of the majority of the samples was influenced by their oral health. However, the study population was from a low socio-economic level. Women had lower quality of life. There was a significant relation between quality of life and occupation, education and the frequency of flossing teeth. Dental and oral diseases mostly had influenced "eating" and less on "shopping and outdoor activities".

The most important problem was tooth pain and the less important ones were shape and size of teeth and orthodontic appliances. There was a significant relation between the quality of life and treatment needs for oral surgery, tooth restoration and prosthetic which proved the importance of insurance policies to improve quality of life.

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