

Assessment of Oral Health-Related Quality of Life (OHIP-14) In Adults ((Iran-Kerman 2015)

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Abstract: Oral Health Related Quality of Life (OHRQoL) is recognized by WHOM as an important part of the Global Oral Health Program. The aim of the present study was to determinate OHRQoL, and correlation between OHRQoL and DMFT index in patients 35-44 years who attending to Kerman clinics in 2015 year. This cross-sectional study conducted on 400 patients who attended to Kerman clinics. Data was gathered from demographic data, self-reported oral health behavior; OHIP-14 questionnaire and recording DMFT index by clinical examination according to WHO criteria .Data were analyzed in SPSS 21soft ware by using linear regression and T tests at 0.05significant level. In the present study 51.5% were men and 48.5% women with mean age 39.22±4.89 years. The mean of DMFT index was 13.3±4.5 and OHIP-14 score was 18.6±8.3 from 56. There were significant differences between educational level and oral health behavior and also OHIP-14. There was not significant difference between sex and OHRQoL score. The finding of this study showed DMFT index in adults 35-44 years old in Kerman is high and OHRQoL score is favorite.

Key words: OHIP-14, 35-44 years, DMFT, Oral health behavior, Kerman.

INTRODUCTION

Oral diseases such as untreated caries, severe periodontitis and loss of a number of teeth were among the world's top 100 costly diseases in [1]. Oral health is the absence of chronic orofacial pain, cancers of the oral cavity and oropharynx, oral soft tissue lesions, birth defects such as cleft lip and palate and other diseases that affect the system of oral and facial tissues [2].

Oral health is part of general health [3] and it is not only the absence of disease and impaired oral function but also includes the lack of negative effects of oral conditions on social life and positive effects of self-esteem that is derived from the appearance of the teeth and facial [4]. Self- evaluation of the impact of oral health conditions on functional and psychological factors, and experience of pain and sadness is defined as oral health-related quality of life (OHRQoL) [5]. Oral health conditions can impact on physical and mental health of people and also, given the role of oral conditions on talking, chewing, tasting, swallowing and in the social dimension of a person's appearance and self-confidence, It can also affect life pleasures [6, 7]. One of the tools for measuring oral health-related quality of life, which was introduced by Locker, is

OHIP (oral health impact profile) [8]. This indicator has 7 areas including functional limitation, physical pain, psychological and physical discomfort, social disability and complete inability [9]. The results of Steel et al research on the impact of age and loss of teeth on oral health-related quality of life has shown that age, education level, number and position of missing teeth are the important factors that affecting oral health-related quality of life [10].

The results of Blazevic *et al.* on the relationship between oral health and its impact on quality of life in Brazil have shown a significant correlation between DMFT index and oral health-related quality of life [11]. Also, Chen et al have studied the association between DMFT index components and

quality of life and declared that the rate of tooth decay, number missing and restored teeth has a significant correlation with masticatory system performance, health and quality of life [12].

In a study conducted by Bernabe *et al.* on the relationship between oral health and oral health-related quality of life using OHIP-14 index, a significant correlation between the OHIP-14 index and sex, age, occupation and clinical criteria was observed [13].

One of the target groups of the World Health Organization (WHO) are people aged 35-44 years. Due to lack of resources and less attention to this age group and taking into consideration that a study like this had never been done before on this age group in Kerman province, this study aimed to evaluate the oral health-related quality of life (OHIP-14) and the impact of oral health index (DMFT) and oral health behavior in patients referred to health centers in Kerman, Iran in 2015.

METHODS

This study was a cross-sectional study to examine adults referring to health centers in Kerman from April to June 2015. Multistage random sampling has been done and to increase the dispersion and accuracy of the study as well as covering the social and cultural characteristics of different areas of the city, it was divided to five regions: north, south, central, east and west and from each region, two health centers were selected for sampling. All participants were randomly selected in each center. First, after obtaining a license, final-year students who has trained and acquire necessary skills, three days a week in the morning and three days in the evening has visited selected centers. Then, he explained the purpose of the study for patients

and asks them to participating in the project. Individuals who enrolled in this study gave verbal consent. Data collection tools in this study were OHIP-14 questionnaire a form of Oral Health Related Quality of Life questionnaire and demographic questions such as age, education level, occupation, oral health behavior and clinical examination. A 14 items Persian versions of (Oral Health Impact Profile) OHIP-14 questionnaire form was used for Questions related to Oral Health-related Quality of Life. This questionnaire includes 7 domains such as functional limitations, physical discomfort, mental illness, physical, mental and social disability and complete failure. The reliability and validity of the Persian version of the questionnaire have been evaluated and approved [14]. A 5-point likert scale including never (0), rarely [1], just occasionally [2], often [3], and almost always [4] items was used to answer the questions. The score of this index according to the 14 questions is ranged from 0 to 56. The lower score indicates a better and the higher scores indicating a worse oral health-related quality of life. Clinical examination of the patient’s DMFT index (number of decayed teeth, missing and restored teeth due to caries) was based on the World Health Organization [15]. Inclusion criteria were included patient satisfaction and aged 35 to 44 years, lack of systemic and emotional illness that effectively prevents dental and oral care, no addiction, no smoking and having at least 15 natural teeth. SPSS (SPSS, Chicago, IL, USA) software, version 21 was used for statistical analysis. Data was analyzed by linear regression for correlation between demographic variables and oral health-related quality of life and T-test was used for correlation between sex and questionnaire score.

RESULTS

Table-1: Demographic characteristics of participant

variables		Number	Percent
gender	men	204	51.5
	women	196	48.5
Educational level	Elementary	87	21.8
	diploma	105	26.2
	Higher	208	52.0
Job	Teacher	95	23.8
	Employee	67	16.8
	Self employed	148	37.1
	Retired	32	7.8
	Others	58	13.5
Total		400	100

The results of this study which was performed on 400 patients referred to clinics in Kerman are as follows: 206 patients (51.5%) were male and the rest of them were female with an average age of 39.22 ± 4.89 years. 208 patients (52.0%) had an academic degree. 23% of patients had cultural jobs and 37.1% were self-

employed. Table 1 shows the demographic characteristics of individuals. 129 (32.2%) of subjects brushed twice a day and 249 (62.4%) of them did not use floss. 255 (63.9%) of patients had never visited a dentist for dental caries control. A total of 93 patients (23.3%) referred to dentist when they had dental pain.

oral health behavior of patients is given in table 2. Mean and standard deviation of D, M, F and DMFT indices are 5.4 ± 2.3 , 4.3 ± 2.8 , 3.5 ± 1.7 and 13.3 ± 4.5 , respectively. In this study, quality of life score was 18.6 ± 8.3 out of 56. A total of 108 (27.2%) patients, often have pain in their mouth. 87 (21.8%) of patients were dissatisfied with the state of their oral condition. 73 (18.3%) of individuals were often sensitive to their oral condition. The correlation between hygiene behavior and educational level was statistically significant ($P = 0.000$)(Table 3) .However, the average score of hygiene

behavior in women was better but statistically significant difference between the women and men was not observed. The average score of oral health-related quality index in women and men was 16.62 ± 7.81 and 20.40 ± 8.43 out of 56. There was no statistically significant difference between the sexes ($P > 5\%$). There was a significant correlation between literacy and oral health-related quality of life score ($0.003 = P$), (Table - 4). Also, T test analysis showed that those who had better hygiene behavior, significantly had better oral health-related quality of life ($p=0.008$).

Table-2: Distribution of participants according to oral hygiene behavior

Type of oral health behavior		Number	Percent
Tooth brushing frequency	Never	12	3.0
	Occasionally	75	18.8
	Once a day	113	28.2
	Twice a day	133	33.2
	Three times a day	67	16.8
Using dental floss	yes	150	37.6
	no	250	62.8
Attendance to dentist	6 months ago	122	30.6
	1 years ago	146	36.6
	More than 1 years ago	132	32.7
Attendance to dentistry for caries control	yes	142	35.6
	no	258	63.9
Cause of dentist attendance	Check up	50	12.4
	Pain	83	23.3
	Tooth extraction	129	32.2
	Tooth filling	128	32.7

Table-3: Correlation between oral health behaviors means score and educational level and DMFT

variable	B	P value
Educational level	-2.773	0.000
D(decay)	-0.673	0.443
M(missing)	-0.542	0.709
F(filling)	-1.565	0.284
DMFT	1.377	0.431

Table-4: Correlation between OHIP-14 means score and educational level and DMFT

variable	B	Significant level
Educational level	-2.026	0.003
D(decay tooth)	-0.011	0.994
M(missing tooth)	-0.144	0.919
F(filling tooth)	-0.991	0.490
DMFT	0.795	0.575

DISCUSSION

In the present study an oral health index (DMFT) and oral health-related quality of life in people aged 35 to 44 years was examined and the average DMFT index was 13.3 ± 4.5 . The average DMFT results of similar studies conducted in the 35-44 year-old age group in Poland, Brazil and Australia was 22.8, 18.6 and 16.6, respectively and were more than average DMFT reported in the current study. The reason for this difference could be the type of population study [16-18]. The results of the present study showed that the

frequency of decayed teeth were higher among the various components of DMFT. The results of our study was corresponded to the research conducted by Turabi and Colleagues on 35-44 year-old age group in 2009 [19]. A cause of this could be due to financial problems and the cost of treatment. It seems that in recent years hygienic and economic strategies such as health care or insurance coverage for reducing the number of decayed teeth in adults have not been conducted in Kerman. In this study, there was a significant correlation between the mean DMFT index and education level. It's

probably because educated people have learned more Health and hygiene awareness by studying. Haridas and his colleagues study showed that adults who had more dental information had better oral health [20]. The score of oral health-related quality of life was significantly correlated with educational level. Our results are corresponded to research of Bagewitz and his colleagues conducted on 50-70 year-old age patients in Sweden [21]. No significant correlation was observed between DMFT index and hygiene behavior. Since data of hygienic behavior were collected using self-report questionnaires, so in the case of reported behaviors may be slightly overstated. A report from Gaszyńska and his colleagues about the health behavior change in different age groups of 35-44 years old reflects the reduction in tooth decay rates in Poland [22]. However, proper hygienic behavior efforts should be directed to reduce to reduce oral diseases.

The consequences of oral health status and treatment of them are known as oral health-related quality of life (OHRQoL). The WHO has considered oral health-related quality of life as an important part of Global Oral Health Program [23].

In the present study the average score of oral health-related quality of life was 18.6 ± 8.3 out of 56, which represents an appropriate quality of life in this age group. OHRQoL score was higher in men than women, but no significant difference was observed between them. Kotzer and his colleagues reported that the score of oral health-related quality of life in Canadian aged over 45 years is 25.8 ± 5.57 [24] which is almost similar to over results. No significant relationship between the mean score of OHIP-14 and DMFT was observed in this study. The reason of this could be that the number of decayed teeth was higher in this index and it is likely that patients still have the possibility of restoration and this has caused no decrease in their quality of life index. OHRQoL score of this study was significantly associated with hygiene behavior. Thus, people who had higher score hygienic behaviors had better oral health-related quality of life. The worst score belonged to the cases that had never brushed their teeth. Since OHIP-14 questionnaire measures different aspects of life quality such as physical, functional, social and psychological, so it might be stated that hygiene can give a better sense about the mouth and teeth in people. In Gonzales-Sullcahuamán research the oral health status was correlated to OHIP-14 [25] and was corresponded with our research. It is shown that regular dental visits lead to more preventive behaviors such as brushing, flossing [26], and those who refer to a dentist only when they have oral and dental problems have more missing teeth and have worse OHRQoL than those who regularly visits dentists [27]. Broadbent and colleagues also found that brushing and use of dental services is associated with dental caries and missing. The number of untreated decayed teeth and missing teeth surfaces

was associated with oral health related quality of life in patients [28]. In the present study the index of extracted teeth was 4.3 ± 2.8 . Özhayat *et al.* reported that in people with missing teeth, those with 20 or more teeth have better oral health-related quality of life (OHRQoL) [29]. Therefore, it could be commented that may be one of the reason for the appropriateness of oral health related quality of life was due to low number of missing teeth in individuals who included in this study.

CONCLUSION

The results of this study indicate high DMFT index and poor status of oral and dental hygiene especially using dental floss. Considering the score mean of oral health-related quality of life, the status of OHIP-14 index in this study is appropriate. It is noteworthy to mention that since this study was conducted in patients referred to health centers; it cannot be generalized to the entire population of adults in Kerman. Hygiene education and taking actions including proper insurance coverage for dental services to improve the oral health of individuals is recommended.

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