

**Research Paper****Relationship Between Oral Health and Demographic Characteristics in Retired Elderly People in Iran**Amir Ahmadi<sup>1</sup>, Robab Sahaf<sup>2</sup>, Vahid Rashedi<sup>3</sup>, Ahmad Ali Akbari Kamrani<sup>2</sup>, Mohsen Shati<sup>2</sup>, \*Ahmad Delbari<sup>2</sup>

1. Department of Ageing, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran.

2. Department of Ageing, Research Center on Ageing, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran.

3. School of Behavioral Sciences and Mental Health (Tehran Psychiatric Institute), Iran University of Medical Sciences, Tehran, Iran.

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**ABSTRACT****Objectives** The current study aimed to determine the relationship between oral health and demographic characteristics of retired elderly people.**Methods & Materials** This cross-sectional study was conducted on 158 older adults aged  $\geq 60$  years. The subjects were selected using random sampling method and personnel codes. All the elderly participants were retired members of the Tehran Municipality Administration. The study data were collected by direct visit to the subjects' place of residence and conducting interviews. The data collection tool was a questionnaire that included 2 sections. The first section consisted of demographic, socioeconomic, and health profiles, while the second section consisted of Geriatric Oral Health Assessment Index (GOHAI).**Results** We collected data from 158 participants (90 men, 68 women). The mean age of the participants was 68.78 years. The obtained data suggested that 38 (24.05%) participants had a poor state of oral health. About 50% of the participants mentioned high dental care costs as a reason for not referring to the dentist. According to the findings of this study, there is a direct relationship between educational level and oral health status in the elderly ( $P < 0.05$ ).**Conclusion** Oral and dental health increase the quality of life in the elderly and reduce the high prevalence of dental problems among them. Therefore, designing and implementing practical policies to reduce oral and dental infections in the elderly and promote their health is necessary.**Extended Abstract****1. Objectives**

**I**n recent years, there has been a rapid growth of the elderly population in Iran. According to 2016 national census, with 9.3% of Iranian people aged  $\geq 60$  years, Iranian population has become older [1]. Oral

health of the elderly is a major public health issue calling for more attention worldwide. With the increase in the elderly population, the prevalence of oral and dental problems increases [2]. The factors associated with oral health vary because of socioeconomic and cultural differences among the elderly in different societies [3]. Several studies in Iran investigated the oral health status of elderly and its relationship with their quality of life and knowledge. However, information is

**\* Corresponding Author:****Ahmad Delbari, PhD.****Address:** Department of Ageing, Research Center on Ageing, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran.**Tel:** +98 (912) 5990081**E-mail:** ahmad\_1128@yahoo.com

scarce about the relationship between their oral health and demographic characteristics. This study aimed to investigate the association between these 2 variables among retired elderly people in Iran.

## 2. Methods and Materials

This cross-sectional study was conducted on 158 retired elderly under the support of Retirement Organization of Tehran Municipality. The subjects were randomly selected based on their pension code. Inclusion criteria were  $\geq 60$  years of age, willingness to participate in the study, the ability to answer the questions and communicate, and being retired from Tehran Municipality. Returning incomplete questionnaires and post-sampling mortality were the exclusion criteria. The data collection tool was a 2-part questionnaire.

The first part surveyed sociodemographic and medical profile of the samples. The second part was the Geriatric Oral Health Assessment Index (GOHAI), designed by Atchison and Dolan [4]. In many studies, the validity and reliability of this tool have been validated, and has been used as an instrument for assessing the oral health in elderly [5, 6]. The validity and reliability of its Persian version has been examined by Rezaei and colleagues [7]. It has 12 items scored based on a 5-point Likert-type scale (1=never; 2=seldom; 3=sometimes; 4=often; 5=always). Its total score ranges from 12 to 60. A higher score indicates better oral health, and vice versa. Questionnaires were completed by the researcher using face-to-face interviewing. This study was approved by the Ethics Committee of University of Social Welfare and Rehabilitation Sciences (code: IR.USWR.REC.1395.48).

## 3. Results

Of 158 samples, 90 (57%) were male and 68 (43%) female. Their Mean $\pm$ SD age was 68.78 $\pm$ 5.45 years. In terms of education, 27 (17.1%) were illiterate, 52 (32.9%) had primary school education, 37 (23.4%) middle school level of education, 26 (16.5%) high school level of education, 8 (5.1%) had associate degree, and 8 (5.1%) had bach-

elor degree or higher. In terms of oral health behaviors, 29 (18.4%) washed their mouths once a day, 47 (29.7%) twice a day, 56 (35.4%) 3 times a day, 18 (11.4%) more than 3 times a day, and 8 (5.1%) reported that they did not wash their mouths and teeth.

The mean oral health score of samples was 37.44 indicating their moderate level of oral health. There was a negative and significant correlation between the subjects' oral health and age ( $P=0.04$ ). This finding indicates that those with higher ages, had worse oral health and vice versa. Moreover, the results suggest that those with higher education level have better oral health. Those with primary education had poor oral health, compared to those with the higher levels of education. According to t-test results, oral health status between men and women was different and elder men had better oral health status. The mean oral health score in men was 38.5, and in elder women it was 36.4 (Table 1).

## 4. Conclusion

The oral health of elderly people had a significant and negative relationship with their age. With the increase in age, factors such as physical limitations and reduced social relations, make elderly people pay less attention to their oral health. This could contribute to the worsening of oral health status in elderly people. Oral health in elderly men was better than that in elderly women. Throughout their lives, women face severe bio-psychological conditions like fertility and multiple births which greatly impact their oral and dental health. Oral and dental health are important in improving the quality of life in the elderly. Therefore, in designing interventions to promote their oral health, authorities should pay attention to the elderly's demographic characteristics.

## Ethical Considerations

### Compliance with ethical guidelines

This study has been approved by the Research Ethics Committee of University of Social Welfare and Rehabilitation Sciences (code: IR.USWR.REC.1395.48)

**Table 1.** T-test results of two independent samples on comparison of oral health of elderly people by gender

Variable	Gender	n	Mean	SD	F	Sig.	t	df	Sig.
Oral health	Men	90	38.50	7.263	0.458	0.499*	2.136	156	0.034
	Women	68	36.04	7.011					

\* Levene's test

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**Authors contributions**

All authors contributed in preparing this article.

**Conflict of interest**

The authors declared no conflict of interest.

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