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ARAŞTIRMA / RESEARCH

Evaluation of the oral dental health status of the Romani community in Turkey

Türkiye'deki Roman toplumunun ağız diş sağlığı durumunun değerlendirilmesi

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Abstract

Purpose: This study was conducted to determine the oral and dental health levels of individuals of a specific ethnic origin (Romani) living in Turkey and investigate its effects on quality of life.
Materials and Methods: The study was carried out in Adana (Yüreğir) between October 2018 and July 2019. Data were collected from 183 Romani individuals using face-to-face interview technique, an introductory information form, a form evaluating oral hygiene habits, and the Oral Health Impact Profile (OHIP) -14 scale. The number of dental caries, the number of missing teeth, and periodontal health levels, halitosis, and toothbrushing habits were evaluated by performing intraoral examinations of the participants.
Results: The OHIP-14 score of the individuals participating in the study showed a statistically significant change according to the number of missing teeth, the number of dental caries teeth, and brushing habits. Accordingly, the OHIP-14 score was observed higher in individuals with extracted teeth and decay in teeth. No statistically significant correlation was found between periodontal parameters and OHIP-14 scores.
Conclusion: Within the limitation of the study; It is thought that oral-dental health knowledge levels and oral hygiene habits should be increased in Romani individuals.
Keywords: Oral and dental health, Quality of life, Ethnicity.

Öz

Amaç: Bu çalışma, Türkiye'de yaşayan belirli bir etnik kökene sahip (Roman) bireylerin ağız ve diş sağlığı düzeylerini belirlemek ve ağız-diş sağlığının bireylerin yaşam kalitesine etkisini araştırmak amacıyla yapılmıştır.
Gereç ve Yöntem: Bu çalışma, Ekim 2018-Temmuz 2019 tarihleri arasında Adana (Yüreğir) ilinde yürütülmüştür. 183 roman bireyden, yüz yüze görüşme tekniğiyle, tanıtıcı bilgi formu, ağız hijyen alışkanlıklarını değerlendiren form ve Ağız Sağlığı Etki Profili (OHIP) -14 ölçeği kullanılarak veriler toplanmıştır. Katılımcıların ağız içi muayeneleri yapılarak; eksik, çürük diş sayıları, periodontal sağlık düzeyleri, ağız kokusu şikâyetleri ve fırçalama alışkanlıkları değerlendirildi..
Bulgular: Çalışmaya katılan bireylerin OHIP-14 puanı eksik diş sayısına, dişlerdeki çürük sayısına ve fırçalama alışkanlığına göre istatistiksel olarak anlamlı bir değişim göstermiştir. Buna göre eksik ve çürük dişleri olan bireylerde OHIP-14 skoru daha yüksek bulunmuştur. Periodontal parametreler ile OHIP-14 skorları arasında istatistiksel olarak anlamlı bir korelasyon bulunamamıştır.
Sonuç: Çalışmanın sınırları dahilinde; Roman bireylerde ağız- diş sağlığı bilgi düzeylerinin ve ağız hijyen alışkanlıklarının arttırılması gerektiği düşünülmektedir.

Anahtar kelimeler: Ağız ve diş sağlığı, yaşam kalitesi, etnik köken.

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INTRODUCTION

Equality in healthcare access is a fundamental component of the healthcare system[1]. Variables in population groups such as socioeconomic conditions, geographical location, race, and ethnicity worldwide have been decisive in explaining the inequality in healthcare utilization[1]. The population of many countries, including Turkey, consists of various ethnic groups[2]. There has been a great deal of attention to the health of ethnic minority populations and the levels of inequality to health care access in recent years[3,4]. Several studies on various ethnic communities in many countries have consistently identified changes in the level of oral health[4,5,6]. Being a member of an ethnic minority, on the other hand, does not imply having poor oral health[6].

Recently, the significance of economic, social, and environmental factors in understanding oral diseases has been emphasized[7]. Public health researchers have focused on the social determinants of health and disease. Social determinants of health comprise residence, geographic region, culture, language, gender, socioeconomic status, education, occupation, ethnicity, race, type of employment, and social capital[8,9]. Behaviors associated with the utilization of therapeutic and preventive health services vary depending on these social determinants[10,11]. The social conditions of a population are one of the determinants of health status[7]. Socially disadvantaged individuals generally experience disadvantages in terms of health as well[12]. Numerous research reports have indicated a correlation between dental caries and social and behavioral factors[13-15]. In recent years, there has been a decrease in the prevalence of dental caries in both developed and developing countries[12]. However, the prevalence of dental caries among populations with low socioeconomic levels is still high[12,16]. The prevalence and severity of periodontal diseases also vary according to social conditions[6] such as socioeconomic level, education level, living space (urban-rural), and gender[6].

Several studies have shown that oral and dental health is closely associated with ethnicity and poverty[1,5]. The inequalities in this regard have been reported mostly as caries, missing teeth, chronic periodontitis, head and neck cancers, less frequent visits to the dentist and preventive dental treatments[5,16,17]. A cross-sectional study on all ethnic minority populations in the UK indicated that the frequency of dental visits was lower, especially among Pakistani and Bangladeshi children. The individuals participating in the study stated that they visit dentists only when they had dental complaints rather than taking advantage of preventive measures[5]. Studies on oral health among ethnic minorities in Sweden reported that treatment opportunities were utilized at a low rate, despite more treatment[18]. Delgado-Angulo et al. carried out another study on ethnic minorities in England. They found that Indian, Bangladeshi, Pakistani, and Asian people had more advanced periodontal disease compared to British people living in that region[4]. The low socioeconomic status of ethnic minorities may explain the frequency of periodontal disease[4,6].

The concept of quality of life associated with oral and dental health evaluates how pain and discomfort in the oral and facial region affect the individual's well-being in terms of functional, psychological, and social aspects[19]. Periodontal disease and dental caries are both rather common. Individuals are affected not only physically but also economically, socially, and psychologically due to the effects of these diseases. This situation dramatically reduces people's quality of life and harms many aspects of life, such as physical and mental functionality, appearance, and interpersonal relationships[20].

Inequalities in the level of oral health persist even though there are numerous developments in oral and dental health, such as preventive treatments, the development of diagnostic-therapeutic agents, and treatment methods[21]. There are only a few studies on the oral and dental health of minor ethnic communities in Turkey. Studies underline that the Romani people (Gypsies) are among the most disadvantaged groups in Turkish society due to their low socioeconomic position[22,23]. Therefore, it is substantial to determine the level of the oral and dental health of the Romani people and to investigate the effects of oral health on the quality of life.

This study aims to determine the level of the oral and dental health of the Romani people living in Adana province of Turkey and to investigate the effects of oral and dental health status on the quality of life. The hypothesis of the study is that oral and dental health levels of Romani individuals in Turkey affect their quality of life.

MATERIALS AND METHODS

The study, which was carried out following the ethical rules of the Helsinki Declaration, was approved by the Çukurova University Clinical Research Ethics

Committee, and written institutional permission was obtained from Adana Governorate before starting the practice. Although the patient selection in the study was voluntary, verbal and written consent of the participants was obtained by giving information about the protection of elements such as the study, confidentiality, and privacy and that they could leave the study at any time.

Sample

This cross-sectional study was conducted with 183 Romani participants, 81 females and 102 males, between 18-65, living in the Yüreğir district of Adana between October 2018 and July 2019. Before starting the study, detailed information was given to the participants about the purpose and method of the study, and their consent was obtained through the informed consent form required for their participation.

Approximately 900 Romani individuals reside in the Akıncılar region of Adana province. It was determined that the study population, which was planned to be performed on individuals aged 18-65, consisted of 345 people. The sample size of the study was calculated based on the approach with a certain target population. The minimum sample size to be reached with a confidence interval of 95% (α=0.05) and an error of 5% (d=0.05) was calculated as 180 people[24].

Measure

Oral Health Impact Profile (OHIP)

Oral Health Impact Profile OHIP-49 and its short version OHIP-14 have also been utilized for this purpose[25]. The original OHIP - 49 scale, which includes 49 questions, is divided into seven main groups: functional limitations, physical pain, mental distress, physical disability, social disability, mental disability, and handicap. In addition to the original 49-item version of OHIP, abbreviated OHIP scales, which are easier to use and thought to be subject-specific, have been presented. The OHIP-14 questionnaire developed for this reason included 14 questions. In this study, patients were asked to fill out the OHIP -14 questionnaire to evaluate oral health effects on quality of life.

A five-point Likert scoring system is utilized in the evaluation of the OHIP scale: 0= "never", 1= "rarely", 2= "sometimes" 3=often", 4= "very often". Each question has a score between 0 and 4. The total score is obtained by summing these scores. It is accepted that as the total score increases, the quality of life associated with oral and dental health decreases.

Data collection

In addition to socio-demographic data such as age, gender, marital status, educational status, the participants were asked questions about their health levels such as tooth brushing habits, presence of bad breath, bruxism complaint, frequency of visits to the dentist, and health insurance status, and the answers were recorded. All recordings were completed within 15 minutes.

Intraoral examinations

The number of missing and decayed teeth was recorded. Plaque index, gingival index, probing pocket depth, gingival recession were measured to evaluate the gingival health of the participants. Measurements were performed from Ramfjord teeth. Intraoral examination was always performed by the same experienced dentist. During the measurements, the patients were seated in a chair, and standard equipment (daylight lamp, dental mirror, periodontal probe) was used. In order to ensure the reliability of clinical measurements, calibration was provided by the researcher who made the measurements. For this purpose, the researcher repeated the study's parameters twice, with an interval of 24 hours, in three patients who were not included in the study. Consistency between measurements was found to be 88%.

Statistical analysis

The analysis of the data obtained from the study was performed in a computer environment using SPSS 22.0 statistical software program. The data of the study were arranged using frequency tables. The data were evaluated at the 95% confidence interval and the significance level of $p<0.05$. The Kolmogorov-Smirnov test was applied to determine whether the data were normally distributed. Since the data did not fit the normal distribution, the Spearman correlation test was used to evaluate the relationship between clinical values and the OHIP-14 scale. The Student's T-test was utilized to evaluate the relationship between participants' missing tooth scores, dental

caries, brushing habits, and bad breath with the OHIP-14 scale.

RESULTS

The data from 183 Romani individuals, 81 women and 102 men were analyzed. Socio-demographic information, oral hygiene habits, smoking, and dentist control frequency of Romani individuals are given in Table-1. The OHIP-14 score was not statistically different in terms of demographic characteristics (Tables-2). The correlation between age-related OHIP-14 score and its subheadings is shown in Table 3.

A positive correlation was found between participants' ages and OHIP 14 score (r=0,235 and p=0,001), functional limitation (r=0,248 and p=0,001), physical pain (r=0,186 and p=0,012), physical disability (r=0,222 and p=0,002).

The presence of missing teeth in 135 individuals and dental caries in 157 individuals were detected. The analysis of the relationship between the presence of missing and decayed teeth and the total OHIP-14 score is shown in Table-2. The OHIP-14 score varies according to the incidence of missing (p=0.008) and decayed (p=0.037) teeth. Accordingly, the OHIP-14 score was found to be higher in individuals with missing and decayed teeth. The correlation between the clinical periodontal parameters and the OHIP-14 score is shown in Table-4. No statistically significant correlation was found between periodontal parameters and OHIP-14 scores.

The t-test table was used to evaluate the relationship between the toothbrushing habits of the individuals participating in research and OHIP-14 (Table-2). OHIP-14 score varies according to toothbrushing status (p=0.027). The OHIP-14 score was found to be higher in individuals who did not use a toothbrush. When OHIP-14 scores and halitosis were compared; The OHIP-14 score does not show a change depending on halitosis (p=0.255) (Table-2).

Table 1. Demographic characteristics, dental hygiene evaluations, smoking, health insurance status of the participating in the study.

		n	%
Age	18-34	55	%30.1
	35-50	71	%38.8
	>50	57	%31.1
Marital Status	Single	28	%15.3
	Married	155	%84.7
Education status	Primary school	91	%49.7
	Middle school	27	%14.8
	High school	10	%5.5
	None	55	%30.1
Social health insurance	Yes	154	%84.2
	No	29	%15.8
Dentist control	Yes	35	%19.1
	No	148	%80.9
Smoking	Yes	85	%46.4
	No	98	%53.6
Halitosis	Yes	89	%48.6
	No	94	%51.4
Toothbrushing	Yes	80	%43.7
	No	103	%56.3
Dental caries	Yes	157	%85.8
	No	26	%14.2

Table 2. Comparison of Oral Health Impact Profile 14 levels of demographic and clinical variables

Variable	n	mean	Std.deviation	t		p
Gender						
Female	81	**32.85**	**12.306**	-1.082		**.281**
Male	102	**34.62**	**9.773**			
Marital status						
Single	28	**34.18**	**10.684**	.768		**.858**
Married	155	**33.77**	**11.053**			
Missing teeth						
Yes	135	**35.11**	**11.124**	2.681		**.008**
No	48	**30.25**	**9.766**			
Dental caries						
Yes	157	**34.13**	**11.170**	2.351		**.037**
No	26	**32.08**	**9.683**			
Toothbrushing						
Yes	80	**31.81**	**11.074**	-2.223		**.027**
No	103	**35.41**	**10.678**			
Halitosis						
Yes	89	**34.79**	**11.518**	1.141		**.255**
No	94	**32.94**	**10.406**			

Table 3. Correlation between age and Oral Health Impact Profile 14 levels

	OHIP-14	**Functional limitation**	**Physical pain**	**Physical disability**
Age	r= .235 p=.001	r= .248 p=.001	r= .186 p=.012	r= .222 p=.002

Table 4. Correlation between periodontal clinical parameters and Oral Health Impact Profile -14 score

	Pocket depth	**Gingival recession**	**Plaque index**	**Gingival index**
OHIP-14	r= -.075 p=.312	r= -.001 p=.990	r= -.003 p=.967	r= .003 p=.972

DISCUSSION

The present study evaluated the relationship between quality of life and oral health in the Romani ethnic group. At the same time, the rates of education level, smoking, and oral hygiene habits within the ethnic group were also explained, and the effect of the social and environmental conditions of the participants on general oral health was evaluated. While the number of missing and decayed teeth and brushing habits affect the quality of life, the study's hypothesis was partially rejected because periodontal clinical parameters and bad breath did not affect the quality of life.

There is no consensus in the literature between age, gender, marital status, and quality of life. Various studies have different results[26-29]. Steele et al. stated in their study that age is one of the variables affecting oral health-related quality of life[27]. Tubert - Jeannin et al. in France and Zhao et al. in China reported similar findings in their studies. However, in the study of John et al., no relationship was found between age, gender, marital status, and quality of life[28,29]. In the present study, while there was a relationship between age and quality of life, no relationship was found between gender and marital status, and quality of life.

The level of participation in political and social activities is influenced by education. The health conditions of individuals might be improved or harmed as a result of it[6,7]. The level of education also reflects the social disparities that exist among individuals living in the same country. While 30% of

the adults who participated in this study were illiterate, 49.7% were individuals with primary school education. Individuals with low education and income levels are less likely to receive preventive treatment or go for follow-up visits, as socioeconomic characteristics such as income and education level affect the type of dental services to be received[30]. This study indicated that 80.9% of the participants did not go to the dentist control. This situation supports the view that the rate of benefiting from oral health services decreases as the education level decreases.

Missing and decayed teeth might affect the quality of life as they can cause difficulty in eating, impaired taste, difficulty in speaking, pain, and related physical disabilities. Cross-sectional studies applying OHIP 14 reported that missing and decayed teeth increased effects on health/well-being[13,16,31,32]. The present study indicated that OHIP 14 scores increased as the number of missing-rotten teeth increased, supporting the literature.

Delgado et al. documented significant disparities in periodontal disease among ethnic groups in east London[4]. It was found that these disparities were beyond the influence of demographic and socioeconomic factors. Studies report the effects of clinical periodontal parameters and periodontal disease findings such as bleeding on brushing, bad breath, and gingival redness on oral health-related quality of life[33-35]. The present study's findings do not support these results; no correlation was found between quality of life and periodontal parameters. This might be related to the low socioeconomic levels and expectations of the patients.

In establishing preventive measures for oral and dental diseases, ensuring proper oral hygiene habits is substantial. For this purpose, patients should be taught the correct brushing techniques at an early age. This study demonstrated that 56.7% of the participants did not have brushing habits[33,34]. In addition, as seen in the oral examinations, the poor oral hygiene of the participants and the high number of missing and decayed teeth showed that they did not have effective brushing habits. When it is evaluated statistically, an increase in the OHIP-14 score was observed due to the absence of brushing habits. Although the results of not brushing cause discomfort, effective brushing is not performed. This is a clear indication of how essential it is to explain to individuals the importance of brushing and to teach effective brushing techniques.

Halitosis is a very prevalent problem in society[36]. It is the most common reason individuals apply to the dentist after dental caries and periodontal problems. The most likely cause of halitosis is gingivitis and periodontitis, which occurs as a result of the accumulation of bacterial plaques[37]. The present study determined that 48.6% of the participants had bad breath, but no statistically significant relationship was found between halitosis and quality of life. This situation in the study coincides with the fact that periodontal condition, which is one of the predominant causes of halitosis, does not affect the quality of life.

Health-related behaviors and attitudes towards dental health were associated with the psychosocial status of the individuals concerned and the characteristics of the society they live in[38-41]. In the study, socioeconomic status, dental hygiene attitudes, and perceptions of oral health of Romani individuals demonstrated similarities and parallelism. However, the contribution of these factors to explaining ethnic disparities in oral health has not been evaluated. Further studies should investigate the relative roles of different factors that might help identify those more likely to intervene to reduce ethnic disparities in adult oral health.

The present study has some limitations. First, the study was only able to assess associations because it was based on cross-sectional data. In addition, evaluations were made on a single ethnic group. Studies involving other ethnic groups living in Turkey and representing larger populations must be carried out.

The study on individuals belonging to a certain ethnic origin shows disparities in oral and dental health levels depending on education level and socioeconomic conditions. It is thought that oral-dental health knowledge levels and oral hygiene habits should be increased in Romani individuals. Implementation of protective measures in oral and dental health will also be important in terms of public health.

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