Assocıatıon Between Level Of Educatıon And Oral Health Status In 12-79 Year Olds

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Abstract

Background: The aim of this study was to determine whether a relationship exists between periodontal status and oral hygiene habits and oral hygiene habits among 372 individuals ranging in age from 12-79, with education level.
Method: There were 372 individuals included in the study, ranging from ages 12-79, who were divided into seven groups according to age: 12-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79. CPITN values in each group were included. In addition, the level of education, frequency of brushing, and the oral appliances used in dental care were recorded.
Results: The results demonstrated that a positive correlation between age and periodontal disease. It was found that the severity of periodontal disease increases with age. There was no relationship between the level of education of individuals and the cleaning tools that were used.
Conclusion: The increased in educational level of individuals participating in this study revealed a positive effect on periodontal health status.

Keywords: education, periodontal disease, CPITN, oral hygiene habits

Introduction

  In the contemporary societies, the prevention of diseases has become more important than the treatment of these diseases. This is due to the financial burden of labor, time, and equipment used for treatment. As a result of preventive medicine programs implemented in many developed countries, oral hygiene practices became widely available and the incidence of periodontal disease has been reduced[1].

Oral health is considered an important part of overall health. Epidemiological studies have shown that factors such as age, gender, race, diet, oral hygiene habits, socio-economic level, and education

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are important for oral and dental health . [2,3]Among these factors, oral hygiene habits constitute the most important factor to prevent oral diseases.

Of the oral diseases, dental cavities and periodontal diseases are the most commonly encountered oral pathologies by individuals throughout their lives .[4-6] Studies have shown that the increase in the level of knowledge of oral health leads to an increased awareness of oral health. In recent years, with the society's increased level of knowledge, there have been many prevention programs for periodontal diseases. These include education about the methods of prevention of these diseases through radio and television, in schools, and educational activities for individuals who live in rural areas where there are a limited number of dentists.

However, the development of methods for the protection of oral and dental health, their transfer to the community members and dissemination are not achieved to the same extent in every society. This is usually affected by the socio-economic status and the educational level of the community. [7-9] This study was conducted to evaluate the relationship between the educational status of patients visiting the periodontology clinic and their oral hygiene habits.

Materials and Methods

A total of 372 individuals, who were admitted to Dicle University Faculty of Dentistry, Department of Periodontics, were included in the study. The demographic data of the patients were collected. All patients were given a questionnaire, and information about their age, gender, level of education and oral hygiene habits were recorded. A physical examination was performed according to the CPITN criteria for adult individuals. [10] All teeth were examined and the mouth was divided into sextants. The areas with missing teeth, which could not be evaluated, were included in the adjacent sextant. The highest measurement obtained using the WHO criteria was considered the index code of that sextant.

Accordingly:

0. healthy
1. bleeding with probe
2. dental calculus, or iatrogenic factors
3. shallow pockets of 3.5-5.5 mm.
4. pockets of 6mm or deeper

According to the CPI scores, three treatment categories were determined:

TN1. Oral hygiene education only
TN2. TN1 + tooth surface cleaning and correction of defective restorations,
TN3. TN1 + TN2 + complex treatment (surgical treatment)

Result

The distribution of individuals according to age groups and individual CPITN scores are given in Table 1. Though the 12-19 year-old age group consisted of 26.6% healthy individuals, this percentage decreased with increasing age. In Code 3, with a pocket depth of 3.5-5.5 mm, there was an increase with advanced age. Code 2, with (dental calculus and iatrogenic factors), had the highest prevalence in all groups. In all groups, there was a relationship between periodontal health and age ($p < 0.01$).

Table 1. The prevalence of individuals according to age groups and individual CPITN scores (%)

Age	Number of individuals with teeth	Code 0	Code 1	Code 2	Code 3	Code 4
12-19	64	26.6	28.1	39.1	4.7	1.6
20-29	145	11.7	29.0	51	6.9	1.4
30-39	68	16.2	25	45.6	10.3	2.9
40-49	52	13.5	25	40.4	19.2	1.9
50-59	33	15.2	21.2	42.4	18.2	3
60-69	7	14.3	0	42.9	14.3	28.6
70-79	3	0	0	33.3	33.3	33.3

The percentage of brushing by level of education of individuals is given in Table 2. Individuals who did not brush at all, or brushed occasionally were either illiterate or in the primary or elementary school groups. The frequency of brushing increased with the increased level of education ($p < 0.001$).

Table 2. The prevalence of individuals by educational level and the frequency of brushing (%)

Education	Frequency of brushing					
	None	Rarely	Once a day	Twice a day	More frequently	Total n
Illiterate	19.7	32.8	24.6	21.3	1.6	61
Primary school	24.6	32.8	23.0	16.4	3.3	61
Elementary school	22.9	31.4	20.0	17.1	8.6	35
High school	7.8	30.0	34.4	26.7	1.1	90
University	11.2	21.6	36.0	28.8	2.4	125

The group with a university degree had the highest percentage of healthy individuals. In addition, Code 4 was least frequently encountered in individuals with a university degree. Among all groups, Code 2 was identified most commonly. There was a relationship between the level of education and periodontal status (p <0.01).

Table 3. Prevalence of individuals according to educational level and CPITN scores (%)

Education	CPITN SCORES					
	Code 0	Code 1	Code 2	Code 3	Code 4	Total n
Illiterate	16.4	23.0	39.3	16.4	4.9	61
Primary school	11.5	16.4	45.9	21.3	4.9	61
Elementary school	11.4	31.4	45.7	5.7	5.7	35
High school	17.8	28.9	48.9	3.3	1.1	90
University	28.8	16.8	45.6	8.0	0.8	125

Table 4. The prevalence of individuals according to educational status and dental cleaning tools used in oral care (%)

Education	Used dental cleaning tools						
	None	Tooth brush	Toothbrush, toothpick	Toothbrush, toothpick, miswak	Toothbrush, toothpick, dental floss	Toothbrush, toothpick, interface brush	Total n
Illiterate	24.5	68.9	6.6	0	0	0	61
Primary school	19.7	59.1	18.0	1.6	0	1.6	61
Elementary school	22.9	57.3	19.8	0	0	0	35
High school	9.6	67.8	20.4	1.1	0	1.1	90
University	8.8	65.8	18.4	0.8	1.6	4.6	125

The highest percentage of individuals who did not use any dental cleaning tool was in the illiterate group. Among all groups, the most commonly used cleaning tool was the toothbrush. It was followed by the use of a toothbrush with a toothpick. The use of an interface brush with other cleaning tools was most commonly seen in individuals with a university degree. There was no relationship between the dental cleaning tools used with the educational status.

Discussion

Most of oral diseases and conditions require professional dental care. Traditional curative dental care is a significant economic burden for many high income countries where 5-10% of public health expenditure relates to oral health. In low and middle income countries public oral health programmes are rare. The high cost of dental treatment can be avoided by effective prevention and health promotion measures. [11]

Accepted as an integral part of the overall health, the protection of oral health is among the important issues in today's developed societies. However, studies and the steps taken in this regard are not effective in every society. The level of education of societies and socio-economic factors play an important role. The lack of oral hygiene, due to lack of education and information about oral health care provided to individuals in the early stages, negatively affects the aesthetics, function, phonation, and the general health status of these individuals, leading to considerable financial burden for the community for the treatment of these diseases.

In this regard, epidemiological studies are of great importance. These studies identify the size and distribution of diseases, and can help to define targets for solving the problems. The CPITN index system helps to determine the severity of periodontal disease and the necessary treatment, and is widely used for epidemiological studies . [12-15]

Periodontal diseases, which are one of the most common diseases of the oral cavity, affect nearly all societies. There are many causes of periodontal disease. However, the lack of oral hygiene is the most important factor. In our study, we have examined the relationship between the educational level and the oral hygiene habits with periodontal status using the CPITN index system. The study conducted on 372 individuals revealed that the signs of periodontal disease increase with the increasing age. Periodontal disease is not a disease of the elderly. It starts in childhood, and its prevalence and severity increase with age. This finding is similar to the findings of many researchers. [16-19] Also in line with other studies, we have determined that there was an increase in the need for treatment with the increase in age.

When education levels were compared to periodontal status our study showed a positive association between higher education levels and better periodontal status. This finding is in agreement with Mengel et al and Hansen et al. who reported that a low CPITN score was associated with a higher educational level. [20,21] In our study, in which the extent of oral hygiene and the education levels of the individuals were assessed, the highest percentage of healthy individuals were found in the group with a university degree, which was 28.8%. Furthermore, a pocket of 6mm and deeper was also least frequently encountered in university graduates. Our findings are compatible with the findings of many researchers. [22,23] Individuals who did not brush at all, or brushed occasionally were either illiterate or in the primary or elementary school groups. There was a statistically significant increase in the frequency of brushing according to the level of education ($p < 0.001$). Gungor et al. [24] have reported that the degree of oral care increased in individuals with increased levels of education, which is also compatible with our results.

In conclusion, in developed and developing societies, in which prevention, rather than the treatment, of periodontal diseases are gaining importance, more comprehensive studies should be carried out in larger populations.

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