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## Type of financing dental care and frequency of dental visits among patients treated with implants

### Abstract

**Introduction.** Many factors affect the oral health of the population. These include individual factors, the effectiveness of dental care, life styles and political, economic and environmental factors.

**Aim.** The aim of the study was to evaluate the type of financing dental care and frequency of dental visits among patients treated with implants because of missing teeth.

**Material and methods.** The survey was conducted among 464 patients of both genders aged 20-74 years, treated with dental implants at the Non-Public Healthcare Centre “Dental” in Tomaszów Mazowiecki. The patients answered questions included in anonymous questionnaire. The questions concerned age, education, type of dental care financing and frequency of dental visits.

**Results.** Results of the survey indicate that among patients treated with implants there were over 14-times more people benefiting from dental care in private clinics providing preventive and restorative treatments at full cost, compared with people using dental services funded by the National Health Fund. Just over 16% of the surveyed patients frequently enough, i.e. at least once in 6 months reported to the dentist. The frequency of dental visits increased with the education level – people with vocational and secondary education most often visited a dentist irregularly, when necessary, while those with higher education – once a year. Patients below 60 years reported to the dentist 1-2 times a year, whereas older – irregularly, when necessary.

**Conclusion.** In preparing the patient for the treatment of missing teeth with implants one should be aware of his need for paying special attention to oral health and regular, sufficiently frequent follow-up visits which has a substantial impact on the course and therapeutic success in the implant prosthetic treatment.

**Keywords:** dental implants, dental care, demographic factors.

**DOI:** 10.2478/pjph-2014-0005

### INTRODUCTION

Many factors influence oral health. These include individual factors, the effectiveness of dental care, life styles and political, economic and environmental factors [1]. It seems interesting to get to know some elements of dental care, demographic and social factors in a group of people who undertook paid treatment of missing teeth with implants.

### AIM

The aim of the study was to evaluate the type of financing dental care and frequency of dental visits among patients treated with implants because of missing teeth.

### MATERIAL AND METHODS

The survey was conducted among 464 patients of both genders aged 20-74 years, treated with dental implants at

the Non-Public Healthcare Centre “Dental” in Tomaszów Mazowiecki. The patients answered questions included in anonymous questionnaire. Questions included age, education, type of funding dental care and frequency of visits to the dentist. The distributions of age and gender, age and education level of the respondents are presented in Table 1 and 2. Using the  $\chi^2$  test of independence the impact of the analyzed variables was analyzed. Statistical analysis was performed by using the Statistica 6.0 software (StatSoft, Inc., Tulsa, Oklahoma, USA).

### RESULTS

It was found that the majority of patients treated with implants due to missing teeth made use of preventive therapeutic services of private dental offices at full-cost – 434 people, representing 93.54% of the total respondents. Analysis of the effects of age and type of funding of dental care among the respondents showed that highly significantly more dental

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**TABLE 1. The gender and age of the patients treated for missing teeth with implants.**

Gender	Age groups			Total
	<40 years	40-60 years	>60 years	
Men	65	122	49	236
	27.54%	51.69%	20.76%	100%
Women	92	119	17	228
	40.35%	52.19%	7.46%	100%
Total	157	241	66	464

**TABLE 2. The age and education of patients treated for missing teeth with implants.**

Age	Education			Total
	Vocational	Secondary	Higher	
<40 years	5	51	101	157
	14.71%	38.64%	33.89%	
40-60 years	18	65	158	241
	52.94%	49.24%	53.02%	
>60 years	11	16	39	66
	32.35%	12.12%	13.09%	
Total	34	132	298	464
	100%	100%	100%	

**TABLE 3. The age and the type of dental care financing among surveyed patients.**

Age	Dental care		Total
	NHF	Private dental office	
<40 years	2	155	157
	6.67%	35.71%	
40-60 years	18	223	241
	60.00%	51.38%	
>60 years	10	56	66
	33.33%	12.90%	
Total	30	434	464
	100%	100%	

The value of the test function  $\chi^2=15.562$ ,  $p=0.0004$

**TABLE 4. The age and frequency of dental visits among surveyed patients.**

Age	Frequency of dental visits			Total
	At least once in 6 months	Once a year	Irregularly, when necessary	
<40 years	33	89	35	157
	21.02%	56.69%	22.29%	
40-60 years	36	103	102	241
	14.94%	42.74%	42.32%	
>60 years	7	25	34	66
	10.61%	37.88%	51.52%	
Total	76	217	171	464

The value of the test function  $\chi^2=24.937$ ,  $p<0.001$

services funded by the National Health Fund (NHF) were used by people between 40 and 60 years of age and over 60 years, and patients aged up to 40 years – more frequently made use of services in private dental offices at full cost ( $p<0.001$ ) (Table 3).

Just over 16% of surveyed patients, i.e. 76 subjects reported at least once in six months to the dentist. Analysis by age and frequency of dental visits among patients treated for missing teeth with implants indicates that the frequency of visits to the dentist was highly significantly influenced by age ( $p<0.001$ ). Patients under the age of 60 years reported to the dentist often enough, while people over the age of 60 did so irregularly, if necessary (Table 4).

The impact of education and type of funding of dental care of patients surveyed are presented in Table 5. Among patients who received implants significantly more people with vocational education benefit from dental services paid by the National Health Fund, and the patients with higher education – made use of services in private clinics at full cost ( $p<0.001$ ).

The impact of education and frequency of dental visits of patients treated for missing teeth with implants is shown in Table 6. The frequency of reporting to the dentist of patients surveyed highly statistically significant depends on education ( $p<0.001$ ). It increases with education level. People with vocational and secondary education most often visited a dentist irregularly, if necessary, while those with higher education – once a year.

**TABLE 5. Education and type of funding of dental care of patients surveyed.**

Age	Dental care		Total
	NHF	Private practice	
Vocational	7	27	157
	20.59%	79.41%	
Secondary	13	119	241
	9.85%	90.15%	
Higher	10	288	66
	3.36%	96.64%	
Total	30	434	464

The value of the test function  $\chi^2=18.477$ ,  $p<0.001$

**TABLE 6. Education and frequency of dental visits among the patients surveyed.**

Age	Frequency of visits at the dentist			Total
	At least once in 6 months	Once a year	Irregularly, when necessary	
Vocational	7	4	23	34
	20.59%	11.76%	67.65%	
Secondary	16	49	67	132
	12.12%	37.12%	50.76%	
Higher	53	164	81	298
	17.79%	55.03%	27.18%	
Total	76	217	171	464

The value of the test function  $\chi^2=41.313$ ,  $p<0.001$

## DISCUSSION

Our studies show that regardless of age, among patients treated with implants there were 14-times more people who benefited from dental care in private clinics providing preventive and restorative treatments at full cost, compared with the patients making use of dental services that were funded by the National Health Fund. This is undoubtedly related to the financial capabilities of the respondents, as shown in an earlier publication [2]. It seems clear that due to the high cost of implant prosthetic treatment, recipients of the treatment procedures are the better-off people, better educated, or those whose financial status is usually higher. It is also a group of patients who can afford using other dental procedures at full cost.

Oboda provides that according to 90% of dentists only 10-30% of patients are aware of their dental needs, 50% do not complete undertaken treatment and only 20% of patients report to follow-up visits [3]. Similarly, only a small group of people in our study – a little over 16% of respondents reported to the dentist at least once in six months. It is noted that frequent check-up visits are respectively one of the essential elements of the prevention of dental caries and periodontal disease.

The studies of other authors show that the main reason for delay in dental visits among patients of the age group 35-44 years is the fear of dental surgery (59.1%). Further reasons given by patients included lack of concern about the state of their teeth (45%) and dissatisfaction with dental care covered by the National Health Fund (40.9%). In the cited studies, there were no statistically significant differences in socioeconomic status and education between people not delaying and delaying visits to the dentist [4]. In turn, the research carried out in the Krakow research centre has shown that health behaviors and self-assessment of oral health are associated with dental anxiety and sociodemographic factors [5].

Implementation of the recommendations of the dentist, regular visits and maintenance of oral hygiene at a high level ensures successful implant reconstruction for many years [6]. Patients should be aware that the implantoprosthetic procedure does not end with the placement of restoration. It is recommended that the first year after implant-based reconstruction tartar should be professionally removed every 3 months [7]. During these visits, in addition to carrying out specialized hygienic procedures, it is possible to control hygiene procedures carried out by the patient at home [8].

## CONCLUSION

In conclusion it should be noted that while preparing the patient to implant prosthetic treatment, the patient should be made aware of his/her need for paying special attention to oral health and regular, sufficiently frequent follow-up visits which have a substantial impact on the course of treatment and therapeutic success.

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