



The level of patient satisfaction with implant treatment of missing teeth

AGNIESZKA KOSZUTA¹, JOLANTA SZYMAŃSKA^{2*}

¹ Non-Public Healthcare Centre "Dental" in Tomaszów Mazowiecki, Poland

² Chair and Department of Paedodontics, Medical University of Lublin, Poland

ABSTRACT

The aim of the study was to evaluate the level of patient satisfaction with implant treatment of missing teeth. The survey was conducted among 464 patients of both sexes aged from 20 to 74 years, treated with dental implants at the Non-Public Healthcare Centre "Dental" in Tomaszów Mazowiecki. The results of the study reveal that out of the half of all the patients treated with temporary dental prostheses, 71.67% were satisfied; a majority of the latter group were patients younger than 40 years, while the respondents aged over 60 were least frequently satisfied. A great majority of patients assessed other evaluated aspects of implant-prosthetic therapy positively. A high proportion of highly satisfied (strongly agree) and somewhat satisfied (agree) answers, reaching 95%, concerned the shape and colour of implant-supported prostheses and the outcome of the therapy. The smallest group of the respondents observed speech improvement as a result of implant-prosthetic treatment (15.51%). The results of the survey indicate that treatment of missing teeth with dental implants meets patients' expectations to a high degree. Prosthetic therapy with implants is a method that allows a fully functional and aesthetic treatment of missing teeth.

Keywords: dental implants, patient satisfaction, service quality

INTRODUCTION

The task of a doctor is to guarantee, considering indications and contraindications for dental implant treatment, the best possible conditions for the procedure and therapeutic success [13, 22]. This undoubtedly translates into a positive evaluation of a health centre providing the treatment, which is particularly important in the case of self-financing private dental practices.

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MATERIAL AND METHODS

The survey was conducted among 464 patients of both sexes aged from 20 to 74 years, treated with dental implants at the Non-Public Healthcare Centre "Dental" in Tomaszów Mazowiecki. The patients were divided into 3 age groups: younger than 40 years (n=157), between 40 and 60 (n=241), and older than 60 (n=66). The patients answered questions included in an anonymous questionnaire. They chose the answers yes/no to the question:

Were you satisfied with your temporary prosthesis? The answers to the other questions were: strongly agree (highly satisfied), agree (somewhat satisfied), difficult to say, disagree (somewhat dissatisfied), strongly disagree (highly dissatisfied).

Using χ^2 independence test, the influence of age on the satisfaction with temporary prostheses was analyzed. The value of the analyzed data in the nominal scale was expressed as percentage. Statistical analysis was performed with Statistica 6.0 software.

RESULTS

During implant-prosthetic therapy, in 240 patients, i.e. 51.72% of all the studied patients, a temporary prosthesis was used. In this group, 71.67% were satisfied with the function of the temporary prosthesis, while 28.33% were dissatisfied. Satisfaction with temporary prostheses was significantly dependent on the age of the respondents ($p < 0.001$). The patients younger than 40 were most frequently satisfied, while the respondents over 60 were least frequently satisfied (Tab. 1).

To evaluate the level of patient satisfaction with the effects of implant-prosthetic therapy, the patients were asked about its influence on their speech, aesthetic out-

Corresponding author

* Chair and Department of Paedodontics, Medical University of Lublin
7 Karmelicka Str., 20-081 Lublin, Poland
e-mail address: szymanska.lublin@gmail.com

come of rehabilitation with this method, adaptation to the new prosthesis, ease in maintaining good hygiene of implant-supported prostheses, shape and colour of prostheses, and compatibility of the outcome with their expectations.

Table 1. The level of satisfaction with temporary dental prostheses according to age group.

Age groups	Satisfaction with temporary dental prostheses		Total
	yes	no	
Younger than 40 years	57 80.28%	14 19.72%	71 100%
Between 40 and 60 years	101 77.10%	30 22.90%	131 100%
Older than 60 years	14 36.84%	24 63.16%	38 100%
Total	172	68	240

Test function value $\chi^2=27.195$ p.000

Over 84% of the respondents did not observe speech improvement as a result of dental implantation. The percentage distribution of answers to the question: “Has your speech improved?” is presented in Fig. 1.

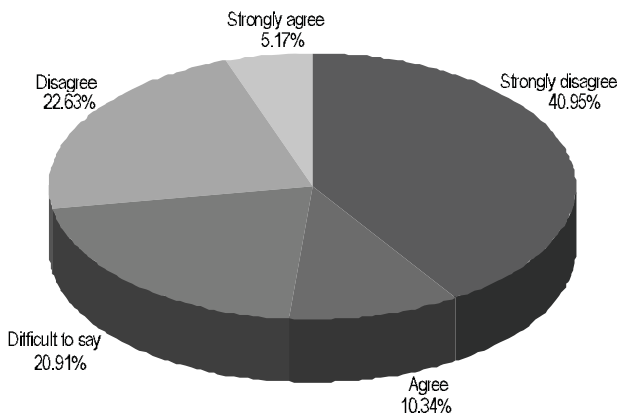


Fig. 1. Distribution of answers concerning speech improvement in patients treated with dental implants

Ninety-four percent of all the respondents were satisfied with the final aesthetic outcome of implant-prosthetic rehabilitation (Fig. 2).

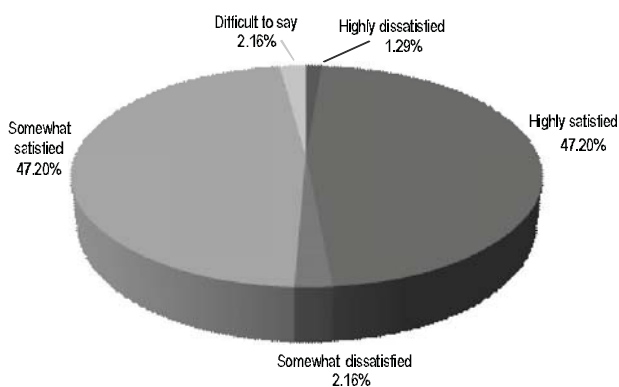


Fig. 2. The level of satisfaction with the aesthetic outcome of dental implant rehabilitation

The question “Was it difficult to adapt to the new prosthesis?” was answered by 84% of the respondents that adaptation was not difficult (Fig. 3).

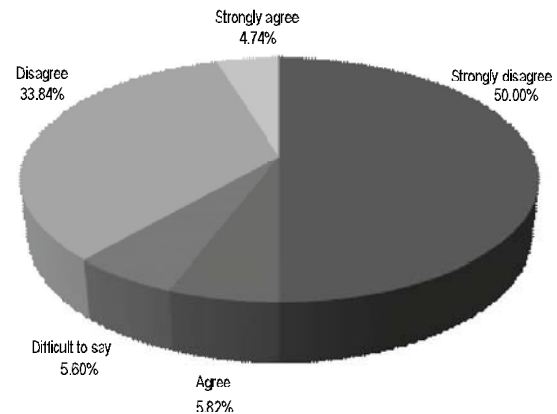


Fig. 3. Difficulty in adaptation to the new prosthesis

The distribution of answers to the question “Do your «new teeth» look more natural than the previous ones?” is shown in Fig. 4. Eighty-two percent of the patients believed that their new prostheses was more natural than the previous ones.

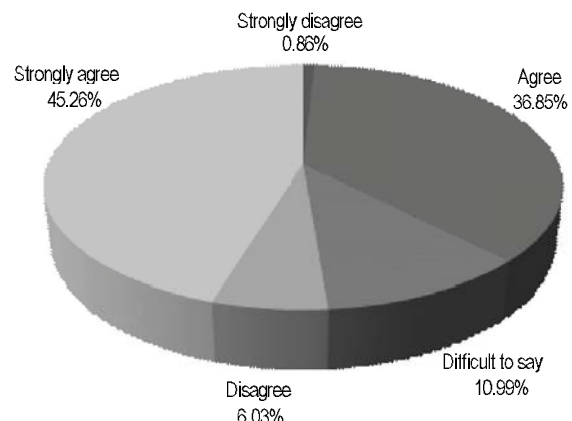


Fig. 4. Evaluation of the natural appearance of the new prosthesis compared to the previous one

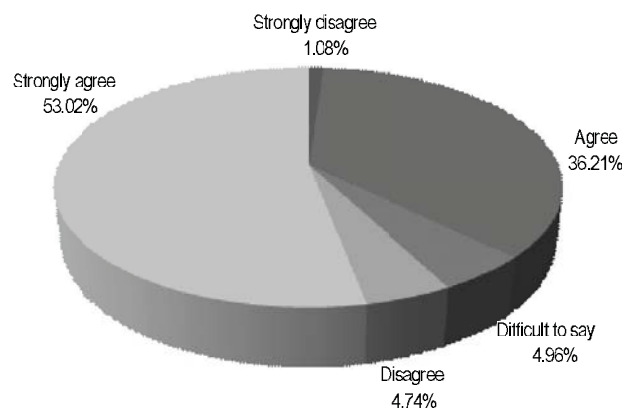


Fig. 5. Easy in maintaining good hygiene of the implant-supported prosthesis

The distribution of answers to the question “Is it easy to maintain good hygiene of the implant-supported prosthesis?” shows that 89% of the respondents gave a positive answer (Fig. 5).

Almost 95% of the surveyed patients were satisfied with the shape of the prosthesis (Fig. 6).

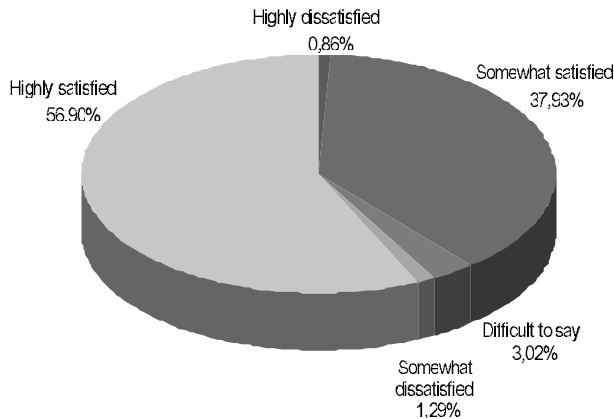


Fig. 6. Satisfaction with the shape of the prosthesis

The respondents were asked to evaluate the level of their satisfaction with the colour of the prosthesis. Ninety-five percent of the answers were positive (Fig. 7)

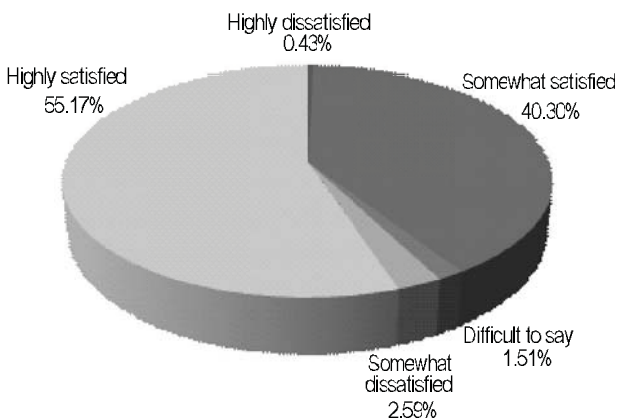


Fig. 7. Satisfaction with the colour of the prosthesis

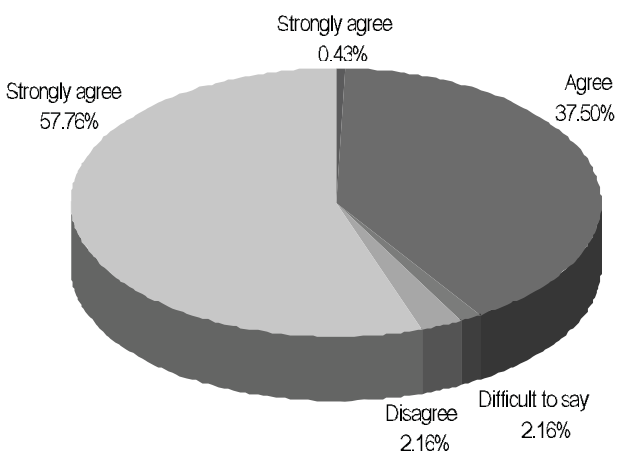


Fig. 8. Compatibility of the final therapy outcome with the patients' expectations

Evaluation of the compatibility of the implant therapy outcome with the patients' expectations (“Is the therapy outcome compatible with your expectations?”) showed that 95% of the respondents gave a positive answer (Fig. 8).

DISCUSSION

During implant-prosthetic therapy, over a half of the patients (51.72%) needed a temporary prosthesis. Almost 3/4 of the patients, most of whom were less than 40 years old, were satisfied with it. These results seem to confirm the advantages of a temporary prosthesis indicated earlier by other authors. It eliminates the discomfort associated with the use of removable partial prostheses during the osseointegration period, which meets with particular approval of young and professionally active patients [6]. Although temporary prostheses neither enable full rehabilitation of the oral cavity during one operation nor reduce treatment costs or the number of visits, they are important psychologically and make it possible to achieve a satisfactory appearance in patients with high aesthetic needs [25]. Temporary prostheses may be used only when both the bone bed and the conditions for implant stabilization are appropriate [21]. This may be the reason why in our study the patients over 60 least frequently declared their satisfaction with temporary prostheses, which in their case could have caused discomfort. There seems to be strong evidence that implants may be loaded immediately in young patients and in older ones, unless their anatomical conditions guarantee normal osseointegration. In our study, the influence of anatomical and functional conditions on the level of satisfaction with this type of prostheses was not analysed. Such an analysis could probably identify the cause of dissatisfaction of many elderly patients with temporary prostheses.

Therapeutic success in prosthetic rehabilitation with implants is difficult and depends on many factors [7]. However, it seems that for the patient functionality, comfort, aesthetics, corrects speech [9, 15] are significant, and high satisfaction with treatment is more important than the costs of the procedure [14]. It may be stated with certainty that there are definitely more advantages to dental implants than to removable prostheses [2, 18] and, in the case of individual missing teeth treatment, it should be chosen when the expected benefits of implant therapy are greater than those of the traditional treatment with fixed dentures [7].

It is generally known that missing teeth contribute to speech defects. Over 84% of the respondents did not observe speech improvement after the implantation, but they did not find it difficult to adapt to the new prosthesis either. The time necessary for speech improvement is sometimes quite long, and patients need to consult a speech therapist. It was found that as late as 9 years after the procedure, 82% of patients continue to make articulation mistakes, while among people with natural dentition only

52% make such mistakes [11]. Immediately after the treatment, speech may be impaired in as many as 60% of patients, and after 3 years – in 30%. However, an in-depth analysis in this case is difficult because of the possible presence of untreated hearing defects [16].

Our study showed that 94% of the patients were satisfied with the final aesthetic outcome, and according to 82%, the implants looked more natural than their previous teeth. As many as 95% of the respondents were satisfied with the shape and colour of the prostheses. The therapy outcome was compatible with their expectations as well. The percentage of patients satisfied with the outcome was higher than it was reported in other authors' studies [5, 10, 23, 24].

Eighty-nine percent of the patients found it easy to maintain good hygiene of implant-supported prostheses. This is a confirmation of a correctly performed implant-prosthetic procedure and creates the basis for good oral hygiene. It should be remembered that incorrect fillings and prostheses, as well as abnormal teeth location facilitate the formation of dental plaque and inflammation of periodontal tissues [7]. Due to increasing expectations of patients, an important role is played by moral and ethical aspect, along with therapeutic and corrective one. Patients are sometimes unable to make a correct risk-benefit assessment, which results in transferring all the responsibility on the dentists [3]. The latter cannot consider the aesthetic aspect as the most important because their first responsibility as therapists is the responsibility for patient's health [20]. Understanding of this issue by the dentist and the patient is a prerequisite of success [1, 8, 12, 19]. The patients' correct perception of their own appearance is also extremely important as it affects their self-esteem and consequently also the therapy outcome [4, 17].

To recapitulate, it should be stated that our prospective study in the form of a clinical practice audit allowed for critical analysis of the diagnostic and treatment procedures used in a dental centre where they had been performed. This type of study, e.g. a questionnaire survey among patients, may be beneficial both to dental service providers and to patients. Monitoring of effectiveness, systematic analysis and ongoing improvement of diagnostic and therapeutic procedures are important factors contributing to the success of a health centre.

CONCLUSIONS

1. Missing teeth treatment with implants meets patients' expectations to a high degree.
2. Prosthetic implant therapy is a method that allows a fully functional and aesthetic treatment of missing teeth.

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