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Statistical study on the degree of satisfaction of patients with fixed prosthetic dentures.

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Abstract

Introduction: Edentation is a major emergency and has an echo over the entire stomatognathic system. The treatment of partial edentation has undergone major changes in the last decades for multiple causes, including increasing the level of dental, medical education, introducing new techniques, methods, and materials, increasing the duration of retention of teeth on the arch.

Aim of the study: The aim of this study is to determine the degree of satisfaction of patients with a fixed prosthetic denture, to highlight the importance of communication between doctor and patient with repercussions on the results of prosthetic treatment, and evaluate the degree of awareness of oral health and oral hygiene practices.

Material and Method: For this study it was used a self-designed questionnaire, which explored both clinical and non-clinical dental services. The questionnaire consisted of three parts: first part (A) includes socio-demographic indices, part two (B) includes questions related to the doctor-patient relationship, and in the third part (C) the questionnaire asks questions regarding the general satisfaction of the patients with reference to the prosthetic treatment. The questionnaire also includes the material (s) from which the prosthetic denture is performed and the area of the edentation.

Results: The present study was performed on a batch of 117 people, 48 female, and 69 males between the ages of 21 and 60. Our results show that the majority of patients present metallic-ceramic dentures, located in most cases in the lateral area, and the majority of patients are satisfied with the prosthetic treatment. There were no patients complaining about the result of the treatment. Patients are delighted by their relationship with medical staff.

Conclusions: The most important finding of this study states that a large proportion of patients showed a lack of knowledge regarding oral hygiene measures and the importance of maintaining a fixed prosthetic denture using a dental abutment. Also, the majority of the doctors did not pay attention to the post-treatment instructions regarding the maintenance of a fixed prosthetic denture.

Keywords: partial edentation, satisfaction, fixed prosthetic dentures.

Introduction

According to the World Health Organization, partial edentation is one of the most widespread diseases affecting up to 75% of the population in different regions of the world [1].

Delayed recovery and inferior restoration of the continuity of the dental arch in the partial absence of the teeth cause such functional disorders, such as periodontal overload of the remaining teeth, the development of pathological abrasion, biomechanical disorders of the dental-maxillary system.

A distinction should be made between the partial absence of teeth and hypodontia, in which the dental defect is developed due to the absence or destruction of the permanent tooth

bud. The partial absence of teeth is a result of dental caries and its complications, extractions, and/or dental loss due to an accident (trauma), periodontal disease. [1].

Edentation is a major emergency and has an echo over the entire stomatognathic system with the possibility of inducing initially intrasystemic and then supersystemic dishomeostasis [2,3]. The treatment of partial edentation has undergone major changes in the last decades for multiple causes, including increasing the level of dental, medical education, introducing new techniques, methods, and materials, increasing the duration of retention of teeth on the arch. Many researchers have ignored the effects of edentation on general state of health. However, the necessity to take into consideration the

quality of life related to oral health has been increasingly recognized in recent decades and many studies highlight the psychosocial impact of oral disorders [4].

The prosthetic treatment of partial edentation should be regarded as a product of the comparative analysis between the bio-functional advantages and disadvantages that the case implies. In addition to the partial restoration of the functions of the stomatognathic system, a prosthetic treatment raises a series of shortcomings related to the danger of the integrity of the different structures of the stomatognathic system (eg the vitality of the teeth), to facilitate the appearance of other diseases (secondary cavities, periodontal disease), the cost for the treatment is very high sometimes and, last but not least, the risk of failure [5].

This study aims to determine the degree of satisfaction of patients with a fixed prosthetic denture, to highlight the importance of communication between doctor and patient with repercussions on the results of prosthetic treatment, but also to evaluate the degree of awareness of oral health and oral hygiene practices.

Material and method

To determine the degree of satisfaction of patients with a fixed prosthetic denture, we used a self-designed questionnaire, which explored both clinical and non-clinical dental services. To all patients interviewed were explained the purpose, method, and uncertainties based on completing the questionnaire. The sampling method was non-random or of convenience, using available participants. This situation was created for practical reasons. The anonymity and confidentiality of the participants were ensured. The participants answered each question by selecting an element from the five answer categories using the Likert scale, the answer format being the following in ascending order: very satisfied, satisfied, indifferent, dissatisfied, and very dissatisfied. The persons questioned come from Brăila and Mureş.

The questionnaire consisted of three parts.

The first part (A - General provisions) included socio-demographic indices regarding

the patient's sex, age, place of origin. Part two (B-Doctor-patient relationship) includes questions related to the Doctor-patient relationship regarding the professionalism of the medical staff (doctor, nurse), the communication skills of the dentist, the ability to listen to patients, to provide clear explanations and treatment solutions, and also to encourage the patient to ask the doctor about the treatment and provide moral support during the treatment. In the third part (C - Prosthetic Treatment) the questionnaire asks questions regarding the general satisfaction of the patients with reference to the fixed prosthetic treatment, the time granted to perform the dental treatment through fixed prosthetic dentures, the perception of the phonation, the mastication, the aesthetics, the costs of the treatment, and last but not least, post-treatment oral hygiene measures. The questionnaire also includes the material (s) from which the prosthetic denture is performed and the area of the edentation (frontal, lateral, fronto-lateral).

The results were analyzed and processed using Microsoft Office Excel 2018.

Results

The present study was performed on a batch (group) of 117 people, of which 48 were female, and 69 were males between the ages of 21 and 60. The 21-25 age group consisted of 13 respondents, followed by 26-35 years - 42 persons, 59 persons represent the 36-55 age group, and three persons over the age of 56 years. As far as the environment is concerned, 70 are from the urban area, and 47 are from the rural area.

From the study group, the majority of patients present metallic-ceramic dentures, located in most cases in the lateral area.

To the first question, "Did the staff in the dental medicine office (doctor, nurse) have shown professionalism?" most patients (75) responded that they were satisfied. No percentage of dissatisfaction was recorded.

To the second question, "How do you evaluate your relationship with the dentist?" in approximately equal proportion, the patients answered that they are very satisfied with the relationship with the doctor. Similar to the first

question, there were no patients who were indifferent, dissatisfied, or very dissatisfied.

Although most patients on the question "How do you appreciate the attitude of the doctor towards the patient?" are very satisfied and satisfied, only one person in the group declared to be indifferent.

At the question "Did the dentist offer you more treatment solutions?" seven people declared themselves dissatisfied, and eight indifferent to the treatment methods proposed by the doctor, and the other respondents were satisfied (58) and very satisfied (44).

Three people responded that they were dissatisfied with the "explanation given by the dentist." However, 52 people said they were very satisfied, and 62 people said they were satisfied with the clarifications brought by the dentist.

Interesting are the patients' answers to the question, "Did the dentist encourage you to ask questions about the treatment?". Thus five people were very dissatisfied with this aspect, nine dissatisfied, ten indifferent. However, we must take into consideration the perception of the other respondents, as follows, 26 very satisfied and 67 satisfied.

Regarding the question, "Did the medical staff offer you moral support during the treatment?" 4.3% of the total group replied that they were dissatisfied, and 9.4% were indifferent. Most were satisfied - 59%, and only 27.4% of the respondents were very satisfied.

Regarding the "general satisfaction of patients concerning prosthetic treatment," only two people were dissatisfied, no indifferent or very dissatisfied persons were registered, most of the respondents were satisfied (72).

The diversity of clinical cases existing at present in medical practice, submit the dentist to various situations. The time for performing fixed prosthetic dentures is also related to the complexity of the case. The results of the study show that out of the total number of respondents, two people stated that they were dissatisfied, four indifferent, 35 people very satisfied, and 76 people satisfied with the "time allowed to perform the dental treatment through fixed prosthetic denture."

To the question "How do you perceive food chewing after applying the prosthetic denture?" two people replied that they were dissatisfied

with this aspect, and the other 115 respondents were very satisfied (51) and satisfied (64).

There are minimal differences regarding the "perception of the phonation after the insertion of the fixed prosthetic denture," with the following answers: very satisfied (52) and satisfied (65). Also, no indifferent or dissatisfied people were registered.

The planning of the prosthetic treatment from the aesthetic point of view is the process of gathering information and elaborating a plan to approach both the dental disease and the main wishes of the patient. Although most of the patients are very satisfied and satisfied. In approximately equal proportions, three people in the study declared themselves indifferent to the aesthetic parameter, and five people stated that they were dissatisfied with the result obtained through fixed prosthetic dentures.

At the question "How do you rate the costs for the medical services offered?" in descending order, the patients reported the following: satisfied - 66.7%, very satisfied - 23.1%, dissatisfied - 7.7% and indifferent 2.6%; no person declared themselves dissatisfied.

One of the most important aspects of the treatment with fixed prosthetic dentures and which often have a decisive influence on their longevity is the achievement and maintenance of optimum oral hygiene. Regarding the "explanations given by the dentist regarding the post-treatment oral hygiene measures," the following results are interesting: five people were very dissatisfied, 23 - dissatisfied, 14 - indifferent, 19 - very satisfied, and 56 out of those interviewed were satisfied.

It was determined in which percent of the respondents use complementary means of oral hygiene: interdental brushes, silk thread, oral shower so on.

Discussions

The performance of any fixed prosthesis is evaluated by measuring the results of the masticatory function, aesthetics, longevity, as well as the technical complications. When evaluating the efficacy of fixed prosthesis therapy, Anderson in 1998 showed that it is important to consider both clinical parameters and patient ratings [6].

Communication skills and vocational training can be an important tool to improve

these deficiencies: the effects of such training have been proven and can persist over time [7].

The interactive behavior of the dentist seems to be an influential factor in achieving patient satisfaction, a positive relationship, and attitude [8]. Moral support, assessment of the patient's feelings, explanation of the following procedure, and encouraging the patient to ask questions are factors that were evaluated positively in this study. Previous research has compared the relationship between the dentist and the behavior of the patient, indicating that these characteristics were appreciated as an essential aspect of professional competence [9]. The present study indicates the idea that out of the 117 interviewees, in approximately equal proportions, the patients are satisfied and very satisfied with their relationship with the dentist. In the doctor-patient relationship, human and personal aspects have been identified as a significant problem. Satisfaction plays an essential role by respecting the patient, improving oral health care, with every visit to the dentist. Simple questions and information can sometimes significantly affect the quality of communication between the dentist and the patient, which is why the doctor must be not only a good practitioner but also a good psychologist [10].

The finding regarding the communicative behavior of the physician is strongly linked to the communicative style of the patient and his personal or social characteristics that may have important implications for the daily practice of the physician. The physician should be aware of the existing differences in information and involvement of patients from all social levels in consultation, as well as the underlying causes [11]. The doctor should encourage patients to discuss their concerns and ask questions, but they should also listen actively. Our study showed that 57.3% of patients are satisfied with the idea that the dentist encourages patients to ask questions regarding the treatment, 22.2% were very satisfied, 8.5% were indifferent to this aspect, 7.7% were dissatisfied, and 4.3% were very dissatisfied.

Patient satisfaction is an essential source of information that can guide the dentist in performing prosthetic treatment, which will meet the patient's expectations. The way the dentist communicates with patients has been

shown to influence patient satisfaction, at least in the short term. The communication capacity of the dentist is a significant problem both in the management of patients and clinically.

Most of the previous studies have indicated the hypothesis that communication was one of the essential features of the dentist from the patient's point of view [12,13]. It seems that the primary concern of patients was courtesy, and this was a key factor in increasing their satisfaction.

The literature suggests that masticatory difficulty has the potential to have a direct or indirect influence on the psychological and social dimensions of oral health. It has been suggested that such effects may be mediated by limiting the choice of foods and the enjoyment of meals and nutrition [14]. In the study, the high percentage of satisfied patients with their restoration indicates that they are satisfied with most of the functional aspects of the fixed prostheses; the patients interviewed reported that they were satisfied (54.7%) and very satisfied (43.6%) with the masticatory ability after the insertion of the fixed prosthetic denture, and only 1.7% were dissatisfied, the claim is supported by several scientific articles [15,16]. The interviewed patients did not have speech disorders; as a result of the therapy, no participants in this study encountered problems in pronouncing phonemes. However, despite the fact that from a technical and functional point of view the fixed prosthetic denture in most cases was a success, 7.7% of the participants were dissatisfied with the costs of the fixed denture, 2.6% were indifferent, and the rest were satisfied or very satisfied with the prices.

With all the progress made in the various fields of science and technology, dentistry still preserves its art attribute. Often patients are more interested in the aesthetic aspect of the restoration than the functional one. The social impact of facial physiognomy, the desire to appear as young and pleasant as possible, explains this change of attitude. As perfect as a prosthetic restoration is from a functional point of view, if it is not in accordance with the patient's physiognomy and personality, it can be considered a failure. The influence of a beautiful smile on general facial aesthetics, well-being, and self-image is quite obvious. A

beautiful, intact denture display is the key element in creating an attractive smile. The patient's ability to maintain his normal facial expression is probably the most important psychological factor for accepting fixed dentures [16,17,18]. Thus the results of our study show the following: five people dissatisfied with the aesthetic aspect, three indifferent, and the other respondents are satisfied and very satisfied in approximately equal proportions.

If we were to talk about the material (s) from which the fixed prostheses are made, 79 people in this study present metal-ceramic dentures, 27 people present metal-acrylic dentures, seven patients metallic dentures and four persons ceramic zirconium bonded. The literature states that the metal-ceramic dentures are considered the gold standard in reconstructive dentistry over decades [19,20].

Also, in the literature, we find the correlation between the social level of the patient and the materials from which the fixed prostheses are made. One aspect that should be considered in the case of a fixed denture could be the length of the reconstruction. Studies have shown a higher fracture rate as the length of the denture prosthesis increase [20-23].

It is the responsibility of the dentist to inform patients about the proper oral-dental hygiene, specific to patients with fixed restorations, which is still required to be maintained at a high rank, to prevent the pathogenicity of bacteria that is closely linked to the occurrence of caries lesions, gingivitis, and marginal periodontitis at the level of the teeth [24]. If we were to talk about the post-treatment oral hygiene measures explained by the doctor, then we can say that a relatively large number of patients, namely 23 out of a total of 117, are dissatisfied and five very dissatisfied with the doctor's instructions regarding oral hygiene dental. Also, 14 people were declared indifferent to their dental health, and the other 75 respondents replied that they were very satisfied (19) and satisfied (56). The most important finding of the present investigation: only a small part of the total group (16 persons) use complementary methods of oral hygiene daily, 57 persons use only occasionally, 44 of the 117 patients interviewed reported that they did not use

complementary methods of oral hygiene, which shows the lack of knowledge regarding the importance of maintaining the fixed prostheses; the main reason was the lack of post-treatment training, usually provided by the attending dentist, this statement is supported by data taken from the literature [16,24,25].

Epidemiological research conducted in Banat on a group of 535 patient with fixed dentures reveals interesting aspects:

- a) Almost half of the fixed prosthetic dentures were metal-acrylic, the other half being metal-ceramic and metal-composite.
- b) The number of fixed restorations in the maxillary bone (55.5%) is close to that of the mandible (44.5%). In both situations, fixed prostheses in the lateral area predominate, which suggests the predominant presence of edentation in this area.
- c) The convex shape of the intermediaries (in the ridge area), favorable for self-cleaning and sanitation was 47.1%. The concave shape of the mucosal face of the intermediates was detected in 37.9% and an inadequate form in 15% of the cases.
- d) Food retention and plaque accumulation were observed in 50.8% of patients, with 24.3% showing inflammatory signs.
- e) 85.4% of the patients in the group recognize the need for brushing and hygiene of the fixed partial prostheses; 66.6% maintain hygiene through dental brushing without respecting their correct frequency, and 27.6% have heard of the need to use dental floss [25,26].

The limits of the study would be the following: was not took into consideration the duration from the insertion of the fixed prosthetic denture, the evaluation of the abutment, of the supporting tissues, whether or not the patient showed up to regular check-ups. The sample we used to conduct the study is relatively small, and the results of this research reflect more or less the attitudes of this group of interviewees. Another side of the study that was not taken into consideration is the general health of patients. For more eloquent results, it is preferable to study a more substantial population group, collaborating with other doctors to compare the results of

the treatment performed by general practitioners with the experience of the specialist. Also, patient satisfaction assessment should be evaluated before oral rehabilitation, after insertion, one year, and three years after treatment. An important link that was not taken into consideration was the patient's educational level, given that the differences in education correspond to the different access to information and different levels of benefits from the new knowledge acquired.

The communicative behavior of patients is directly influenced by their personal and social attributes, such as educational level, age, sex, anxiety, etc. The literature shows that patients with higher education communicate more actively (ask more questions, are more aware) and express affective expressiveness, obtaining more information, but at the same time have less difficulty when interacting with the doctor. Patients from a lower social level, and doctors often find themselves in a vicious circle. These patient communications and actions (for example, fewer questions, less opinion, less affective expression, lower preference for joint decision-making) generate less physician-involved behavior, with fewer partner statements. Physicians behave differently during consultations with patients from lower social levels [27,28]. Efforts must be made to develop teaching methods, encouraging and focusing on communicating with patients in the lower social classes. Therefore, these patients should be empowered to express their concerns and preferences. It has been shown that interventions to increase the participation of patients with low studies have a good response and lead to measurable and clinically essential improvements in health outcomes [29,30].

Conclusions

1. Providing information, providing moral support, appreciating the patient's feelings, and explaining the procedures are positively related to patient satisfaction.
2. This study showed that the vast majority of patients were satisfied with all the functional aspects of their fixed prostheses.
3. Strong interpersonal skills are often the necessary element for developing confidence in the doctor, adherence to the

recommendations of care of the dentures, and the agreement with the treatment recommendations.

4. The real understanding of all aspects of the complete and integral aesthetic dentistry found in the philosophical triad represented by "health, function, and beauty" will help the dentist to provide optimal dental care.
5. Good communication within the dental team is an essential factor in improving the final result and reducing the time required to achieve the proposed goals.
6. The most important finding of this study states that a large proportion of patients showed a lack of knowledge regarding oral hygiene measures and the importance of maintaining a fixed prosthetic denture using a dental abutment. Also, it is really important to know that the majority of the doctors did not pay attention to the post-treatment instructions regarding the maintenance of a fixed prosthetic denture.

Conflict of interest: None to declare.

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