Perception of Patients of their Quality of Life after Dental Implant Therapy

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Abstract

This study aimed to identify individuals' perception of their quality of life after placement of dental implants. It is a qualitative survey carried out with 14 patients. A semi-structured guide with six questions based on the domains of the Oral Health Impact Profile (OHIP-14) was used. The interviews were transcribed and analyzed according to the content analysis method. From the data analysis, four categories emerged. In the first category, named "Functional Limitation", the respondents mainly reported difficulty chewing and pronouncing words. For the second category, "Physical Pain", they frequently reported spontaneous pains or when chewing. The third category is related to "Psychological and Social Discomfort" with reports of moments of embarrassment, anxiety, despair and shame. In the last category, "Relation of Implants with the Quality of Life", the interviewees mentioned improved chewing ability, relief of discomfort and pain, and improvement in aesthetics and self-esteem. The findings of the present study demonstrate the importance of understanding the subjective aspects relating to missing teeth and oral rehabilitation and the perception that an individual has of how much these aspects impact on their quality of life and well-being.

Keywords: Oral health. Impact of oral health. Quality of life. Dental implants

1 Introduction

It is known that oral alterations compromise the individuals' general health by interfering adversely with their quality of life (QL), affecting their lives either at work or socially. It is necessary to recognize the importance of social and psychological aspects in these cases, and odontology plays a key role in evaluating and determining the need for treatment of decayed, missing and filled teeth, for example. However, such indices do not consider the individual' subjective perception and do not determine how oral health affects their daily living (Gomes & Abegg, 2007).

Over the last years, a decrease in the number of dental losses has been observed, because individuals have been able to keep their own teeth much longer (Müller, Naharro, & Carlsson, 2007). And this is more significant if we consider the increased human life expectancy. In this regard, tooth loss or even edentulism may pose significant consequences for an individual (Reissmann et al., 2018). Masticatory deficiencies may result in a dietary change since individuals would choose some foods over others because they are easier to chew, and this may lead to inadequate nutritional intake (Sheiham & Steele, 2001).

Also, missing teeth may contribute to digestive problems, negative self-perception of appearance, negative impact on social relationships, affecting quality of life in the social, aesthetic, functional and psychological domains (Teofilo & Leles, 2007). Tooth loss interferes in the oral health-related quality of life (OHRQL). The greater the loss, the greater the impacts on the OHRQL, being more significant in case of edentulism (John et al., 2003) which is still an important public health problem (Reissmann et al., 2018).

Oral health-related quality of life can be considered as a subjective concept based on the assumption that oral health issues affect individuals (Johansson, 2015). Locker (2007) define that OHRQL consists of the impact of oral disorders and diseases on daily living aspects, with sufficient magnitude in terms of frequency, extension and severity to interfere in the experiences and perceptions that individuals have of their life as a whole. In this context, four domains are reported to be considered by an individual when assessing his OHRQL, which are considered an important predictor of general health and well-being (Inglehart & Bagramian, 2002; Sischo & Broder, 2011) .They are: oral health-related functional aspects, psychological aspects, social problems and experiences of pain and discomfort (Inglehart & Bagramian, 2002).

Thus, dental rehabilitation in edentulous sites with dental implants has been successful, and patients have considered this kind of treatment appropriate and important for the improvement of their quality of life (Garcia-Minguillán, Del Río, Preciado, Lynch, & Castillo-Oyagüe, 2020; Pappalardo et al., 2018; Yusa et al., 2017).

Patients rehabilitated with implants and implant-supported prostheses have shown a better oral quality of life and an improvement in overall health when compared with patients rehabilitated by conventional treatments (Strassburger, Kerschbaum, & Heydecke, 2006). Therefore, regardless the type of dental prosthesis used, oral rehabilitation influences psychologically the individual's life, since the lack of one or more tooth has an impact on several daily activities, affecting their quality of life. Thus, more than restoring the masticatory function, when seeking a rehabilitation treatment, patients expect to improve their personal, social image and their quality of life (Beloni, Vale, & Takahashi, 2013).

However, there are not many reports in the literature addressing the patients' perception of the relation of their oral health quality of life with their overall health (Basklrt & Zulfikar, 2009).Thus, the aim of this study was to evaluate the individuals' perception of their quality of life after placement of dental implants.

2 Method

This is a qualitative study carried out with patients who underwent surgery for dental implant placement. Data were collected at a private dental care clinic located in a mid-sized city in Serra Catarinense, Brazil, with patients who returned for a follow-up visit. During the visit, the patient was invited to participate in the survey after being informed of the objectives of the study. If he or she agreed to participate, the process of completion of the Free, Informed Consent Form started. The participants had the necessary time to read the document according to their availability. The researcher was ready to clarify any doubts or questions that could arise.

With the participant's agreement, the interview was recorded (audio only) and afterwards transcribed. A semi-structured guide was built based on the dimensions of the Oral Health Impact Profile (OHIP-14). The OHIP-14 is an instrument validated by Slade (1997) and is widely used. It comprises seven dimensions: Functional Limitation, Physical Pain, Psychological Discomfort, Physical Disability, Psychological Disability, Social Disability, and Handicap. Although this instrument is the most largely used, it was decided for a qualitative study because of the number of patients as well as the scarcity of qualitative studies on this subject, thus allowing us to examine subjective issues. Thus, the interview guide comprised six questions, as described in Table 1.

Table 1. Questions of the interview carried out with patients with dental implants

What were the reasons that made you seek implant therapy? Did you feel pain, or something like that, did you have any limitation in speaking, in pronouncing words?
In the oral health condition, did you experience any embarrassment or constraint?
Were you afraid of undergoing the surgery to place the implant?
Did your quality of life change after the implant placement?
Which are the positive and negative points of the procedure?

Source: The authors, 2020.

The transcription was carried out with much care to maintain the exactitude of the answers. The answers were distributed into groups, and then analyzed. The transcription was analyzed based on the method of content analysis proposed by Bardin (2009), giving origin to the main categories used for analysis of the discourse of all interviewees. These codes were formed by subcategories grouped together by similarity for extraction and better understanding of the results.

This study was approved by the Research Ethics Committee of the University of Planalto Catarinense, process number 3.942.267.

3 Results and Discussion

Fourteen participants were interviewed, six men and eight women. The respondents' mean age was 50 years. With respect to systemic conditions, one patient had diabetes and high blood pressure, and two were smokers.

The first category of analysis was "Functional Limitation", which emerged from the subcategories "Difficulty Chewing" and "Difficulty Pronouncing Words".

It was observed from the interviews that the majority of the patients reported chewing difficulty due to missing tooth and also some cases of difficulty pronouncing words, either by the absence of tooth or the use of prostheses.

"... because chewing was then very deficient, and it was really necessary to correct such difficult chewing, right? Also, very limited in speaking words..." (Respondent 1)

"It really was a big problem ... I couldn't bite." (Respondent 2)

"I couldn't eat ... I used prosthesis... It caused bristles on my upper gums." (Respondent 8)

"Chewing. Then the doctor told me that I had to chew foods well." (Respondent 5)

"I used removable partial denture... had difficulty speaking and it always created saliva in my mouth... I brushed it every day, it began to loosen up.... Sometimes, I was eating and it fell ... the clamps caused much discomfort ... food remained underneath." (Respondent 6)

"... difficulty that I had during meals, which was a problem without teeth. Then I had a removable partial denture, but I didn't get used to it." (Respondent 13)

"I also had difficulty pronouncing words. Sometimes I spoke whistling." (Respondent 9)

Missing teeth and reduction of the saliva flow rate hinder adequate chewing and swallowing of food, impairing the general health and well-being of an individual. Furthermore, depending on the kind of foods chosen to make the lack of tooth easier may lead to nutritional deficiency (Sheiham & Steele, 2001) and cause an atrophy of the masticatory muscles, with reflection on the facial aesthetics and self-esteem of the individual (Brunetti & Montenegro, 2002)

The category and subcategories of indications of "Physical Pain" caused by problems with teeth, prostheses or in oral cavity indicate whether the patient feels spontaneous pain or when chewing.

Most of the respondents reported pain or much pain before the surgery when performing basic oral functions, such as eating or speaking. Pain played a key role in the decision to undergo the surgery, because the patients indicated that more than the difficulty in speaking or social constraints, pain was the main motivation in the decision to seek dental therapy.

"I felt pain." (Respondent 1, Respondent 14)

"I felt pain because of dirt that remained in the place of the missing tooth, I felt much pain." (Respondent 2)

"I had much pain, much pain." (Respondent 8)

"I felt lots of pain." (Respondent 9, Respondent 10, Respondent 11)

"I had much pain, much pain. There was this dentist who made a prosthesis for me. I was so desperate that I threw it out, told him to use it." (Respondent 8)

Pain is a complex phenomenon, having physical, chemical, emotional, cognitive, psychological, behavioral, and social aspects. Toothache and its psychosocial impact can be good indicators of quality of life and health through a subjective and behavioral analysis (Josgrilberg & Cordeiro, 2005).

Toothache can represent a public health problem because, in addition to its large occurrence, it generates a negative impact on the quality of life of people and in society as well (Feitosa, Colares, & Pinkham, 2006). Sönmez& Mehmet (2016) also corroborate this statement and complement saying that physical pain and functional limitation has a significant effect on physical and mental quality of life.

The category and subcategories of indication of "Psychological and Social Discomfort" caused by problems with teeth, prostheses or in oral cavity shows whether the patient felt personal embarrassment, anxiety, despair or shame in any situation before the surgery.

Although it is known that aesthetic aspects and social relationship can be directly affected when there is a visible dental problem, few interviewees confirmed that this issue was important for their quality of life.

Obviously, after the surgery this aspect improved significantly, but it did not seem that the embarrassment felt in these moments was a major motivator. For those who responded having felt embarrassment, there was a feeling of satisfaction after the implant placement, because they were now free to attend social events without tension.

"I spoke like if I've drunk. It annoyed me." (Respondent 6)
"I wanted to improve the quality of life and my appearance too." (Respondent 10)
"... to be in a party, a restaurant, it is something else." (Respondent 13)

By recognizing the interrelationship between Oral Health and Overall Health (Sischo & Broder, 2011),the need for appropriate biological and psychological conditions becomes clear, so that individuals can functionally exercise mastication, swallowing and phonation as well as exercise self-esteem and social relationship by means of aesthetics, without constraints (Narvai & Antunes, 2003). In case of difficulties in any of these functions or conditions, you will be facing a picture of disability, which can affect individuals in many ways, compromising their quality of life in several levels (Narvai & Antunes, 2003).

The category and subcategories of indications of the perception of the "Relation of the implant placement with the quality of life" shows that there was improvement in chewing, relief of discomfort and pain and improvement in appearance and self-esteem.

All respondents reported that their quality of life improved after the surgery and some of them even regretted having taken so long to decide for the implant therapy if they knew it would have such a positive effect.

Improvement was visible and none of them reported any negative aspect during the treatment or after surgery. It is important to mention that the improvement was not only physical, but also psychosocial.

"... it helps a lot... it's a pity I haven't done it before, by fear of anesthesia, but now I am really happy. There was no problem at all, on the contrary, only positive points. I felt pain." (Respondent 1)
"It improved a lot… I say: do the implant because it pays off. Sometimes, you know, I forget that I do not have my natural teeth." (Respondent 2)
"It gave me a better life. In chewing, a better look ... I think everyone should seek care to improve their oral health." (Respondent 3)
"You can even break bricks inside ... no negatives... not in brushing, everything is fine, perfect." (Respondent 5)
"It changed a lot. Today I'm not afraid of eating. I only avoid some foods." (Respondent 7)
"It improved 1000%. If I'd give an advice to someone, I'd recommend do it." (Respondent 8)
"Little by little I made my mind that I need it to eat. It is interesting, quite good. Today it's fine. I am very happy for having done it. It was one of the best things that I've done for my quality of life." (Respondent 9)
"Much better, very positive, really much better. Eating improved, appearance, smile improved." (Respondent 10)
"Quality of life today is something else. Sometimes, when I see that I could chew very hard things! I then think: will it break? Because I was very afraid this could happen." (Respondent 12)

Scientific literature has proven that the use of implant-supported prostheses is effective in promoting health and quality of life (Formighieri & Salvi, 2010; Strassburger et al., 2006) and social reintegration (Goiato et al., 2013). In this aspect, the technical quality of the professional also interferes in achieving the desired goals, preserving, recovering and/or restoring the masticatory functions properly and preventing the emergence of possible pre-cancerous lesions (Formighieri & Salvi, 2010)

However, not always the professional's point of view was the same of the patient. As reported earlier by some patients, many of them were afraid of placing the implant and regretted having taken so much time to decide, considering the improved oral health quality and, consequently, the quality of life in general and well-being.

The fear of some patients was related to the presence of systemic diseases. They used some medications that could result in osteonecrosis, or had habits such as smoking.

I was afraid of rejection by my body because of cigarette, you know? Not of the thyroid. (Respondent 9)

Yes, I was, because I went to another surgeon and she told me that she would not take the risk of necrosis. That it should be that way. She would make removable partial denture because there was no other solution, there was no point in doing it [the implant] because I had taken alendronate for several years and this would cause necrosis; there was no solution. (Respondent 12)

It was observed that there is no consensus in the literature on contraindications for implant surgery in systemically-impaired patients, mainly due to the lack of randomized clinical studies (Lopez-cedrun et al., 2013; Manor, Oubaid, Mardinger, Chaushu, & Nissan, 2009; Guobis, Pacauskiene, & Astramskaite, 2016; Vissink, Spijkervet, & Raghoebar, 2018).

The use of medications such as alendronate, as cited by respondent 12, may predispose to the osteonecrosis of the jaws, which has a higher risk of developing after invasive dental treatments such as the placement of implants, for example, (Marchini & Silva, 2013), but data are controversial in the literature (Jacobsen et al., 2013; Lazarovici et al., 2010; Lopez-cedrun et al.,2013).

Smoking hinders the success of implants because it causes vasoconstriction, reduction of blood flow and angiogenesis and, therefore, it interferes with a good post-surgical process (Almeida, Matheus, Novaes, Faleiros, & Braite, 2015; Miranda, Oliveira, Egas, Ponzoni, & Naves, 2018).

Given the above, it is important to understand how individual issues such as physical limitations, functional limitations, psychological disabilities, pain, among others, may interfere in the individual's perception of their impact on the oral and overall quality of life (Sischo & Broder, 2011).

Also, it is necessary to understand that the subjective demands can be influenced by other factors that go beyond a tooth loss, but are related with age, cost of treatment, cultural and psychosocial aspects and access to health care services (Durham et al., 2013). Such sensitivity in being able to distinguish clinical conditions of oral health and systemic health, and the perception that the individual has of them and how much they impact on their quality of life and well-being are fundamental, so that the professional can decide together with the patient the best treatment.

5 Conclusions

It was clear that before the surgical procedure, the patients' oral health conditions had a negative impact on their lives. Difficulty chewing, in the ability of speaking clearly, pain, constraints and embarrassments are among the symptoms reported, which showed how much the oral health conditions interfered not only with their physiological, functional but with the emotional and social aspects as well. On the other hand, satisfaction after the treatment was remarkable. Positive comments about the treatment and how it exceeded expectations were identified, corroborating the findings of other studies, which used instruments with analysis of quantitative data, and show that patients rehabilitated with implants and implant-supported prostheses present better indices of oral quality of life and overall health.

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