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QUALITY OF LIFE AMONG INDIGENOUS PEOPLE USING A SIMPLIFIED REHABILITATION TECHNIQUE

Qualidade de vida em indígenas reabilitados por técnica simplificada

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Abstract: The rehabilitation with dental prostheses of Indigenous people edentulous put in villages has been a challenge for the institutions responsible for Indigenous health care in view of the difficult logistics of displacement of Indigenous people to urban centers. Retrospective observational study. Nineteen edentulous indigenous people were rehabilitated by the simplified technique “Prosthesis in one day”. Before making the prosthesis (t0), the patients were submitted to a clinical examination and interview for the application of the OHIP-14. Prostheses Adjustments prostheses were made when necessary. After one year (t1), a new

interview was conducted and in addition to questionnaires to assess the quality of life, one was applied to evaluate the perception of quality, comfort and chewing ability in relation to the prostheses. There was a significant decrease in oral health impact on patients' quality of life in all OHIP-14 domains (median t0 = 33.0; median t1 = 0.0; effect size = 4.69). In general, the scores given by patients for the upper and lower dentures were high after one year of use. There was a positive impact on chewing. The “Prosthesis in 1 day” technique proved to be a good alternative for the rehabilitation of villagers, positively impacting their quality of life.

Keywords: Dental Prosthesis. Edentulous Arcade. Oral Health. Quality of Life.

Resumo: A reabilitação de indígenas edêntulos aldeados é um desafio em vista da difícil logística de deslocamento até os centros urbanos e neste sentido o objetivo deste estudo foi avaliar o impacto na qualidade de vida e percepção quanto satisfação geral, qualidade e habilidade mastigatória da prótese recebida no primeiro mutirão “Prótese em um dia / Distrito Sanitário Especial Indígena – Bahia”. Estudo observacional retrospectivo. Dezenove indígenas edêntulos foram reabilitados pela técnica simplificada “Prótese em um dia”. Os pacientes foram submetidos, antes da confecção das próteses (t0), ao exame clínico e entrevista para a aplicação do OHIP-14. Ajustes das próteses foram realizados quando necessários. Após um ano (t1), realizou-se nova entrevista para avaliação da qualidade de vida e percepção em relação à prótese. Houve diminuição significativa em todos os domínios do OHIP-14 (mediana t0 = 33,0; mediana t1 = 0,0; p = 0,0003; tamanho do efeito = 4,69). De um modo geral, as notas atribuídas pelos pacientes para as próteses superiores e inferiores foram altas após um ano de uso. Houve impacto positivo na mastigação. A técnica “Prótese em 1 dia” mostrou-se uma boa alternativa para a reabilitação de indivíduos aldeados impactando positivamente na qualidade de vida.

Palavras-chave: Prótese Dentária. Arcada Edêntula. Saúde Bucal. Qualidade de vida.

INTRODUCTION

Indigenous Brazilians are made up of different peoples, who have lived in the country since before the Portuguese colonization¹. At this time, it was estimated that indigenous populations totaled around five million people², although these numbers have suffered drastic reductions over the centuries, due to the affliction by diseases brought by Europeans and conflicts with colonizers. The last census conducted by IBGE (the Brazilian Institute of Geography and Statistics) in 2010 found there were 896,900 indigenous people in the country, from 305 ethnic groups, speaking 274 languages¹.

The Brazilian Federal Constitution and the Organic Health Laws (Law No. 8,080/1990 and Law No. 9,836/1999) recognize the specific ethnic and cultural characteristics of indigenous peoples. The health of the indigenous population requires a complementary and targeted model of services aimed at the protection, promotion and recovery of health^{3,4}, detailed in the National Policy for the Health Care of Indigenous Peoples⁴ and in the Guidelines of the Indigenous Component of the National Oral Health Policy^{5,6}. The purpose of these policies is to guarantee comprehensive care in accordance with the principles and guidelines of the National Health Service (or SUS), respecting social, cultural, geographical, historical and political diversity, and recognizing the effectiveness of traditional medicine, to overcome factors that make this population more vulnerable to health problems.

At the same time, there is a high prevalence of edentulism among the public health problems in Brazil, especially in older individuals and residents in the north of the country, followed by the northeast⁷. Among the indigenous population, the prevalence of edentulism is even higher than in the general population^{8,9}.

While it is recommended that edentulism is treated in Primary Care, this treatment has been commonly performed in specialized care, through the installation of removable complete dentures, the manufacturing processes of which comprise five sessions involving clinical procedures, followed by laboratory procedures. Such techniques for the manufacture of complete dentures, spread over five sessions, are also recommended by the Ministry of Health, through a manual entitled Oral Health in the National Health Service¹⁰, and must be carried out in Basic Health Units or in Specialist Dental Centers, according to the organization of the municipal region.

The Pataxó indigenous people live in the extreme south of the state of Bahia, in 36 villages, distributed over six indigenous lands: Águas Belas, Aldeia Velha, Barra Velha, Imbiriba, Coroa Vermelha and Mata Medonha - located in the municipal regions of Santa Cruz Cabrália, Porto Seguro, Itamaraju and Prado. Aldeia Velha, located in Arraial D'Ajuda, in the municipal region of Porto Seguro, covers an area of 2010 hectares, 80% of which is native forest, and a mangrove area of approximately 10 km². Data from the Indigenous Health Care Information System (or SIASI) recorded, in 2010, 11,436 inhabitants in 19 of these villages, with 928 inhabitants in Aldeia Velha¹¹.

According to the 2016 annual management report¹², due to structural and logistical issues, the movement of indigenous people to urban centers is difficult or even impossible,

which, together with the scarcity or even lack of specialized services in the vicinities of indigenous villages, makes prosthetic rehabilitation procedures for the indigenous population of the Special Indigenous Health District – Bahia (or DSEI Bahia) almost non-existent. The demand for prosthetic services in the region is much higher than the installed capacity.

Based on the complexity of conventional techniques for making dentures, which involves five clinical and laboratory sessions, assisting indigenous villagers with their dentures needs is extremely difficult. It is therefore essential that simplified techniques of prosthetic rehabilitation, which have been found to be effective, are used for the oral rehabilitation of this population. Randomized, controlled and blind studies have shown that simplified techniques are capable of producing comparable results to traditional denture-making techniques, based on both patient satisfaction and the quality of the dentures^{13,14}. The simplified technique has a lower cost and shorter clinical/laboratory period and is able to restore masticatory function to a level comparable to the conventional protocol, as well as improving oral health related quality of life^{15,16,17}.

Although techniques simplified to three and four sessions have already been described^{13,18,19}, these methods also create difficulties, as they require the transport of the indigenous peoples to urban centers.

In this context, the Dentures in One Day Technique was proposed, based on four basic pillars. The first consists of the use of prefabricated, flexible dental arches with adjustable teeth (patent PI0602107-7 B1). With this technology, the artificial teeth are pre-assembled on a flexible support base made of acrylic elastomeric material, capable of three-dimensional movement. The flexibility of the elastomer allows the base to be adapted to the patient's anatomy, and the set of upper and lower teeth to be assembled at the same time. The base material also allows the position of the teeth to be adjusted individually, in case the correction of aesthetic, phonetic or occlusal problems is required. The bases of the prefabricated dental arches are made of temporary material, which is completely removed during the acrylization of the dentures and is replaced by heat activated acrylic resin (HAAR) based on poly (methyl methacrylate) (PMMA).

The second pillar is the application of a simplified technique, involving making and installing the parts of the dentures on the same day. In the morning, patients undergo the taking of anatomical and functional impressions, intermaxillary registration, and assembly and testing of the arches. In the afternoon, the laboratory processing stages are carried out, which include

muffle inclusion, acrylization of the thermally activated acrylic resin in the microwave, and finishing and polishing, so that at the end of the day, patients receive the complete conventional dentures.

The third pillar involves a mini laboratory with equipment necessary for the acrylic and finishing steps, as well as the availability of a dental technician with experience in resin. For the dentures to be made on the same day, it is necessary for the prosthetic technician works together with the dental surgeon, to synchronize the procedures, so that processing is quicker.

The fourth pillar involves the creation of the final product, with the prosthetic apparatus received by the patient taking the form of dentures pressed in heat-polymerized acrylic resin, by placement in a plastic muffle using a silicone barrier, pressing in a hydraulic press and a microwave polymerization cycle, followed by finishing and polishing.

For the Dentures in One Day campaign, a partnership agreement was signed between the Special Indigenous Health District - Bahia, the Special Secretariat for Indigenous Health - Ministry of Health, Inova/UNICAMP and the Faculdade São Leopoldo Mandic (São Leopoldo Mandic University) (Campinas, São Paulo).

The present study was carried out to assess the impact on the quality of life of the rehabilitated indigenous people and their perception of general satisfaction, chewing ability and quality of dentures made in the first “Dentures in One Day/Special Indigenous Health District - Bahia (DSEI-BA)” campaign in Aldeia Velha, Bahia.

METHODS

Ethics Committee Approval Statement

The research has been approved by the Ethics Committee of the institution responsible for the research (Protocol 4.108.212; CAAE: 32615620.6.0000.5374;).

Study design, location, and period

This observational epidemiological, retrospective cohort study was carried out in Aldeia Velha, in the municipal region of Arraial D'Ajuda (Bahia), from 10/01/2018 (first stage) to 11/29/2019 (fourth stage).

Details about the Dentures in One day Campaign

To implement the Dentures in One Day/DSEI BAHIA campaign, a partnership of cooperation was established between the following institutions:

- Bahia Special Indigenous Health District (DSEI BAHIA) – the federal agency responsible for the management of Indigenous Health in the state of Bahia.
- Special Secretariat for Indigenous Health (SESAI) / Ministry of Health - federal body responsible for coordinating and executing the National Policy for Indigenous Healthcare in the SUS.
- Inova / UNICAMP – the UNICAMP innovation agency responsible for managing the intellectual property generated at the university and for authorizing the use of the arches covered by patent: PI0602107-7 B1 / UNICAMP.
- Faculdade São Leopoldo Mandic (Campinas, São Paulo) - responsible for the making and provision of eighty free pairs of prefabricated dental arches for DSEI Bahia, with twenty pairs used in the Aldeia Velha campaign; providing technical and scientific advice for the implementation of the project.

Based on the agreement, theoretical-practical training of six dentists from the DSEI Bahia team was carried out by the SLMandic professors for the manufacture of complete dentures using the Dentures In One Day technique. Such training was given by a team of three professors and lasted 32 hours, during which the participants received technical training for the clinical and laboratory stages of denture processing.

After this, the first “Dentures in One Day/DSEI Bahia” campaign was organized, with a duration of five days of activities. During the period, the dentures were made in a clinical environment assembled at the Cultural Center, where five pairs of dentists from DSEI Bahia worked, using portable equipment and school tables. Laboratory services were performed by two dental dentures technicians, who worked in an attached mini laboratory. The team had three indigenous oral health assistants, who were responsible for organizing the environment and sterilizing the instruments.

Among the dentures produced in the joint effort, twenty double or mono-maxillary complete dentures were made, using twenty pairs of prefabricated dental arches and two partial dentures.

As part of the actions of the “Dentures in One Day/DSEI Bahia” campaign, all patients underwent the following four phases:

Phase I (t0) - Screening of patients

The first consultation, about 45 days before the campaign began, aimed to screen indigenous people who required dentures. At this stage, the dentist from the village health team performed anamnesis, clinical examinations and selected the group of people to be rehabilitated. A semi-structured interview was carried out to analyze problems related to the lack of teeth and the expectations regarding the dentures. All patients answered the socio-clinical-demographic questionnaire and underwent an initial assessment of quality of life by responding to the OHIP-14 instrument, a questionnaire that consists of analyzing, through 14 items, seven dimensions: functional limitation, physical pain, psychological discomfort, physical disability, psychological disability, social disability and handicap. For each of the 14 questions, a five-point scale was used, where the answer determined the score of each question: Never = 0; Almost never = 1; Occasionally = 2; Almost always = 3 and Always = 4²⁰.

Phase II - Manufacturing of dental dentures

The objective was to offer a dental dentures service. During the joint venture, the team of dentists from DSEI Bahia, with the support of two prosthetic technicians and the supervision of professors from Faculdade São Leopoldo Mandic, made dental dentures for the Pataxó, and twenty edentulous patients were rehabilitated using complete dentures. The dentures received by the patients in the task force were made of pressed thermally activated acrylic resin.

Phase III - Subsequent controls

This phase sought to carry out prosthodontic, basal and occlusal adjustments and the evaluation of the prosthetic services performed. The indigenous people who received prosthetic treatment underwent up to four Post-Installation Control and Adjustment sessions, until the patient demonstrated they were comfortable with the use of the dentures. Such adjustments were made by the village dentist and one of the professors from Faculdade São Leopoldo Mandic.

Phase IV (t1) - Final evaluation

This was carried out between 25/11/2019 and 29/11/2019, to assess the integrity of the mucosa and the hygiene conditions of the dentures. Basal and occlusal adjustments were made,

as required. Patients answered a questionnaire regarding their satisfaction and chewing ability¹³ in relation to the dentures received, and again responded to the OHIP-14 instrument²⁰.

Data related to satisfaction and masticatory ability were assessed using a questionnaire and visual analog scale. The analysis of satisfaction considered: general satisfaction, masticatory ability, stability, aesthetics, phonetics, comfort and ease of cleaning. Masticatory ability was assessed by the patient's self-perception of chewing the following foods: bread, cheese, meat, apples, coconut, carrots, tomatoes and lettuce. Another semi-structured interview was carried out, aiming to highlight the degree of patient satisfaction with the dentures, and the benefits generated (or not) from their use.

Data collection

The data used were based on information obtained through questionnaires and interviews of indigenous patients from Aldeia Velha, collected during the Dentures in One Day/DSEI Bahia campaign.

Sample group and inclusion and exclusion criteria

The sample consisted of twenty-two patients located in Aldeia Velha. They were included based on the following criteria: of both sexes, totally or partially edentulous, normal ridges, good general health, good neuromuscular coordination. Those who were rehabilitated with partial dentures and those who could not be in phase IV were excluded.

Data analysis and statistics

Initially, a descriptive analysis of the sample was carried out through the distribution of frequencies, measures of central tendency and variability. Since the data did not meet the assumptions of parametric analysis, Wilcoxon's nonparametric tests were used to compare the impact of oral health on quality of life between the stages (t0 and t1) and to compare patients' perception of the upper and lower dentures. The comparison between patients' perception of chewing different foods was performed using the Friedman tests. The effect size was calculated. All analyzes were performed using the R¹ program, with a 5% significance level.

¹ R Core Team (2020). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria.

RESULTS

Twenty-two patients were selected in phase I of the project, though one did not attend the fabrication of the dentures, two were rehabilitated with partial dentures and one did not attend the 1-year reevaluation, stating that he did not use the dentures as he had thought implants were to be installed. Thus, based on the exclusion criteria, the present study involved nineteen people in phase I (four rehabilitated with upper dentures and fifteen with double dentures) and eighteen people in phase IV.

The average duration of edentulism identified in the sample of the rehabilitated patients was 15.3 (\pm 15.3) years. Table 1 shows that tooth decay was reported as the cause of tooth loss by all patients. Problems with eating and smiling were the most cited problems faced due to missing teeth. Among the reasons for not using dentures, financial factors appeared most frequently. Finally, among the expectations regarding the dentures to be made in the village, the most cited were an expectation to improve one's smile and to chew better.

Table 1. Descriptive analysis of the profile of patients included in the first "Dentures in One Day/DSEI Bahia" campaign in Aldeia Velha/Bahia (n = 19).

Variable	Category	Frequency (%)
Cause of tooth loss	Dental caries	19 (100.0%)
	Disease of supporting structures of teeth	2 (10.5%)
Problems caused by missing teeth	Eating	13 (68.4%)
	Smile	12 (63.2%)
	Speaking	6 (31.6%)
	Talking	6 (31.6%)
	Chewing	5 (26.3%)
	Embarrassment	3 (15.8%)
	Sense of taste	2 (10.5%)
	Self-esteem	2 (10.5%)
	Work	1 (5.3%)
	Stomach pain	1 (5.3%)
	Weight loss	1 (5.3%)
Why do you not have dentures?	Financial Reasons	8 (42.1%)
	They broke or became loose	6 (31.6%)
	Adaptation problem	3 (15.8%)
	Use dentures	2 (10.5%)
Expectations regarding the dentures fitted in the village?	Improve smile	12 (63.2%)
	Chew better	10 (52.6%)
	Improve life	5 (26.3%)

Better health	2 (10.5%)
Reduce embarrassment	1 (5.3%)
Talk better	1 (5.3%)
Become more attractive	1 (5.3%)
Be happier	1 (5.3%)

Table 2 shows the impact of oral health on the quality of life of patients declined significantly between the stages of the study ($p<0.05$), with large effect sizes for all domains and the total score.

Table 2. Median (minimum and maximum value) of the oral health impact scores on quality of life (OHIP-14) of treated patients used the manufactured dentures (n=17).

Variable	Time		p-value	Effect size
	T0	T1		
Functional limitation.	6.0 (3.0-8.0)	0.0 (0.0-2.0)	0.0003	2.84
Physical pain	6.0 (3.0-7.0)	0.0 (0.0-5.0)	0.0003	3.31
Psychological discomfort	5.0 (0.0-8.0)	0.0 (0.0-2.0)	0.0004	2.54
Physical disability	6.0 (1.0-7.0)	0.0 (0.0-4.0)	0.0003	2.76
Psychological disability	6.0 (2.0-7.0)	0.0 (0.0-2.0)	0.0004	3.93
Social disability	3.0 (0.0-5.0)	0.0 (0.0-0.0)	0.0022	1.20
Handicap	4.0 (0.0-6.0)	0.0 (0.0-1.0)	0.0007	2.10
OHIP-14 total	33.0 (18.0-44.0)	0.0 (0.0-11.0)	0.0003	4.69

Effect size according to Cohen (1988 and 1992): small: 0.20; medium: 0.50; large: 0.80

Table 3 shows the results of the descriptive analysis of the attributed scores of all patients after one year of using the dentures (t1), which were generally high. One patient scored zero for chewing and the stability and comfort of the lower dentures. The attributed scores for chewing, aesthetics and hygiene were significantly lower for lower dentures ($p<0.05$).

Table 3 . Mean (standard deviation), median (minimum and maximum value) of the scores of patients after one year of using the dentures.

Category	Dentures			
	Upper (n = 17)		Lower (n = 14)	
	Mean (standard deviation)	Median (minimum – maximum)	Mean (standard deviation)	Median (minimum – maximum)
Satisfaction	9.8 (0.6)	10.0 (7.5-10.0)	8.9 (1.6)	10.0 (5.0-10.0)
Chewing	9.9 (0.5)	10.0 (8.0-10.0)	8.4 (3.2)	10.0 (0.0-10.0)
Stability	9.7 (1.0)	10.0 (6.0-10.0)	8.0 (3.2)	10.0 (0.0-10.0)
Aesthetics	10.0 (0.0)	10.0 (10.0-10.0)	9.6 (0.9)	10.0 (7.0-10.0)
Phonetics	9.8 (0.6)	10.0 (8.0-10.0)	8.9 (1.8)	10.0 (5.0-10.0)
Comfort	9.8 (0.8)	10.0 (7.0-10.0)	8.3 (3.0)	10.0 (0.0-10.0)
Hygiene	10.0 (0.0)	10.0 (10.0-10.0)	9.9 (0.5)	10.0 (8.0-10.0)

Table 4 shows the attributed scores for food chewing abilities of all the patients who used the dentures. In general, the scores were high, although the same patient who gave a zero score for chewing, stability and comfort in the lower dentures, also gave a zero score for the ability to chew all foods.

Table 4 . Median (minimum and maximum value) of the attributed scores for chewing ability after one year of using the dentures among patients who had contact with each of the different food types.

Food	Number of patients who used the dentures and had contact with food (n)	Mean (standard deviation)	Median (minimum – maximum)
Bread rolls	16	8.9 (2.7)	10.0 (0.0-10.0)
Cake	17	9.3 (2.4)	10.0 (0.0-10.0)
Cheese	17	8.9 (2.5)	10.0 (0.0-10.0)
Meat	17	9.1 (2.5)	10.0 (0.0-10.0)
Chicken	17	9.1 (2.5)	10.0 (0.0-10.0)
Apples	15	8.5 (2.9)	10.0 (0.0-10.0)
Carrots	17	8.8 (2.7)	10.0 (0.0-10.0)
Tomatoes	17	9.4 (2.4)	10.0 (0.0-10.0)
Lettuce	17	9.4 (2.4)	10.0 (0.0-10.0)
Coconut flesh	16	7.2 (4.5)	10.0 (0.0-10.0)

DISCUSSION

The prevalence of edentulism among Brazil's indigenous population is high^{8,9}. The rates of tooth loss and the need for dentures in the Pataxó are higher than those of the wider Brazilian population^{21,22}. In the current study, dental caries and periodontal disease were cited as the main cause of tooth loss, aggravated by the socioeconomic issues faced by indigenous people and the invasive characteristics of the public dentistry service²⁰.

The findings of phase I in relation to the impact of oral health on quality of life agree with the assertion that edentulous individuals are physically disabled or incapacitated, due to the difficulty they have in eating, speaking and in social interactions²³, aspects indicated by the respondents as the worst problems arising from a lack of teeth. Of the total number of patients, 68.4% mentioned difficulty eating and 63.2% reported difficulty smiling as problems caused by missing teeth, showing the impact of edentulism on their personal, social and emotional

quality of life^{23,24}, which also includes speech and chewing impairments²⁵, cited by 31.6% and 26.3% of volunteers, respectively. Of the total number of patients, 42.1% reported that they did not use dentures for financial reasons, corroborating the fact that while prosthetic rehabilitation is offered by the Brazilian National Health Service¹⁰, the supply may be insufficient to meet demand, and a large portion of the population do not have the resources to acquire the same²⁶ or do not have access to the services offered by the public health system²², difficulties which also affect the Pataxó indigenous people of Aldeia Velha.

In general, whether for logistical or structural reasons, the prosthetic rehabilitation of this population has until now been extremely challenging, due to the difficulty in transporting patients from the villages to urban centers to undergo treatment²². While DSEI Bahia has Primary Oral Health teams in all villages, a dental prosthetics service is not offered. In Aldeia Velha, despite its proximity to urban centers, older adults do not leave the village to seek prosthetic rehabilitation.

The measurement tool used to assess the quality of the dentures made in the village was a questionnaire, which indicated the level of patient satisfaction and represents the most common measurement resource to assess the success of treatment^{13,27,28}. The quality of the “dentures in one day” was evaluated positively, if the averages given by patients for the upper and lower dentures in criteria such as satisfaction (9.8 and 8.9, respectively), chewing (9.9 and 8.4, respectively) and stability (9.7 and 8.0, respectively) are considered, corroborating the principle that simplified techniques are just as effective as dentures obtained through more traditional techniques¹⁶. The high scores recorded are possibly because the dentures met the expectations of the patients, of which, among the several reported, the most cited were the expectation to improve one’s smile and to chew better. According to Owen²⁹ recording expectations in relation to comfort, function and aesthetics is fundamental in the pre-treatment phase, so that these are observed during the preparation of the dentures. It is also important to establish a good relationship between the dentist and the patient³⁰, since the psychological aspects of prosthetic therapy are as important as technical factors for the success of the treatment³¹.

Good communication helps reduce anxiety, misunderstandings and doubts and leads to the satisfaction of both patient and dental professional³², a fact that must have helped to achieve the results obtained in the current project, as all dentists involved in the campaign are linked to the indigenous oral health team, and are therefore accustomed to working with indigenous patients, thus optimizing the dental professional-patient relationship.

However, treatment by means of complete dentures is not always successful, and dissatisfaction can occur in around 10 to 20% of cases³⁰. Silva et al.³³ argue that dissatisfaction can affect more individuals, even leading some users to abandon their dentures, as occurred with one of the participants of the task force. The authors observed this behavior after an interview-based evaluation in a group of twelve patients treated with complete dentures, where three declared themselves totally satisfied and nine were classified as dissatisfied. Of these patients, six considered their dentures to be good, but indicated difficulties in using them, especially the lower dentures, while three were totally dissatisfied and unable to use the dentures, due to pain and appearance. A small portion of patients will never adapt to mucous supported dentures, either due to psychological reasons, the age of the patient, previous experiences with dentures or because they do not meet their expectations³⁴. This conclusion was corroborated by the fact that two patients did not use the dentures in the final interview, while one patient attributed a score of zero for chewing, stability, and comfort of the lower dentures. There is also a tendency to experience more difficulty in adapting to the use of lower dentures than upper dentures³⁴.

Most patients reported that eating was a problem caused by lack of teeth. After one year, it was observed that high scores were attributed for the ability to chew food, obtaining a median value of 10 for all foods and a lower average for coconut flesh (7.2), a very hard food, whose firm texture has already been reported as difficult to chew by users of dentures³⁵. It is worth mentioning that all the foods are routinely consumed by indigenous peoples and are also used and found in the diets of people living in urban centers. This result corroborates previous study that found an improvement in the self-assessment of chewing function after the preparation of the new dentures³⁶.

An average of 9.8 for the phonetic criterion was obtained during the final evaluation of the upper dentures, diverging from the results obtained by Kawai et al.¹³, which, when using the conventional and simplified technique, reported a significantly lower score in an evaluation six months after the dentures were made. This difference can be attributed to the fact that the final evaluation of the study by Kawai et al. was carried out six months after the installation of the dentures, meaning there was insufficient time for full adaptation, in comparison to the evaluation of the present study, which was performed one year after the installation of the dentures. It can also be attributed to the lengthy period during which the patients in the campaign suffered edentulism, meaning that the treatment had a significant impact on their quality of life, no matter how small the improvement.

Of the total number of patients, 52.6% expected to chew better after the dentures were made. With the scores attributed in the final interview for chewing ability (a mean of 9.9 ± 0.5 for the complete upper dentures and a mean of 8.4 ± 3.2 for the complete lower dentures), in addition to the scores for chewing the different types of foods, it can be affirmed that the dentures made by the proposed technique have the ability to restore chewing function to the same degree as was previously found with the conventional dentures¹⁵.

The significant reduction in the impact of oral health on the quality of life of rehabilitated Pataxó patients shows that this approach can achieve results similar to those obtained for dentures made through the conventional technique^{13,37}, as the dentures in one day achieved, using primary care dentists with no specialized training in prosthetics, results that showed an improvement in the quality of life of indigenous patients.

Although the number of rehabilitated patients was small, the statistical significance, high effect size and novel nature of the present study make its findings valid, reliable and of fundamental importance for the formulation of public policies that allow the access to rehabilitation of isolated populations, living far from large urban centers.

CONCLUSION

The Dentures in One Day technique proved feasible, advantageous and effective for the rehabilitation of the edentulous indigenous peoples and helped to overcome barriers that hinder access to the integrality of indigenous oral health care, allowing improvement in the quality of life of rehabilitated patients and resulting in a satisfactory evaluation of the quality of dentures and chewing ability one year after fitting.

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