

Satisfaction of users of full dentures with adhesive: A systematic review of the literature

Satisfação de usuários de próteses totais com adesivo: Uma revisão sistemática da literatura

Satisfacción de los usuarios de dentaduras postizas completas con adhesivo: Una revisión sistemática de la literatura

Received: 05/17/2021 | Reviewed: 05/27/2021 | Accept: 05/31/2021 | Published: 06/13/2021

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Abstract

Objective: To review the literature systematically in relation to the effectiveness of the adhesive for dental prostheses presented in terms of patient satisfaction and to evaluate the differences regarding the use or not of them. **Methodology:** A search was carried out in the databases PubMed / MEDLINE, Embase, Scopus and Web of Science according to the criteria of Preferred Reports for Systematic Reviews and Meta-Analysis. The PICO question was used to address the following specific question: "Patients who use adhesives on full denture satisfaction?". **Results:** Sixteen studies with a total of 1133 patients with age average of 67 years were included; in relation to masticatory capacity, improvement was found in feeding, increased vertical movement in the mandible and less intrusion of the prosthesis. As for satisfaction, studies have shown greater comfort, improvement in social, psychological, quality of life and oral health and self-confidence. No serious side effects have been reported and only oral adverse events have been coded. **Conclusion:** Although adhesives for dental prostheses do not improve their function, that is, they are not capable of problems related to anatomy or errors in the manufacture of the prosthesis, they affect as subjective evaluations of patients. The use of adhesives for prolonged complete dentures increases their retention and stability and positively affects the patient's satisfaction with regard to masticatory capacity, comfort and confidence, provided the recovery is adequate.

Keywords: Complete denture; Patient satisfaction; Denture adhesives; Questionnaire.

Resumo

Objetivo: Revisar a literatura sistematicamente em relação à eficácia do adesivo para próteses dentárias convencionais em termos de satisfação dos pacientes e avaliar as diferenças quanto à utilização ou não dos mesmos. **Metodologia:** Uma busca foi realizada nos bancos de dados PubMed/MEDLINE, Embase, Scopus e Web of Science de acordo com os critérios de Relatórios Preferidos para Revisões Sistemáticas e Meta-Análise. A questão PICO foi usada para abordar a seguinte questão específica: "Pacientes que utilizam adesivos em próteses totais apresentam maior satisfação?". **Resultados:** Dezesesseis estudos com um total de 1133 pacientes com idade média de 67 anos foram incluídos; em relação à capacidade mastigatória, foi encontrada melhora na alimentação, aumento no movimento vertical na mandíbula e menor intrusão da prótese. Quanto à satisfação, estudos demonstraram maior conforto, melhora nos aspectos sociais, psicológicos, qualidade de vida e saúde bucal e autoconfiança. Não foram relatados

efeitos colaterais graves e apenas eventos adversos orais foram codificados. Conclusão: Embora os adesivos para próteses dentárias não melhorem sua função, ou seja, não são capazes de resolver problemas relacionados à anatomia ou erros de confecção da prótese, eles afetam as avaliações subjetivas dos pacientes. O uso de adesivos para próteses totais convencionais aumenta significativamente sua retenção e estabilidade e afeta positivamente a satisfação do paciente quanto a capacidade mastigatória, conforto e confiança, desde que as mesmas estejam adequadas.

Palavras-chave: Prótese total; Satisfação do paciente; Adesivos para próteses dentárias; Questionário.

Resumen

Objetivo: Revisar la literatura de manera sistemática en relación a la efectividad del adhesivo para prótesis dentales presentada en términos de satisfacción del paciente y evaluar las diferencias en cuanto al uso o no de las mismas. **Metodología:** Se realizó una búsqueda en las bases de datos PubMed / MEDLINE, Embase, Scopus y Web of Science según los criterios de Preferred Reports para Revisiones Sistemáticas y Metanálisis. La pregunta PICO se utilizó para abordar la siguiente pregunta específica: "Pacientes que usan adhesivos para una completa satisfacción con la dentadura postiza?". **Resultados:** Se incluyeron 16 estudios con un total de 1133 pacientes con edad promedio de 67 años; en relación a la capacidad masticatoria, se encontró mejoría en la alimentación, mayor movimiento vertical en la mandíbula y menor intrusión de la prótesis. En cuanto a la satisfacción, los estudios han demostrado una mayor comodidad, mejora social, psicológica, calidad de vida y salud bucal y autoconfianza. No se han informado efectos secundarios graves y solo se han codificado los eventos adversos orales. **Conclusión:** Si bien los adhesivos para prótesis dentales no mejoran su función, es decir, no son capaces de presentar problemas relacionados con la anatomía o errores en la fabricación de la prótesis, inciden como evaluaciones subjetivas de los pacientes. El uso de adhesivos para prótesis completas prolongadas aumenta su retención y estabilidad e incide positivamente en la satisfacción del paciente en cuanto a capacidad masticatoria, comodidad y confianza, siempre que la recuperación sea adecuada.

Palabras clave: Dentadura total; Satisfacción del paciente; Adhesivos para prótesis dentales; Cuestionario.

1. Introduction

The literature indicates an increase in life expectancy of which, and although the rate of edentulism has fallen in recent years, there are still many countries with a large number of toothless patients who are undergoing treatment with complete dentures (Kumar et al., 2011). Despite technological advances and the evolution of implant dentistry, there are systemic contraindications and a cost-benefit ratio that does not allow the manufacture of prostheses on implants during rehabilitation planning (Marin et al., 2014). It should be noted that the absence of teeth, in addition to providing a change in masticatory efficiency, speech and aesthetics, also offers an imbalance in the stomatognathic system.

Thus, a correct adaptation between a total prosthesis and the adjacent mucosa is fundamental for the success of the rehabilitation treatment (Guimarães et al., 2018). However, it is common to find cases that present alveolar edges with great resorption, adapt in lesser support to support and maintain a conventional rehabilitation with total prosthesis (Spenciere et al., 2009), requiring the use of prosthetic adhesives to keep these prostheses in function and promote an improvement in adaptation, allowing correct masticatory efficiency, balanced distribution of tolerance and patient satisfaction.

Also known as removable denture holders, prosthetic adhesives were initially used in the late 18th century, but were mentioned in the dental literature in 1935, when the American Dental Association called it non-medicinal, along with the dental materials board (Yankell et al., 1984). In addition to provide adherence and retention of the total prosthesis to the oral mucosa, assist in stability, comfort, increase in masticatory activity and reduction in the accumulation of food under the denture (Nishi et al., 2020).

According to research, about 30% of denture users used adhesives at some point (Wilson et al., 1990; Coates et al., 2000; Koronis et al., 2012; Papadiochou et al., 2015). There are several commercially available forms, Grasso (Grasso et al., 2004) suggested that denture adhesives should be categorized into soluble and insoluble groups. The soluble category includes creams, powders and pastes, while the insoluble group consists of wafers and lozenges. In addition, based on their composition, denture adhesives can be divided into natural or synthetic denture adhesives. There is no consensus in the literature about one type of adhesive being better than another (Grasso et al., 2004; Guimarães et al., 2018).

Self-perception studies report that when using prostheses with adhesive, comfort and satisfaction increased, thus improving OHRQoL (Oral Health-Related Quality of Life) (AlRumaih et al., 2018; Guimarães et al., 2018). However, there is a concern regarding the adverse effects of using adhesive for dental prosthesis, specifically changes in tissues and increased bone resorption (Psillakis et al., 2004). Some disadvantages such as irritation of the oral mucosa, changes in occlusal relationships, increased vertical dimension, increased alveolar bone loss, have been reported regarding the use of denture adhesives, especially insoluble ones, although without evidence (Nishi et al., 2020).

The aim of this article was to systematically review the literature regarding the effectiveness of the adhesive for conventional dental prostheses in terms of retention, stability and masticatory performance. And evaluate the differences regarding the use or not of dental prosthesis adhesives.

2. Methods

Inclusion criteria were: (1) English-language studies, (2) randomized controlled clinical trials (RCTs), (3) prospective studies, (4) clinical cases (5) with at least 10 patients. The exclusion criteria were: (1) in vitro studies, (2) retrospective studies, (3) reviews, (4) uncontrolled clinical cases, which had no direct comparison and with incomplete data that did not allow the collection of information.

The selection of articles was carried out by three independent reviewers previously calibrated (K.M.F.M, A.R.B, C.A.S). The authors conducted an electronic search on PubMed / MEDLINE, Scopus, Embase and Web of Science for articles published until February 2020 according to the eligibility criteria, using the following search terms "Total prosthesis, patient satisfaction and prosthetic patches total". The research strategy was as follows: ("denture, complete"[MeSH Terms] OR ("denture"[All Fields] AND "complete"[All Fields]) OR "complete denture"[All Fields] OR ("complete"[All Fields] AND "dentures"[All Fields]) OR "complete dentures"[All Fields]) AND ("patient satisfaction"[MeSH Terms] OR ("patient"[All Fields] AND "satisfaction"[All Fields]) OR "patient satisfaction"[All Fields]) AND ("dental cements"[MeSH Terms] OR ("dental"[All Fields] AND "cements"[All Fields]) OR "dental cements"[All Fields] OR ("denture"[All Fields] AND "adhesives"[All Fields]) OR "denture adhesives"[All Fields]). In addition, a manual search was carried out in the main journals in the area.

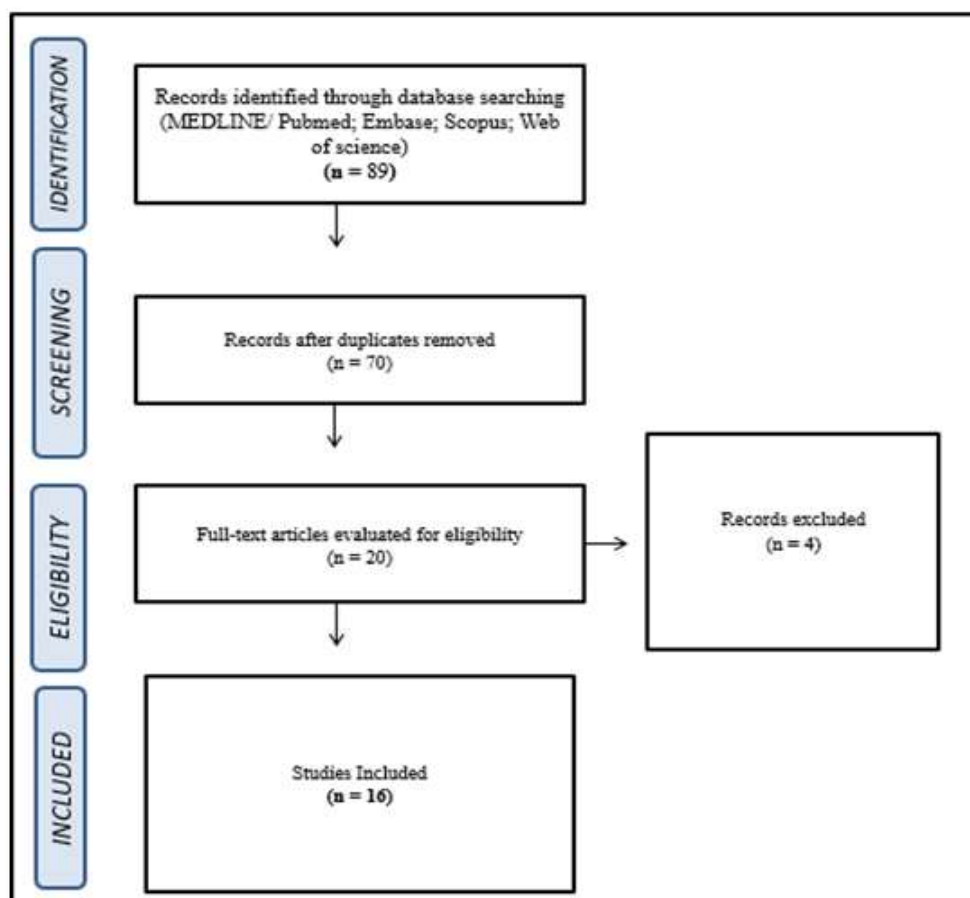
Initially, the articles were selected by title and abstract according to the pre-established eligibility criteria and all discrepancies in the searches carried out in the databases were analyzed by a fourth reviewer (W.G.A.) through a consensus meeting. Two authors (A.R.B., K.M.F.M) collected the relevant information from the articles and a third author (C.A.S.) reviewed all the information collected. The variables collected from the articles were: author / year, country, types of studies, number of patients, sex, average age, groups, location, follow-up, patch used, evaluation criteria, parameters used, advantages and results.

3. Results

Literature Search

A search of the selected databases found a total of 89 articles, including 25 from Pubmed, 19 from Embase, 30 Scopus and 15 from Web of Science. The application of the inclusion / exclusion criteria to the titles and abstracts of the selected comparative studies left 16 studies. Details on the search strategy are presented in the flowchart (shown in Fig. 1).

Figure 1. Study design PRISMA.



Source: Authors.

Description of the studies

Among these sixteen studies, ten were clinical cases and the other six were randomized clinical trials. They compared the author / year, country, types of studies, number of patients, sex, average age, groups, location, follow-up, patch used, evaluation criteria, parameters used, advantages and results (Table 1).

Table 1. General data on the selected studies.

Author/Year	Country	Study Design	Patients	Patient Selection	Sex	Age (years)	Groups	Study location	Tests performed	Follow up
Bartelett/2013	U.K.	Clinical Study	35	Total prosthesis users with up to 7 years of use	13 men, 22 women	73.9	There was no separation of groups, all used the folder Poligrip® Denture Adhesive Cream	Guy's Hospital	NDNS and OHPI Edent questionnaires and Wilcoxon tests	30 days
Guimarães/2018	Brazil	Clinical Study	15	Total prosthesis users	N.C.	N.C.	Group with adhesive (Corega Ultra) and without adhesive	University of São Paulo - Faculty of Dentistry	Satisfaction questionnaires and GOHAI tests	N.C.
Hamad/ 2018	Saudi Arabia	Clinical Study	20	Toothless individuals who accepted the manufacture of new complete dentures	11 men, 9 women	68.20	MB, HB, MBA and HBA	N.C.	Retention test	N.C.
Koronis/2012	Greece	Clinical Study	30	Toothless individuals who accepted the manufacture of new complete dentures	18 men, 12 women	68.4	Unique group that should use Fittydent®, Protefix® and Seabond®	Athens Dental School	Satisfaction Questionnaires	N.C.
Kulak/2005	Turkey	RCT	30	Toothless individuals with at least 5 years of using complete dentures.	14 men, 16 women	62	PVM-MA and CC	University of Marmara in Istanbul	Test of Wilcoxon	N.C.
Marin/2014	Brazil	RCT	44	Toothless individuals who accepted the manufacture of new complete dentures	14 men, 30 women	64.8	Protocol 1 and Protocol 2	Faculty of Dentistry of Araraquara	Satisfaction questionnaires and a kinesiograph to record mandibular movements	N.C.
Munoz/2011	New York	RCT	37	Users of complete and adjusted lower complete dentures.	19 men, 18 women	70.65	Adhesive-free, Cream not sold, Super Poligrip® Free and SuperPoligrip® Strip	University at Buffalo School of Dental Medicine	Index Kapur	N.C.
Owhada/2019	Tokyo	RCT	200	Toothless individuals who accepted the manufacture of new complete dentures	95 men, 105 women	77	Cream Adhesive, Powder Adhesive and Control Group	N.C.	Visual Analog Scale of 10mm	N.C.
Petersen/2019		Clinical	200	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.

Pradíes/2009	Spain	Trial Clinical Study	24	Total edentulous with use of at least 1 year	N.C.	58	Without adhesive, Control adhesive and Experimental adhesive	Complutense University of Madrid.	N.C.	2 weeks
Psikallis/2014	New York	Clinical Study	194	Users of bimaxillary prostheses	77 men, 117 women	66,6	Without adhesive and With adhesive	Consultóriosparticulares	Satisfaction and test questionnaires using the gnometer	N.C.
Torres-Sanchez/2014	Spain	RCT	17	Users of complete dentures, with dentures installed 2 months before the study	6 men, 11 women	51,41	Without adhesive (WA), with adhesive A (AA) and with adhesive B (BA)	School of Dentistry at the University of Seville	Visual Analog Scale of 10mm	N.C.
Kelsey/1997	U.S.A.	Clinical Study	25	Total toothless with at least 5 years of denture use.	13 men, 12 women	65	Effergrip, Fixodent, Orafix, Secure and Super PoliGrip.	University of Michigan	Satisfaction questionnaires	N.C.
Uysal/ 1998	Turkey	Clinical Study	32	Total toothless	14 men, 18 women	61.47	Fittydent I@*, Fittydent II@, Protefix@ and Seabond@	Hacettepe University at Ankara	N.C.	N.C.
Nishi/2019	Japan	RCT	200	Toothless individuals who accepted the manufacture of new complete dentures	N.C.	76,6	Control, Powder adhesive and Cream adhesive	Iwate Medical University, Tohoku	Visual Analog Scale of 10mm	4 days
Mañes/2011	Spain	Clinical Study	30	Patients using removable full dentures, regardless of how long the dentures were used or the quality and retention performance	N.C.	N.C.	Benfix®, Fittydent® and Supercorega®.	N.C.	Satisfaction questionnaire and a spring scale for measuring the retention force in grams	N.C.

N.C.: no reported. Source: Authors.

General data from included studies

A total of 1133 patients with an average age of 67 years were included in the studies, they were individuals in which the total dentures already had a time of use or who accepted the manufacture of new dental prostheses. Most studies were conducted in universities (Kelsey et al., 1997; Uysal et al., 1998; Kulak et al., 2005; Pradíes et al., 2009; Koronis et al., 2012; Munoz et al., 2012; Bartlett et al., 2013; Marin et al., 2014; Guimarães et al., 2018; Torres-Sánchez et al., 2018; Ohwada et al., 2020) and only one in a private practice (Psillakis et al., 2004). Most studies included patients of both sexes (Kelsey et al., 1997; Uysal et al., 1998; Kulak et al., 2005; Pradíes et al., 2009; Munoz et al., 2012; Koronis et al., 2012; Bartlett et al., 2013; Ohwada et al., 2020). Eight studies randomly divided individuals into groups to compare different brands of adhesive and all selected studies assessed patient satisfaction using questionnaires and scales (Kelsey et al., 1997; Uysal et al., 1998; Psillakis et al., 2004; Kulak et al., 2005; Pradíes et al., 2009; Koronis et al., 2012; Munoz et al., 2012; Bartlett et al., 2013; Marin et al., 2014; Guimarães et al., 2018; Torres-Sánchez et al., 2018; Nishi et al., 2020; Ohwada et al., 2020). Most studies included patients who had less than 7 years of total prosthesis use (Kelsey et al., 1997; Uysal et al., 1998; Psillakis et al., 2004; Kulak et al., 2005; Pradíes et al., 2009; Mañes et al., 2011; Munoz et al., 2012; Bartlett et al., 2013; Guimarães et al., 2018; Torres-Sánchez et al., 2018; Ohwada et al., 2020) and five studies made new prostheses (Koronis et al., 2012; Marin et al., 2014; AlRumaih et al., 2017; Nishi et al., 2020; Ohwada et al., 2020). Most of the selected studies did not present enough data on the follow-up period of the selected individuals.

Overall Satisfaction

According to the assessment made by Guimaraes (Guimarães et al., 2018), 60% of individuals reported comfort with the use of the patch, 67% reported improvement in social and psychological aspects, not needing to use medications to reduce discomfort and pain. The same had already been exposed by Bartlett (Bartlett et al., 2013) who observed an improvement in the quality of life and oral health. According to Koronis (Koronis et al., 2012), 65% of individuals reported satisfaction in use and increased self-confidence for social activities. Likewise, in the study by Muñoz (Muñoz et al., 2012) patients rated comfort, confidence and satisfaction as significantly higher with the use of adhesive and also less movement (oscillation), just as Marin (Marin et al., 2014) obtained a result of general satisfaction statistically significant. Mañes (Mañes et al., 2011) (showed an increase in the satisfaction index for various functions of the prosthesis, the same was shown by Torres-Sanchez (Torres-Sanchez et al., 2018) in which patients satisfaction with the use of adhesives was significantly higher and the use of adhesives also prevented food to enter under the prosthesis, which would cause irritation and pain in the mucosa due to friction. Ohwada (Ohwada et al., 2020) did not show significant differences in the general satisfaction or in the Impact Profile on Oral Health in Toothless Patients and Nishi (Nishi et al., 2020) had as subjective result of the satisfaction index a value below the expected in the visual analog scale.

Satisfaction Based on Adhesive Type

As previously mentioned, Bartlett (Bartlett et al., 2013) reported improvement in eating behavior and chewing efficiency of patients who used the Poligrip Denture Adhesive Cream adhesive, implying an increase in the quality of life associated with oral health. Koronis (Koronis et al., 2012) showed Fittydent (pad type adhesive) as the preferred adhesive among patients, as well as the studies by Polyzois (Polyzois et al., 2012) and Mañes (Mañes et al., 2011), which also indicated participants' preference in favor of Fittydent. Uysal (Uysal et al., 1998), also evaluated cushion adhesives, among them Fittydent, showing positive results.

Marin (Marin et al., 2014) reported a high level of general satisfaction and altered jaw movements, with increased vertical movements of the jaw during chewing and less intrusion of the upper total dentures with the use of Ultra Corega

Cream. While Muñoz (Muñoz et al., 2012) and Ohwada (Ohwada et al., 2020) reported greater confidence, comfort and satisfaction in the group with denture cream adhesive (Poligrip and GlaxoSmithKline). Still, chewing, retention, comfort and aesthetics significantly improved in the powder type adhesive group (Poligrip Powder and GlaxoSmithKline) in the study by Ohwada (Ohwada et al., 2020).

In the study by Torres-Sanchez (Torres-Sanchez et al., 2018), in which Fittydent and Corega GlaxoSmithKline were evaluated, the authors concluded that adhesives for complete dentures significantly improve patient satisfaction, as better retention, stability and less accumulation of food particles between the prosthesis and the mucosa compared to not using adhesives.

Kulak (Kulak et al., 2005) evaluated cream-type adhesives and reported improvement in the patient's subjective satisfaction levels, with the adhesive paste for dental prostheses based on the polymethylvinyl ether-maleic anhydride compound (PVM-MA) classified as superior. Psillakis (Psillakis et al., 2004) showed that patients reported improvement in the perception of prosthesis performance and comfort with the use of Fixodent cream adhesive.

This indicates that, among the participants who chose to use some adhesive for dentures, of those selected, most studies point the adhesive in the most comfortable, presenting the best results due to the social and psychological aspects, with increased confidence of the patient. patient, stability and retention of the prosthesis, improvement of oral health and quality of life, reduction of pain and discomfort, thus minimizing the need to use analgesic medications.

Adhesive Removal

According to Muñoz (Muñoz et al., 2012) while 14 (47%) individuals considered the removal of the adhesive paste PVM - MA easy, 7 (23%) considered it difficult. The removal of the adhesive paste CC was considered easy by 9 (30%) and difficult by 17 (57%) of the patients. There were no significant differences between the two adhesives in the removal of the prostheses ($p = 0.67$). Koronis (Koronis et al., 2012) reported that Fittydent was considered the most difficult adhesive to remove from the prosthesis support area compared to Protefix and Seabond.

Adverse events

No serious adverse events have been reported and only oral adverse events have been coded. In the study by Koronis (Koronis et al., 2012), five patients reported several complaints related to the use of adhesive pad type, such as "difficulty" in adapting the size of the pillow to suit the prosthesis, "redness", "irritation" and "burning" ". In two cases, patients were unable to use any of the pillow brands. Specifically, one participant cannot use Fittydent ® cushions due to "thickness", while another cannot use Seabond ® cushions because they have caused "the desire to vomit".

4. Discussion

The most common type of rehabilitation in edentulous patients is still the installation of removable conventional full dentures. However, due to the limitations of the residual ridge, patients may encounter adaptation difficulties related to retention, comfort and masticatory efficiency. In order to provide the user with a better quality of life, emotional security and function, adhesives for complete dentures are indicated and pointed out as beneficial, as long as they are used properly (Weidner-Strahl et al., 1984; Adisman et al., 1989; Psillakis et al., 2004).

All evaluated studies observed an improvement in the stability of conventional full dentures when patients used the adhesive. Bartlett (Bartlett et al., 2013) reported an improvement in diet and patient satisfaction, however, he reported that it was not possible to identify whether it was the use of the patch or dietary advice. During the eligibility of individuals, patients who had been using conventional full dentures for some years were chosen, since new dentures may have ideal retention. The

opposite was reported in the study by Guimarães (Guimarães et al., 2018), in which they observed that there was no statistically significant difference between individuals who used adhesive and placebo. However, toothless patients were selected who received new prostheses and completely adapted to the oral cavity, since this may have been a determining factor for the result.

It should be noted that the morphology of the residual bone crest can interfere with the results. AIRumaih (AIRumaih et al., 2018) reported that 80% of the patients had bone crest with more favorable conditions, vertical and horizontal resists, hamular notch, in the tori, buccal vestibule, having dimensions that facilitate the prosthesis retention, that is, the results can be altered in individuals with bone crest morphology that presents greater resorption. The same was observed by Kulak (Kulak et al., 2005) who, when comparing upper and lower residual edges, noticed that there was greater retention in upper prostheses. All of these results can be explained through the height and shape of the bone crest, because even with the application of the adhesive, retention and stability can be overloaded through the challenges of conventional full dentures (Kulak et al., 2005; Bartlett et al., 2013). All of these data can be evaluated through the Index Kapur, so that there is homogeneity in the individuals chosen for the elaboration of the research.

The percentages of people who did not find it difficult to remove the adhesive from the prostheses were slightly lower in the study by Uysal (Uysal et al., 1998) (compared to the study by Polyzois (Polyzois et al., 2012)). In addition, in the study by Uysal (Uysal et al., 1998), Fittydent® was the adhesive with a statistically significant preference, being more retentive and lasting, just as the study by Polyzois (Polyzois et al., 2012) also indicated participants' preference in favor of Fittydent® in regarding self-confidence in social activities.

Finally, in both studies, the participants' complaints included 'burning' and 'redness'. The results of the study by Mañes (Mañes et al., 2011) showed that all adhesives, regardless of the commercial brand involved, significantly improved retention in relation to the values of the group without adhesive, where the values found for median retention of prostheses in the absence of adhesive (control) were 58g, while Fittydent® reached 875g and the other tested adhesives, Supercorega® and Benfix®, produced intermediate forces (491g and 583g respectively).

Ohwada (Ohwada et al., 2020) and Muñoz (Muñoz et al., 2012) carried out a cross-sectional study involving 3 types of adhesives for prostheses and no adhesives with well-fitted prostheses. They reported greater confidence, comfort and satisfaction in the group with denture cream adhesive. As these are cross-sectional studies, the same participants were used to assess conditions with and without denture adhesives, with a quantitative assessment of the use of denture adhesives. Several studies have classified participants according to the condition of their prostheses or supporting tissues. Uysal (Uysal et al., 1998) and Koronis (Koronis et al., 2012) used adhesive pads and both studies observed improvement in subjective evaluations when the prostheses or supporting tissues were in poor condition. Chewing improved significantly in the cream-type adhesive group, and chewing, retention, comfort and aesthetics significantly improved in the powder-type adhesive group (Ohwada et al., 2020). Kelsey (Kelsey et al., 1997) and Kulak (Kulak et al., 2005) evaluated cream-type adhesives using old dentures and both the studies reported improvement in the patient's subjective satisfaction levels in relation to the chewing capacity, comfort, retention and confidence as a result of the use of denture adhesives.

Prosthesis adhesives are available globally. Although they can be regulated differently in several countries, they are always available as consumer products. There are some precautions associated with the use of commercially available adhesives containing zinc, so it is important for consumers to follow the manufacturer's label instructions (Munoz et al., 2012). Dental professionals should play a key role in providing guidance to all patients with prostheses on use and the proper application of these products, taking the opportunity to explain to patients that, over time, their prostheses will need to be replaced (Felton et al., 2011).

5. Conclusion

Despite all the positive results achieved by adhesives for conventional full dentures, it is important to note that patients need to be informed that adhesives should be used sparingly and educated to recognize that excessive use, in quantity or frequency of application, can be a sign that the dentures are out of order. Thus, patients should be warned that the prostheses must be replaced with new ones according to the wear and tear of their base.

Although adhesives for dental prostheses do not inevitably improve their function, that is, they are not able to solve problems related to anatomy or errors in making the prosthesis, they affect the subjective evaluations of patients. The use of adhesives for conventional full dentures significantly increases their retention and stability and positively affects patient satisfaction with regard to masticatory capacity, comfort and confidence, as long as they are adequate.

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