Subjective assessment of adhesives usage by complete denture wearers in a brazilian population

Avaliação subjetiva do uso de adesivos por usuários de próteses totais bimaxilares em uma população brasileira

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Resumo
Introdução: Estudos subjetivos sobre o conhecimento e uso de adesivos para prótese ainda são limitados, especialmente em populações brasileiras. Objetivo: O objetivo deste estudo foi investigar os aspectos relacionados ao uso ou não de adesivos para prótese por usuários de próteses totais. Material e método: Foram aplicados a 100 usuários de próteses totais bimaxilares questionários relativos à utilização de adesivos para prótese. A pesquisa foi realizada de acordo com três categorias: aqueles que nunca tinham utilizado o adesivo, aqueles que já tinham utilizado o adesivo pelo menos uma vez e que já não utilizavam mais, e aqueles que utilizam regularmente. Resultado: Dos 100 participantes, 80% nunca haviam utilizado adesivos, 16% haviam experimentado adesivos uma vez, mas já não utilizavam mais e 4% utilizavam regularmente. Conclusão: Dentro das limitações deste estudo, os resultados desta avaliação subjetiva sugerem que entre os participantes que nunca haviam experimentado adesivos, 77,5% informaram que o adesivo não era necessário, e todos os participantes que utilizam regularmente informaram a sua eficiência.

Descritores: Prótese total; adesivos; questionários.

Abstract
Introduction: The information about the knowledge and usage of denture adhesives is still limited, particularly in Brazilian populations. Objective: The purpose of this study was to investigate the aspects related to the use or nonuse of denture adhesives by complete denture wearers. Material and method: Questionnaires were applied to 100 bimaxillary complete denture wearers concerning their usage of denture adhesives. The survey was carried out according to three categories: those who had never tried adhesive, those who had tried adhesive at least once but no longer used it, and those who currently used it. Result: Of the 100 participants, 80% had never tried adhesives, 16% had tried at least once but no longer used it and 4% had used on a regular basis. Conclusion: Within the limitations of this study, the results of this subjective assessment suggest that within the participants that had never tried adhesives, 77.5% inform that the adhesive is not needed, and all participants who regularly use it inform its efficiency.

Descriptors: Denture, complete; adhesives; questionnaires.

INTRODUCTION

According to a recent publication, the prevalence of edentulism in a Brazilian population of people aged ≥60 years was 63%. For the majority of these patients, the oral rehabilitation with conventional complete dentures still remains the only treatment option.

Previous studies have reported that the great majority of patients are satisfied with their dentures while some others are unable to adapt. Lack of retention and stability, inability to comminute foods, social disability, decreased self-confidence and satisfaction are the major problems related by denture wearers, which impact on their quality of life.

Denture adhesives can improve the retention and stability of dentures and help seal out the accumulation of food particles beneath the dentures, even in well-fitting dentures. These products, when properly used, may provide psychological benefits to their users, increase biting force, improving maximum...
incisal force of complete maxillary dentures, and improve subjective chewing ability. Additionally, denture adhesives are useful in clinical procedures to stabilize trial bases for accurate jaw relations, improve accuracy of denture try-in stages.

For many dentists the adhesive usage still represents a poor reflection of their clinical skills and prosthetic expertise, or a potential cause of damaging effects, including alveolar ridge resorption. Nowadays, it is well established that neither dentists nor patients should use denture adhesives as a substitute for either good clinical practice or proper maintenance routine.

Despite the use of denture adhesives and their role in prosthodontics produce a conflicting topic both in clinical practice and dental education, these facts have not impeded million of denture wearers buying and using these products around the world. Thus, this study aimed to investigate through a questionnaire the aspects related to the use or nonuse of denture adhesives by complete denture wearers in a Brazilian population.

**MATERIAL AND METHOD**

The sample was composed of 100 participants (39 male, mean age 66 years old, range 44 to 89 years old), randomly selected from a database of Araraquara Dental School - UNESP, Univ Estadual Paulista, Araraquara, São Paulo, Brazil. The inclusion criteria were: (a) bimaxillary complete dentures wearers, (b) complete dentures fabricated at least 3 years according to the standardized protocol used in Araraquara Dental School, including functional impressions with individual trays and establishment of bilateral balanced occlusion, (c) healthy oral tissues, and (d) mentally receptive individuals.

The participants involved in this study had their complete dentures fabrication supervised by the Araraquara Dental School faculty and the same dental technician performed the laboratorial procedures. A methacrylate based resin (Lucitone 550 – Dentsply Ind. e Com. Ltda, Petrópolis, RJ, Brazil) and 33 degree acrylic resin teeth (Trubyte Biotone - Dentsply Ind. e Com. Ltd., Rio Janeiro, RJ, Brazil) were used. Participants who had debilitating systemic diseases were excluded of the study. This experimental protocol was approved by the Research Ethics Committee of Araraquara Dental School, Univ Estadual Paulista, Brazil (Process 0014.0.199.000-10), and all subjects volunteered to participate and signed an informed consent form.

The surveyed group was divided into three categories, based on the criteria used by Özcan et al. and Coates. Category 1: those who had never tried adhesive, Category 2: those who had tried adhesive at least once but no longer used it, and category 3: those who currently used it. Questionnaires were prepared and applied to the participants, according to each category (Tables 1 and 2).

**RESULT**

The results related to use or nonuse of adhesives are shown on Figure 1. Among the 100 participants, 80% had never tried adhesives, 16% had tried at least once but no longer used it and 4% had used on a regular basis.

Within the 80% that have never used adhesives, 77.5% have informed no need, 11.25% did not know that denture adhesives existed, 3.75% related no money for buying the product and 7.5% have informed another reason (Figure 2). Considering the 20% that have used or regularly use adhesives, 35% informed it was indicated by a dentist, 50% have used by themselves, 10% informed it was indicated by a friend, and 5% informed another answer. Among the participants that have ever used adhesives but no longer used it (16%), taste and consistence were the most cited complaints, but difficulty of removal from oral tissues and dentures was also mentioned.

The adhesives usage on a regular basis was related by 4% of the participants, who informed improvement in their dentures performance. Powder and cream were the most used kind of denture adhesives. The frequency of those who have used or regularly use adhesives responses are shown in Table 3.

**DISCUSSION**

It has been shown that a substantial proportion of denture wearers had tried or currently used denture adhesives. Douglass et al. stated that 22% of complete denture wearers in USA regularly use adhesives. However, there has been no previously published evaluation regarding adhesive usage among complete denture wearers in a Brazilian population. Thus, the findings of this study revealed important aspects related to adhesives usage among this population, which can be useful for future approaches.

In this study, it was observed that the majority of the participants surveyed (80%) had never tried denture adhesives. In a previous report, Özcan et al. surveyed 115 patients attending in Marmara University, Istanbul, Turkey, and observed that 92% had never tried denture adhesives. Coates surveyed 146 patients from the Adelaide Dental Hospital, Australia, and 67.1% had never tried adhesives. Our results showed that the reason given by the most of the participants (77.5%) for the nonuse was no need, in accordance with Özcan et al., whom observed that 73% of the patients that had never tried adhesives managed their dentures well.

Another important aspect observed in this survey was that 11.2% of the respondents did not know that denture adhesives existed. It might be suggest either that these patients manage their dentures well or the dentist did not prescribe these products even when it indicated, since many dentists view adhesive usage as a substitute for either good clinical practice or proper maintenance routine.

**Table 1. Questionnaire applied to participants of category 1**

<table>
<thead>
<tr>
<th>Questionnaire applied to participants of category 1</th>
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<tbody>
<tr>
<td>1.1- Why have you never tried use adhesives?</td>
<td></td>
</tr>
<tr>
<td>( ) did not know that adhesives existed</td>
<td></td>
</tr>
<tr>
<td>( ) it did not have necessity</td>
<td></td>
</tr>
<tr>
<td>( ) it did not have money to buy</td>
<td></td>
</tr>
<tr>
<td>( ) another answer</td>
<td></td>
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</tbody>
</table>
as poor reflection of their prosthetic treatment\textsuperscript{19}. Moreover, of the participants that have used or regularly use adhesives, 33.3% informed it was indicated by a dentist, and 47.6% have used by themselves. Considering that denture adhesives prescription should be conducted by a dentist, our findings that 47.6% have used adhesives by themselves possibly indicate the dentist did not intervene on this indication. It emphasizes the importance of periodic recalls for oral examination and, in these cases, to investigate the need of adhesive usage.

Within the 20% participants that have used adhesives but no longer used it or regularly use it, 85% informed that have used or have been used these products to improve retention. Among

<table>
<thead>
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<th>Table 2. Questionnaire applied to participants of categories 2 and 3</th>
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<tr>
<td><strong>Bimaxillary complete denture wearers that had tried adhesives at least once but no longer used it or currently used it.</strong></td>
</tr>
<tr>
<td>2.1- Which way have you taken knowledge about denture adhesives?</td>
</tr>
<tr>
<td>( ) publicity ( ) dentist ( ) friend ( ) another answer</td>
</tr>
<tr>
<td>2.2- Who have you indicated adhesives?</td>
</tr>
<tr>
<td>( ) dentist ( ) by myself ( ) friend ( ) another answer</td>
</tr>
<tr>
<td>2.3- Why have you tried denture adhesive?</td>
</tr>
<tr>
<td>( ) poor retention of the denture ( ) difficulty to chew ( ) difficulty to speaking ( ) another answer</td>
</tr>
<tr>
<td>2.4- What kind of denture adhesives have you ever tried?</td>
</tr>
<tr>
<td>( ) powder ( ) cream ( ) pads/ strips</td>
</tr>
<tr>
<td>2.5- How long have you used denture adhesive?</td>
</tr>
<tr>
<td>( ) until 1 month ( ) 1 to 6 months ( ) 6 months to 1 year ( ) another answer</td>
</tr>
<tr>
<td>2.6- How do you evaluate the performance of your dentures while you were using adhesive?</td>
</tr>
<tr>
<td>( ) it improved a lot ( ) it improved little ( ) it didn’t improve</td>
</tr>
<tr>
<td>2.7- Why have you abandoned adhesive usage?</td>
</tr>
<tr>
<td>( ) it did not get the desired effect ( ) it was expensive ( ) another answer</td>
</tr>
<tr>
<td>2.8- What was most unpleasant while you were using adhesive?</td>
</tr>
<tr>
<td>( ) taste ( ) consistence ( ) difficulty of removal ( ) another answer</td>
</tr>
</tbody>
</table>

*Questions applied only for participants of category 2.

![Figure 1](image1.png)

**Figure 1.** Participants distribution according to use or nonuse of denture adhesives.

![Figure 2](image2.png)

**Figure 2.** Reasons for the participants have never tried use adhesives. Those who have used adhesives but abandoned, 56.2% did not get the desired effect and 6.2% said that the high cost was the reason to ceasing its usage. Similarly, Coates\textsuperscript{23} also observed that few patients thought that denture adhesive was too expensive.

There have been several reasons concerning the ceasing of adhesives usage among the patients that have used adhesives but no longer used it. Our findings are in accordance with previous studies, which also observed that the majority of the patients abandoned the use of adhesives because it did not perform to their satisfaction, particularly related to fit, chewing ability, comfort and confidence\textsuperscript{16,23}. 
can act as an adjunct of denture treatment. The concept about denture adhesives among dental professionals is progressively changing. Thus, the results of this study indicate that "denture adhesives" should be taught more intensively at Brazilian dental schools to reinforce the proper use of these products.

CONCLUSION

In conclusion and based on the limitations of this subjective study, it could be shown that the majority of the participants that had never tried adhesives related no need for the use of denture adhesives and the participants that used denture adhesives on a regular basis do inform its efficacy.

REFERENCES


CONFLICTS OF INTERESTS

The authors declare no conflicts of interests.

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