Comparative study of the motivation of professionals in instructing rooms and dental chairs

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Abstract

Background: The objective of this study was to compare the motivation and oral hygiene instruction conducted in the dental chair compared with that in the instructing room.

Materials and Methods: Initially, we selected 34 patients that were divided into two groups of equal numbers. The patients were selected from a specialization course in periodontics and were required to be suffering from gingivitis. Initially, after diagnosis and treatment planning, the patients were treated with periodontal scaling and root planning. At the time of motivation and oral hygiene instruction, the patients were randomly selected. They were taken to the instructing room for oral hygiene or received the same procedures in the dental chair itself. The indicators of periodontal health were visible plaque and gingival bleeding index. There were two tests: An initial test and a second test 1 week later. Data from the two indicators were transformed into percentages and then into arc cosines and were compared (ANOVA, Tukey’s test – \( P < 0.05 \)).

Results: The results of the study showed that there were no statistically significant differences between the groups (\( P > 0.05 \)).

Conclusion: In conclusion, motivation and oral hygiene instruction conducted in the dental chair and the instructing room appeared to be similar based on the tests used in this study.

Introduction

Professional motivation in dental health is fundamental. In all areas, harmful habits have been found that can cause long-term, chronic diseases that are often irreversible.\(^2\)

Periodic preventive maintenance\(^3\) and professional motivation are important factors affecting the healthy habit of teeth brushing.\(^4\) In dentistry, several authors have sought to contribute to this topic. Among the contributions, there have been “brushing and motivation,” in which patients are usually examined in a room particularly dedicated for this purpose or in a professional’s own dental chair.\(^5\)

Professional motivation has been associated with the supra gingival treatment. In general, gingivitis is caused by debris found around the teeth that negatively affects the mechanical ability of the patient to remove biofilm.\(^5\)

The habit of brushing is difficult to learn, especially in adults and older patients. During instruction, open dialogue could result in interaction between the binomial patient and the professional who can change the way the patient acts regarding his or her own dental health.\(^6\)

Therefore, this study aimed to assess whether there were reductions in the visible plaque index (VPI) and gingival bleeding index after professional guidance and motivation in the instructing room or the dental chair.

Materials and Methods

The study participants were patients invited in a specialization course in periodontics (Ethics Committee - HGU-UNIC 2010-055).

Before the start of the study, the research team members had special training, both in terms of performing complete anamnesis and in the guidance and motivation of the sample involved in the study.

The study included 34 patients. After selection, the subjects were divided into two groups of equal numbers (\( n = 17 \), \( n = 17 \)).
namely the motivation group in the dental chair (DCG) and the motivation group in the instructing room (IRG).

The inclusion criteria were as follows: Diagnosis of gingivitis gingival index bleeding (GIB) in all teeth in sextant V, between 43 and 33; good systemic health; absence of smoking; no cognitive or motor problems that interfere with brushing; no heart disease or diabetes; absence of compromised immunity; absence of antibiotic use and/or periodontal treatment in the previous 6 months; no presence of migration of the junctional epithelium to the apical region of sextant V; and no pregnancy, lactation, or contraceptive use.

At the beginning of the study, the patients were submitted to diagnosis and treatment of gingivitis with periodontal scaling and root planning by a Ph.D. in periodontology. This professional was unaware of the groups enrolled in the study. Two other professionals, who did know the objectives of the study, performed professional motivation and hygiene instruction in the dental chair or the instructing room. These meetings regarding oral hygiene in both locations were divided into two stages. The first stage referred to the interaction between oral health and systemic health. During the second stage, practical guidance was provided regarding how to disrupt biofilm with a toothbrush and dental floss.

In the week following gingivitis treatment, a new clinical examination was performed by the same examiner to examine the patients’ oral health.

The clinical criteria were evaluated in the periodontal supragingival region at four sites per tooth: Buccal, mesial, lingual and distal. The variables evaluated at these sites were VPI, which was biofilm visible to the examiner, and gingival bleeding index, which was measured by placing the periodontal probe (Hu Friedy pcp unc 15, Chicago, IL, USA) within 0.5 mm of the gingival sulcus and doing the same at the gingival margin.[6]

Supragingival survey data (GIB and VPI) were compared between the groups and within the groups at the beginning and end of the study. After organizing the data, the percentages were transformed into arc cosines. The statistical test chosen was ANOVA and Tukey’s test with a significance level of 5%, and SPSS software (SPSS Inc., Chicago, IL, USA).

**Results**

The data obtained according to professional motivation and oral hygiene instructions performed in the instructing room or in the dental chair were stratified as shown in Table 1. DCG and IRG did not show statistically significant differences (P > 0.05) for both GIB and VPI. When comparing the groups at the initial and final examinations, significant differences were observed among the groups (P > 0.05).

**Discussion**

The results of this paper regarding oral hygiene instruction in the instructing room and in the dental chair showed no significant differences at either the beginning or the end of the study period [Table 1].

Brushing is the most commonly applied method for the disruption of biofilm. However, while the mechanical act of brushing can be effective for removing microorganisms in the form of biofilm, it should be oriented and often supervised by oral health professionals.[9]

The success of preventive therapy depends on the patient’s behavior about his or her oral hygiene.[9] In this sense, the results of this study showed that regardless of brushing occurring in the instructing room or in the dental chair, the results were similar. The literature implies that a professional motivation is one of the most important factors, independent of the location where hygiene guidelines are provided. Similar thinking has been utilized in other areas of health care.[10]

Among the factors related to the progression of oral diseases are patients’ habits regarding their health.[11] There has been information demonstrating that the patient, motivated and accompanied by the dentist, is able to identify oral diseases at an earlier age, or at least at an earlier stage, thereby avoiding the loss of teeth and consequent harm.[12]

Given the above findings, various forms of motivation have been used in attempts to sensitize patients. Among these methods, motivation in the dental chair itself, which is the most commonly used location, has received criticism due to its format and the lack of sufficient space.[13,14]

The instructing room seems to break the routine of the dental office, allowing for patient comfort and a careful analysis of the gums with professional accompaniment. However, regardless of the locale, the results of this study confirmed the findings in the literature; professional supervision, coupled with motivation, is a factor related to better hygiene and decreased disease progression.[15]

In public health, one of the most important roles of the dentist should be the dissemination of information regarding oral health habits, primarily motivational habits, to maintain proper oral hygiene and to identify preventable causes of disease.

<table>
<thead>
<tr>
<th>Treatment start</th>
<th>Mean (±)**</th>
<th>Treatment end</th>
<th>Mean (±)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRG initial</td>
<td>4.55*</td>
<td>0.94</td>
<td>IRG final</td>
<td>3.21*</td>
</tr>
<tr>
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<td>4.09*</td>
<td>1.01</td>
<td>DCG final</td>
<td>3.41*</td>
</tr>
<tr>
<td>GIB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRG initial</td>
<td>3.57*</td>
<td>1.17</td>
<td>IRG final</td>
<td>2.37*</td>
</tr>
<tr>
<td>DCG initial</td>
<td>3.14*</td>
<td>1.31</td>
<td>DCG final</td>
<td>2.17*</td>
</tr>
</tbody>
</table>

In lines comparisons between initial and final exams in the same groups.

*Means statistical difference (P<0.05); In columns comparisons between IRG and DCG at the beginning and end of the study (P>0.05); (±)** Standard deviation percentage mean transformed into arc cosine for VPI and GIB; GIB: Gingival index bleeding, VPI: Visible plaque index, IRG: Instructing room group, DCG: Dental chair group. (ANOVA, Tukey's test – P<0.05)
Self-diagnosis by the individual promotes changes in his or her behavior and consequently improves the health of the population and reduces the risk of worsening systemic health.\textsuperscript{[16]}

Undoubtedly, it is comfortable for the patient and for the professional to use the instructing room frequently; however, one of the drawbacks is the often-underused space over time, in addition to construction costs, especially for the many professionals who do not have available space.

In addition, there has been frustration due to population growth and the demand for business premises, which have further increased the property values of central areas, especially in large cities.\textsuperscript{[17]} Today in São Paulo, the average price per square meter is U$1,300.00 in Rio de Janeiro, and in Brasilia, the average price has increased to U$4,280.00. Therefore, designating between 3 m\textsuperscript{2} and 5 m\textsuperscript{2} of area for an instructing room seems to be impossible in some situations.

To improve the analysis, it would be interesting to study the outcomes between therapies or to conduct a longitudinal follow-up study of motivation, which has already been accomplished, albeit with controversial results.\textsuperscript{[18]} Despite these limitations and the absence of a larger sample, due to the exclusion criteria, this study demonstrated the need for careful examination of this subject in dentistry. Hopefully, this work will somehow initiate research conducted by aid professionals regarding future planning with respect to the workplace and motivation of dentists.

**Conclusion**

Based on the methodology and in the results, was possible to conclude that there were no differences in clinical responses between brushing and motivation conducted in the instructing room and that occurring in the dental chair.

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**References**