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Research Article

X-Ray Vision: Mental Representation of Adolescent's Oral Cavity Undergoing Orthodontic Treatment

Aucéane Erine Karramkan[1], José Grillo Evangelista[2], Valter Pedroso Alves[3], Ana Sintra Delgado[2] and Maria Do Rosário Dias[2]*

[1]*Dental Student in Egas Moniz School of Health and Science, Portugal*

[2]*Associate Professor at Egas Moniz School of Health and Science, Portugal*

[3]*Clinical Orthodontic Department, Egas Moniz School of Health and Science, Portugal*

***Corresponding Author:** Maria Do Rosário Dias, Associate Professor at Egas Moniz School of Health and Science, Portugal.

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Abstract

Introduction: Oral Hygiene is notoriously relevant in the context of orthodontic treatment; however, oral health self-care is often considered inadequate.

Objective: The objectives of this study focus on the perception of the inner oral cavity in patients and seek the enabling of Self-care through the empowerment of their knowledge.

Materials and Methods: 25 subjects were asked to draw the interior of their oral cavity before (M1) and after (M2) going through orthodontic treatment. The percepts were then quoted using a content analysis grid of analytical categories and subcategories that was created especially for this study.

Results and Conclusion: The results are suggesting that there are differences in the level of investment with a diminution in the representations of the inner oral cavity after the wear of orthodontic appliance. In addition to this, the initial directive was seemed to not be fully perceived by the subjects as most of the patients represented the inner oral cavity as an Extra-Oral configuration followed with a Frontal View Smile.

Keywords: *Mental Representation; Oral Cavity; Adolescents; Orthodontic Treatment; Health Education; Self-Perception*

Introduction

Oral hygiene is notoriously relevant in the context of orthodontic treatment; however, oral health self-care is often considered inadequate. In this line of registration, recent scientific studies reveal the fact that prevention and oral health promotion do not really seem to be as effective as would be desirable [1-4].

Objectives of the Study

This qualitative and exploratory study focuses on the perception of the mental representation of the oral cavity in adolescents with ongoing orthodontic treatment. The empowerment of the intrapsychic knowledge about the interior of the oral cavity may thus empower subjects in the development of the knowledge acquired about their own self-care - Self-Prevention [5].

Materials and Methods

The sample of the present study consists of 25 subjects of both genders, aged between 10 and 24 Years [6], who accessed a consultation at the Egas Moniz Dental Clinic. The subjects were asked to draw the interior of their oral cavity, before (M1) and after (M2) orthodontic treatment. The content analysis of the 50 drawing was performed using a grid consisting of analytical categories and subcategories.

Results and Discussion

Regarding the extraction of data obtained, at the level of the presentation of results, we highlight as the slice of study object, from the content analysis grid, the category anatomical characteristics of the oral cavity and the subcategories: lips, tongue, gingiva, jugal mucosa, palate, glottis, and the teeth. It should be noted that the complete figure category was considered if the drawing included at least four of the subcategories mentioned above [7].

We observed that, only 5 subjects (20%) drew a complete figure in M1, and, after treatment (M2), at the level of pictorial representation, only 3 subjects (12.0%) drew a complete figure (Figure 1). In other words, most of the subjects pictorially represented the figure of the interior of the oral cavity in an Incomplete way, namely 20 subjects (80%) in M1 and 22 subjects (88%) in M2.

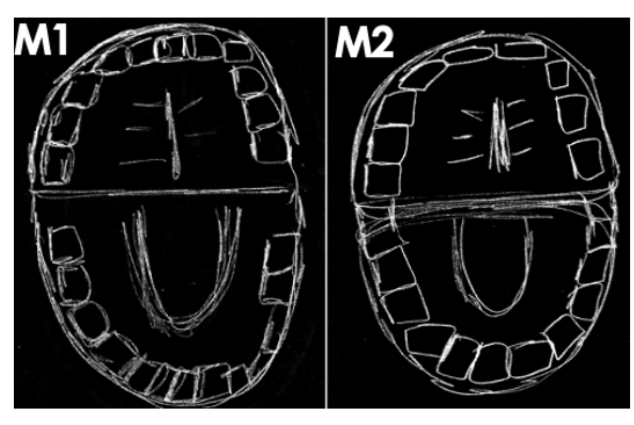

Figure 1: *Drawings representing the "complete figure" category.*

In the category intraoral view (Figure 1 and 2) 4 of the subjects (16%) drew the oral cavity in a frontal view (subcategory) before treatment (M1) and, 3 of the subjects (12%) after treatment (M2). We note the fact that in the extraoral view category (Figure 4 and 5), 12 of the drawing (48%) were presented in frontal view in M1 and 13 subjects drew the same (52%) in M2. M2: What do you think the inside of your oral cavity (mouth) will look like after treatment? In the same register, there is an absence in the design of the orthodontic appliance in all percepts, especially in M2 (Figure 5).

Regarding the perspective category (Table 1 and figure 3) of the percepts, most patients represented the drawings in M1 in the 3D Perspective (56%) contrary to M2, in which the 2D perspective predominates (44%).

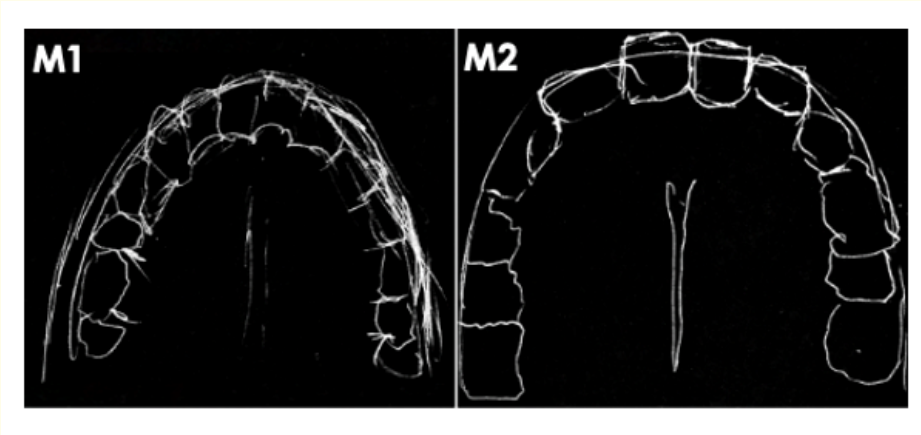

Figure 2: *Drawings representing the "intra-oral view" category.*

Drawing perspective	Percentages of representation in M1	Percentages of representation in M2
3D	56%	32%
2D	44%	68%

Table 1: *Results of the "Perspective category" in M1 and M2.*

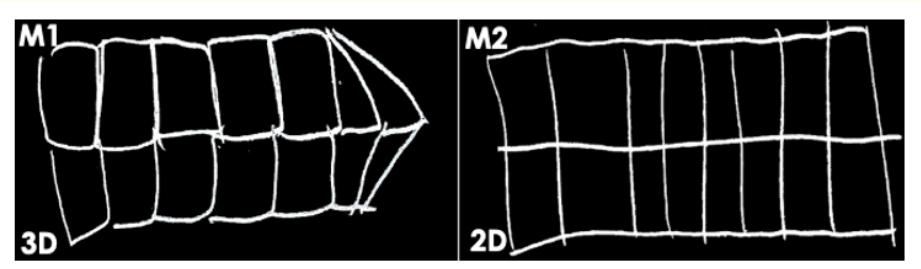

Figure 3: *Drawings representing the category "perspective" and the subcategories "3D" and "2D".*

In general, we verified an atypical reduction in the investment of the figures drawn from M1 to M2, a fact also confirmed by the anatomical characteristics category and its subcategories when we analyzed the percentages in M1 and M2 (Figure 4 and table 2).

As for the category extraoral view, when compared with the subcategories broad smile, well positioned position and straight teeth, there is an increase in the frequency of these subcategories in the percepts drawn after orthodontic treatment (M2) (Figure 4 and 5).

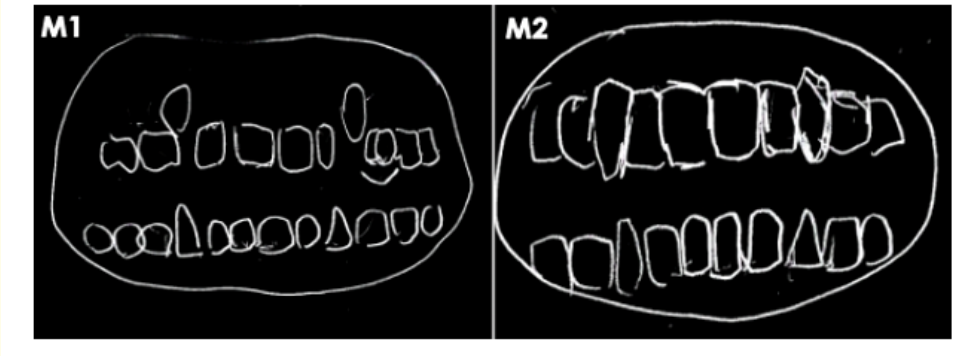

Figure 4: *Drawings representing the subcategories "appearance" and "position of the teeth" (Anatomical features category).*

Representation	M1	M2
3D	56%	44%
Complete Figure	20%	12%
Detailed Teeth	72%	68%
Tongue	24%	20%
Gingiva	16%	8%
Jugal Mucosa	12%	8%
Average number of represented teeth	21,08%	18,92%

Table 2: *Evolution of the representation of some categories and subcategories between M1 and M2.*

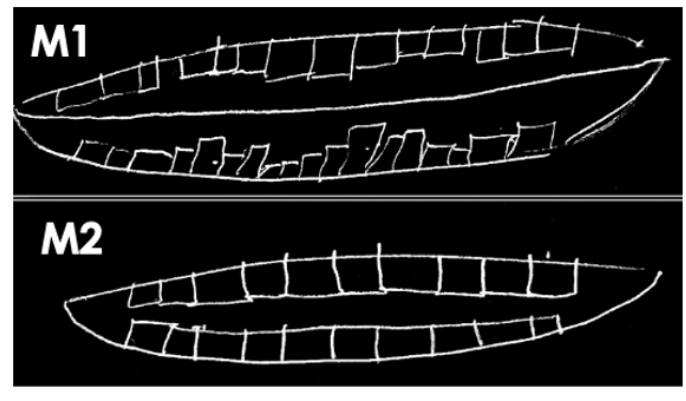

Figure 5: *Drawing representing the category "extra-oral view" and the subcategories "broad smile", "tooth position" and "tooth appearance".*

Thus, according to the results obtained, the same sequence of graphic percepts is verified, that is, most drawings are represented as an incomplete figure and in the 2D Perspective (64%) at the mental post-treatment (M2) level.

Conclusion

The use of drawing as a qualitative projective technique is a graphic record of high empirical relevance. In the present study, the primary objective allows us to name the mental representation of the interior of the oral cavity, at the level of intrapsychic experience, in adolescent patients. It was also possible to observe changes at the level of pictorial disinvestment of figures drawings, from M1 to M2. On the other hand, we observed that the initial directive "drawing of the interior of the oral cavity" does not seem to have been duly perceived by the subjects, to the extent that most percepts are drawn configured in the extra-oral category accompanied by a frontal view smile.

Acknowledgments

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Conflict of Interest

The authors declare no conflict in interest.

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