COMPARATIVE STUDY OF FIXED PROSTHODONTICS PREPARATION EVALUATION

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ABSTRACT

This work presents a comparative evaluation between the dental preparation completed on teeth assembled in the Frasaco® model and the same in the Phantom® head. It also investigated the differences produced in the evaluation according to the type of evaluator: senior teacher, a junior teacher and a senior student. There were found more preparation inaccuracies in the B group (26 teeth preparation performed in the Frasaco® model assembled in the Phantom® head) when compared to A group (26 teeth preparation performed only in the Frasaco® model). There were statistical differences between the evaluation performed by the senior teacher and the junior teacher (p<0.05).

Keywords: fixed prosthodontics preparation; dental evaluation; dental preparation errors.

INTRODUCTION

The training performed in preclinical fixed prosthodontics and the knowledge acquired in the theoretical classes are determinant for the manual dexterity developed by the students and consequently for the understanding of the essential procedures to the success in the clinical practice (Barrero, 2015; Curtis, 2007; Hamil, 2014; Schuster, 2016; Velayo, 2014).

One of the exercises that must be carried out, with insistence, in the preclinical environment is undoubtedly the dental preparation (Velayo, 2014). In this context the most recent literature is consensual (Almeida, 2009; Rocha Almeida, 2016a; Rocha Almeida, 2016b). The Frasaco® (Frasaco GmbH Germany) offers one of the most comprehensive range of dental simulators, study models and training models for hands-on practice in the pre-clinical student acquisition competences. The Phantom® (Frasaco GmbH Germany) head models enable natural simulation of workflows across all areas of dentistry, allowing, together with Frasaco® models, trainees to work extremely close to conditions in clinical practice. The latter is an extremely important fact, especially in fixed prosthodontics acquisition learning curve. In this sense, this study aimed to perform a comparative evaluation between the dental preparation completed on teeth assembled in the Frasaco® model and the same in the Phantom® head. It was also desired to investigate under the differences produced in the evaluation according to the type of evaluator: senior teacher, a junior teacher and a senior student.

The sample consisted of 160 preparations of Frasaco® model teeth made by 80 students of the 4th year of the Curricular Unit of Fixed Prosthodontics II of the Integrated Master in Dental Medicine of the Dental Medicine Faculty of Porto, Portugal. The tooth prepared by each student was the 26 for a metal-ceramic crown. The total of 160 preparations of Frasaco® model teeth were separated into two groups: A group (26 teeth preparation performed only in
the Frasaco® model) and B group (26 teeth preparation performed in the Frasaco® model assembled in the Phantom® head). The evaluation was performed with a double blinded procedure.

The collected data were analyzed with the IBM® SPSS® Statistics 22 (NY Armonk: IBM Corp. 2014) program and using the most appropriate techniques according with the nature of the variables involved.

RESULTS AND CONCLUSIONS

The were found more preparation inaccuracies in the B group (26 teeth preparation performed in the Frasaco® model assembled in the Phantom® head) when compared to A group (26 teeth preparation performed only in the Frasaco® model).

There were statistical differences between the evaluation performed by the senior teacher and the junior teacher (p<0.05) which is in accordance with a previous study (Rocha Almeida, 2016a; Rocha Almeida, 2016b).

With this study the authors intended to contribute with information that helps the medical-dental community to be aware about the main mistakes made in the Frasaco® models and in the Phantom® head models and also to draw attention to the fixed prosthodontics teachers about the possible existence of discrepancy in the evaluation performed by evaluators with different degrees of training.

Further studies should be performed in order to analyze other teeth groups, such as the lateral (premolars) and the anterior (incisors and canine) and also other tooth preparation (full ceramic crowns, inlays and onlays).

REFERENCES