Improvement preclinical and clinical skills for dental preparations using assisted training software

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Abstract
Introduction: Digital workflow is currently available for different fields of dentistry. Additionally, to clinical use, digital technology is focused on the education and training of students. The objective of this study was to show the potential benefit of the use of digital CAD / CAM technology and assisted training software in the evaluation and improvement of student skills in preclinical and clinical environments. Materials and Methods: 30 models of dental preparations were digitalised and analysed by PrepCheck software, after that was used the PrepCheck Report tool, gathering the results of the analysis in an automatically created report and containing the following parameters: analysis of the conicity, distance between a preparation and the opposing jaw, analysis of the type of preparation, quality of the margin and total occlusal convergence. Results: The use of the PrepCheck Pro 2.1 software makes evident the errors made by the students during the biomechanical preparation, since they generally change the inclination, in order to have less difficulties to comply with the parameters established in the preparations. Regarding the evaluated parameters for anterior and posterior fixed prosthesis) such as: 'Conicity', 'Type of preparation' and 'Distance to the antagonist', the preparations, in their majority, were classified within the tolerance range with of 50-60%, 80-93% and 53-67%, respectively. Conclusion: This pilot study demonstrated the benefits of using software and CAD/CAM technology in both preclinical and clinical environments for teaching and learning. Its use on preclinical environments allows the student observe qualitatively and quantitatively a preparation flaws when compared to a master's preparation. Lastly, the ease of visualising errors associated with magnification would allow students to improve their skills.