Comparison of accuracy between two 3D printers.

Introduction: The aim of this study was to compare the accuracy between two three-dimensional (3D) printers: MoonRay S100 (SprintRay, Los Angeles, USA) and Slash Plus (Uniz, San Diego, USA), which use Digital Light Processing (DLP) and Liquid Cristal Display (LCD) for printing 3D models, respectively. **Methods:** The sample consisted in 25 pairs of digital dental models, which were previously obtained through intraoral scanning performed with the TRIOS3 scanner (3Shape, Copenhagen, Denmark). All models were digitally prepared and printed by the two printers. To evaluate the difference between the printed models, 22 intra-arch dimensional measurements were performed. The method was validated through the Bland-Altman test and intra- and inter-examiner errors through the interclass correlation coefficient (ICC). For intergroup comparison, the Anova or Kruskal-wallis tests were performed ($p < 0.05$). **Results:** The intergroup comparison showed a difference in 2 of the 22 variables evaluated: upper canine width (p 0.025) and lower canine width (p <0.001). The error of the method showed an excellent intra- and inter-examiner reproducibility for all variables with ICC ranging from 0.81 to 1. The Bland-Altman test confirmed the agreement of the method, showing that there was a greater agreement in the perimeter of the mandibular arch, and a lower agreement in the heights of the upper central incisor and upper canine. **Conclusion:** Adequate accuracy was observed among 3D printers, not obtaining a clinically significant value of difference between printing methods. The Moonray S100 printer has been shown to be more accurate.

Keywords: 3D printing. Digital flow. Printed models.