

Bolton Tooth-Size Discrepancies Among University Of Malaya's Dental Students

Type: Article

Abstract:

The objective of this retrospective study was to investigate what percentage of the dental students in the University of Malaya has a tooth size discrepancy. The sample comprised 40 good quality pre-treatment study models with fully erupted and complete permanent dentitions from first molar to first molar, which were selected from the dental students of the University of Malaya. The mesiodistal diameter tooth sizes were randomly measured manually from first molar to first molar using digital calliper (Mitutoyu) accurate to 0.01 mm, and the Bolton analyses for anterior and overall ratios were calculated by scientific calculator. Reproducibility analysis for intra- and interexaminer calibrations was assessed by measuring 10 study models twice, a week apart. A paired sample t-test and the correlation coefficient were used to evaluate the systematic and random errors of the measurements using Statistical Package for Social Sciences (SPSS) version 12.0. The reproducibility of the intra and inter-examiners for the sum of upper and lower mesiodistal tooth size were high (average mean difference = 0.62, $r = 0.82$). This study found 47.5% of the samples had anterior, and about 10% had overall tooth width ratios greater than 2 standard deviations from Bolton's mean. Large percentage of the dental students of the University of Malaya has tooth size discrepancies outside of Bolton 2 standard deviations. It would seem prudent to routinely perform the tooth size analysis and include the findings into orthodontic treatment planning.

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