

INTRA EXAMINER RELIABILITY OF TWO METHODS OF OCCLUSAL CLASSIFICATION

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Occlusal and facial patterns vary widely among individuals even in the same community. Therefore, it is important to categorize them into groups. As there is a spectrum of variation in malocclusions, designation of a borderline case may be difficult resulting in intra examiner and inter examiner variability. The purpose of the present study was to determine the intra examiner reliability in using Angles Classification and British Standard Institutes Incisor classification, which are commonly used in orthodontic diagnosis. This study also attempted to determine the preferred system of occlusal classification for use in an undergraduate clinical setting.

Thirty study models were selected from a large pool of models of patients which had been taken up for treatment by the second author between 1994 and 2003 at the Orthodontic unit, Faculty of Dental Sciences, University of Peradeniya were included in the study. Models were selected to include all classes and subdivisions of both classification systems and also cases, which pose difficulties in diagnosing. Four groups of examiners namely, postgraduate students, dental graduates, final year and third year dental students were included. There were four examiners in each group. All four groups were given written and verbal instructions regarding the use of both classification systems. All four groups were asked to classify the thirty sets of study models using both systems of classifications on two different occasions. Procedure was repeated two weeks later to assess intra examiner reliability.

Intra examiner reliability in using both systems of classifications was examined using reliability ratio, percentage agreement, correlation coefficient and Kappa values. Postgraduate students showed the highest reliability ratio and percentage agreement in using Angles Classification (24:30 and 79.66%). Correlation coefficient and Kappa values showed a substantial level of agreement. Dental graduates showed the lowest reliability ratio and percentage agreement. (20:30 and 66.66%) Kappa values indicated moderate level of agreement. Both final and third year students levels of reliability were better than dental graduates in using Angles system of classification. When British system of classification was considered reliability ratio, percentage agreement, correlation coefficient and Kappa values were greater in than with the Angles classification in all groups except the third year students (mean percentage agreement for postgraduate students 89.14% and for final year students 88.33%). The findings of this study reveal that the British classification system is superior to the Angles classification system when intra examiner agreement is considered. British Standard Institutes Incisor classification system is the most reliable classification system for the use in undergraduate clinical setting.

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