

## Documents

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**Comparative Evaluation of Dental and Cephalometric Skeletal Characteristics in the Sagittal and Vertical Plane**  
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**Abstract**

Clinical information regarding skeletal and dental characteristics is essential for orthodontic diagnosis and treatment planning. Therefore, an evaluation to predict the association between skeletal and dental variables would prove diagnostically invaluable. This study aims to enumerate the prevalence of skeletal and dental classifications in a sample of Malay adult patients, and to determine the association between sagittal skeletal relationship, vertical facial dimension and anteroposterior molar relationship. A retrospective study involving orthodontic study models and lateral cephalograms of 117 Malay patients between 18 and 41 years old (mean age  $26.5 \pm 5.38$ ) were evaluated for molar relationship (Class I, II or III), ANB angle (skeletal Class I, II or III) and maxillary-mandibular planes (MMP) angle (normo-, hypo- or hyperdivergent). Reassessment was done after two weeks for intra- and inter-examiner reliability. The association between these variables were analyzed with Chi-square test. There was perfect agreement for intra- and inter-examiner reliability with kappa scored 1. A highly statistically significant association between molar relationship and sagittal skeletal pattern ( $p=0.000$ ), and statistically significant association between sagittal and vertical skeletal pattern ( $p=0.048$ ) was found. There was no significant association between molar relationship and vertical skeletal pattern ( $p=0.855$ ). In conclusion, skeletal Class I, molar Class II and normodivergent vertical pattern were the most prevalent among Malaysian Malay adult patients. There was association between sagittal and vertical dimension, and between sagittal and molar relationships. However, there was no association between vertical plane and molar relationships. © (2024), (University of Dicle). All rights reserved.

**Author Keywords**

Cephalometry; Malocclusion; Orthodontics; Sagittal plane; Vertical dimension

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