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Longitudinal predictability of AF-BF value in Angle Class I patients

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ABSTRACT

AF-BF is a linear cephalometric measure of the anteroposterior jaw relationship in the sagittal plane. A retrospective, longitudinal study was made to determine the mean Caucasian American AF-BF values at ages 8 and 18 years for 30 male and 32 female participants of the Bolton Growth Study. Mean AF-BF values (± s.d.) for males were 7.3 ± 2.7 mm at 8 years and 6.5 ± 4.2 mm at 18 years. Mean AF-BF values (± s.d.) for females were 6.7 ± 2.1 mm at 8 years and 5.2 ± 2.9 mm at 18 years. No significant difference was found between the mean AF-BF values for males and females at either age group ($P < 0.05$). The decrease in AF-BF mean values with increasing age both for males and females was statistically significant. The correlation (r) for the AF-BF values was 0.49 ($P < 0.05$) for females and 0.86 ($P < 0.05$) for males. With increasing age, the mean difference between ANB values for females was 1.40 ± 1.60 and 1.10 ± 1.40 for males. The correlation of ANB angle and AF-BF provides a clinically useful tool for the cephalometric assessment of anteroposterior sagittal discrepancies of maxillary and mandibular denture bases.

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KEY WORDS: Cephalometrics, Wits analysis, Orthodontics, Skeletal Class I, Sagittal discrepancy, Caucasian American.