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The Three-Dimensional Skeletal Proportional Equation, is it Applicable?

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The aim of this study was to establish anindividualized 3D proportionalcephalometric analysis for 37 Egyptian adult subjects (18-25 y) having balanced facial proportions andAngle`s class I molar & canine relationship. The inter-and intra-observer reliability was confirmed after the 3D landmarks identification for randomly selected 10% of the sampleby two observers, the researcher (observer1) and a colleague (observer2), and only for the researcher to do it twice with a gap of 7 days between them. Seventeen cranial, maxillary and mandibular base landmarks were located on each CBCT image in-order to perform fifteen length, height and width linear measurements between the different anatomical landmarks which were projected to the main reference system, also eleven length, height and width ratios were calculated for each sex.

Results: The intra-observer, inter-observer reliability for landmarks showed high concordance with identical ICC and CCC. As for length, height and linear measurement, there was a significant statistical sex difference. However, for length, height and width ratios, a non-significant statistical sex difference was found. The data would lead us to sum-up the result that in average facial proportion subjects, the maxillary basal width, maxillary basal length, mandibular corpal width and mandibular corpal length are nearly equal (1:1). The inter-orbital width equals the sum of the maxillary and mandibular basal widths (1:1), while the some of the posterior and anterior lower facial height nearly equals the inter-orbital width (1:1), and the posterior lower facial height nearly half the anterior lower facial height (0.5:1).

Hence, the previously mentioned craniofacial relationships in the Egyptian adults with average facial proportions could be summarized into the newly introduced the three-dimensional skeletal proportional equation provided a statistical fitness within the Egyptian adults of average facial proportions. Which assesses the degree of harmony between each measurement within the same element, as well as the degree of harmony between the four elements of the equation regardless the gender or skull size of the subject?

Biography:

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