

Facial anthropometry in Northern Sudanese persons from childhood to young adulthood

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A deep knowledge of the dimensions and relative positions of facial structures in the different age, gender and ethnic groups, is necessary for a complete anatomical description as well as for a correct reconstruction of the global facial appearance, both for surgical and forensic purposes. No current normative data exist for Northern Sudanese subjects. Sudan is the second largest country in Africa, and it has a multiethnic population, with four major ethnic groups: those of Arab descent in the North, Nilotic tribes in the South, West African tribes in the region of Darfur and Eastern Tribes [1]. In the current study information about normal sex- and age-related linear distances was provided. The three-dimensional coordinates of 14 landmarks on the facial soft tissues were obtained using a hand-held laser scanner in 653 healthy Northern Sudanese subjects (326 males and 327 females) aged 4 to 30 years. From the landmarks, 13 linear distances were calculated, and averaged for age and sex. Comparisons were performed by factorial analysis of variance. All analyzed linear soft-tissue facial dimensions were significantly larger in men than in women ($p < 0.05$), except mouth width (ch-ch), upper facial height (n-sn) and mandibular corpus length (pg-go). All measurements underwent significant modifications as a function of age ($p < 0.01$), with significant age x sex interactions ($p < 0.01$) for all linear dimensions except lower face height (sn-pg). Overall, when compared to literature data for African and Caucasoid subjects, several differences were found, pointing to the necessity of ethnic-specific data [2]. Data collected in the present investigation could serve as a database for the quantitative description of human facial morphology during normal growth and development.

References

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Key words

Digital anthropometry, face, growth, aging, Northern Sudanese.