

Correlation of Facial, Orbital and Nasal Morphometry with age in a Subset of Karachi Population

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ABSTRACT

Objective: To determine the association of age with facial, orbital and nasal craniofacial parameters in a sub-set of Karachi population.

Study design: Cross-sectional study.

Place and duration: This study was conducted on patients presenting to the Department of Radiology at Ziauddin University Hospital, Karachi, from 10 January 2025 to 30 May 2025.

Methodology: A total of 100 patients aged 18 years and above were included. Facial height, facial width, orbital height, orbital width, inter-orbital distance, bi-orbital distance and nasal septum length were measured via CT head scans. Normality was assessed using Shapiro-Wilk test. To determine correlation of age with different parameters Pearson's correlation was used. P-value<0.05 was considered significant.

Results: Out of 100 patients selected 45 (45%) were male and 55 (55%) were female patients. The results revealed that facial height, inter-orbital distance and nasal septum length showed significant negative correlation with age whereas facial width, right and left orbital heights, right and left orbital widths and bi-orbital distance showed significant positive correlation with age ($p<0.001$).

Conclusion: The study concludes that as the age increases, there is decrease in facial height, inter-orbital distance and nasal septum length. Furthermore, there is an increase in facial width, right and left orbital heights, right and left orbital widths and bi-orbital distance with advancing age.

Keywords: Age-related changes, Craniometry, Facial Morphology, Personal identification, Surgical planning.

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