A38 Morphological and Metric Study of the Nose and Ear in a North Indian Population: Forensic Anthropological Context

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After attending this presentation, attendees will understand the importance of the variability in appearance of the nose and ear in a north Indian population, which will also strengthen knowledge in facial forensic identification of victims of mass disasters and in crime scene investigations.

This presentation will impact the forensic science community by presenting new information on the uniqueness and variability in the appearance of the nose and ear in a north Indian population and their usefulness in forensic facial identifications.

Facial reconstruction is an important aspect of forensic anthropology which helps in establishing the identity of the deceased or the perpetrator of a crime. Facial reconstruction can be achieved by a forensic scientist/facial anthropologist using the original skull, a replica, or clinical images of the skull. Another method of facial reconstruction involves photographic records and Closed-Circuit Television (CCTV) images of the various features of the face wherein a forensic artist reconstructs the face with the aid of additional information gathered from acquaintances. Ear and nose patterns provide important and useful information for facial reconstruction. When dismembered and mutilated human remains are recovered, the individualistic features of the nose and ear can help in the identification of the deceased.

The present study was conducted with a view to evaluating metric, morphological, and unique features of the nose and ear among young adults in a north Indian population. The data were collected from a sample of 215 participants (104 males and 111 females) between 18 years and 25 years of age. The study evaluated the inter-individual variation and sex differences in morphological and metric features of the nose and ear. The morphological features of the nose and ear, such as nasal root, nasal bridge, nasal profile, nasal septum, nostril shape, nasal wings, shape and size of the ear, shape, size, attachment, and thickness of the ear lobe, shape of the tragus, helix, Darwin's tubercle, and hypertrichosis, were examined in this sample. General metric measurements of the nose and ear were gathered for baseline data.

The results indicate that the overall dimensions of the nose and ear in males were found to be significantly larger than females. Bilateral variations were observed for some of the measurements. No significant sex differences were found in the nasal index (males=64.98, females=65.57). Similarly, the left and right ear indices were not significant (for the left ear, males=57.53, females=56.40; for the right ear, males=56.49, females=55.49). The morphological parameters of the nose were found to be quite variable in both sexes. Significant variations existed in nasal profile, nasal tip, nasal septum, nostril shape, and thickness of nasal wings. For the morphological parameters of the ear, oval-shaped ears were quite common (80.77% in males and 72.07% in females). A squarish-ear lobe (41.34% in males and 74.77% in females) was more frequently observed than other types. Attached ear lobes were found in 55.77% of males and 82.89% of females. A normally rolled helix was present in 62.50% of males and 79.28% of females. Darwin's tubercle was found among 5% of the study population. Hypertrichosis was observed in approximately 13% of the males.

Facial Identification, Nose and Ear, North Indians

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