Measurements of nasal height and breadth on PMCT images of Malaysian Malays, Chinese and Indians

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INTRODUCTION

• Ancestry affinity in forensic anthropology has focused rigidly only on the tripartite system of Caucasian (White), African (Black) and Mongoloid (Asian) cranial traits.
• Most of the methods were elaborated on non-metric traits using skeletal repositories of Western populations.
• Anthropologists have also noted variation in nasal index among different groups of people. However, baseline data for a Malaysian population are not readily available.

MATERIALS & METHODS

• A total of 300 anonymised skull scans of 1.0 mm slice thickness except for sex, age and ethnicity parameters were obtained from the National Institute of Forensic Medicine, Hospital Kuala Lumpur.
• The sample comprised of equal distribution according to sex (150 male: 150 female) and ethnic groups (100 Malay, 100 Chinese and 100 Indian).
• The age range for the male sample was 18 to 83 (mean: 47.27) years, and for the female sample, it was 19 to 92 (mean: 49.69) years.
• The nasal index was calculated using the equation: (Nasal breadth / Nasal height) × 100.
• Measurements were taken using the measuring tool.
• Measurements were highly precise: TEM < 1.0; rTEM < 0.5%; R > 0.75.
• Measurements were significantly greater in males when compared to females (p < 0.001).
• Nasal dimensions and indices of the Malaysian sample are widely similar and of moderate size (mesorrhine); they accord to other Asian populations which suggest the predicted population similarities in terms of genetics and geographic locations.

MAIN FINDINGS

<table>
<thead>
<tr>
<th>Dimension (mm)</th>
<th>Malaysians</th>
<th>Filipinos²</th>
<th>Japanese³</th>
<th>Thais³</th>
<th>Thais⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasal height</td>
<td>M: 61.7±1.18; F: 49.19±0.99</td>
<td>-</td>
<td>52.2±5.63</td>
<td>55.1±3.98</td>
<td>M: 52.1±3.47; F: 48.2±2.57</td>
</tr>
<tr>
<td>Nasal breadth</td>
<td>M: 24.9±3.5; F: 23.87±3.9</td>
<td>M: 26.7±1.89; F: 26.0±1.63</td>
<td>24.9±1.85</td>
<td>26.2±1.99</td>
<td>M: 27.5±1.84; F: 27.0±1.88</td>
</tr>
</tbody>
</table>

• Measurements were taken using the measuring tool.

REFERENCES