

## ORIGINAL ARTICLE

# Correlation and Multiplication Factor Analysis of Craniofacial Measurements for Estimation of Stature and Facial Dimensions among Adult Rakhain Females in Bangladesh

Shirin Afroz<sup>1\*</sup>, Lutfu Mustary<sup>2</sup>, Fahmida Yasmin<sup>3</sup>, Iftekhar Bin Razzak<sup>4</sup>

Received: 23 Feb 2026  
Accepted: 25 Feb 2026  
Published Online: 27 Feb 2026

Published by:  
Gopalganj Medical College, Gopalganj,  
Bangladesh

Correspondence to  
Shirin Afroz

DOI: 10.5281/zenodo.18799110

Copyright © 2026 The Insight



This article is licensed under a Creative Commons Attribution 4.0 International License.



## ABSTRACT

**Background:** Forensic and physical anthropological identification relies heavily on precise height and facial dimension estimation, especially for populations that are underrepresented in existing literature. The Rakhain, an ethnic minority in Bangladesh, have unique craniofacial features but have not been studied much. This study aimed to assess the correlation between selected Craniofacial Measurements for the estimation of Stature and Facial Dimensions among Adult Rakhain Females in Bangladesh. **Methods & Materials:** This study took place at Bangladesh Medical University, Dhaka, Bangladesh, among 100 adult Rakhain females living in Cox's Bazar district, Bangladesh, from March 2018 to February 2019. We used standardized tools to measure stature and seventeen linear craniofacial measurements. Multiplication factors, computed craniofacial indices, and the Bland-Altman analysis were done to check the agreement between the measured and estimated values. Data were entered and analyzed on SPSS version 26. **Results:** Mean stature was  $158.17 \pm 3.87$  cm. Mandible height had the highest multiplication factor for stature estimation at  $41.50 \pm 3.77$ , while head circumference had the lowest at  $2.93 \pm 0.11$ . For morphological face height, mandible height also yielded the highest factor at  $2.79 \pm 0.21$ . For maximum facial breadth, left ear width showed the highest factor at  $3.96 \pm 0.37$ . Correlation analysis found different associations between craniofacial dimensions and stature. Mandible breadth showed a weak negative correlation ( $r = -0.032$ ), while maximum cranial breadth had a strong positive value. **Conclusion:** Craniofacial measurements, such as mandible height, ear dimensions, and nasal measurements, are useful for estimating height and facial dimensions in adult Rakhain females. These factors specific to the population can act as reference data for forensic identification and legal investigations in Bangladesh.

**Keywords:** Craniofacial anthropometry, Stature estimation, Facial dimensions, Rakhain population

(The Insight 2026; 9(1): 51-56)

1. Curator, Department of Anatomy, Khulna Medical College, Khulna, Bangladesh (ORCID: 0009-0003-4380-5693)
2. Resident, Department of Anatomy, Bangladesh Medical University, Dhaka, Bangladesh
3. Lecture, Department of Anatomy, Bangladesh Medical University, Dhaka, Bangladesh
4. Lecture, Department of Anatomy, Khulna Medical College, Khulna, Bangladesh

## INTRODUCTION

Estimation of stature from skeletal and craniofacial remains is essential in forensic anthropology and medicolegal investigations [1]. When intact long bones or complete skeletal remains are not available, craniofacial measurements provide a practical option for reconstructing the biological profiles of unidentified individuals [2]. This method is especially important in mass casualty events, natural disasters, and cases involving fragmented remains in forensic settings [3]. Craniofacial anthropometry involves measuring the skull, face, and related structures to describe traits specific to different populations [4]. Studies in various ethnic groups have shown that features like cranial length, facial width, nose size, and ear size relate to overall body height [5]. However, these relationships differ greatly based on sex, age, and ethnicity. As a result, general equations made from one group cannot be used accurately for another without testing their validity [6]. Bangladesh has a rich ethnic diversity, with many indigenous communities that have unique physical traits [7]. The Rakhain are an ethnic minority mainly found in the Cox's Bazar coastal district and the Patuakhali region. They have a distinct cultural identity and

skull shape that set them apart from the Bengali majority. Even though they are important for forensic and anthropological studies, the Rakhain are still mostly absent from published craniometric research. Most studies on craniofacial stature estimation have focused on South Asian, European, African, and East Asian populations [5, 8]. Specific multiplication factors and regression equations for each population are vital for reliable forensic identification [3]. Without data from underrepresented groups like the Rakhain, forensic examiners in Bangladesh may use incorrect reference values, which could hurt identification accuracy [9]. Furthermore, measuring facial dimensions like face height and maximum facial width is becoming more important in craniofacial reconstruction, forensic art, and clinical anthropology [10]. When these dimensions are compared with other linear measurements, they can help reconstruct facial features from incomplete evidence [11]. Therefore, this study aimed to analyze the relationship between selected craniofacial measurements and stature, morphological face height, and maximum facial breadth, and to establish population-specific multiplication factors for their estimation among adult Rakhain females in Bangladesh.

**METHODS & MATERIALS**

This community-based analytical study took place at the Department of Anatomy, Bangabandhu Medical University (BMU), Dhaka, among adult Rakhain females living in Chawfaldondi village and Sadar upazila of Cox's Bazar district, Bangladesh, from March 2018 to February 2019. We selected 100 participants using convenience sampling. Inclusion criteria included Rakhain females with confirmed Rakhain ethnicity for at least three generations, permanent residence in the study area, and willingness to provide written informed consent. We chose this age range to ensure the completion of skeletal ossification and to exclude age-related changes in stature. Exclusion criteria include individuals with mixed ethnicity, any craniofacial anomalies (either congenital or acquired), a history of major craniofacial trauma, previous reconstructive or cosmetic craniofacial surgeries, orthodontic treatment, malocclusion, endocrine disorders, neurological disorders that affect growth, and pregnant or lactating women. Ethical clearance was obtained from the Institutional Review Board of BSMMU, and written informed consent was collected from all participants before data gathering. We recorded stature and seventeen standardized linear craniofacial measurements using a spreading caliper, digital sliding caliper, flexible measuring tape, steel plate, and steel tape. We identified anatomical landmarks by inspection and palpation, marked them before measuring, and took each measurement twice to

reduce intra-observer error. Mean values were then recorded. A correction factor of 2 mm was applied to the measurements taken with the spreading caliper to account for instrument error. Multiplication factors for estimating stature, face height, and maximum facial width from individual craniofacial dimensions were calculated, and average multiplication factors were derived. Craniofacial indices, including cephalic, facial, nasal, ear, biocular face width, and zygomandibular, were also calculated. We performed statistical analysis using SPSS version 26. We assessed normality with the Shapiro-Wilk test. Pearson correlation examined the relationship between craniofacial measurements and the target variables. Finally, the Bland-Altman analysis evaluated the agreement between measured and estimated values.

**RESULTS**

**Table I** shows the descriptive statistics for stature and seventeen craniofacial measurements. The average stature was  $158.17 \pm 3.87$  cm. For craniofacial parameters, maximum cranial length (g-op) was  $18.16 \pm 0.85$  cm, and maximum cranial breadth (eu-eu) was  $15.16 \pm 0.56$  cm. The average morphological face height (n-gn) was  $10.67 \pm 0.55$  cm, while the maximum facial breadth (zy-zy) was  $13.28 \pm 1.03$  cm. Nasal height averaged  $4.93 \pm 0.38$  cm, and nasal width was  $3.55 \pm 0.24$  cm. The head circumference was  $55.76 \pm 1.28$  cm, indicating a fairly consistent cranial size across the group.

**Table - I: Values of stature and selected linear craniofacial measurements in adult Rakhain females of Bangladesh (n = 100)**

Measured Stature and Linear Craniofacial Measurement	Mean $\pm$ SD (cm)
Stature	158.17 $\pm$ 3.87
<b>Craniofacial Measurements</b>	
Maximum cranial length (g-op)	18.16 $\pm$ 0.85
Maximum cranial breadth (eu-eu)	15.16 $\pm$ 0.56
Morphological face height (n-gn)	10.67 $\pm$ 0.55
Maximum facial breadth (zy-zy)	13.28 $\pm$ 1.03
Mandible height (sto-gn)	3.84 $\pm$ 0.33
Mandible breadth (go-go)	10.78 $\pm$ 0.35
Nasal height (n-sn)	4.93 $\pm$ 0.38
Nasal width (al-al)	3.55 $\pm$ 0.24
Left upper face depth (n-t)	10.08 $\pm$ 0.56
Left maxillary depth (sn-t)	11.45 $\pm$ 0.58
Left mandibular depth (gn-t)	14.09 $\pm$ 0.58
Mouth width (ch-ch)	4.61 $\pm$ 0.38
Left ear length (sa-sba)	6.26 $\pm$ 0.45
Left ear width (pra-pa)	3.06 $\pm$ 0.28
Intercanthal width (en-en)	3.42 $\pm$ 0.33
Biocular width (ex-ex)	9.39 $\pm$ 0.58
Head circumference (on-op)	55.76 $\pm$ 1.28

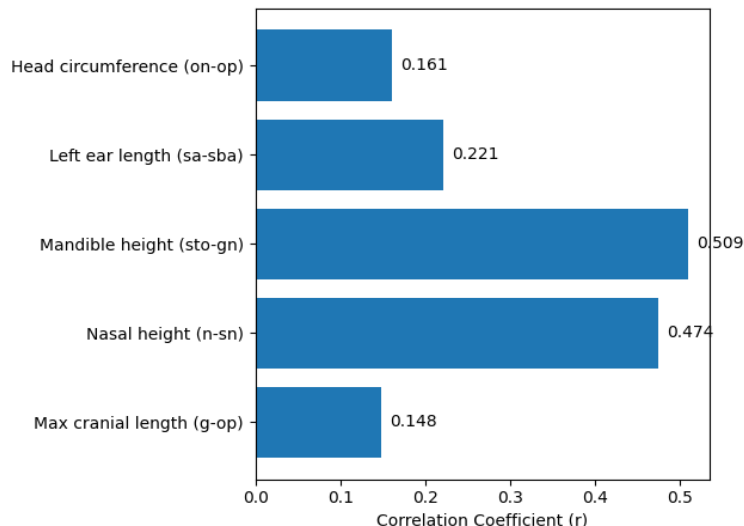
**Table II** shows the Pearson correlation coefficients between craniofacial dimensions and stature. Maximum cranial breadth ( $r = +2.982$ ) and mandible height ( $r = +2.327$ ) had the strongest positive associations. In contrast, maximum facial breadth ( $r =$

$-1.756$ ) and left ear width ( $r = -1.221$ ) had notable negative values. Several other measurements, such as nasal width ( $r = -0.055$ ), mandible breadth ( $r = -0.032$ ), and mouth width ( $r = -0.045$ ), showed weak or negligible correlations with stature.

**Table - II: Correlation coefficients of selected linear craniofacial measurements with stature in adult Rakhain females of Bangladesh (n = 100)**

Linear Craniofacial Measurement	Correlation Coefficient (r)
Maximum cranial length (g-op)	+0.110
Maximum cranial breadth (eu-eu)	+2.982
Morphological face height (n-gn)	+0.224
Maximum facial breadth (zy-zy)	-1.756
Mandible height (sto-gn)	+2.327
Mandible breadth (go-go)	-0.032
Nasal height (n-sn)	+0.122
Nasal width (al-al)	-0.055
Left upper face depth (n-t)	+0.045

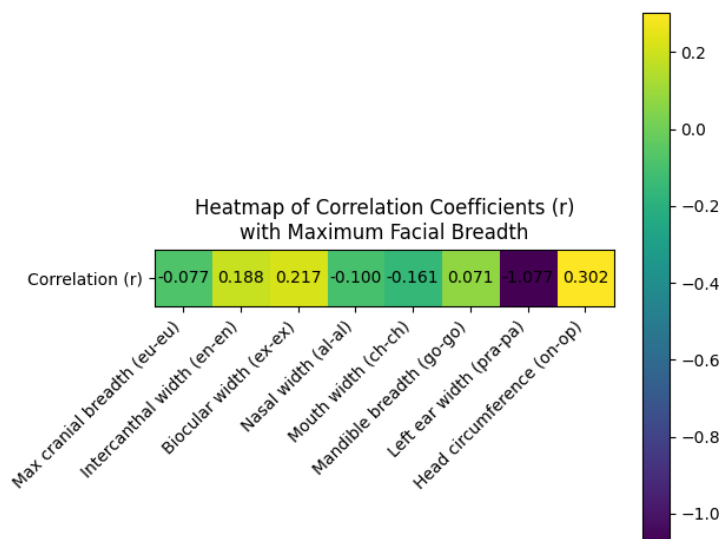
Left maxillary depth (sn-t)	+1.035
Left mandibular depth (gn-t)	+0.110
Mouth width (ch-ch)	-0.045
Left ear length (sa-sba)	-0.055
Left ear width (pra-pa)	-1.221
Intercanthal width (en-en)	+0.995
Biocular width (ex-ex)	+0.167
Head circumference (on-op)	+0.045



**Figure - 1: Correlation coefficients of morphological face height (n-gn) with specifically selected linear craniofacial measurements**

**Figure 1** shows the strength and direction of correlation between morphological face height, n-gn, and selected linear craniofacial measurements in adult Rakhain females, n = 100. Mandible height, sto-gn, had the strongest positive correlation, r = 0.509. This was followed by nasal height, n-sn, r = 0.474,

which indicates a moderate association. Left ear length, sa-sba, r = 0.221, head circumference, on-op, r = 0.161, and maximum cranial length, g-op, r = 0.148, showed weak positive correlations.



**Figure - 2: Correlation coefficients of maximum facial breadth with selected linear craniofacial measurements in adult Rakhain females of Bangladesh**

**Figure 2** shows the correlation coefficients, r, between maximum facial breadth and certain linear craniofacial measurements among adult Rakhain females. Head circumference, on-op, had the highest positive correlation at r = 0.302. This was followed by biocular width, ex-ex, with r =

0.217, and intercanthal width, en-en, at r = 0.188. Weak positive associations were found with mandible breadth, go-go, at r = 0.071. In contrast, weak negative correlations appeared with nasal width, al-al, at r = -0.100, mouth width, ch-ch, at r = -0.161, and maximum cranial breadth, eu-eu, at r = -0.077. A

notably strong negative value was recorded for left ear width, pra-pa, at  $r = -1.077$ , indicating an inverse relationship.

**Table III** shows the average multiplication factors used to estimate height from each craniofacial measurement. Left ear width (pra-pa) had the highest factor at  $52.16 \pm 5.06$ . It was

followed by intercanthal width at  $46.62 \pm 4.61$  and nasal width (al-al) at  $44.81 \pm 3.36$ . Mandible height (sto-gn) also had a high factor of  $41.50 \pm 3.77$ . In contrast, head circumference resulted in the lowest factor at  $2.93 \pm 0.11$ . This is due to its larger absolute value when compared with height.

**Table – III: Comparison between measured stature and stature estimated from selected linear craniofacial measurements**

Linear Craniofacial Measurement	Mean $\pm$ SD
Maximum cranial length, g-op	8.73 $\pm$ 0.44
Maximum cranial breadth, eu-eu	10.47 $\pm$ 0.46
Morphological face height, n-gn	14.86 $\pm$ 0.78
Maximum facial breadth, zy-zy	11.98 $\pm$ 0.97
Mandible height, sto-gn	41.50 $\pm$ 3.77
Mandible breadth, go-go	14.67 $\pm$ 0.61
Nasal height, n-sn	32.26 $\pm$ 2.46
Nasal width, al-al	44.81 $\pm$ 3.36
Left upper face depth, n-t	15.74 $\pm$ 0.93
Left maxillary depth, sn-t	13.85 $\pm$ 0.77
Left mandibular depth, gn-t	11.24 $\pm$ 0.51
Mouth width, ch-ch	34.56 $\pm$ 3.02
Left ear length, sa-sba	25.38 $\pm$ 1.99
Left ear width, pra-pa	52.16 $\pm$ 5.06
Intercanthal width, en-en	46.62 $\pm$ 4.61
Biocular width, ex-ex	16.88 $\pm$ 0.79
Head circumference, on-op	2.93 $\pm$ 0.11

**Table IV** shows multiplication factors for estimating morphological face height. Mandible height (sto-gn) had the highest mean factor at  $2.79 \pm 0.21$ . This was followed by nasal height (n-sn) at  $2.17 \pm 0.15$  and left ear length (sa-sba) at  $1.71$

$\pm 0.14$ . Maximum cranial length (g-op) had the lowest factor at  $0.59 \pm 0.04$ . Head circumference produced a value of  $0.20 \pm 0.01$ , the smallest value, which highlights the mismatch between this overall cranial measure and regional facial height.

**Table – IV: Comparison between measured morphological face height and morphological face height estimated from selected linear craniofacial measurements**

Linear Craniofacial Measurement	Mean $\pm$ SD
Maximum cranial length, g-op	0.59 $\pm$ 0.04
Nasal height, n-sn	2.17 $\pm$ 0.15
Mandible height, sto-gn	2.79 $\pm$ 0.21
Left ear length, sa-sba	1.71 $\pm$ 0.14
Head circumference, on-op	0.20 $\pm$ 0.01

**Table V** presents multiplication factors for estimating maximum facial breadth. Left ear width (pra-pa) had the highest factor at  $3.96 \pm 0.37$ . This was followed by intercanthal width (en-en) at  $3.54 \pm 0.34$  and nasal width (al-al) at  $3.40 \pm 0.24$ . Mandible breadth (go-go) and biocular width (ex-ex)

showed moderate factors of  $1.11 \pm 0.04$  and  $1.28 \pm 0.06$ , respectively. Maximum cranial breadth yielded the lowest factor at  $0.79 \pm 0.03$ . This indicates it is the most proportionally related measurement to maximum facial breadth among those evaluated.

**Table – V: Comparison between measured maximum facial breadth and maximum facial breadth estimated from selected linear craniofacial measurements**

Linear Craniofacial Measurement	Mean $\pm$ SD
Maximum cranial breadth, eu-eu	0.79 $\pm$ 0.03
Intercanthal width, en-en	3.54 $\pm$ 0.34
Biocular width, ex-ex	1.28 $\pm$ 0.06
Nasal width, al-al	3.40 $\pm$ 0.24
Mouth width, ch-ch	2.62 $\pm$ 0.22
Mandible breadth, go-go	1.11 $\pm$ 0.04
Left ear width, pra-pa	3.96 $\pm$ 0.37
Head circumference, on-op	0.22 $\pm$ 0.01

**DISCUSSION**

This study demonstrated population-specific measurements and multiplication factors for estimating height, facial height, and maximum facial width in adult Rakhain females. This group has not been documented in forensic anthropology before. The average height of  $158.17 \pm 3.87$  cm found in this group is similar to measurements from other South and Southeast Asian

female populations, but it differs enough to highlight the need for specific reference data for this group [12]. The choice to use multiplication factors instead of regression equations was made because these factors work even with incomplete remains, which is a common situation in forensic investigations [13]. Nasal width and left ear width provided the highest multiplication factors for stature, which aligns with their

relatively small size compared to total body height. Similar trends have been observed in studies by Asadujjaman et al. and Sah et al., indicating that peripheral craniofacial landmarks often result in larger scaling ratios [14,15]. The lowest factor came from head circumference ( $2.93 \pm 0.11$ ), which reflects the large size of this measurement. Pearson correlation analysis showed significant differences in how individual craniofacial measurements relate to height. Maximum cranial breadth and mandible height had the strongest positive correlation, while mandible breadth, nasal width, and mouth width showed very weak correlations. These results partly align with a study by Sah et al., who observed that cranial dimensions can provide useful anthropological information but may not directly predict height in some South Asian subgroups [14,15]. The weak correlations for certain measurements in this study might be due to the fairly uniform craniofacial features within this sample. For estimating morphological face height, mandible height was the most useful measurement, with a multiplication factor of  $2.79 \pm 0.21$ . This was followed by nasal height at  $2.17 \pm 0.15$  and left ear length at  $1.71 \pm 0.14$ . These results support studies by Ngeow et al. and Eziyi et al., who highlight lower face measurements as predictors of facial height [16, 17]. Mandible dimensions hold up well against postmortem decay and are often recovered as craniofacial elements in forensic cases, making these findings practical [18]. Regarding maximum facial breadth, left ear width ( $3.96 \pm 0.37$ ) and intercanthal width ( $3.54 \pm 0.34$ ) showed the highest multiplication factors. Zygomaticomaxillary breadth is often influenced by population affinity and sexual dimorphism [19]. The relatively high factors for ocular and auricular landmarks indicate their compactness compared to full facial breadth. Maximum cranial breadth ( $0.79 \pm 0.03$ ) had the smallest factor, suggesting a strong link with maximum facial breadth. This connection makes sense because zygomatic and cranial widths usually scale together within ethnic populations [20]. The use of Bland-Altman analysis to assess the agreement between measured and estimated values strengthens this study. It goes beyond basic correlation to check for systematic bias and limits of agreement. This method is increasingly suggested in anthropometric estimation studies [21]. The findings together support those craniofacial measurements serve as meaningful proxies for estimating both stature and facial dimensions, as long as population-specific factors are applied [22]. These reference values have real-world applications for forensic investigators, anatomists, and physical anthropologists working in Bangladesh and in situations where Rakhain individuals may be found. The data can also aid facial reconstruction efforts in medicolegal and archaeological contexts, especially when partial cranial remains require size estimation.

### LIMITATIONS

This study included only female participants from one geographic area. This limits the ability to generalize the findings to Rakhain males or people living in other regions. Also, using convenience sampling might lead to selection bias, and the cross-sectional design does not allow for causal conclusions.

### CONCLUSION

This study shows that craniofacial measurements, particularly mandible height, nasal dimensions, ear size, and biocular widths, are useful indicators of height, facial height, and maximum facial width in adult Rakhain women in Bangladesh. The population-specific multiplication factors we derived provide a valid and practical reference for forensic identification within this underrepresented ethnic group. The relatively uniform craniofacial features of the Rakhain

highlight the biological uniqueness of this population and emphasize the need for ethnic-specific data. These findings offer important anthropometric information for forensic identification, craniofacial reconstruction, and physical anthropology research in Bangladesh and South Asia.

### RECOMMENDATIONS

Future studies should include male Rakhain participants and use probabilistic sampling techniques. They should also validate the multiplication factors with regression models across larger geographic areas and different age groups to improve forensic use.

**Funding:** No funding sources

**Conflict of interest:** None declared

### REFERENCES

1. Krishan K, Kanchan T, Sharma A. Multiplication factor versus regression analysis in stature estimation from hand and foot dimensions. *Journal of forensic and legal medicine*. 2012 May 1;19(4):211-4.
2. Peckmann TR, Logar C, Meek S. Sex estimation from the scapula in a contemporary Chilean population. *Science & Justice*. 2016 Sep 1;56(5):357-63.
3. Reddy M, Reddy V, Wadhwan V, Venkatesh A. Correlation and estimation of stature from cephalofacial measurements: A study on Western Uttar Pradesh population. *Journal of forensic dental sciences*. 2018 May 1;10(2):101-6.
4. Bayat M, Shariati M, Rajaeirad F, Yekaninejad MS, Momen-Heravi F, Davoudmanesh Z. Facial anthropometric norms of the young Iranian population. *Journal of maxillofacial and oral surgery*. 2018 Jun;17(2):150-7.
5. Agnihotri AK, Kachhwaha S, Jowaher V, Singh AP. Estimating stature from percutaneous length of tibia and ulna in Indo-Mauritian population. *Forensic science international*. 2009 May 30;187(1-3):109-e1.
6. Chikhalkar BG, Mangaonkar AA, Nanandkar SD, Peddawad RG. Estimation of stature from measurements of long bones, hand and foot dimensions. *Journal of Indian Academy of Forensic Medicine*. 2010 Dec;32(4):329-31.
7. Raveendran M. The South Asian facial anthropometric profile: a systematic review. *Journal of Cranio-Maxillofacial Surgery*. 2019 Feb 1;47(2):263-72.
8. Nguyen NH, Taylor JM, Huang KX, Shariati K, Chevalier JM, Miller MN, Cronin BJ, Lee JC. Ethnic variation in lower face anthropometry on facial computed tomography scans for patients seeking facial feminization surgery. *Journal of Plastic, Reconstructive & Aesthetic Surgery*. 2024 Jun 1; 93:222-31.
9. Bista B, Thapaliya NP, Chaudhary A, Shrestha PK, Kandel T. Estimation of Stature from Anthropometric Measurements of the Sternum in Nepalese Population at the Tertiary Health Care Hospital. *Nepal Journal of Health Sciences*. 2024 Oct 25;4(1):21-30.
10. Mansur DI, Haque MK, Sharma K, Karki RK, Khanal K, Karna R. Estimation of stature from foot length in adult Nepalese population and its clinical relevance. *Kathmandu University Medical Journal*. 2012 Oct 2;10(1):11-5.
11. Darkwah WK, Kadri A, Adorama BB, Aidoo G. Cephalometric study of the relationship between facial morphology and ethnicity. *Translational Research in Anatomy*. 2018 Sep 1; 12:20-4.
12. Kanchan T, Rastogi P. Sex determination from hand dimensions of North and South Indians. *Journal of forensic sciences*. 2009 May;54(3):546-50.
13. Verma R, Krishan K, Rani D, Kumar A, Sharma V. Stature estimation in forensic examinations using regression analysis: a likelihood ratio perspective. *Forensic Science International: Reports*. 2020 Dec 1; 2:100069.
14. Asadujjaman M, Molla MB, Al Noman SN. Stature estimation from hand anthropometric measurements in Bangladeshi population. *Journal of forensic and legal medicine*. 2019 Jul 1; 65:86-91.
15. Sah SK, Parajuli SB, Adhikari RK, Bhakta S. Correlation between the Stature and Head Length among Undergraduate Medical Students in a Medical College of Eastern Nepal. *Birat Journal of Health Sciences*. 2025 Aug 31;10(2):69-73.

16. Ngeow WC, Aljunid ST. Craniofacial anthropometric norms of Malays. *Singapore medical journal*. 2009 May 1;50(5):525.
17. Eziyi JE, Ogundipe OK, Owotade FJ. Clinical Anthropometric Assessment of the Adult Face of Yorubas in Nigeria. *Journal of Experimental and Clinical Anatomy*. 2021 Dec 1; 19:32-6.
18. Shetty B, Deepak M, Monteiro FN, Castelino KP, Xavier AP. Estimation of stature from dimensions of hands and feet in a South Indian Population. *IP Int J Forensic Med Toxicol sci*. 2020;5(1):14-9.
19. Khanduri S, Malik S, Khan N, Patel YD, Khan A, Chawla H, Singh V, Gupta A, Shaikh J, Siddiqui S. Establishment of cephalic index using cranial parameters by computed tomography in a sampled North Indian population. *Cureus*. 2021 Jun 3;13(6).
20. Farkas LG, Katic MJ, Forrest CR. Comparison of craniofacial measurements of young adult African-American and North American white males and females. *Annals of plastic surgery*. 2007 Dec 1;59(6):692-8.
21. Bland JM, Altman DG. Statistical methods for assessing agreement between two methods of clinical measurement. *International journal of nursing studies*. 2010 Aug 1;47(8):931-6.
22. Saini V, Mehta M, Saini R, Shamal SN, Singh TB, Tripathi SK. Is north Indian population changing its craniofacial form? A study of secular trends in craniometric indices and its relation to sex and ancestry estimation. *Forensic Science and Criminology*. 2017;2(2):1-4.