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Study of Facial Index in Andhrapradesh Population

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Abstract

130 patients (65 males and 65 females) facial Index of adults aged between 18 to 25 Andhra Pradesh populations were studied. The maximum facial height divided with maximum Breath of zygomatic arch and multiplied with 100.The instruments used for measurement were spreading caliper and sliding caliper. The mean value of facial index in adult males was 91.5cm (SD ±05) and in females 88cm (SD ±0.3) + test value was 8.2 and statistically highly significant (P<0.01) The Obtained Facial Index was classifications leptoproscopic (In males 88 to 92.9 and in females 85 to 89.9.) This study of facial Index is quite useful to oral and maxillo facial surgeon to differentiate from congenital, under developed or post traumatized facial index, moreover this facial index has anthropological and medico –legal importance.

Key words: *Spreading caliper, sliding caliper, Andhra Pradesh*

Introduction

Study of facial Index has always has always has an interesting topic for anatomist, plastics surgeons, oral and maxillo facial surgeon and artist. Physical anthropologist have been measuring the skull for years and obtained the results enabled them to trace the relationship between the races as they believe that, the form of skull remain the same in each race and different facial index [(1)], the indices express the ratio of landmarks of an individual facial index is measurement related to the morpho-metric study of skull [(2)], moreover age, sex, geographical representation can be studied from facial index [(3)(4).] In addition to this congenital, post traumatic facial disfigures can be rectified by the maxillofacial surgeon with the help of regional facial Index. Hence attempt was made to the facial Index in both sexes of adults in Andhrapradesh to know the difference between genders and compare with North Indian and Abroad Facial indices

Material and Method

65 males 65 females of adult healthy volunteers aged between18-25 were selected for study. The facial Index was studied with help of spreading caliper and sliding caliper

$$\text{Facial Index} \quad \frac{\text{Facial height}}{\text{Breath of zygomatic arch}} \times 100$$

Facial measurement were as under

1-Nasion = point at the nasal root intersected by mid sagital plane Nasal root is the depression of the nose but at the naso frontal suture which can be felt by slightly probing the root of the nose

2- Gnathion – It is the lowest point on the lower margin of lower jaw intersected by the mid-sagital plane. This point can be palpated on the lower jaw slightly another to chin

3-Zygion –It is the most laterally placed point on zygomatic arch

4-Total Facial Height –It measure the straight distance between Nasion to Gnathion (measured by sliding caliper)

5- Breath of Bizygomatic Arch –It measure straight distance between two zygon (measured by spreading caliper). The facial Index of the both sexes was studied and compared statistically. The duration of study was

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about two years

Observation and Results

Table-1 Comparative study of Facial Index between both sexes mean value of facial Index in males was 91.5 cm(SD=0.5) and in mean value in females was 88 cm (SD ±0.3) of test value was 8.2 value was highly signification (P<0.01) statistically

Table-2 Classification of facial Index anthropologically. The present obtained values of Facial Index was classified into leptoproscopic (Males 88 to 92.9 and females 85 to 89.9)

Table-3 Comparison of present value of facial index values with previous studied ethnic groups of India and Abroad.

Discussion

In the present study of facial Index in Andhra Pradesh population mean value of Facial Index in males adult was 91.5cm (SD ±0.5) and in females adult was 88 cm (SD ±0.3) and 't' test + value was 8.2 and statically highly significant (P<0.01) (Table-1) and obtained value of facial Index was classified as leptoproscopic in both sexes in males 88 to 92-9cm and in females 85 to 89-9cm (Table-2) These finding were more or less in agreement with previous studies[5][6][7].

The study of sexual dimorphism is an important concern for the forensic anthropologist as it is a key to individual identification; Assessing sexual dimorphism eliminates approximately half of the population from further consideration in cases of missing persons or unknown identity. Many morphological differences are sex is specific. The specificity is due to genetic factors, nutritional growth and habitat [8]. This difference leads to ethnic determination.

In North Indian and Punjab population has mesoproscopic facial Index this variation is due to migration of Iran population to India[9] and west Bengal population has euryscopic type of facial Index and Andman Nicobar population has hypereuryproscopic type of facial Index [10]. These variations in the facial Index represents various ethnic origins migrated to India.

Summary and Conclusion

The present study of Facial Index in both sexes of adults Andhra Pradesh population which has leptoproscopic Facial Index. This Index is of great importance in medico legal anthropological and oral maxillofacial surgery, but this study demands further genetic anthropological nutritional study because as bony skull is mesodermal origin and bone is most plastic tissue which adopts with environmental, nutritional status.

This research work is approved by ethical committee of Nimra institute of medical Sciences Ibrahimpatnam Jupudi Vijayawada Andhrapradesh – 521456

Table-1: Comparative study of Facial Index in both sexes Male-65, Female-65

Sl.No	Particulars	Male Facial Index	Female Facial Index
1	Mean Value	91.5	88.1
2	SD	0.5	0.3
3	Test statistic	t=8.2	P<0.01

Male Facial Index in more than female facial Index is highly significant (P<0-01)

Table-2: Classification of Facial Index

Sl. No	Facial Type	Rase of Index	
		Male	Female
1	Hypereuryproscopic	78.9	76.9
2	Eury proscopic	79 to 83.9	77 to 80.9
3	Meso Proscopic	84 to 87.9	81 to 84.9
4	Lepto proscopic	88 to 92.9	85 to 89.9
5	Hyperlepto proscopic	93	90.-

In the present study of Andhra Pradesh male facial 91.5cm (SD ±0.5) and female 88.1cm (SD±0.3) belong to leptoproscopic

Table-3: Present study of Facial Index in both sexes is compared with previous studies

Sl. No	Author & Year	Ethnic Groups	Male Facial Index	Female Facial Index
1	Mahesh Kumar -2013	Hariyanvi	68.09	84.84
2	Zohre abatabae- 2010	Yazd	108.3	106.9
3	Agron Rexhepi-2008	Kosov	90.38	90.27
4	Vaishali Shetti -2011	a)North Indian b) Malaysian	87.19 87.71	86.75 85.72
5	Present Study -2018	South Indian	91.5	88.1

The present study findings were more less in agreement with previous study

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