

## COMPARATIVE STUDY OF PROSOPIC (FACIAL) INDEX OF SINDHI COMMUNITY OF JODHPUR DISTRICT OF RAJASTHAN AND OTHER COMMUNITIES AND RACES

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### ABSTRACT

The facial index is length of the face from root of nose to the bottom of the chin, expressed as a percentage of the greatest breadth across the cheek bones. Racial differences are much more marked in relation to face than elsewhere, so it is very useful anthropologically. For this 100 males from Sindhi community between the age group of eighteen to thirty-five years were taken and their facial index was calculated. The result indicated that average facial index in Sindhi individuals was 92.89. Mostly they were Leptoprosopic and Hyperleptoprosopic. The average facial index of Sindhi individuals was not comparable to any other Indian groups studied so far. But it was very close to North European and less than Nigerian population.

**KEYWORDS:** Facial index; Bizygomatic diameter; Leptoprosopic.

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### INTRODUCTION

Rajasthan has a history which dates back to 2500 BC. The Indus valley civilization had its foundation here in North Rajasthan. The Bhil and the Mina tribes were the earliest dwellers of this area. **Sindhis** are a socio-ethnic group of people originating from Sindh, historically a part of British India and now a province of modern day Pakistan. After the 1947 partition of India into India and Pakistan, many Sindhi Hindus migrated to India and latter settled in other parts of the world. Unlike Punjab and Bengal, Sindh was not divided into East and West Provinces, but went in entirety of Pakistan. The Hindus constituted 25% of the minority in Sindh, and most of them in Upper and Central Sindh migrated to India. Despite this migration, a significant Sindhi Hindu population still resides in Pakistan's Sindh Province where they numbered around 2.28 million as of 1998, while the Sindhi Hindus in

India numbered 2.57 million as of 2001.

The Sindhi people live mainly in the north-western part of India. Many Sindhis inhabit the states of Rajasthan, Gujarat, Maharashtra and Madhya Pradesh as well as the Indian capital of New Delhi. In India, Sindhi is the local language in the Kutchh region of Gujarat. Most Sindhis follow the Hindu religion (90%), although Sindhi Muslims are a prominent minority (6%). The remainder are mostly Sikhs, Christian, Jains and Buddhists (4%). There are many Sindhis living in various cities in India, including Ulhasnagar, Kalyan, Mumbai, Pune, Gandhidham, Adipur, Gandhinagar, Ahmedabad, Bhavnagar, Bhopal (Bairagarh), Ajmer, Jaisalmer, Kota, Delhi, Chandigarh, Jaipur, Jodhpur, Bangalore, Hyderabad, Chennai and Raipur.

There is no data available regarding Facial index of Sindhi community. Their facial index was

analysed and was compared with other communities and races. Coon (1939) [1] in his book 'The Races of Europe' described facial index of different races of Europe. According to him facial index in middle Europe was 86 to 90, in north Europe above 90, in Mediterranean Africa 89.2, in India 86 to 90, in Turkey 86.5, in Arabia 85.1 and in Middle East Was 88.9. Bhargava and Sharma (1959) [2] found mean facial index to be 86.27 in Barelhas of Madhya Pradesh. Bhargava and Kher (1969) [3] found mean facial index 88.37 in Bhils of Madhya Pradesh. Basu (1963) [4] carried out Study of facial index in Kayasthas of Bengal and found total facial index 84.29 in Vangara Kayastha, 89.32 in Dakshin Rarhiya Kayastha, 86.53 in Dacca Kayastha and 85.45 in Barisal Kayastha. Joseph (1966) [5] found average facial index 73.4 in Eskimos, 68.5 in Negroes, 68.5 in Bretons Gallots, 67.5 in Auvergnats, 66.2 in New Caledonians, 65.9 in Persians, 65.6 in Australians, 62.0 in Tasmanians. Gupta S (1993) [6] found facial index 82.53 in Koch population of Assam. Ghosh and Malik (2007) [7] found facial index of Santhals of West Bengal to be Hypereuroprosopic and Europrosopic. Bhasin (2009) [8] found facial index in north India 82.33, in West India 84.52, in East India 86.27, in Central India 87.45 and in South India 86.61.

Negow and Staljunid (2009) [9] found facial index 85.5 in Malaysian Indians. Raji et al (2010) [10] found index 95.86 in Nigerian population.

### MATERIALS AND METHODS

One hundred adult males from Sindhi Community, between age group of eighteen to thirty five years, were measured to study their facial index.

Face Breadth [Bizygomatic Diameter] was taken with the help of Spreading Caliper. Face Height



**Fig 1:** Method for measuring face breadth.

**Fig 2:** Method for measuring face height.

from Nasion to menton was taken with the help of Sliding Caliper.

Facial index	Sindhi individuals
82.001-84.000	2
84.001-86.000	0
86.001-88.000	8
88.001-90.000	17
90.001-92.000	14
92.001-94.000	23
94.001-96.000	13
96.001-98.000	16
98.001-100.000	4
100.001-102.000	1
102.001-104.000	1
104.001-106.000	1
<b>Total Sindhi</b>	<b>100</b>

**Table 1:** Incidences of Various facial indices in Sindhi individuals.

Total Numbers observed=100 Minimum facial index=82.25 Maximum facial index = 105.31 Average facial index = 92.89.

Facial index classification In Sindhi individuals	Facial index	Frequency
<b>Hypereury prosopic</b>	Less than 78.9	0
<b>Euryprosopic</b>	79 to 83.9	2
<b>Mesoprosopic</b>	84 to 87.9	7
<b>Leptoprosopic</b>	88 to 92.9	46
<b>Hyperlepto prosopic</b>	93 and above	45

**Table 2:** Facial index classification in Sindhi individuals.

S.No	Group	Authorities	Facial Index
1	Bhils of Madhya Pradesh	Bhargava and Kher <sup>3</sup>	88.37
2	Barelhas of Madhya Pradesh	Bhargava and Kher <sup>3</sup>	86.27
3	Vangara Kayastha of Bengal	Basu <sup>4</sup>	84.29
4	Koch population of Assam	Gupta SS <sup>6</sup>	82.53
5	Sindhis of Jodhpur	Present Series	92.89

**Table 3:** Comparison of facial index in Different Indian Groups.

### OBSERVATIONS

In Sindhi individuals, facial height varied from 11.00 cm to 13.2cm, average facial heights as observed was found to be 12.43 cm The face breadth varied from 10.2 cm to 12.4 cm, average face breadth was found to be 11.53 cm. The average facial index calculated from height and breadth of face as observed in hundred Sindhi individuals, was found to be 92.89. The Minimum facial index was found to be 82.25 and maximum facial index was 105.31.

S. No	Race /Group	Authors	Facial index
1	Middle European	Coon C.S. <sup>1</sup>	86 to 90
2	North European	Coon C.S. <sup>1</sup>	Above
3	Eastern European	Coon C.S. <sup>1</sup>	86 to 90
4	Mediterranean African	Coon C.S. <sup>1</sup>	89.2
5	Turkish	Coon C.S. <sup>1</sup>	86.2
6	Arabians	Coon C.S. <sup>1</sup>	85.1
7	Middle East	Coon C.S. <sup>1</sup>	88.9
8	Eskimos	Joseph Antenor Firmin <sup>5</sup>	73.4
9	Negros	Joseph Antenor Firmin <sup>5</sup>	68.5
10	Bretons Gallots	Joseph Antenor Firmin <sup>5</sup>	68.5
11	Auvergnats	Joseph Antenor Firmin <sup>5</sup>	67.5
12	New Caledonians	Joseph Antenor Firmin <sup>5</sup>	66.2
13	Persians	Joseph Antenor Firmin <sup>5</sup>	65.9
14	Australians	Joseph Antenor Firmin <sup>5</sup>	66.6
15	Tasmanians	Joseph Antenor Firmin <sup>5</sup>	62
16	Malaysian Indians	NgeowWC, Staljunid <sup>9</sup>	85.5
17	Nigerian population	RajiJM, GarbaSH, NumanAI, WaziriMA, MainaMB <sup>10</sup>	95.86
18	Sindhi Individuals Jodhpur, Rajasthan	Present study	92.89

**Table 4:** Comparison of facial index in Different Non Indian Groups with Sindhi Individuals.

## RESULTS & DISCUSSION

Based on the findings of average facial index in Sindhi individuals 45% were Hyperleptoprosopic and 46% were leptoprosopic. Although the face Height of Sindhi individuals is comparable to Dakshin Rarhiya Kayastha of Bengal and Average face Breadth comparable to Bhils of Madhya Pradesh but when the facial height and breadth are taken for the comparison, The Sindhi individuals have relatively longer and broader face. The average facial index of Sindhi individuals' is not comparable to any other Indian groups studied so far but it is comparable to North European and less than Nigerian populations.

**Conflicts of Interests: None**

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