

COMPARITIVE STUDY OF FACIAL INDEX OF PUSHKARNA BRAHMIN COMMUNITY OF BIKANER 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 Pushkarna Brahmin 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 Pushkarna Brahmin individuals was 95.86. Mostly they were hyperleptoprosopic. The average facial index of Pushkarna Brahmin individuals was not comparable to any other Indian groups studied so far. But it was very close to North European and Nigerian population.

KEY WORDS: Facial index, Bizygomatic diameter, Hyperleptoprosopic

INTRODUCTION

Pushkarna Brahmins belong to Sanatan Vedic Dharma, the oldest religion of the world. Pushkarna Brahmins were formerly known as Sindhwarni Brahmins who settled on the banks of Indus River from the very old times. They are regarded as offshoot of Dravidian Civilization and Indus valley civilizations were mostly contemporary as testified by excavations of Mohan-Jo-Daro. Ruins of Rahmanabad in Sindh also gave indication that these Brahmins were there in the Indian Subcontinent.

Islam came in 8th century A.D. Muslim invaders started conversion of Hindus to Islam. Brahmins afterwards shifted to neighbouring Hindu states of Rajputs to save themselves from conversion.

Brahmins from Multan and Bahawalpur shifted to Bikaner district of Rajasthan and from upper Sindh to Jaisalmer, Phalodi, Pokaran and Jodhpur. There is no data available regarding the facial index of Pushkarna Brahmin community in the available literature so a study was conducted to measure their facial index and to compare it with other communities and races.

REVIEW OF LITERATURE

Coon¹; 1939 in his book 'The Races of Europe'

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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 Sharma²; 1959 found mean facial index to be 86.27 in Barelais of Madhya Pradesh.

Bhargava and Kher³; 1960 found mean facial index 88.37 in Bhils of Madhya Pradesh.

Basu⁴; 1963 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.

Joseph⁵; 1966 found average facial index 73.4 in Eskimos, 68.5 in Negros, 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.

Sen Gupta⁶; 1993 found facial index 82.53 in Koch population of Assam. Ghosh and Malik⁷; 2007 found facial index of Santhals of West Bengal to be hypereuroprosopic and Europrosopic

Bhasin⁸; 2009 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

Ngeow and Staljunid⁹; 2009 found facial index 85.5 in Malaysian Indians

Raji et al¹⁰; 2010 found index 99.39 in Nigerian population

MATERIAL AND METHOD

One hundred adult males from Pushkarna Brahmin

Community, between age group of eighteen to thirty five years, were measured to study their facial index. Face Breath [Bizygomatic Diameter] was taken with the help of Spreading Caliper. Face Height from Nasion to menton was taken with the help of Sliding

OBSERVATIONS:

In Pushkarna Brahmin individuals, facial height varied from 10.8 cm to 13.9, average facial heights as observed was found to be 12.9 cm

The face breadth varied from 11.6 cm to 14.2 cm, average face breath was found to be 12.61 cm.

The average facial index calculated from height and breadth of face as observed in hundred Pushkarna Brahmin individuals, was found to be 95.86. The Minimum facial index was found to be 88.80 and maximum facial index was 99.21

Incidences of Various facial indices in Pushkarna Brahmin individuals

Facial index	Number observed	Facial index	Number observed
88.1 to 89	1	96.1 to 97	22
89.1 to 90	5	97.1 to 98	20
90.1 to 91	7	98.1 to 99	21
91.1 to 92	Nil	99.1 to 100	2
92.1 to 93	3	Above 100	Nil
93.1 to 94	5		
94.1 to 95	9		
95.1 to 96	5		

Total Numbers observed = 100

Minimum facial index = 88.80

Maximum facial index = 99.21

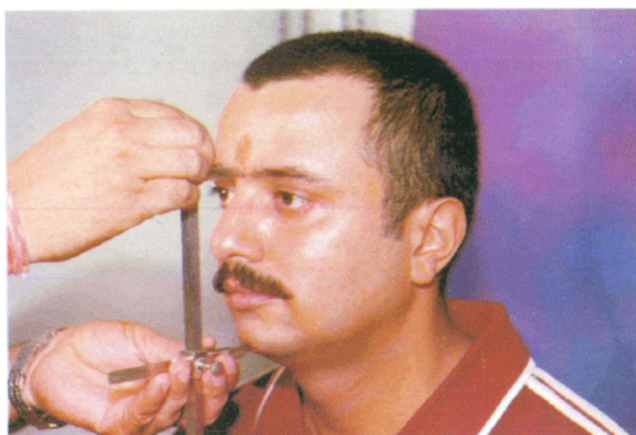
Average facial index = 95.86

Facial index classification in Pushkarna Brahmin individuals

Facial index classification In Pushkarna Brahmin individuals	Facial index	Frequency
Hypereury prosopic	Less than 78.9	Nil
Euryprosopic	79 to 83.9	Nil
Mesoprosopic	84 to 87.9	Nil
Leptoprosopic	88 to 92.9	16%
Hyperlepto prosopic	93 and above	84%



Method for measuring face breadth.



Method for measuring face height.

Comparison of facial index in Different Indian Groups

S.No	Group	Authorities	Facial Index
1	Bhils of Madhya Pradesh	Bhargava and Kher	88.37
2	Barelas of Madhya Pradesh	Bhargava and Kher	86.27
3	Kols of Madhya Pradesh	Chatterji	86.70
4	Vangara Kayastha of Bengal	Basu	84.29
5	Dakshin Rarhiya Kayastha of Bengal	Guha	89.32
6	Dacca Kayastha of Bengal	Majumdar and Rao	86.53
7	Barisal Kayastha of Bengal	Majumdar and Rao	84.45
8	Koch population of Assam	Sarthak Sen Gupta	82.53
9	Pushkarna Brahmin Bikaner, Rajasthan	Present study	95.86

Comparison of facial index in Different Non Indian Groups with Pushkarna Brahmin Individuals

S.No	Race/Group	Authors	Facial index
1	Middle European	Coon C.S.	86 to 90
2	North European	Coon C.S.	Above 90
3	Eastern European	Coon C.S.	86 to 90
4	Mediterranean African	Coon C.S.	89.2
5	Turkish	Coon C.S.	86.2
6	Arabians	Coon C.S.	85.1
7	Middle East	Coon C.S.	88.9
8	Eskimos	Joseph Antenor Firmin	73.4
9	Negros	Joseph Antenor Firmin	68.5
10	Bretons Gallots	Joseph Antenor Firmin	68.5
11	Auvergnats	Joseph Antenor Firmin	67.5
12	New Caledonians	Joseph Antenor Firmin	66.2
13	Persians	Joseph Antenor Firmin	65.9
14	Australians	Joseph Antenor Firmin	66.6
15	Tasmanians	Joseph Antenor Firmin	62.0
16	Malaysian Indians	W.C. Ngeow and Staljunid	85.5
17	Nigerian population	J.M. Raji, SH Garba, A.I.Numan, M.A. Waziri and M.B. Maina	95.86
18	Pushkarna Brahmins Bikaner, Rajasthan	Present study	95.86

RESULTS

Based on the findings of average facial index in Pushkarna Brahmin individuals 84% were Hyperleptoprosopic and 16% were leptoprosopic. Although the face length of Pushkarna Brahmin individuals is comparable to Dakshin Rarhiya Kayastha of Bengal and Average face breadth comparable to Barisal Kayastha of Bengal but when the facial height and breadth are taken for the comparison, the Pushkarna Brahmin individuals have relatively longer and broader face.

The average facial index of Pushkarna Brahmin individuals is not comparable to any other Indian groups studied so far but it is comparable to north Europeans and Nigerians. The comparable data of facial index of Pushkarna Brahmins and Europeans indicates Caucasian origin of this race. The Caucasian migration in India started from circa 5000 B.C. There was large scale admixture of Caucasians and Arabs

who camped in Afghanistan region but some Caucasians in groups migrated via land along Arabian sea from Iran, Afghanistan, Basin of Indus river, Thar desert, Ran of Kacha, Gujrat to Maharashtra reaching Bombay. However, the history does not provide any support to their comparable facial index to Nigerian population.

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