

## COMPARISON OF NASAL INDEX IN KARNATAKA AND KERALA POPULATION

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### ABSTRACT

#### INTRODUCTION

We always wonder why different people belonging to different ethnic and racial backgrounds are so different when it comes to facial features. There are tons of papers published to differentiate people based upon the race and ethnicity. These experiments also have successfully differentiated a plethora of features based on which different ethnic and racial features can be traced with remarkable accuracy.

The aim of the study is to:

1. To find the mean length and breadth of the nose in Karnataka population.
2. To calculate the nasal index in Karnataka population.
3. To find the mean length and breadth of the nose in Kerala population.
4. To calculate the nasal index in Kerala population.
5. To differentiate if any.

Sixty Medical students were selected. Thirty belonged to Karnataka population and thirty belonged to Kerala population. Only male students were taken up for study as female Keralian students were less in number.

The nasal index is one of the definite tools to check the racial background. But there might be other features like the language and other cultural contributions which may in turn result in the differences.

#### KEYWORDS

Morphometry, Nasal Index, Karnataka, Kerala, Population.

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**INTRODUCTION:** We always wonder why different people belonging to different ethnic and racial backgrounds are so different when it comes to facial features. There are tons of papers published to differentiate people based upon the race and ethnicity. These experiments also have successfully differentiated a plethora of features based on which different ethnic and racial features can be traced with remarkable accuracy.

Anthropometry means human measurement in Greek. In a country like ours where around 125 million people not only reside but also belong to different ethnic backgrounds. The climate in the North India is radically different to that found in South India.<sup>1</sup> Culturally there are so many classifications that it is a real mess just to try differentiate them. Nasal Index is one of the time tested method to differentiate racial background.<sup>2,3</sup> Nasal index is a regional and racial sensitive anthropometric index. It is also one of the important anthropometric parameter for classifying the race and sex of an individual in the world.<sup>4</sup>

A lot of studies have been dedicated to study the features and differentiate between North and South Indians

at a national level. At the International scenario a lot of work is dedicated to differentiate blacks, whites, Caucasians etc. The different shapes of the nose are mainly determined through the environmental factors and climatic conditions.<sup>5</sup> The narrower noses are favoured in cold and dry climates whereas broad and wide noses are seen in warm and moist regions indicating the climatic influence on the shapes of the nose.<sup>6</sup> The nose can be categorized on the basis of nasal index.

In the present study the two neighbouring states of South India i.e., Karnataka and Kerala is taken into consideration.

#### AIMS AND OBJECTIVES:

1. To find the mean length and breadth of the nose in Karnataka population.
2. To calculate the nasal index in Karnataka population.
3. To find the mean length and breadth of the nose in Kerala population.
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**MATERIALS AND METHODS:** Sixty Medical students were selected. Thirty belonged to Karnataka population and thirty belonged to Kerala population.

Only male students were taken up for study as female Keralian students were less in number.

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The necessary consent was obtained from the subject. Subjects who had history of trauma or surgery of the face and nose were excluded from the study.

Nasal height and nasal breadth were measured with the aid of sliding calliper. Nasal height (NH) measure the straight distance between nasion (n) and subnasale (sn) and nasal breadth (NB) measure the straight distance between the two alaria (al) ie the most laterally placed points on the nasal wings (all the measurements were taken with the subject in sitting position and head in anatomical position). On the basis of NH and NB, Nasal index was calculated.

Nasal Index=Nasal Breadth/Nasal Height X 100.

The p value was calculated using SPSS software (latest version).

The study was done in Subbaiah medical college Shimoga, Karnataka.

## RESULTS:

Subject	Karnataka	Kerala
Mean nasal height	5.07±0.16	4.88±0.31
P value	0.0093	
<b>Table 1: Mean Nasal Height</b>		

Subject	Karnataka	Kerala
Mean nasal width	3.72±0.49	4.05±0.05
P value	0.015	
Table 2: Mean Nasal Width		

Subject	Karnataka	Kerala
Mean nasal index	73.37±0.14	82.99±0.49
P value	>0.02 (significant)	
<b>Table 3: Mean Nasal Index</b>		

**DISCUSSION:** In our present study the mean height of the nose was more in Karnataka students and less in Kerala students.

In the present study the mean width of the nose was more in Kerala students and less in Karnataka students.

There was significant difference in nasal index between the Karnataka and Kerala students.

The language of the Kerala students is Malayalam and uses more of the nasal push of air than Kannada speaking Karnataka guys. Malayalam is a South Indian language which uses the nasal component more when compared to the Kannada language. There are muscles which surround the nose and help in maintaining the nasal orifice and because of overuse there might be hypertrophy of muscles which may lead to the increased nasal index. This may in turn be the reason for some peculiar facial features that is observed in the country.

When compared to that of other studies the following can be noted. A study done by Gandrade PR and Babel H on Bheel Meena tribe of southern Rajasthan showed the mean nasal index of 81.36 which belongs to Mesorrhine type of nasal form.<sup>6</sup> Anthropometric study of nasal index of

Egyptians done by Hegazy AA on 290 subjects showed the mean nasal index of 68.01 in the adults whereas in males and females was 71.46 and 64.56 respectively. According to the study the dominant nasal type in Egyptians was considered to be between mesorrhine and leptorrhine.<sup>7</sup>

A study was done to determine the nasal index of Manipuri fetuses which have striking ethnic influences on the nasal form. The nose of the fetuses of Manipuri population at birth is found to be Platyrrhine.<sup>8</sup> The authors Wai MM et al have studied the nasofacial index among university students of three races in Malaysia. According to the study, the nasal index in Malay subjects was 81.00±7.48 (mesorrhine type), in Chinese, the nasal index was 79.56±8.62 and in Indian students, nasal index was 76.27±7.39. All the three races showed the mesorrhine type of nasal form. The study was statistically significant which showed that there was sexual dimorphism of nasal parameters and nasal indices amongst the three Malaysian race groups.<sup>9</sup>

**CONCLUSION:** The nasal index is one of the definite tools to check the racial background. But there might be other features like the language and other cultural contributions which may in turn result in the differences.

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