

Shape and height of the nose as seen at the University of Ilorin Teaching Hospital (UIITH), Ilorin, Nigeria.

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Abstract: Our aims were to determine the shape and height of the nose, compare values in both sexes and with previous studies. Eight hundred and ninety three volunteers (428 males and 465 females) within the age range of 18 to 35 years were recruited for the study. Data were obtained from them by observation methods and were analyzed using the Statistical Package for Social Science (SPSS Version 17.0) computer soft ware. Values were expressed as mean standard deviation (SD) and a p-value of less than 0.05 was considered significant.

Male to female ratio was 1:1.1, mean age for male was 26.48± 4.86 and female was 26.31±4.85. Mean BMI was 22.37± 1.73kgm² for males and 22.21±1.71 for females. Yoruba (82.3%) constitute the majority and the rest in the minority. Nasal dorsum was high in 23.4% of the males and 24.4% of the females. The dorsum was low in 52.2% and high in 47.8%.in the target population. Concavity was noticed in 91% of the studied population, while convexity (3.8%), straight (3.1%) and dorsal hump (<1%) were also noticed in lesser proportions.

Conclusion:

Concave with low nasal dorsum was most common in the studied population, both sexes and in all the ethnic groups. These findings are useful in reconstructive surgeries, forensic medicine and victim identification.

Key words: Shape, height, nose, UIITH, Ilorin, Nigeria.

Introduction

Facial anthropometry has become an important tool used in genetic counselling, reconstructive surgery and forensic investigation¹⁻³

The nose can be categorized on the basis of nasal parameters (nasal height, nasal width and nasal index); into three major groups as the Leptorrhine, Mesorrhine and Platyrrhine⁴⁻⁶ Nasal assessment can be carried out by direct clinical measurement⁷, by photography⁸, lateral radiograph⁹⁻¹⁰, or by an assessment of the nasal starting point (nasion) with subjective analysis of dorsal height, and shape (whether it be convex, concave, or straight). When this last option is used, the population can be classified into two groups of high or low nasal dorsum which is either concave or convex¹¹.

As the interest in cosmetic rhinoplasty is gradually increasing in our environment, there is the need to have basic understanding of the height and shape of

the nose. A high dorsum is defined as one with a nasal starting point or nasion at or cephalad to the level of the endocanthion with a convex or straight dorsum that projects from the face. A low dorsum has a nasal starting point below the level of the endocanthion, with a dorsum that is straight or concave, and with very little projection from the face.

Methodology

Eight hundred and ninety three volunteers (428 males and 465 females) within the age range of 18 to 35 years were recruited for the study. Data were obtained from them by asking the patient to sit down comfortably on a chair while the nose is being observed under a good light source to determine the starting point (nasion). With reference to an imaginary endocanthal line, the nose may be judged high or low. The dorsal shape

would then be determined whether it is concave, straight or convex. Findings were carefully recorded and analyzed using the Statistical Package for Social Science (SPSS Version 17.0) computer software. Values were expressed as mean standard deviation (SD) and a p-value of less than 0.05 was considered significant.

Results.

Male to female ratio was 1:1.1, mean age for male was 26.48± 4.86 and female was 26.31±4.85. Yoruba (82.3%) constitute the majority and the rest in the minority. Nasal dorsum was high in 23.4% of the males and 24.4% of the females. The dorsum was low in 52.2% males and high in 47.8% of females shown in table 1.

Table.1: Showing the position of nasal dorsum by sex.

Position of nasal dorsum	Male (%)	Female (%)	Total (%)
High	209(23.4)	218(24.4)	427(47.8)
Low	219(24.5)	247(27.7)	466(52.2)
Total	428(48.0)	465(52.0)	893(100.0)

In the studied population, 91.1% had a concave nasal dorsum, made up of 42.8% males and 48.3% females. Only 3.8% had convex dorsum, consisting 2.2% males and 1.6% females and a dorsal hump was found in less than 1% of the population as shown in Table 2.

Table 2: Showing the shape of nasal dorsum by sex.

Dorsum shape	MaleNumber (%)	FemaleNumber (%)	Total Number (%)
Concave	381 (42.8)	437(48.9)	818(91.1)
Convex	20(2.2)	14(1.6)	34(3.8)
Hump	2(0.2)	1(0.1)	3(0.3)
Curve	8 (0.9)	2(0.2)	10(1.1)
straight	17(1.9)	11(1.2)	28(3.1)
Total	428(48.0)	465 (52.0)	893(100)

In the Yoruba ethnic group 47.2% males and 52.8% females had a concave dorsum, 0.02% males and 0.015% females had a convex dorsum, none had a dorsal hump, 0.003% males and females had either a curve or straight dorsum.

Among the Hausa ethnic group, 36.5 males and 52.4% females had a concave dorsum, while 0.05% males and none of the females had a convex dorsum. None had a dorsal hump, and 0.05% males with 0.016% female were straight dorsum.

For the Fulani ethnic group, 29.26% males and 56.10% females had concave dorsum; while 14.63% males had a curved nose

Ethnic Group	Sex	Concave(%)	Convex(%)	Curve(%)	Straight(%)	Hump	Total(%)
Yoruba	Male	323(43.95)	11(0.02)	2(0.003)	16(0.023)	0(0.00)	352(47.9)
	Female	362(49.25)	8(0.015)	2(0.003)	11(0.03)	0(0.00)	383(52.1)
Hausa	Male	23(36.50)	3(0.05)	0(0.00)	3(0.05)	0(0.00)	29(46.03)
	Female	33(52.40)	0(0.00)	0(0.00)	1(0.016)	0(0.00)	34(53.97)
Fulani	Male	12(29.26)	0(0.00)	6(14.63)	0(0.00)	0(0.00)	18(43.90)
	Female	23(56.10)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	23(56.10)
Ibo	Male	9(24.32)	4(10.81)	0(0.00)	0(0.00)	1(2.70)	14(37.83)
	Female	16(43.24)	5(13.51)	0(0.00)	0(0.00)	2(5.40)	23(62.16)
Others	Male	11(64.70)	4(23.52)	0(0.00)	0(0.00)	0(0.00)	15(88.23)
	Female	1(5.88)	1(5.88)	0(0.00)	0(0.00)	0(0.00)	2(11.76)
Total		813(91.04)	36(4.31)	10(1.11)	31(34.71)	3(0.11)	893(100)

Among the Ibo ethnic group, 24.32% males and 43.24% females had a concave dorsum, while 10.81% males and 13.51% females had a convex dorsum. In this group also 2.70% males and 5.40% females had a hump.

For others (too minor to be put in any of the ethnic groups), 64.70% males and 5.88% female had a concave dorsum while 23.52% males and 5.88% females had convex dorsum as all shown in table 3.

Table.3: Appearance of nasal dorsum by sex in different ethnic groups

Discussion

The objectives of this study were to determine the nasal height and shape in the target population, to compare them in the two sexes and in the different ethnic groups.

Majority of the subjects were of Yoruba ethnic group with the rest constituting a minority and this was due to the location of the study centre whose inhabitants were largely of Yoruba descent.

Most subjects had a concave nasal dorsum and this was similar to what was found by Jennifer et al¹¹

but with a slight female preponderance in this study.

Few had convex dorsum and fewer still (of Ibo ethnic group) had dorsal hump. This again may suggest that wherever people may migrate to, their faces and noses will still resemble to some extent that of their ethnic groups.

Convex dorsum was found in few subjects in all the ethnic groups. Only 3 subjects among the Ibos had a dorsal hump. Values could not be compared to local studies as previous studies here in Nigeria were silent about the shape of the nasal dorsum.

Conclusions:

The concave and low nose type were found commonest in this study, in both sexes and in all the ethnic groups. These findings will be useful in plastic reconstructive surgery, forensic medicine and for victims identification.

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