



Anthropometric Characteristics of Beautiful Lips in a Population of Young Negroid Students: Pilot Survey

Anatole Kapay Kibadi^{1*}, Bénédicte-Thérèse Madiya²

¹Department of Reconstructive and Aesthetic Plastic Surgery & Hand Surgery, University Clinics of Kinshasa, Faculty of Medicine, University of Kinshasa, Kinshasa, Democratic Republic of the Congo

²Department of Odonto-Stomatology, University Clinics of Kinshasa, Faculty of Dentistry, University of Kinshasa, Kinshasa, Democratic Republic of the Congo

Email: *akibadi@yahoo.fr

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Abstract

The general objective of this study is to highlight the anthropometric characteristics of beautiful lips in a population of young Negroid students, based on a subjective evaluation of their student peers. Fifty-two female students declared to have “beautiful lips” by students agreed to voluntarily participate in the study after free consent and agreement to have a photograph of the lip taken. To be included in the study, the student had to be judged “to have beautiful lips”, twice with an interval of 24 hours, by three male students, of the same age and presenting no conflict of interest. The average age of the students surveyed was 23 ± 2.16 years. Mean upper lip height, lower lip height, and buccal width were 11.7 ± 1.1 mm, 17.7 ± 1.6 mm, and 66.6 ± 3.3 mm, respectively. The overjet of 1.9 mm was found in 14 students (26.9%), a V cupid’s bow in 36 students (69.2%) and the association was found in 12 students (23.1%). Anthropometric measurements of beautiful lips in a population of young Negroid female students show a height and an average labial width (upper and lower) which are lower than those found in the literature and that the Cupid’s bow in V is the reflection of an appreciation of “beautiful lip”. In-depth studies on the anthropometric referential of beautiful lips in young Negroids are therefore necessary.

Subject Areas

Women’s Health

Keywords

Beautiful Lip, Anthropological Characteristics, Young Negroid Female

Students, Democratic Republic of the Congo

1. Introduction

The dimensions of the lips are very variable according to the races. Thus one can see, in certain individuals of the Caucasian white race, lips so fine and so thin that one hardly notices a small red border of the external mucous membrane. The black African, on the contrary, has voluminous and elongated lips, turned upwards towards the nose, downwards towards the chin, and which, in profile, protrude considerably in front of the face [1] [2].

The appreciation of lip aesthetics cannot be effective when it takes the form of a self-assessment. It must be delivered to the evaluative gaze of the other and better still of a young person of the opposite sex. Thus, in the present study, it will be a question of establishing a subjective appreciation of the lips of young female students by young male students, without taking into account the rest of the face and bringing out the anthropometric measurements.

No study in this direction seems to us to exist in the young Negroid female population. In the Democratic Republic of the Congo (DRC), Kibadi's study, in a student population in 2017, addressed the entire face [3] and that of Lindondo [4] on facial photogrammetric analyzes of young Congolese muntu adults from Kinshasa and their social aesthetic appreciation. The general objective of the present study is to bring out the anthropometric characteristics of beautiful female lips in relation to the subjective evaluation of the student. We will establish a quality link between the statements of the students and the measurements of lips taken.

The beautiful woman in the DRC is the one who seduces a large number of men, that is to say, the one with whom men fall more in love. African women aim to become beautiful, both to satisfy themselves and to attract the opposite sex.

2. Material and Methods

2.1. Materials

This study focused on female students of the Faculty of Medicine of the University of Kinshasa for the academic year 2020-2021. This was a descriptive and cross-sectional study covering the period from September to November 2021. The sample for this study was of convenience. The students surveyed were all Bantu negroids between the ages of 18 and 25; free of orofacial soft tissue pathologies (tumefaction, cleft lip and palate, ulceration, etc.) and having agreed to voluntarily participate in the study and consented to having a photograph of the lip taken. The evaluation of each lip was the responsibility of three students. To be included in the study, the student would therefore have to be judged "to have beautiful lips" by three male students, of the same age and presenting no conflict

of interest. The student evaluator should have confirmed their answer after a second sight after 24 hours. Measurements (upper lip height, lower lip height, buccal width) were taken using the master tape. All the information collected was transcribed on the pre-established survey sheet.

The variables of interest retained for this study were: age (in years); the overhang of the upper lip over the lower lip (in mm); the shape of Cupid's bow; the height of the upper lip (in mm) and the lower lip (in mm); the buccal width or bicommissural distance (in mm). The height of the upper lip was the distance from the base of the nose to the stomion (point where the two lips meet on the midsagittal plane) and that of the lower lip, the distance from the stomion to the mento furrow-labial. Buccal width was measured from the left chelion to the right chelion. The chelion point was a lateral commissural point at the mucocutaneous junction of two lips.

2.2. Ethical Aspects

The scientific and ethical review prior to the approval of this study was obtained at the level of the Faculty of Dentistry (University of Kinshasa). The three fundamental principles of research ethics have been taken into account: respect for the person, beneficence and justice. Ethical factors focused on the following aspects: interest and admissibility of the research protocol, student participation and involvement, risk/advantage ratio, recruitment strategies and methods, exclusion and inclusion criteria, and selection of students, methods of obtaining informed consent and written information sheets, protection of participants' rights, measures guaranteeing confidentiality and privacy and data protection, prevention of stigma and discrimination, sensitivity to socio-economic aspects cultural backgrounds of the students participating in the study.

3. Results

We studied 26 young Negroid Bantu female students declared to have "beautiful lips" by 156 students; due to 3 independent student evaluators per student.

The distribution by age group of the students surveyed is shown in **Table 1**.

Table 1 shows that the age group between 22 and 25 years old was the most represented with 73.1%. The average age was 23 ± 2.16 years.

We take the data of different measurements in **Table 2** and the elements of lip aesthetics in **Table 3**.

Table 2 shows averages of upper and lower lip height and buccal width, 11.7 ± 1.1 mm, 17.7 ± 1.6 mm, and 66.6 ± 3.3 mm, respectively.

It follows from **Table 3** that 26.9% of students had an overjet of 1.9 mm (with an average of 1.9 ± 0.2 mm). The ideal V-shape of Cupid's bow was found in 69.2% of female students.

We looked for the association between the overhang and the shape of the cupid's bow. We summarize the results of these analyzes in **Table 4**.

Table 4 shows that 26 students surveyed (*i.e.* 23.1%) have an association, Cupid's bow in "V" and an overhang at 1.80 mm.

Table 1. Distribution of female students by age.

Age groups (years)	Numbers	%
18 to 21	7	26.9
22 to 25	19	73.1
Total	26	100.0

Table 2. Distribution of female students according to lip measurements.

	Upper lip height (mm)	Lower lip height (mm)	Mouth width (mm)
Mean	11.7	17.7	66.6
standard deviation	1.1	1.6	3.3
Minimum value	10.1	15.4	59.3
Maximum value	14.3	21.2	75.3

Table 3. Distribution of students according to the elements of lip aesthetics.

Variables	Numbers	%
Overhang of the upper lip		
1.6	3	11.5
1.7	4	15.4
1.8	4	15.4
1.9	7	26.9
2	5	19.3
2.1	3	11.5
Total	26	100.0
Cupid's bow shape		
V-shaped	18	69.2
Other	8	30.8
Total	26	100.0

Table 4. Distribution of female students according to overhang and shape of Cupid's bow.

		Overhang upper lip/lower lip						Total	p-value
		1.60	1.70	1.80	1.90	2.00	2.10		
Cupid's bow shape	Linear	2	3	0	1	1	1	8	0.341
	V-shaped	7.7%	11.5%	0.0%	3.8%	3.8%	3.8%	30.8%	
		1	3	6	3	3	2	18	
		3.8%	11.5%	23.1%	11.5%	11.5%	7.7%	69.2%	
	Total	3	6	6	4	4	3	26	
		11.5%	23.1%	23.1%	15.4%	15.4%	11.5%	100.0%	

We illustrate as a demonstration of 18 lips considered beautiful by the student evaluators.



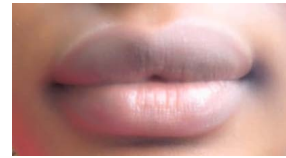
Overhang: 1.6 mm
Upper lip height: 10 mm
Lower lip height: 16 mm
Mouth width: 70 mm
Cupid's bow: V-shaped



Overhang: 1.7 mm
Upper lip height: 11 mm
Lower lip height: 16 mm
Mouth width: 65 mm
Cupid's bow: V-shaped



Overhang: 1.7 mm
Upper lip height: 11 mm
Lower lip height: 17 V
Mouth width: 67 mm
Cupid's bow: V-shaped



Overhang: 1.7 mm
Upper lip height: 11 mm
Lower lip height: 17 mm
Mouth width: 69 mm
Cupid's bow: V-shaped



Overhang: 1.8 mm
Upper lip height: 11 mm
Lower lip height: 17 mm
Mouth width: 66 mm
Cupid's bow: V-shaped



Overhang: 1.8 mm
Upper lip height: 10 mm
Lower lip height: 17 mm
Mouth width: 69 mm
Cupid's bow: V-shaped



Overhang: 1.8 mm
Upper lip height: 12 mm
Lower lip height: 18 mm
Mouth width: 63 mm
Cupid's bow: V-shaped



Overhang: 1.8 mm
Upper lip height: 12 mm
Lower lip height: 18 mm
Mouth width: 65 mm
Cupid's bow: V-shaped



Overhang: 1.8 mm
Upper lip height: 11 mm
Lower lip height: 18 mm
Mouth width: 65 mm
Cupid's bow: V-shaped



Overhang: 1.8 mm
Upper lip height: 12 mm
Lower lip height: 18 mm
Mouth width: 61 mm
Cupid's bow: V-shaped



Overhang: 1.9 mm
Upper lip height: 13 mm
Lower lip height: 18 mm
Mouth width: 62 mm
Cupid's bow: V-shaped



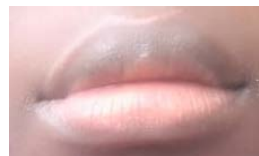
Overhang: 1.9 mm
Upper lip height: 12 mm
Lower lip height: 18 mm
Mouth width: 64 mm
Cupid's bow: V-shaped



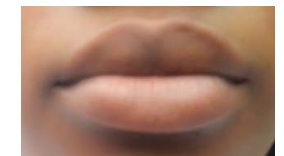
Overhang: 1.9 mm
Upper lip height: 13 mm
Lower lip height: 18 mm
Mouth width: 66 mm
Cupid's bow: V-shaped



Overhang: 2 mm
Upper lip height: 13 mm
Lower lip height: 18 mm
Mouth width: 71 mm
Cupid's bow: V-shaped



Overhang: 2 mm
Upper lip height: 12 mm
Lower lip height: 19 mm
Mouth width: 68 mm
Cupid's bow: V-shaped



Overhang: 2 mm
Upper lip height: 12 mm
Lower lip height: 19 mm
Mouth width: 67 mm
Cupid's bow: V-shaped



Overhang: 2.1 mm
Upper lip height: 11 mm
Lower lip height: 19 mm
Mouth width: 67 mm
Cupid's bow: V-shaped



Overhang: 2.1
Upper lip height: 11 mm
Lower lip height: 21 mm
Mouth width: 68 mm
Cupid's bow: V-shaped

We find that all the lips judged to be aesthetic by the boys have a “V” cupid’s bow and that the overhang has no influence on this assessment.

4. Discussion

Several elements are taken into account to describe the aesthetic appearance of the lips, including the visible transition between the vermilion and the white lip, the beautiful V-shape of the Cupid’s bow and the medial projection of the tubercle and the vermilion. The normal height of the upper lip is measured between the subnasal point and the lower edge of the upper lip and varies from 19 to 22 mm for some authors [5] [6] and from 20 to 25 mm for others [7] [8]. That of the lower lip measured from the upper edge of the latter to the gnathion is between 38 and 44 mm [5].

Indeed, in Caucasians, the ratio of the heights of the upper lip and the lower lip must be 1 to 2 [5]. For Asians, the ratio is more like 1 to 1 [9]. We did not find a repository for the black race.

4.1. Age

In this study, the age group between 22 and 25 years old was the most represented with 73.1%. The average age was 23 ± 2.16 years. This average is close to that reported by Oghenemavwe *et al.* in Nigeria which was 25 ± 2.5 years [10]. It must be recognized that we worked with a convenience sample and the age group was predefined.

4.2. Lip Measurements

The average height of the upper lip was 11.7 ± 1.1 mm with extremes of 10.1 and 14.3 mm. This value is lower than that reported by Daenecke *et al.* in Brazil [2] and Ingervall *et al.* in Sweden [11] who reported 21 ± 2.3 mm and 24.5 ± 2.5 mm respectively. This difference would be linked to the fact that the Bantu have a stocky morphotype, unlike the Brazilian and Swedish who are slender.

The average height of the lower lip was 17.7 ± 1.1 mm with extremes of 15.4 and 21.2 mm. This average is lower than that reported by Ingervall *et al.*, which was 43 ± 2.8 mm [11].

In the present study, the average buccal width was 66.6 ± 3.3 mm with extremes of 59.3 and 75.3 mm. These results are superior to those of a study conducted in Egypt by Mostafa *et al.* who reported 43.8 ± 1.3 mm [12].

These differences between these studies and ours could be due to several factors including sample size, methodological difference, ethnic group, age, height and anatomical characteristics of the population studied.

4.3. Lip Aesthetics

There would be a correlation between the mathematical analysis of the lips and the answers of the students on the aesthetics of the lips of the students surveyed. Kibadi in 2017, in a preliminary study involving 54 female students aged 18 to

25, all from the University of Kinshasa (in the DRC), reported a concordance between the statements of the students and the mathematical analysis of the face [3].

4.4. Limitations of the Study

This study has a number of limitations, namely: the small sample size; taking measurements of photographs by non-modern methods. In the majority of cases, it took several measurements in the same student given the mobility. The natural color of the lips was not taken into account as well as the body mass index. Despite all its limitations, this study has the merit of being the very first in the DRC.

Beauty is unfortunately subjective and varies according to ethnicity, culture and environment. Depending on the individual, the culture, the race, the anthropometric characteristics diverge. This pilot survey therefore calls for an in-depth study in order to determine the anthropometric referential of beautiful lips to be applied to young Negroids.

5. Conclusion

At the end of this pilot survey, it emerges that the anthropometric measurements of beautiful lips in a population of young Negroid students show a height and an average labial width (upper and lower) which are lower than those found in the literature and that the V-shaped cupid's bow is a reflection of a "beautiful lip" appreciation. In-depth studies on the anthropometric referential of beautiful lips in young Negroids are therefore necessary.

Conflicts of Interest

The authors declare that there is no conflict of interest.

Ethics Statement

Three fundamental principles of research ethics were respected in the present study: respect for the person, beneficence and justice. We certify that the provisions relating to image rights have been fulfilled. The participants in this study have authorized us to present, reproduce or communicate to the public the photographs taken as part of this study, without their figures or their identities (names).

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