Research Article

# The Lips Shapes: A New Approach to Sculpt Beautiful Lips

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#### **ABSTRACT**

Background: Lip filling is one of the most common types of cosmetic procedures sought for patients in a cosmetic dermatology practice. Nevertheless, a classification of the different shapes of the vermillion of the lips is lacking in medical literature

**Objective**: To describe a classification of lips shapes based on the visagism practice and to correlate it with male and female lips before any cosmetic treatment

**Materials and methods:** The vermillion shapes of 100 patients, including male and female patients before any aesthetic procedures on the lips were analyzed

**Results:** Five shapes of vermillion were encountered in our patients: Standard lips, voluminous lips, thin lips, oval lips and heart shaped lips. Of these, standard and thin lips are the most frequent in female lips in the studied population. There was no statistically significant difference in this population among symmetric and asymmetrical lip vermillion. Thin lips were more common in older populations, suggesting that the lip aging may affect the vermillion shape.

**Conclusion:** The exact knowledge of the vermillion shape may aid providers and patients to understand the outcomes of treatments and also to set real expectations.

Keywords: Anatomy; Beauty; Dermatology; Lip; Mouth

### INTRODUCTION

The appreciation of beauty is inherent to the human being. Through the centuries, beauty has had impact in art, finances and in human relationships [1]. Nowadays, with the use of social media, beauty standards have changed and we're seeing a rush for more full lips in our daily activities. In contrast with this, we are also seeing some results that are too much and do not provide an increase of beauty; on the contrary they just look made and unnatural. Patients and providers are both dealing with this contrast of desires and an improvement in the understanting of natural characteristics of human lips and shapes is crucial to achieving beautiful results.

The lips are the main facial area correlated with human atractiveness [2]. They are also important for communication,

mastication and emotional expression. The most frequent location for volumizing procedures on the face are the lips [3]. Changes provided by the physician in the lip area are going to impact the attractiveness of the face when we first look at the individual [4]. The knowledge of human lips shapes is therefore necessary in order to improve results of dermatological procedures.

#### Objective

With the goal to achieve better looking and more natural results, we began a search for the human vermillion lips shapes in order to understand what are they, how they change through time and what shall we inform patients that arrive in our offices looking for lips filling and improvement.

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## MATERIALS AND METHODS

A total of 100 patients that had no previous filling on the lip area were evaluated to identify their vermillion of the lips shapes. A series of lips vermillion shapes were already described in art. We adapted the classification of Hallawell that describes the mouth shapes leading into consideration only the ones that referred to the shape of the vermillion of the lips [5]. This led to the identification of 5 types of the vermillion of the lips (Figures 1 and 2), naturally encountered in men and women and that shall guide our evaluation of the lips before any procedure that may modify their shape.

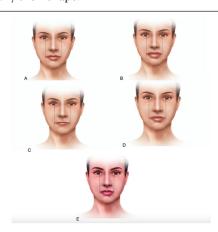


Figure 1: A-Standard Lips: The cupid's bow is well defined, has a triangular shape and the vermillion border of the lips descend in a linear line in the direction of the oral commissures; B-Voluminous Lips: The cupid's bow is more round ant the lips are full; C-Thin lips: The lips do not have much volume; cupid's bow is less well defined, lips tubercles are flat and oral commissures may extend to the length of an imaginary line descending from the pupils; D-Oval Lips: Cupid's bow is not well defined. Lips are full and have volume; E: Heart Shaped Lips: The volume of the lips is mostly concentrated on the medial portion. Medial lip tubercle may be prominent.



Figure 2: All the above pictures are immediate before and after of patients submitted to lip filling in order to enhance and improve their natural lips shapes; A: Standard lips; B: Voluminous lips; C: Thin lips; D: Oval lips; E: Heart shaped lips.

All patients were evaluated in a relaxed position, on a frontal perspective, with closed and relaxed mouths and their lips shapes were categorized. The presence of symmetry and asymmetry was also evaluated. In this particular study, we took into consideration the shape of the superior part of the vermillion border. The inferior part of the vermillion border was not taken into account in this first part of the project, since the superior part is the main responsible for the format of the mouth on a first glance, while the inferior part shows less variation of shapes.

Data were organized in descriptive tables containing mainly absolute and relative frequencies (proportions in percentage form), and proportion and average estimates in the form of 95% confidence intervals.

For the association between the variables and comparison between the groups, association tables were used, as well as the following statistical tests:

- Chi-square test of adherence: For the comparison between frequencies within a distribution, the Chi-square test of adherence was used. If P<0.05 then there are significant differences.
- Test of independent proportions: To compare the independent relative frequencies (proportions), the Test of independent proportions was used. If P<0.05 then there are significant differences.

Note: This test is used to compare proportions that do not belong to the same distribution.

• Chi-square test of independence: For the association between qualitative variables, the Chi-square test of independence was used. If P<0.05 then significant association exists.

Data analysis was performed by the applications:

- Microsoft Excel 2016.
- SPSS (Statistical Package for Social Science), statistical package with different modules, developed by IBM for the use of humanities and exact sciences professionals. Version 21. 2012.

#### **RESULTS**

There are five lips shapes mainly present in women in the present study, which are: standard lips, voluminous lips, oval lips, thin lips and heart shaped lips.

All the patients were classified according to their natural lip vermillion shape and were evaluated on the symmetry and formats. It is important to notice that some patients presented more than one pattern-one on one side and other in the other side of the superior lip. They were classified separately (Table 1).

Table 1 presents the descriptive profile of patients. The sample consisted of 100 patients, 95 (95%) of whom were female and 5 (5%) were male. The distribution of absolute frequencies of the variable: "Lip Shape" was tested using the Chi-square test of adherence and presented a P value=0.0001. The formats: "Standard" and "Thin lips" had significantly higher frequencies than the other formats. Thus, the "Standard" (first) and "Thin lips" (second) shapes are the most common shapes in the population. Likewise, the frequencies of the variable

"Symmetry" were tested (compared) with no significant differences between symmetric and asymmetric shapes, as P =0.6892.

Table 2 shows the frequency distribution of "Lip Shape" according to "Gender". As a result, "Standard" and "Thin Lips" are the most common shapes in females. On the other hand, according to the test of independent proportions applied to the 2nd lip shape: "Thin lips" was the only one in males and proportionally more significant in this group than in females. This information, however, should be viewed for analized with more caution, because of the sample size. Clearly men have other lip shapes; however, due to the small number of male patients,

this was the only shapes found. More studies, with a larger number of male patients, will be able to make statements with more reliability in relation to the proportions of their labial shapes.

Table 3 shows the frequency distribution of "Lip Shape" versus "Age" and according to gender. As a result, there was a significant association between the shapes and age of women as well as in the general sample. In women, the shapes "Standard" and "Voluminous lips" are more frequent in the younger group (Up to 40 years old). The "Thin lips" shapes, on the other hand, is significantly more expressive in the older group (Over 40 years), as P=0.0103.

Variables	Patients (n=100)	CI (95%)
Gender		
Female	95 (95%)	(90.73-99.27)
Male	5 (5%)	(0.73-9.27)
Age		
Under 40 years	61 (61%)	
Above 40 years	39 (39%)	
Age (Female)		
(Medium ± DP)	(41.35 ± 11.33)	(39.07.43.63)
(Mediana ± DQ)	(39 ± 7)	
Age (male)		
(Medium ± DP)	(49.6 ± 16.2)	(29.49-69.71)
(Mediana ± DQ)	(42 ± 13.5)	
Age (general)		
(Média ± DP)	(41.76 ± 11.65)	(39.48-44.04)
(Mediana ± DQ)	(39 ± 7)	
Lip shape		
Standard	36 (36%)	
Thin	33 (33%)	
Voluminous	11 (11%)	
Standard and voluminous	7 (7%)	
Note: SD: Standard Deviation; DQ: Quartile	e Deviation; CI: Confidence Interval.	

**Table 1:** Descriptive profile of patients in the form of absolute and relative frequency distributions, means, medians, standard deviations, quartile deviations and mean estimates in the form of confidence intervals.



Lip shape	Gender		Total	P	P
	Female (n=95)	Male			
		(n=5)			
Standard	36 (37.9%)	0 (0%)	36 (36%)	,	
Thin	28 (29.5%)	5 (100%)	33 (33%)	0.0011	
Voluminous	11 (11.6%)	0 (0%)	11 (11%)	,	
Standard and voluminous	7 (7.4%)	0 (0%)	7 (7%)	,	
Heart shaped	7 (7.4%)	0 (0%)	7 (7%)	,	
Oval	5 (5.3%)	0 (0%)	5 (5%)	•	
Standard and thin	1 (1.1%)	0 (0%)	1 (1%)		

**Note:** P-value of the test of independent proportions applied only to the 2<sup>nd</sup> lip shape. If P<0.05 then significant differences.

Table 2: Association between the variables "Lip shape" and "Gender".

Lip shape/gender	Age		Total (n=100)	P
	Under 40 years (n=61)	Above 40 years (n=39)		
Female (n=95)				
Standard	25 (42.4%)	11 (30.6%)	36 (37.9%)	0.0103
Thin	12 (20.3%)	16 (44.4%)	28 (29.5%)	•
Voluminous	10 (16.9%)	1 (2.8%)	11 (11.6%)	•
Standard and voluminous	4 (6.8%)	3 (8.3%)	7 (7.4%)	•
Heart shaped	5 (8.5%)	2 (5.6%)	7 (7.4%)	•
Oval	3 (5.1%)	2 (5.6%)	5 (5.3%)	•
Standard and thin	0 (0%)	1 (2.8%)	1 (1.1%)	•
Male (n=5)				
Standard	-		,	•
Thin	2 (100%)	3 (100%)	5 (100%)	•
Voluminous	-		,	,
Standard and voluminous	•	•	,	•
Heart shaped				
Oval				
Standard and thin				
Male and female (n=100)				
Standard	25 (41%)	11 (28.2%)	36 (36%)	0.0067
Thin	14 (23%)	19 (48.7%)	33 (33%)	
Voluminous	10 (16.4%)	1 (2.6%)	11 (11%)	
Standard and voluminous	4 (6.6%	3 (7.7%)	7 (7%)	
Heart shaped	5 (8.2%)	2 (5.1%)	7 (7%)	
Oval	3 (4.9%)	2 (5.1%)	5 (5%)	
Standard and thin	0 (0%)	1 (2.6%)	1 (1%)	

Table 3: Association between the variables "lip shape" and "age" according to gender.

## **DISCUSSION**

Anatomically, the lips are the structure that surrounds the oral apperture. Their boundaries are: superiorly, the inferior part of the base of the nose; Laterally, their limits follow the alar sulci; the inferior limit of the lips is the mentolabial sulcus. The red part os the lips is the vermillion [6], due to its natural color. The orbicularis oris muscle has the shape of an "L"in the vermillion, which shapes its characteristic format. Nevertheless, there are different shapes of lips among individuals and these shapes are influenced by genetics. While europeans tend to have thinner lips, asians tend to present with fuller lips and very well defined cupid's bow and people of color tend to present with full and voluminous lips. The present study was performed in the city of Brusque-SC, on the south of Brazil, a country of great miscegenation due to its background and history. As people of different backgrounds are evaluated, we could see the different shapes of lips among individuals.

Art studies have already defined different shapes of mouth in order to better perform in the drawings of the faces. In order to better understand what are the vermillion shapes in the general population, we made a search using photographies of lips that have never been submitted to any filling or laser procedures and were able to identify 5 vermillion shapes: pattern for Standard, voluminous, heart, thin and oval. These shapes are naturally present in nature and shall be identified in every patient that search for lip filling, in order to improve results and achieve the best in the patients and providers point of view. In the present study, two vermillion shapes were more prevalent: The pattern and the thin shapes. The city in which the present study was performed is a city with a prevalence of german, Italian and polish background, which may impact these results. More studies, in different regions and countries may help clarify the presence of this shape among different cultures.

Previous studies have already shown that the shape and volume of the lips influences facial attractiveness. Broer, et al. [4] have shown that cultural aspects also influence the preference of lips shape and volume, with south americans preferring voluminous lips while europeans tend to appreciate thinner lips. Nevertheless, one shall take into consideration that voluminous lips without a very defined shape are not attractive and we have constantly seen some aberrations of volume and shapes in social media. The authors advise that pursuing a beautiful lip shape should be the primary goal of our treatments, followed by symmetry when possible and then improving volume. This technique may lead to better and more natural results.

In the search of beauty, symmetry and the golden ratio shall also be taken into account. An ideal proportion of 1:1.6 from the superior to the inferior vermillion have been advocated through centuries [2]. Nevertheless, some patients may be looking for more symmetric lips-both comparing one side to another but also comparing and the height of the superior to the inferior vermillion. For some patients, proportions from 1:1 to 1:1.6 may be acceptable, as long as the inferior vermillion has the same or a higher hight than the superior vermillion. The present study also

looked for the symmetry of lips in individuals and found no statistical differences, which means that there is no difference in prevalence from symmetric to asymmetric vermillion rates in the general population [7].

The aging process also affects the attractiveness of the lips. With aging, the vermillion become less apparent, the lips apparently become wider and the labial angle changes from a neutral position to a ptotic position [8]. A flattening of the filtram due to tissue atrophy is also noted. In the present study, pattern and voluminous lips were more frequent in women under 40 years of age, while thin lips were more common in women above 40 years of age. One possible explanation to this fact as that with the atrophy of tissue of the lips with the aging process the shape of the vermillion changes and they become thinner.

Differences of shapes rates may occur between genders. Nevertheless, in the present study, we could not confirm that due to the low number of male patients in the studied population. While pattern and thin lips were more common in women, all studied man has the same shape-thin lips. More studies are necessary to better understand the differences of shapes between genders.

#### CONCLUSION

On this first moment, we did not evaluate the inferior portion of the lip vermillion. In order to achived better results, we may consider two formats: Round lips that are considered more feminine and square or trapezoid lips that are considered more masculine, according to art studies. More studies on the formats of the inferior part of the vermillion border may further clarify this topic. Finally concluded, the authors provide a study about the natural shapes of the vermillion of the lips in order to provide and accessible and easy to injectors around the globe in order to achieve better and more natural looking results.

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