



## Original research

# Facial Characteristics of the Female Population of the Kichwa Ethnicity, Sacha Wasi community

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## ABSTRACT

**Introduction:** The aesthetic evaluation is an important part of the clinical exploration that depends greatly on the point of view of the professional who performs it, so it is more convenient to assess the facial proportions, instead of reviewing the aesthetic qualities only. It is often considered that disproportionate is not aesthetic, so asymmetrical, disproportionate facial features contribute significantly to facial aesthetic problems. **Objective:** To describe the facial characteristics of the female population of the Kichwa ethnic group in Ecuador. **Material and methods:** A cross-sectional, observational, descriptive study was conducted in subjects of the Kichwa ethnic group, from the community of Sacha Wasi, belonging to the Province of Pastaza, Ecuador, during the month of May 2018. For the development of the theoretical framework, information was obtained from bibliographical sources referring to the topic, as well as scientific publications, books, and websites that provided information about facial and dentolabial analysis. The relationship

between the three facial thirds was analyzed: the study showed that they did not coincide in any member of the community. **Results:** In the studied sample, the highest percentage corresponded to the straight profile, concordant with studies performed in other areas of the country. **Conclusions:** In the studied female population, little coincidence was found between the facial thirds, and the thirds that coincided the most were the upper and lower thirds.

**Keywords:** female population, Kichwa ethnic group, facial features, facial thirds, facial profile.

## INTRODUCTION

Throughout the years, facial aesthetics has been considered one of the main elements of society's evaluation of the opinion of beauty, since it is associated with the desire for perfectionism and the need for social approval that is instilled from childhood. A good aesthetic helps to improve self-esteem and feel more confident in terms of interpersonal relationships<sup>1</sup>.

The analysis of facial aesthetics includes many of the considerations of the frontal view. For the study of facial proportions, the face is divided into three thirds for which we draw four lines, a line at the level of the hairline (trichion), one that passes through the superciliary line (glabella), one that passes through the subnasal line (subnasal point) and lastly, the chin line that passes through the chin point<sup>2-4</sup>. Photographic analysis is an important complement in the extraoral and intraoral study of the patient. Photographs can be used to corroborate what has been seen clinically or to verify through direct measurements that what has been reported is the most accurate. In addition, it facilitates the student to perform a more detailed analysis of the patient with direct measurements on the photos<sup>5</sup>.

The 2008 Constitution recognizes indigenous nationalities and peoples and also determines that Ecuador is a multiethnic and multicultural country. Ecuador has a significant percentage of indigenous inhabitants estimated between 35% and 40% of the national population, grouped into 14 nationalities and 18 ethnic groups<sup>6</sup>. Twenty-five kilometers from the center of Puyo is the Kichwa Sacha Wasi community (the house of the jungle), who were originally called Kichwa Canelos or Kichwa of Pastaza, and are characterized by preserving their traditions, but also by sharing them with tourists<sup>7,8</sup>. Therefore, the objective of this research was to describe the facial characteristics of the female population of the Kichwa ethnic group in Ecuador.

## MATERIAL AND METHODS

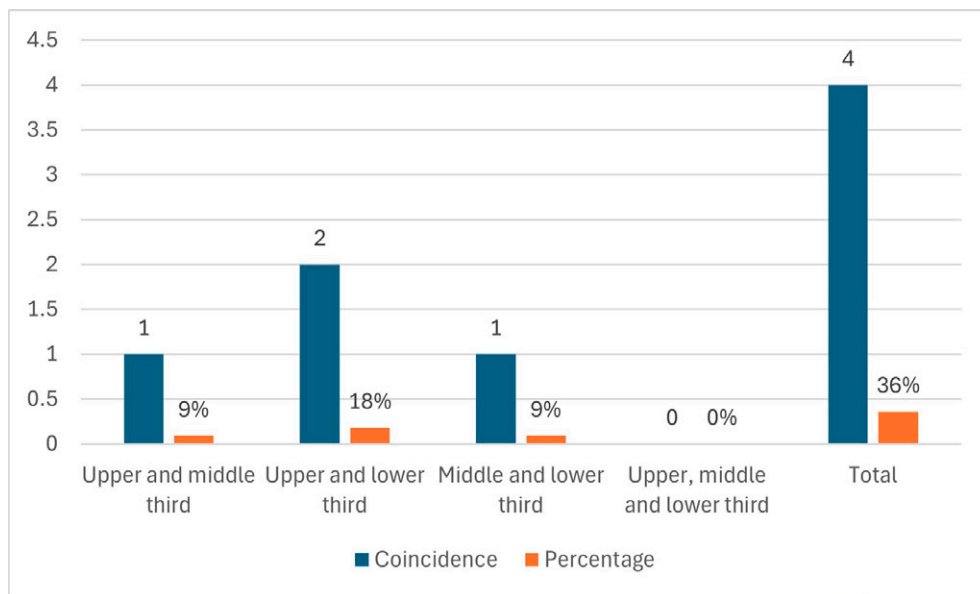
A descriptive observational cross-sectional study was conducted in subjects of the Kichwa ethnic group, in the community of Sacha Wasi, belonging to the Pastaza province of Ecuador, in May 2018. The universe of study was constituted by all the members of the Kichwa ethnic group, 68 people in total. The sample was obtained in a non-probabilistic and intentional way and consisted of 11 women, who met the selection criteria. Inclusion criteria included: being Ecuadorian by birth, having an ethnic self-definition and with a maternal surname of Kichwa origin, being between 17 and 25 years of age, and female sex. Exclusion criteria were to present systemic pathologies affecting the facial and dentolabial region.

For the standardization of this research, front, and profile photographs were evaluated with linear tracings made with the PowerPoint program at 100% zoom. The frontal photograph was used to analyze the proportionality of the face and the position of the lips with respect to Ricketts' E-line, and the profile photograph was used to analyze the facial profile and the nasolabial angle. Primary and secondary sources were used since these types of sources help in the simplification and veracity of the information collected in this work. As a primary source, information was collected through indirect observation of the study sample, employing extraoral photography and subsequent photographic analysis. As for secondary sources, for the development of the theoretical framework, the information was obtained from bibliographic sources related to the subject, as well as scientific publications, books, and websites that provided information about facial analysis. For the statistical analysis, the SPSS 24 program was used.

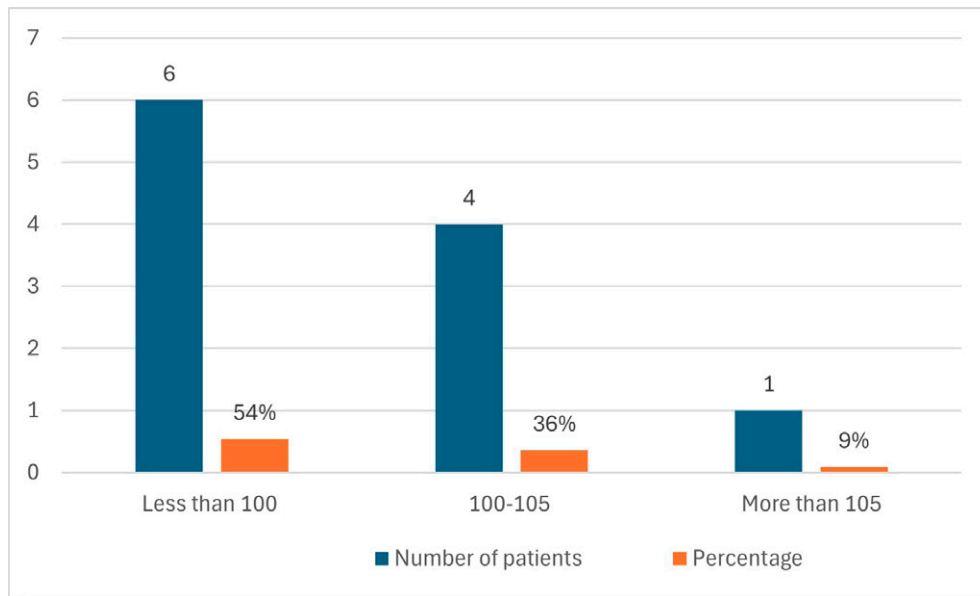
## RESULTS

This study was conducted in collaboration with the women of the Sacha Wasi community, Canton Puyo, Pastaza Province. Graph 1 analyzes the relationship between the three facial thirds, the study shows that none of the community members present coincidence between the facial thirds, only four people coincided in two-thirds, and the greatest coincidence was between the lower and upper third. Table 1 shows the facial profile, resulting in 81% with a straight profile, 9% with a convex profile, and 9% with a concave profile. In graph 2 we observe the values of the nasolabial angle, where 36% are within the normal values of the angle proposed by Correa<sup>13</sup>, in 2017, 54% present values below and 9% values above these values.

Graph 3 shows an analysis of the position of the upper lip with respect to Ricketts' E-Line, where 82% of the sample does not comply with the parameter of being four mm behind this line, and only 18% comply. In Graph 4 we observe the position of the lower lip to the E-line, where only 36% comply with the norm and the remaining 64%, do not.



Graph 1. Facial thirds coincidence analysis.  
Source: Field research



Graph 2. Nasolabial angle analysis  
Source: Field research

**Table 1.**  
**Facial Profile Analysis**

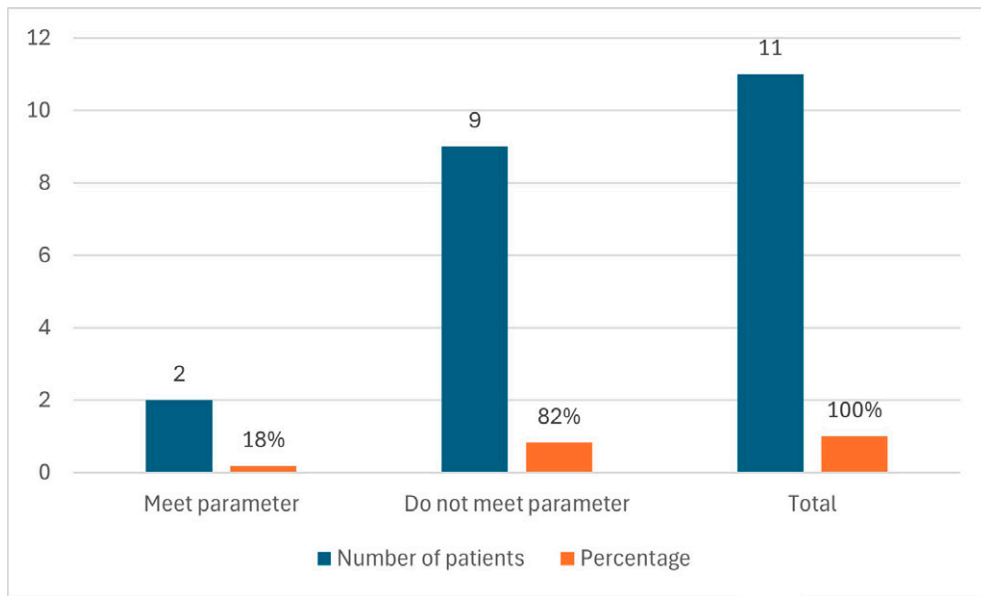
Facial profile	Number of people	Percentage
Straight	9	82%
Convex	1	9%
Concave	1	9%
<b>Total</b>	<b>11</b>	<b>100%</b>

Source: Field research

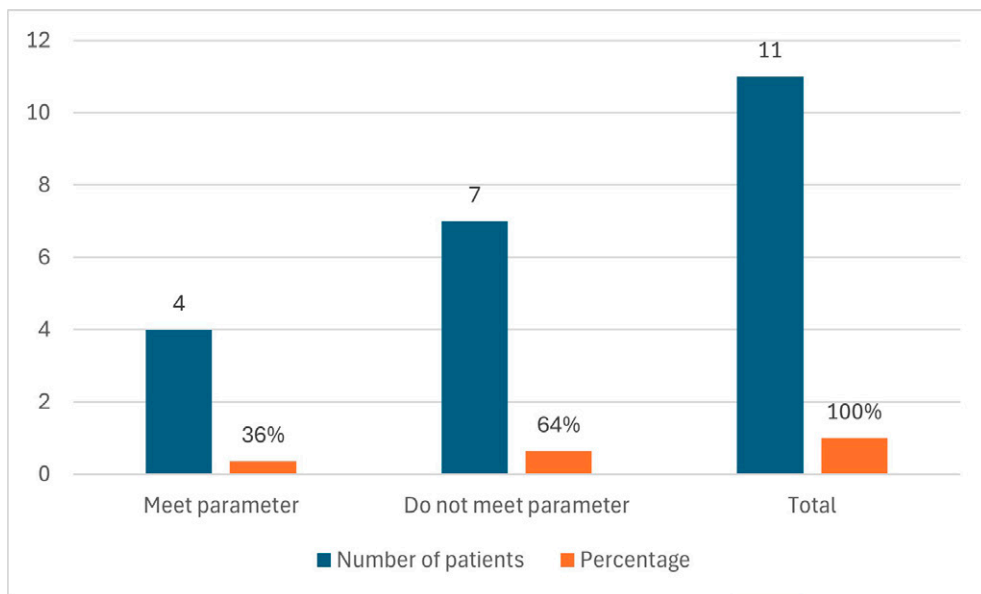
## DISCUSSION

To study the facial characteristics of the female population of the Sacha Wasi community, the relationship between the three facial thirds was considered; the study showed that none of the members of the community presented coincidence between the facial thirds. These results coincide with those of other authors such as Ávalos<sup>9</sup> in his study with the Shuar population of the Pitirishca community in the province of Pastaza but differ from studies conducted in women of the Tsáchila community<sup>10</sup>.

To determine the facial profile, the plane formed by the suborbital point and the Porion point was used, which should be parallel to the floor and is obtained by drawing two lines from the Glabella point to the subnasal and from the subnasal to the end of the chin. Three angles can be obtained, which correspond to the different types of profile: convex, less than 170°; straight, approximately 170° and concave, greater than 180°<sup>8,11</sup>. In the studied sample, the highest percentage corresponded to the straight profile, which coincides with studies conducted by other authors with members of the Otavalango cultural center in the city of Otavalo in the province of Imbabura; and differs from the results of authors such as Correa<sup>13</sup> where



**Graph 3. Position of the upper lip with respect to Ricketts' E-line.**  
Source: Field research



**Graph 4. Position of the lower lip with respect to Ricketts' E-line.**  
Source: Field research

the type of profile prevailing in their sample was convex. As for the concave profile, it was the least observed by Rueda<sup>12</sup> and Correa<sup>13</sup>; in our study, there was a low incidence of people with concave and convex profiles.

The nasolabial angle in men should be approximately 90° while for women the value of the angle should be between 100 and 105°; these are the values we used in this study<sup>13</sup>. Regarding the nasolabial angle, most of the sample presented values below 100°. Similar results were shown by a study conducted in the Shuar population of the Pitirishca community in the Pastaza

province of Ecuador. Thirty-six percent of the sample presented values within the normal range, results that differ from studies conducted with members of the Otavalango Cultural Center in the city of Otavalo, province of Imbabura. Likewise, when studying the range of people who obtained an average of 100 to 105° in the angle that was analyzed, 61% are located within these ranges, and in this case, we can mention that the norm mentioned by Mendoza<sup>16</sup> is met by the members of this Cultural Center<sup>12,13</sup>.

Ricketts stated in 1961 that the upper lip should be four mm behind the E-line, and the lower lip should be two mm behind<sup>14,15</sup>. We analyzed the position of the upper lip to Ricketts' E-line, where we found that 82% of the sample did not comply with the parameter of being four mm behind this line and only 18% did, results that coincide with those of other authors such as Correa<sup>13</sup>. In the study of the position of the lower lip regarding the E-Line, of the total studied population only 36% complied with the norm and the remaining 64% did not, which coincides with studies by other authors such as Correa<sup>13</sup> where only a small percentage complies with the norm and differs with works by Mendoza López<sup>16</sup> and Pazmiño<sup>10</sup>. This study differs from the results found by Carrasco<sup>14</sup> where 95.1% of the Salasaca population complies with the norm and only 4.9% does not. It should be noted that these populations coincide with Ricketts' statement "The normal aesthetic profile is when the upper lip is behind the E line"<sup>5,14</sup>. Studies conducted in Afro-Ecuadorians of the Empresa de Agua Potable y Alcantarillado San Mateo, City of Esmeraldas<sup>17</sup> show that in both the upper E line and the lower E line there is a great predominance of non-compliance with the referential measures given by the literature.

## CONCLUSIONS

In the studied female population, little coincidence was found between the facial thirds, and the thirds that coincided most were the upper and lower thirds. The predominant profile was straight. In most of the studied people, the nasofacial angle was below the norm. The position of the lips to Ricketts' E-line was outside the parameters established by this author in most of the studied sample.

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