

T H E S I S

Facial profile analysis of a cohort of young Algerians adult

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This article is a summary of the doctoral thesis in medical sciences successfully defended by Dr. Zoubiri in March 2013 at the Medical School of Algiers.

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INTRODUCTION

We are receiving an increase in the number of adults coming to straighten their teeth and for esthetic improvement. However, there happens to be a lack of cephalometric and morphological data relative to this group of individuals and to an analysis of their cutaneous or soft tissue facial profiles because up to now studies carried out at the Mustapha University Hospital

Center of Algiers were limited to children and only examined their skeletal structure.

With this study of the soft tissue facial profile, we want to determine the morphological and cephalometric characteristics of cutaneous and bone structures that are specific to adults from Algiers.

MATERIALS AND METHODS

The sampling included 70 individuals comprised of 47 girls and 23 boys, average age 21.1 years; these adults from Algiers were selected from a group of 3rd, 4th and 5th year dental students from the University Hospital Center of Algiers from 2009 until 2011.

Criteria for inclusion

- Student population.
- Between 17 and 25 years of age.
- Harmonious facial profile and frontal views.
- Occlusion Class I Angle classification.
- No dental or maxillary abnormality.
- The subjects had never received orthodontic treatment.

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Criteria for exclusion

- Presenting a labial scar or a cleft lip.
- Having had any prior orthodontic treatment.
- Presenting any abnormalities of the face, teeth or jaws.
- Presenting Angle Class II or Class III.

Justification for the study

Lack of cephalometric and morphologic data for the cutaneous facial profiles of adults from Algiers.

Abusive use of Caucasian norms as universal references for treating racially distinct populations.

Main objective

To study the morphologic and cephalometric characteristics of young adults from the Algiers region.

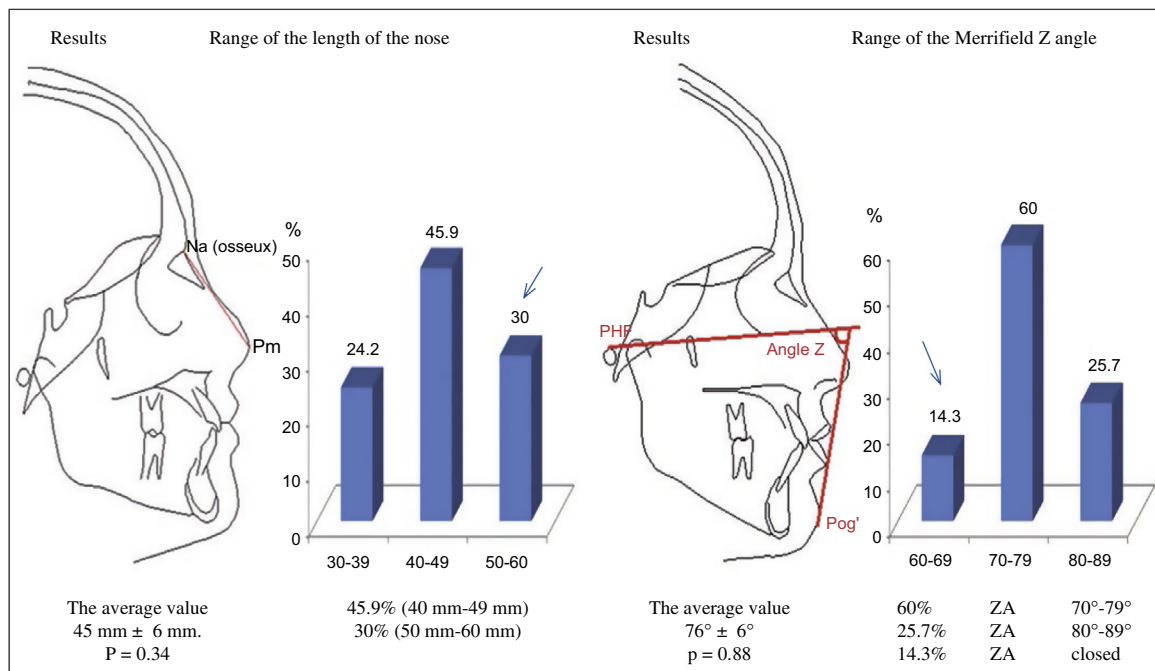
Materials and Method

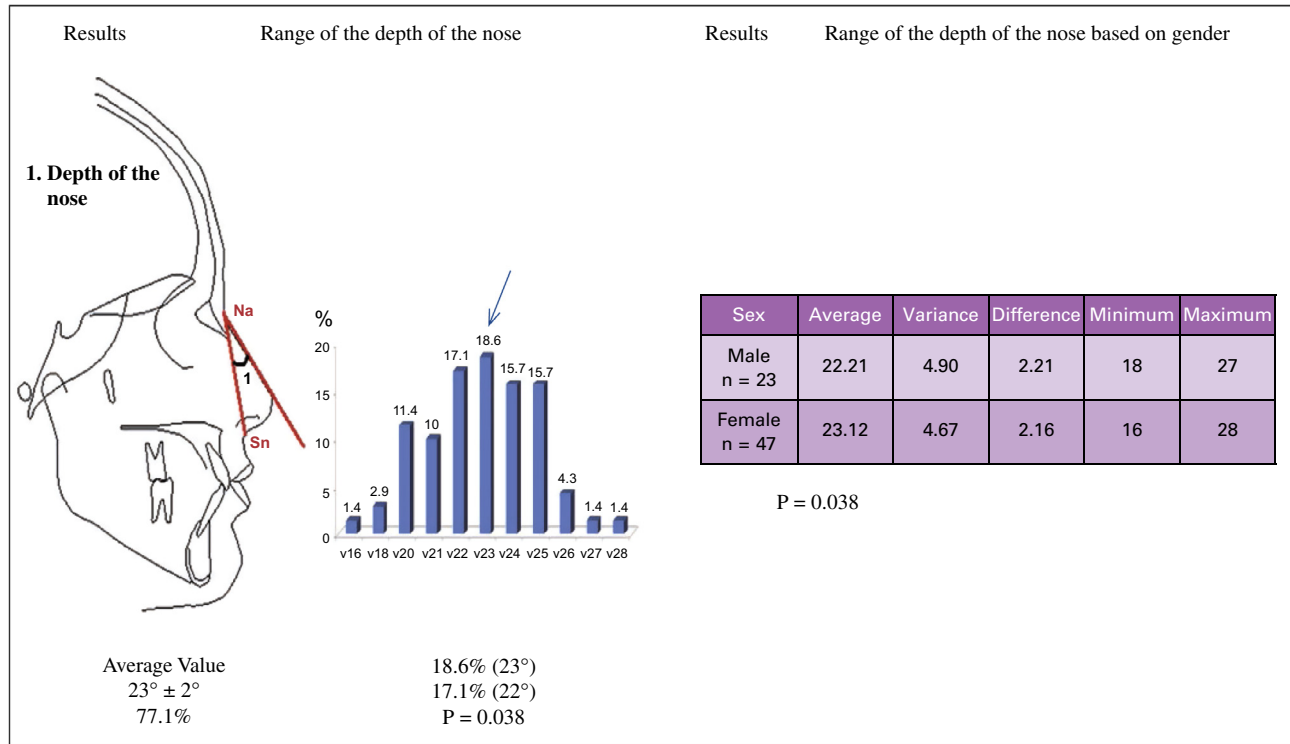
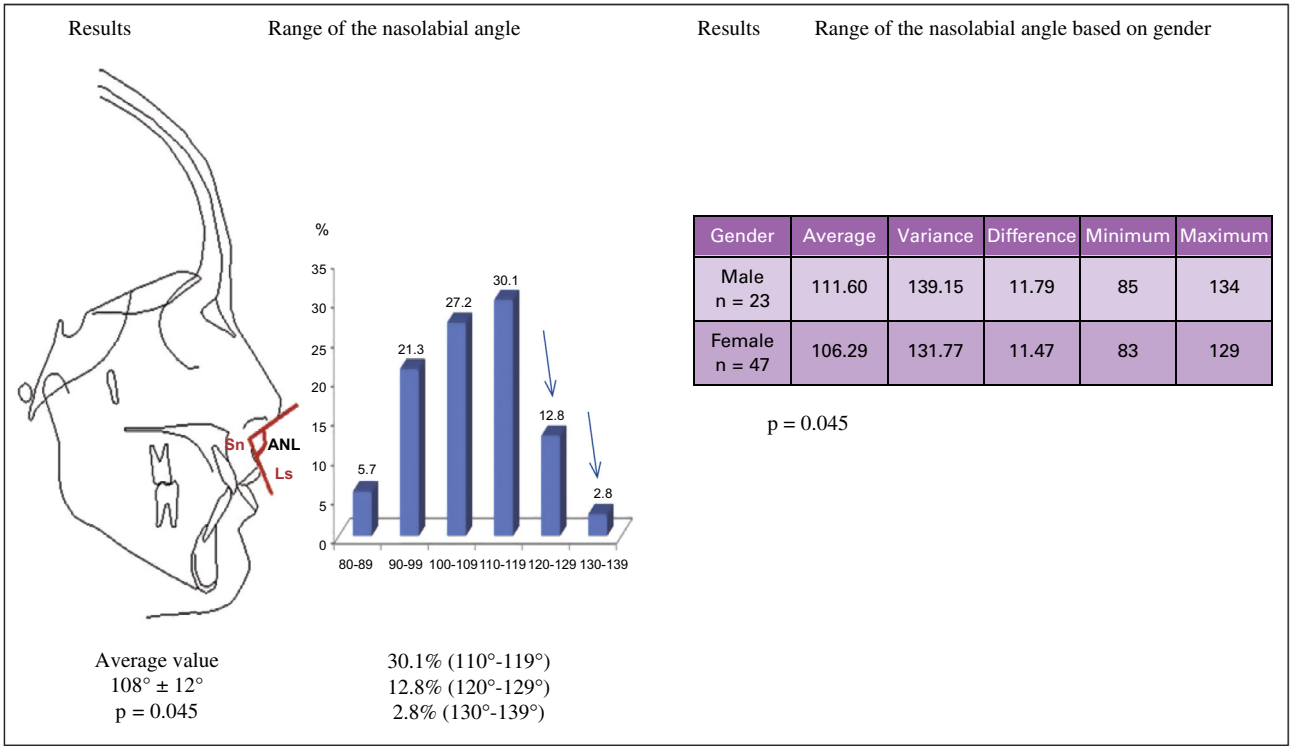
- Patient record card.
- Worksheet.
- Cephalometric xray in *norma lateralis*.
- Cephalometric analyses.
- 29 cephalometric variables.

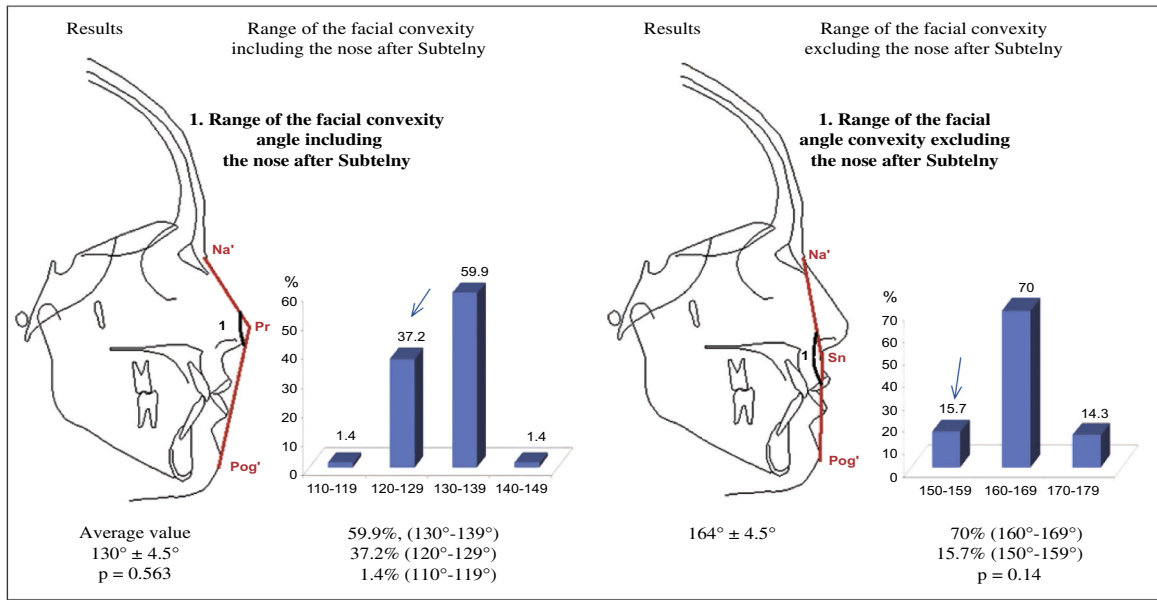
RESULTS OF THE DESCRIPTIVE STATISTICS

All the statistical analyses were performed with the 13.0 SPSS version

and the 6.0 Epi info. The Kolmogorov-Smirnov test was utilized to check the







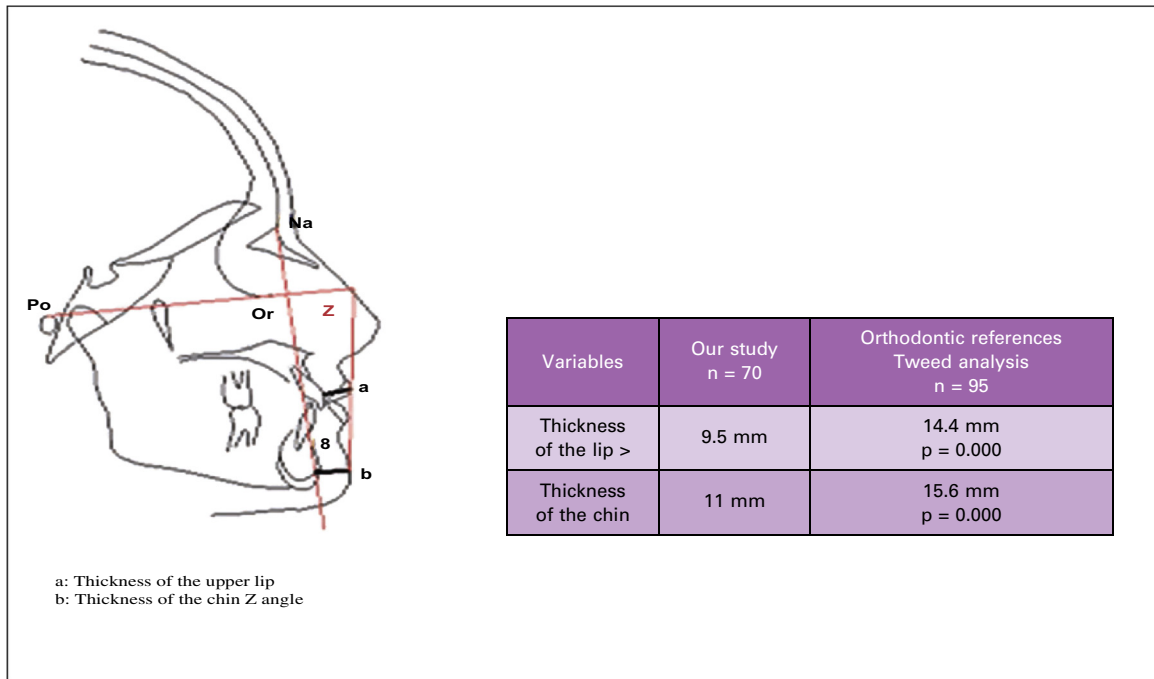
Presentation of the variables for facial profile based on gender.

| Variables | Girls n = 47 | | Boys n = 23 | | Meaningful threshold $p < 0.05$ |
|------------------------|-----------------|---------------------|----------------|---------------------|------------------------------------|
| | average | difference | average | difference | |
| Nose length | 44.70 mm | ± 5.68 | 46.30 mm | ± 6.36 mm | 0.34 |
| Nose depth | 23.12° | $\pm 2.16^{\circ}$ | 22.21 | ± 2.21 | 0.038 |
| Nasolabial angle | 106.29° | $\pm 11.47^{\circ}$ | 111.60° | $\pm 11.79^{\circ}$ | 0.045 |
| Thickness of upper lip | 9.02 mm | ± 1.64 | 10.69 mm | ± 2.09 mm | 0.002 |
| Length of upper lip | 19.72 mm | ± 3.22 mm | 21.17 mm | ± 3.55 mm | 0.10 |
| Thickness of the chin | 10.89 mm | ± 2.01 mm | 11.56 mm | ± 2.12 mm | 0.21 |

Comparison of the facial convexity variable with the orthodontic references.

| Parameters | Our study Algiers adults n = 70 | | Orthodontic references n = 30 (Subtelny) | | Meaningful threshold $p < 0.05$ | |
|--------------------------------|------------------------------------|--------|---|--------|------------------------------------|-------|
| | Girls | Boys | Girls | Boys | Girls | Boys |
| Facial convexity nose included | 129.57 | 130.26 | 131 | 133 | 0.034 | 0.014 |
| Facial convexity nose excluded | 164.44 | 162.47 | 161.5° | 163.47 | 0.08 | 0.272 |

Comparison of the orthodontic references concerning the thickness of the upper lip and of the chin.



normalcy of the study as well as the “one simple Kolmogorov test” to compare the average values for the 29 variables found in our study using the orthodontic references (Tweed analysis and Subtelny analysis) within the range of 5% ($p < 0,05$).

Discussion

The first finding that stands out in our results after comparing them with orthodontic references for Caucasians is that, even if a number of measurements appear to be entirely comparable to the established norms for

Caucasians, some differences specific to our study population remain.

On the cutaneous facial profile, we observe that the Z angle, a determining factor for facial harmony, and the facial convexity angle including the nose and excluding the nose are more closed in our sampling; one trend that can be seen is the convexity of the lower third of the face. We can conclude that the orthodontic references proposed for Caucasian populations cannot be used as a basis for determining the morphologic characteristics of patients from Algiers.

CONCLUSION

Our study was not intended to determine the cephalometric norms of Algerians but we did hope to

modestly contribute to the elaboration of a morphologic and cephalometric approach for the cutaneous facial

profile of patients from Algiers so that it might be taken into account during orthodontic treatment. Our study has shown that the average typical facial profile of a young adult from the region of Algiers, despite its simila-

rities with that of the white race, presents some specific characteristics that are uniquely Algerian, namely the convexity of the lower third of the face.

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