

The effect of aging on lip dimensions: A three-dimensional evaluation in a healthy group.

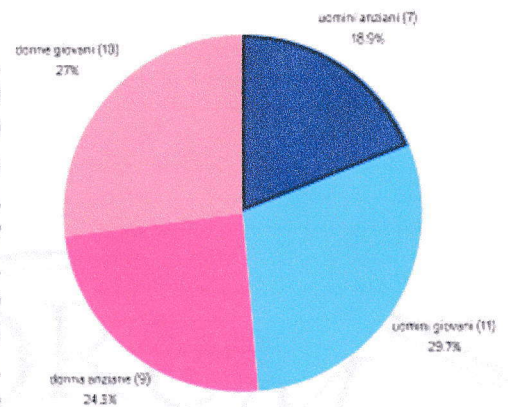
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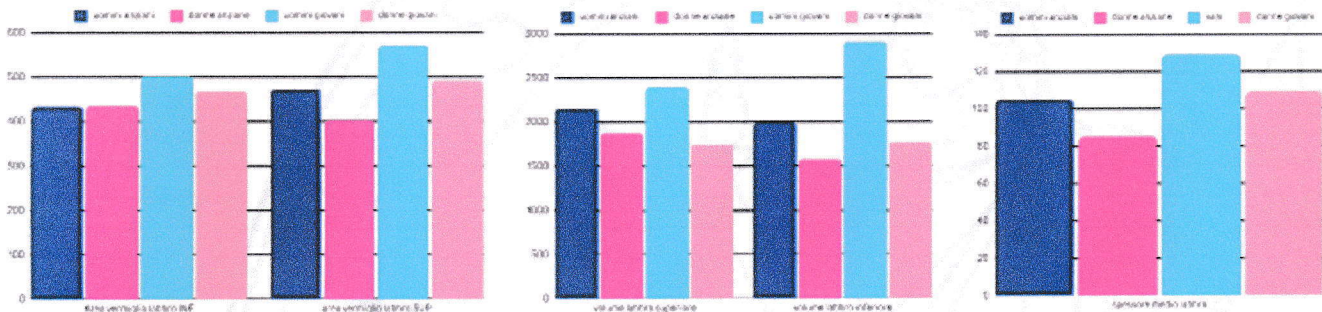
Aim: This study aims to assess how aging affects the morphology of the lips.

Materials and methods:

A group of 37 healthy white Caucasian adults participated in the study. The participants were divided into two age groups: young adults (10 women, 11 men; aged 21 to 34 years, mean age 26) and older adults (9 women, 7 men; aged 48 to 61 years, mean age 53). Inclusion criteria comprised complete maxillary and mandibular dental arches, Angle class I, and $OVJ < 5\text{mm}$. Exclusion criteria included a history of craniofacial surgery or trauma, congenital anomalies, periodontal disease, and caries. Impressions of both extra-oral (cutaneous) and intra-oral (mucosal) lip surfaces were obtained and cast in dental stone. Each cast was digitized and reconstructed using NURBS (Non-Uniform Rational B-Spline) curves. Data on vermillion surface area, lip volume, and lip thickness were collected, and comparisons were made using ANOVA tests.



Results and Conclusions:



Across all measurements, men exhibited larger dimensions compared to women. Moreover, labial dimensions were found to decrease with age. Statistically significant differences were observed between genders and age groups (Vermilion areas: upper lip: young men 501 mm²; young women 467 mm²; old men 432 mm²; old women 434 mm²; lower lip: young men 569 mm²; young women 491 mm²; old men 471 mm²; old women 401 mm² (sex, age, $p < 0.001$). Volumes: upper lip: young men 2390 mm³; young women 1743 mm³; old men 2148 mm³; old women 1866 mm³ (age, $p = 0.012$); lower lip: young men 2902 mm³; young women 1764 mm³; old men 1983 mm³; old women 1567 mm³ (sex, age, $p < 0.005$). Mean lip thickness: young women 10.9 mm; young men 12.9 mm; old women 8.5 mm; old men 10.5 mm (sex, age, $p < 0.05$). Even in healthy individuals with full dentition, aging leads to noticeable changes in facial soft tissues, particularly in the dimensions of the lips. Notably, a significant decrease in labial dimensions occurs after the fifth decade of life, particularly evident in the lower lip. Further research is warranted to deepen our understanding of facial changes associated with aging.

BIBLIOGRAPHY:

Med Biol Eng Comput 2003;41:101-6
Ital J Anat Embryol 2007;112: S229.