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Variation in lip morphology with incisor relationship in two populations: Jordanian and Scots teenagers

***Amal albtosh** *Mutah University, Jordan*

Prof. Caroline Wilkinson, *Uk*, *Prof. Peter Mossey*, *Uk*

Abstract

Objective: This study aims to investigate a variety of morphological features of the lips for different malocclusion classes between two populations sharing the same ancestry.

Methods and Materials: This cross-sectional study is the first to study and compare the labial features of two populations: Scots and Jordanian. A retrospective analysis of naso-labial data was conducted using three methods: morphological, cephalometric, and geometric morphometrics (GMM). This is the first study to combine photographic analysis using GMM with a cephalometric analysis data consisted of two-dimensional, pre-orthodontic treatment photographs and cephalograms of individuals of four malocclusion classes: Class I, Class II: divisions 1 and 2, and Class III from two sample populations: 56 Scots and 56 Jordanians, aged 11-14 years.

Results: The results reveal that both populations showed similar morphological trends for the lips, a deep philtrum, a V-shaped Cupid's bow, and thin upper vermillion border. However, there was variation in nasolabial soft tissue morphology between the different incisor relationships. Also, while lip shape variation between males and females within malocclusion classes was minimal, there was a difference in size. Conclusion: This study has provided detailed information that is of great value to orthodontics and forensic science, in particular for orthodontic surgery and forensic facial reconstruction, in that malocclusion and incisor relationship determines naso-labial morpho.

Keywords: Orthodontics, Forensic Facial Reconstruction, Malocclusion, Jordan, Scotland, Geometric Morphometrics

Biography

I have 4years' experience as a lecturer in human anatomy and histology in Mutah university. I'm a qualified dentist. I graduated from University of Jordan in 2002 and passing Over Seas Registration Exam in UK. I have been working as a dentist in several sectors: public, Royal medical services, and private sector. My PhD investigate the ability of teeth pattern to predict the nasolabial features of individuals. As far as I know, I'm the only Jordanian specialise in Forensic facial reconstruction (FFR). More over I have no idea if there is any experts in FFR in Arab world.