Dynamic lip to tooth relationship during speech, posed and spontaneous smile using digital videography

A thesis

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Abstract

When it comes to expressing emotions, members of widely different cultures have much in common. If people from various countries are shown a photograph of a happy, smiling face they usually agree in their interpretation. The aims of this study were to determine the difference of outer commissure width, inter-labial gap, smile index, modified smile index, visible maxillary interdental width, buccal corridor percentage and maximum incisor show among different smile styles (Monalisa, Cuspid and complex) during emotion, posed smile and speech. And to determine the differences of the same variables for each smile style among emotional smile, posed smile and speech.

The sample consisted of 77 Iraqi adult subjects (18-30) years with skeletal class I occlusion, classified into three categories according to a certain neuromuscular mechanism of smile called smile style, the first group consisted of 34 (24 male, 10 female) subjects with Monalisa smile style, the second consisted of 34 (22 male, 12 female) subjects with Cuspid smile style, the last 9 subjects (5 male, 4 female) were the third group with Complex smile style. Each subject were recorded using digital videographic camera while watching a comical movie to elicit emotional smile, then they asked to say "Chelsea eats cheesecake" to record them during speech. The videographs were imported to the PMB-picture motion browser to capture emotional smile, posed smile and speech frames. Four linear measurements were measured for each frame using AutoCAD program 2011.

The results of this study showed that all the variables changed significantly when the subject change from speech to emotional smile frame in all smile styles. And these changes revealed almost the same behavior when the subject changed from speech to posed or to emotional smile frames.