

TITLE: Electromyographic Comparison of Lips and Jaw Muscles between Children with Competent and Incompetent Lips: A Cross Sectional Study

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ABSTRACT (upto 300 words)

This cross-sectional study evaluates the electromyographic (EMG) activity of lips and anterior temporalis muscles of children with competent or incompetent lips. Forty children were classified clinically according to their lip competence into two groups of 20 each: 1) competent lips group, and 2) incompetent lips group. Surface EMG activity of the superior orbicularis oris, inferior orbicularis oris, and anterior temporalis muscles was recorded with the children seated in the upright position during the following tasks: 1) at rest; 2) speaking; 3) swallowing; 4) puffing out the cheeks. EMG activity was significantly higher in subjects with competent lips than subjects with incompetent lips in the superior and inferior orbicularis oris muscles at rest and in the inferior orbicularis oris during swallowing. Anterior temporalis muscle showed higher EMG activity in subjects with incompetent lips than with competent lips at rest, during speaking and swallowing. The difference in EMG activity recorded in children with incompetent lips and with competent lips suggests that the status of their musculature could affect the position and stability of their upper/lower anterior teeth.

BIOGRAPHY (upto 200 words)

Dr. Natalia Gamboa received her DDS degree in 2016 from the Universitty of Chile and obtained a postgraduate degree in orthodontics in 2020 from the University of Chile. She is an assistant professor at Institute for Research in Dental Sciences, Faculty of Dentistry, University of Chile. She is a currently staff member of the Oral Physiology Laboratory, University of Chile. Dr. Gamboa is a member of the Chilean Society of Orthodontics, and a reviewer for international journals.



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