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Vertical facial growth and statural growth in girls: a longitudinal comparison

MCJ. van der Beek¹, JB. Hoeksma² and B. Prah1-Andersen¹

¹Academic Centre for Dentistry, Amsterdam, The Netherlands and ²Free University, Amsterdam, The Netherlands

ABSTRACT

Individual and average growth patterns of the facial dimensions Nasion-Gnathion and Sella-Gonion, as related to statural growth were studied. The sample consisted of 134 girls aged 7-14 years. Data were analysed using a multivariate extension of the multilevel model for longitudinal data. The results confirmed that the mean growth curves of Nasion-Gnathion, Sella-Gonion and body height parallel each other to a large extent. At an individual level it appeared that the pubertal growth spurt of body height and the growth spurts of both facial dimensions are coincident. The major results of the present study pertain to the dynamic (age-dependent) relationship between statural growth and the growth of the face. It appears that there exists a stronger relationship between the growth velocities of standing height, Sella-Gonion and Nasion-Gnathion than between the actual lengths of the three variables themselves. The strongest relation was found between the growth velocity of body height and that of Sella-Gonion. These findings may be a contribution for diagnosis and treatment planning of individual cases.

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