ABSTRACT

**Aim:** To assess the feasibility of using salivary DHEA level as a skeletal maturity indicator by finding a co-relation between the salivary DHEA and the Cervical Vertebral Maturation method in pre-pubertal, pubertal and post-pubertal stages of growth.

**Materials and Methods:** Lateral Cephalograms of 66 subjects were assessed and they were divided into 3 groups of 22 each (11 females and 11 males) corresponding to the three stages of growth- pre-pubertal, pubertal and post-pubertal. The salivary DHEA level of each individual were measured using Salimetrics DHEA Immuno Assay and correlated with the corresponding stages of cervical vertebral maturation.

**Results:** The mean DHEAS values in each group were 15.30 ± 14.27pg/ml (prepubertal), 39.54 ± 19.19 pg/ml (pubertal) and 81.46 ± 25.37 pg/ml (post pubertal). Analysis of variance followed by Tukey honestly significant difference test showed that the difference in the mean salivary levels of dehydroepiandrosterone (DHEA) in the pre-pubertal, pubertal and post-pubertal stages were statistically significant (P < 0.001). Within pubertal and post-pubertal groups there was no significant difference in the mean hormone values between girls and boys whereas in the pre-pubertal group there was a mild difference in the mean hormonal values. The salivary dehydroepiandrosterone (DHEA) levels of subjects in the pubertal group ranges from 25 pg/ml to 57 pg/ml with values less than 25 pg/ml in the pre-pubertal stages and values greater than 57 pg/ml in the post-pubertal stages of maturation at a 95% confidence interval of mean.

**Conclusion:** Correlation of the salivary dehydroepiandrosterone (DHEA) levels with the cervical maturational stages shows that the salivary DHEA is a reliable indicator of skeletal maturation in the assessment of pubertal status.

**Keywords:** Dehydroepiandrosterone, Cervical vertebral maturation, Puberty