

International Conference and Exhibition on **Dentistry**

March 18-20, 2015 Dubai, UAE

Stress estimation in pediatric dentistry: A correlation study between modified dental anxiety scale and salivary cortisol levels

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Anxiety is a frequent problem among dental patients in general and especially children. The presence of dental anxiety in pediatric patients is not a dilemma for the patients alone, but also for the dental professionals themselves; and sometimes it renders the treatment more complicated and tedious to be accomplished successfully. Fear and anxiety increase the activity of the Hypothalamic Pituitary Axis (HPA) which in turn enhances secretion of cortisol. Cortisol also known as the stress hormone, is secreted from the adrenal cortex and dispersed to all body fluids, and can be detected in urine, serum or saliva. Heightened cortisol levels are thus indicative of increased stress as a result of elated fear and anxiety. Anxiety scales have been used for the assessment of anxiety in children. Most successfully used anxiety scale is the Modified Dental Anxiety Scale (MDAS). 120 children who required dental procedures were included in the study of which 60 each belonged to the study and control groups. For each of these children saliva was collected to evaluate salivary cortisol levels and MDAS was duly filled with the help of the parents to evaluate the anxiety levels. The results indicated that the salivary cortisol levels and anxiety levels were significantly increased in the study group when compared to the control group. A positive correlation can also be seen between the two measurement methods of anxiety levels.

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