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**Stressful life events in relation to oral health
condition and selected salivary constituents
among 17-18 years old secondary school students
in Baghdad City/Iraq**

A Thesis

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Abstract

Background: Stress is unpleasant events and situations faced individual in his daily life or suddenly, effect negatively on his psychological and physical health, which lead to emotional reactions that reduce the resistance of immune system, hormonal imbalance that affect oral health. The Canadian physician "Hanz Seley" give his understanding of about stress as “ general adaptation syndromes” and considered it as a main factor in all diseases. The recent study aims to estimate the occurrence and severity of dental caries and gingival inflammation among the students with different categories of stressful life events in relation to physicochemical characteristics of whole stimulated saliva.

Materials and Methods: The total sample is composed of 300 students males only aged between 17-18 years old, who are randomly selected from 10 school in the First Al-Karkh/Baghdad. The total sample classified into three categories (less stress, more stress, accumulative stress) according to stressful life events scale (SLE) (Abdul-Ghani, 2005); the sub sample consists of 60 students who are randomly selected from the categories of the total sample each category composed of 20 students. Diagnosis and registration of dental caries status was estimated according to Decay, Missed, Filled surface index ($D_{1-4}MFs$); and according to criteria of Muhlemann (1976), while the gingival condition was assessed by using Loe and Silness gingival index (Loe and Silness, 1964). Stimulated salivary samples were collected from the 60 students then analyzed for determining salivary flow rate; and chemically to determine salivary interlukin-6 (IL-6), cortisol, and total protein. All data were analyzed using statistical package for social science (SPSS) version 21.

Results: Results recorded the highest mean rank value of (DMFs) was among the accumulative stress category of stressful life events scale followed by more stress category, the lowest mean rank value was among less stress category with statistically high significant difference ($P < 0.01$). For the severity of dental

caries (D_s) Fraction was higher among the accumulative stress category than more stress and less stress categories respectively ($P < 0.001$). According to the grades of lesion severity, for all fractions the higher mean rank values was among accumulative stress category with no statically significant differences except for (D_2) was significant ($P < 0.05$). The prevalence of gingival inflammation was 100%, the highest mean rank value among the accumulative stress category with highly statistical difference ($P \leq 0.005$), with prevalence of moderate gingivitis was higher than mild type in all categories except less category, while sever type was absent in this study. The data from salivary analysis showed that, the highest values of salivary total protein and (IL-6) were among the accumulative stress category, followed by more stress then the lowest value among less stress category, while the cortisol showed the opposite picture, however all these differences were not significant. Decayed surfaces (D_s) correlated negatively with flow rate with highly significant for more stress category and accumulative category and positively related with significant for low stress category were noticed. The salivary constituents showed negative correlation with (DMF_s) for all categories of stressful life events scale except for IL-6 and cortisol were positively correlated for accumulative category with no statistically significant differences.

Conclusion: The results of current investigation revealed that the stressful life events that have a significant deleterious effects on the oral and dental health including caries experience and gingival inflammation in addition to disturb normal level of salivary constituents.