

**Ministry of Higher Education
& Scientific Research
University of Baghdad
College of Dentistry**



Dental Caries and Some Salivary Constituents Among 10 Years Old passive Smokers In Al- kufa City - Iraq

A thesis

Submitted to the College of Dentistry, University of Baghdad in
Partial Fulfillments of the Requirements for the Degree of Master
of Science in Preventive Dentistry

By

Ali Sahib Hussein

B.D.S.

Supervised by

Prof. Dr. Athraa Mustafa Al-Waheb

B.D.S., M.Sc.

2015 A.D.

1436 A.H.

Abstract

Background:

Cigarettes smoking had many hazardous effects on the general health of humans including the oral health. Thus, passive smokers may be affected by different types of related diseases.

Aim of the study:

This study was designed to assess dental caries and some salivary constituents among a group of children affected by passive smoking in comparison with control group.

Material and methods:

The study involved 20 boys and 20 girls of passive smokers aged 10 years old compared to control group represented by the same number, gender and age of children of study group but for healthy individuals, d_{1-4} mfs and D_{1-4} MFS indices were applied (Muhlemann, 1976). Stimulated salivary samples were collected for the measurement of pH and flow rate in addition to the estimation of calcium, phosphorus, magnesium, zinc, amylase activity and total protein by chemical analyses.

Results:

Caries experience of primary teeth (dmfs) among study group was lower within study group in comparison to control group with no significant difference statistically ($P>0.05$), while no difference regarding dental caries experience of permanent teeth (DMFS) between study and control groups. Salivary calcium, magnesium, total protein, amylase and PH were lower among study group compared with control group with statistical difference which was highly significant ($P<0.01$), the same result was recorded regarding females between the two groups, while regarding males the same result was recorded except for total protein and amylase activity as there was no significant difference statistically between males of study group compared with males of control group ($P>0.05$) and the statistical difference

regarding pH was significant. The level of salivary zinc ion was higher among study group compared with control group with statistical difference which was highly significant ($p < 0.01$), the same result was recorded among females while among males the same result recorded but the statistical difference was significant ($p < 0.05$). The level of salivary flow rate and inorganic phosphate was lower among study group compared with control group with no significant difference between them ($p > 0.05$).

Salivary calcium was correlated negatively with dental caries of primary dentition among study group with highly significant correlation ($P < 0.01$) between ca and m component. Salivary phosphorus ions was correlated negatively significantly ($P < 0.05$) with D_3 among study group and with d_1 among males of study group while it correlated positively significantly ($P < 0.05$) with ms among females of study group. Salivary magnesium was correlated negatively significantly ($P < 0.05$) with D_1 among males of study group and with D_1 and D_2 among females of study group; also it correlated positively highly significant ($P < 0.01$) with d_1 among control group and positively significantly with d_1 and D_3 among males of control group. Salivary Zinc was correlated negatively highly significant ($P < 0.01$) with D_3 among study group. Salivary total protein was correlated negatively significantly ($P < 0.05$) with DMFS among control group and with d_1 among males of control group. Salivary amylase activity was correlated positively significantly ($P < 0.05$) with D_3 among control group and with D_2 among males of control group; also it correlated positively highly significantly ($P < 0.01$) with D_3 among males of control group. Salivary PH was correlated positively significantly ($P < 0.05$) with D_1 and D_3 among males of study group and with d_1 among females of study group, while it correlated negatively significantly ($P < 0.05$) with d_4 and DS among females of control group. Salivary flow rate was correlated negatively significantly ($P < 0.05$) with D_1 among males of study group while it correlated positively significantly ($P < 0.05$) with DS and DMFS among females of study group.

Conclusion:

Passive smoking was founded to have no effect on dental caries status of the study group rather than it affects a selected salivary constituents. Dental caries were recorded among all subjects of the study and control groups, therefor special oral health, preventive, and educational programs are needed for them.