

**Republic of Iraq
Ministry of High Education
And Scientific Research
University of Baghdad
College of Dentistry**



**Oral Health Status and Selected Salivary
Physicochemical Characteristics in Relation to
Passive Smoking among 5 years old Children**

A Thesis

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

By

Ammar Yasir Mohammed

B.D.S.

Supervised by

Assist. Prof. Dr. Nibal Mohammed Hoobi

B.D.S., M.Sc.

Baghdad-Iraq

2019 A.D.

1441 A.H

Abstract

Background: Passive smoking is one of the most important toxic exposures in childhood. The sign for a causal association between passive smoking and oral health problems including dental caries and periodontal disease is rapidly growing.

Aim of study: This study was designed to assess dental caries experience, oral hygiene, gingival health condition, primary terminal plane and some salivary properties like pH, flow rate, , salivary alkaline phosphatase and salivary total protein among 5 years old children passive smokers in Tikrit city

Materials and Methods: This study included 60 kindergarten children (32 boys, 28 girls) aged 5 years old, passive smokers group included thirty children was compared with control group consist of thirty children matching in number, age and gender ,but they were not passive smokers. Caries-experience was diagnosed and recorded according to criteria of decayed, missing and filling surface index (dmfs index for primary teeth) described by WHO 2013. Gingival health condition was assessed by using gingival index of Loe and Silness (1963). Dental plaque was assessed by using plaque index of Silness and Loe (1964). Dental calculus was assessed according to the criteria of calculus component of periodontal disease index by Ramfjord (1959). Primary terminal plane was detected in this study according to Arya and Savara (1973). Stimulated salivary samples were collected for the estimation of alkaline phosphatase and total protein concentration. All data were analyzed using statistical package for social science (SPSS) version 21.

Result: The percentage of dental caries occurrence was found higher in study group than control group. Concerning dental caries experience represented by dmfs , finding showed that mean values of dmfs and its component (ds , ms and fs) were higher among passive smoker group . Regarding mean values of dmfs and ds, the difference was statistically highly significant ($P < 0.01$) , while it was not significant for ms and fs ($P > 0.05$). The mean value of plaque index and gingival index were higher among study group than control group with statistically significant difference and highly significant difference respectively. There was no calculus has been found among study and control groups . Control group had higher mean value of salivary flow rate than study group , statistically , this difference was not significant ($p>0.05$). The mean value of salivary pH of control group was higher than study group with statistically highly significant difference ($p<0.01$). The data of study also revealed that salivary total protein concentration was higher among control group with statistically non-significant difference ($p>0.05$), while , mean value of alkaline phosphatase was higher among study group than control group with statistically non-significant difference ($p>0.05$).

Flush terminus percentage was the highest among both study and control groups followed by distal step and least percentage was recorded for mesial step and the difference was statistically not significant.

In control group, there was a positive correlation between (ds , ms , dmfs) and salivary flow rate , and negative correlation between fs and salivary pH with statistically significant difference.

Conclusion: Passive smoking has influential harmful effect on oral health including oral hygiene , dental caries and gingival health , additionally

has a deleterious impact on salivary physicochemical properties (pH , Flow rate , Salivary alkaline phosphatase and Salivary total protein) , so effective educational and preventive programs about oral health are required to minimize its risk.