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College of Dentistry**



**Cleft Lip and Palate in Relation to Nutritional
Status, Oral Health Condition and Some
Salivary Physicochemical Properties
(Comparative study)**

A Thesis

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Abstract

Background: Orofacial cleft is a congenital abnormal space or gap due to incomplete fusion of the embryologic prominences in the upper lip alveolus and/or palate during facial development result in severe facial, morphological and functional impairment of sucking, swallowing and breathing.

Aims of study: The aims of this study were to assess the nutritional status, gingival health condition, dental caries status and some salivary physicochemical properties among children with orofacial cleft and compared them with non-cleft children and also to correlate the gingival health condition and caries status with the selected salivary physicochemical properties.

Materials and Methods: In present study, two groups were examined with age range 4-9 years old. The study group included thirty-six children with orofacial cleft. The control group included thirty-seven non-cleft children, which matched the study group in age, gender. The nutritional status was assessed using the percentile growth chart defined by CDCP (Center for Disease Control and Prevention), which indicated body mass index according to age and gender. Ginival index by l e and Silness (1963) and D₁₋₄MFs/d₁₋₄mfs index by Manji *et al* (1989) were used to assess gingival health condition and dental caries status respectively. Collection of unstimulated whole saliva was carried out under standardized conditions. Selected salivary physical parameters (flow rate and pH) and selected salivary biomarkers (total antioxidant status, uric acid and total protein) were investigated. All data were analysed using statistical package for social science (SPSS) version 21.

Results: Results showed that gingival index mean value was higher in study group than control group with highly significant difference (T=7.989, P=0.000) (P<0.01). Regarding DMFs/dmfs, the means values were higher in study group than control group with no statistical significant difference (P>0.05). For (Ds/ds)

components were higher among study group than control group with no significant difference concerning permanent dentition ($P>0.05$) while for primary dentition there was highly significant difference ($T=2.99$, $P=0.004$) ($P<0.01$). Concerning the severity of dental caries there was a highly significant difference among study and control groups in d_3 grades ($T=2.79$, $P=0.008$) ($P<0.01$) and a significant difference in d_1 and d_4 grades ($T=2.63$, $P=0.011$ and $T=2.17$, $P=0.035$ respectively) ($P\leq 0.05$). For physicochemical parameters, highly significant differences were found in salivary flow rate, total antioxidant and total protein ($T=-2.834$, $P=0.006$; $T=-7.17$, $P=0.000$ and $T=3.246$, $P=0.002$ respectively) ($P<0.01$), while for pH and uric acid the differences were not significant ($P>0.05$). Regarding nutritional status, the percentage of underweight children within study group was 2.8%, while its percentage was higher within control group was 5.4%. The percentage of healthy children within study group was 91.7%, while its percentage was lower within control group was 73.0%. The percentages of both at risk of overweight and obese children within study group were 2.8%, while their percentages within control group were 10.8%.

Conclusion: The children with orofacial cleft have an increased risk for gingival inflammation and dental caries, also some salivary chemical constituents and some physical parameters deviated from norm. The nutritional status of those children was not different from non-cleft children.