

FLUORIDE CONTENTS OF THE MIXED SALIVA OF CHILDREN

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Abstract

The development of caries in childhood is influenced by many factors, both general and local. Among the common factors, there are a genetic predisposition to caries, the influence of environmental factors, including a reduced fluoride content in drinking water, an unbalanced diet, extreme exposure (stress), the presence of general somatic diseases and an aggravated allergic status.

Knowing the composition of saliva is important for the functioning of their individual components, as well as for the growing interest in saliva-based diagnostics. Numerous studies convincingly prove the dependence of the state of the organs and tissues of the oral cavity on the composition and properties of the oral fluid. Reflection of the state of the body in saliva can potentially be used to monitor general health, the onset and progression of the disease. Protein biomarkers in body fluids, which can be measured accurately and reproducibly, can provide valuable information about the body's response to treatment of a disease or condition, including long-term monitoring of oral diseases. Biomarkers can also serve as an early indicator of disease, which is a promising alternative to conventional oral diagnostic approaches.

Goals: The purpose of this study is to study the physicochemical properties of non-stimulated displaced saliva of children living in the Tashkent region.

Materials and methods: 118 children of preschool age (from 4 to 6 years old), living in 4 districts of the Tashkent region, who do not use fluorine, were examined. Salivary fluoride concentration was assessed using a combined ion-specific fluoride electrode (Alice 131F). Saliva pH was determined by direct potentiometric activity of hydrogen ions (pH) using an ion meter (laboratory ion meter I-160MI (Interstate standard 22261-94))

Results. The obtained results show that the pH of saliva in children from Akkurgan (6.64 ± 0.06) and Yangiyul (6.45 ± 0.09) districts is significantly lower than the saliva pH of Tashkent district (6.98 ± 0.08) ($P > 0.05$), a comparative analysis of the pH of the saliva of the examined girls and boys did not reveal differences in the concentration of hydrogen ions in the oral fluid. In the present study, the concentration of fluoride in saliva was found in the range from 0.0013 to 0.022 ppm for 118 children who did not consume fluoride living in the Tashkent region with a fluorine content in drinking water (0.21 ± 0.09 mg/l).

Conclusion: The pH of saliva in children from Akkurgan and Yangiyul districts is significantly lower than the pH of saliva from Tashkent district, a comparative analysis of saliva pH depending on gender showed no gender differences in the concentration of hydrogen ions in the oral fluid of preschool children in Tashkent region ($P > 0.05$).

The indicator of fluoride ion in the oral fluid in preschool children, depending on the regions of the Tashkent region, did not reveal significant differences, averaging 0.02 ± 0.001 , and the analysis of the fluorine content depending on gender revealed the same average values of 0.02 ± 0.001 mg / l.

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8. (Ion-selective electrode Alice-131F Passport GRBA.418422.015-11 PS).