

showed that $53.0 \pm 2.9\%$ of younger schoolchildren used it for pleasure; $80.8 \pm 24\%$ of 12-15-years-old schoolchildren used it as both, a hygienic tool and for refreshment.

CONCLUSION(S): By optimization methods it was determined that CGs have an effective preventive, cleansing, refreshing and active anti-caries effect when chewed per 1 pad, 3 times a day, 25 minutes after each meal.

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Interdependence of dental caries and salivary parameters in children

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AIM or PURPOSE: Dental caries is considered to be the result of the disturbance of the ecological balance of the oral cavity, rather than the result of poor nutrition or insufficient oral hygiene. The aim of our research is to determine the relationship between some salivary parameters and dental caries in a group of respondents with primary and permanent teeth.

MATERIALS and METHOD: In the research, we included 70 respondents (35 male and female each) aged 5 and 12 years, and the incidence of caries, the caries risk profile, the oral hygiene index and the level of Lactobacillus and Streptococcus mutans colonies in saliva were noted in all of them.

RESULTS: The results obtained from the tests for the total mean values of dmft (5.35) and DMFT (5.54) were of high values and in both age groups there was no statistical difference for the values between the sexes $p > 0.05$.

There was a statistical difference between the caries risk level and oral hygiene values in both age groups of subjects. Analysis of the relationship between caries intensity and salivary pH showed statistically significant differences between salivary pH and in the age group of 5 and 12 years in the level of dental caries. Lactobacillus indicate that in both age groups they increase in proportion to caries risk and there is a highly significant statistical correlation between Lactobacillus, Streptococcus mutans and dental caries.

CONCLUSION(S): The results obtained in our research indicate the need to invest in modern preventive and preventive-therapeutic methods and measures, which will be consistently and promptly applied.

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Association between high-birth-weight and dental caries in 4–5-year-old children

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AIM or PURPOSE: The worldwide issue of early childhood caries has grown significantly over time. Numerous researches have explored the link between low birth weight and early childhood caries, however, studies concentrating on high birth weight are comparatively few. The purpose of this study is to evaluate the effect of high birth weight on the occurrence and intensity of dental caries in children aged 4–5 years.

MATERIALS and METHOD: Study subjects included 491 children from a birth cohort study at 4–5 years of age. Data on dental caries, prenatal and perinatal factors, and socio-demographic determinants were recorded. Logistic regression models adjusted for potential confounders were performed to analyze the data. Two-sided P-value < 0.05 was considered statistically significant.

RESULTS: Of the 491 children, the prevalence of dental caries was 48.7%. High birth weight ($\geq 4,000$ g) was significantly associated with increased incidence of dental caries (OR, 2.000; CI 95% 1.062–3.765), and the relatively enhanced risk OR was further increased in subjects experiencing caries (dmft ≥ 3) (OR, 2.437; CI 95% 1.306–4.549) compared with the normal birth weight (2,500–3,999 g).

CONCLUSION(S): High birth weight is a risk determinant for early childhood caries. Particular attention and special care should be given to children with birth weight more than or equal to 4,000 grams.

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Effects of the cinnamon-NPs on antibacterial properties of GIC

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AIM or PURPOSE: This research aimed to investigate the impact of incorporating cinnamon nanoparticles (NPs) on the antibacterial properties of a luting and lining glass ionomer cement (GIC) used in orthodontic band cementation.

MATERIALS and METHOD: Different percentages of cinnamon NPs, ZnO NPs, and CuO NPs were added to the GIC, with concentrations of 1%, 2%, and 4%, respectively, while a non-modified GIC served as the control. The antimicrobial effectiveness against Streptococcus mutans (S. mutans) was assessed using an agar disc diffusion test. The cytotoxicity of the nanoparticles was evaluated using the MTT assay on gingival fibroblasts.

RESULTS: Results indicated that GIC containing cinnamon and ZnO NPs exhibited larger inhibition zones and stronger antibacterial activity against S. mutans compared to CuO