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| Resumo | Background: Carbonic anhydrase VI (CA VI) is crucial in regulating oral pH and predicting susceptibility to dental caries. The hypothesis posits that caries activity may alter the CA VI function, diminishing its capacity to regulate pH effectively and potentially exacerbating cariogenic challenges. This 1-year cohort study sought to investigate the enzymatic activity of salivary CA VI and buffering capacity following a 20% sucrose rinse in 4 to 6.5-year-old children. Method: This research involved 46 volunteers categorized into three groups based on their caries status after follow-up: caries-free (CFee), arrested caries (CARrested), and caries active (CActive). Children underwent visible biofilm examination and saliva collection for salivary flow rate, buffering capacity, and CA VI analyses before and after a 20% sucrose rinse. Results: A reduction in the buffering capacity was observed after sucrose rinse in all groups. The CA VI activity decreased significantly in CFee and CARrested groups after sucrose rinse, although it did not change in the CActive group. An improvement in the buffering capacity and salivary flow rate was found at follow-up when compared with the baseline. After 1-year follow-up, buffering capacity and salivary flow rate increased in all groups, whilst the CA VI activity reduced only in CFee and CARrested children. Conclusion: Sucrose rinse universally reduces the salivary buffering capacity, while caries activity may disrupt CA VI activity response during a cariogenic challenge. After a year, increased salivary flow enhances buffering capacity but not CA VI activity in caries-active children. |
| Fomento | - |