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Does fruit, compared to nuts, affect dental status and inflammatory markers negatively: A randomized clinical trial

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Background & Aim: Fruit is generally considered a healthy source of vitamins and fibers. The sugar content of fruit might however be deleterious towards teeth and cause inflammation locally and systemically. This study analyzed that fruits when compared to nuts affect dental status and inflammatory markers negatively.

Methods: We randomized thirty (30) healthy non-obese participants to add energy matched amounts (7 kcal/kg body weight) of either fruit or nuts daily between meals for two months. A blinded dental exam was performed. Inflammatory markers and vitamin levels were analyzed.

Results: There were no dropouts and body-mass-index increased numerically in both groups (Fruit: BMI from 22.15 ± 1.61 to 22.30 ± 1.7 kg/m², $p=0.24$; Nuts: From 22.54 ± 2.26 to 22.73 ± 2.28 kg/m², $p=0.045$). Serum-vitamin C increased in both groups (Fruit: $p=0.017$, Nuts: $p=0.009$). Alpha-tocopherol/cholesterol-ratio increased in the fruit group ($p=0.0033$) while β -carotene/cholesterol decreased in the nut group ($p<0.0001$). The number of subjects with probing pocket depths ≥ 4 mm in the fruit group was reduced ($p=0.045$) according to blinded examinations and the difference in the changes in probing pockets ≥ 4 mm was also statistically significant between groups ($p=0.010$). Lipopolysaccharide-stimulated leucocytes IL-1 β -production decreased in the nut group ($p=0.030$). Levels of CRP, procalcitonin and IL-6 were unchanged.

Conclusion: Increased fruit intake, compared to nuts, did not worsen dental status or increase inflammation, despite the high sugar contents. Levels of vitamin C and alpha-tocopherol increased in fruit group. Inflammatory markers remained unchanged in the same group. Possibly specific micronutrients in fruit counteract inflammation.

Biography

Edvin L Strom is currently pursuing his PhD at Linköping University, Faculty of Medicine and Health Sciences. He has worked as a Research Assistant prior to his admittance in Doctoral studies.

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