



## INTISARI

Olahraga dapat menyebabkan terjadinya dehidrasi dan perubahan keseimbangan elektrolit yang berlebihan pada tubuh. Para atlet mengonsumsi minuman isotonik yang mengandung elektrolit dan karbohidrat sebelum, selama dan setelah berolahraga untuk meminimalkan terjadinya dehidrasi. Konsumsi minuman isotonik oleh atlet diduga dapat menimbulkan efek negatif terhadap kondisi saliva dan gigi. Konsumsi minuman isotonik yang bersifat asam selama berolahraga dapat meningkatkan risiko terjadinya erosi gigi, penurunan kapasitas dapar dan pH saliva. Penelitian ini bertujuan untuk mengetahui efek konsumsi minuman isotonik terhadap faktor erosi gigi pada saliva pelari.

Metode penelitian ini menggunakan desain tes awal dan tes akhir kelompok statis. Subjek penelitian ini sebanyak 20 orang laki-laki dengan kriteria: usia 18-25 tahun dan bukan atlet profesional. Subjek dibagi menjadi menjadi 2 kelompok yaitu 10 subjek perlakuan dan 10 subjek kontrol. Subjek lari menggunakan *treadmill*, subjek kontrol mengonsumsi air dan subjek perlakuan mengonsumsi minuman isotonik. Saliva terstimulasi diambil sebelum dan sesudah lari, selanjutnya dilakukan pengukuran pH, laju aliran saliva, kadar kalsium dan fosfat. Hasil dianalisis dengan uji-t independen ( $p < 0,05$ ).

Hasil penelitian menunjukkan bahwa terdapat perbedaan bermakna pada pH saliva pelari sedangkan kadar kalsium, fosfat dan laju aliran saliva pelari tidak menunjukkan perbedaan bermakna. Kesimpulan penelitian ini memperlihatkan bahwa konsumsi minuman isotonik selama lari dapat bermakna menurunkan pH saliva dan tidak mempengaruhi laju aliran saliva pelari serta kadar kalsium dengan fosfat tetap sama.

## **ABSTRACT**

*Physical exercise causes dehydration and excessive electrolytes balance change in the body. The athletes are consuming sport drink containing electrolytes and carbohydrate: before, during and after exercise to minimize dehydration. Sport drink consumption by athletes could be expected to have a negative effect to teeth and salivary condition. Sport drink consumption that has acid characteristic during exercise can increase the risk of teeth erosion, decrease pH and buffer capacity of saliva. The aim of this research is to find out the effect of sport drink consumption to teeth erosion in runner's saliva.*

*The method of this research is the stastic group pretest and posttest design. The research examined 20 men with the following criteria: aged 18-25 years and not professional sports men. Subjects were divided into 2 groups: 10 subject of treatment and 10 subject of control. Subjects run using treadmills, 10 subject of control are consuming mineral water and 10 subject of treatment are consuming sport drink. Stimulated saliva were collected before and after run. After that, the salivary pH, flow rate, calcium and phosphate levels were measured. The results were analyzed by independent t-test ( $p < 0,05$ ).*

*The results indicate that there were significant differences in the runner's salivary pH, but the levels of calcium, phosphate and salivary flow rate were not significantly different. Conclusion of this research shows that sport drink consumption during running can significantly decrease salivary pH and has no effect against the runner's salivary flow rate with calcium and phosphate levels remains the same.*