

# Pengaruh pemberian larutan cornflakes dan susu skim terhadap kadar insulin serum pasca lari 5000 meter penelitian pendahuluan pada pemain futsal usia 19-30 tahun di Cengkareng = Effect of cornflakes and skim milk to serum insulin levels after 5 000 m running pilot study in male futsal players aged 19-30 years / Pratama Kurnia Dewi

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## Abstrak

### <b>ABSTRAK</b><br>

Uji klinis paralel alokasi acak terbuka ini bertujuan mengetahui pengaruh larutan cornflakes dan susu skim terhadap kadar insulin serum pasca lari 5.000 m pada pemain futsal putra usia 19 30 tahun. Subjek penelitian dibagi menjadi kelompok kontrol (KK) dan kelompok perlakuan (KP), masing-masing 10 orang, KK dan KP berturut-turut mendapat minuman isotonik dan larutan cornflakes dan susu skim 1.400 mL. Data yang diambil meliputi usia, indeks massa tubuh IMT, persentase lemak tubuh, asupan energi, karbohidrat, dan protein, serta kadar insulin serum dan glukosa darah. Pemeriksaan kadar insulin dilakukan pasca lari 5.000 m dan 1 jam pasca konsumsi minuman. Kadar glukosa darah diperiksa pra- pasca lari 5.000 m dan menit ke-15, 30, 60 pasca minum. Usia, IMT dan persentase massa lemak tubuh antara kedua kelompok tidak berbeda signifikan. Data laboratorium diperoleh dari 16 subjek, karena 4 orang subjek dikeluarkan, masing-masing 2 orang dari tiap kelompok. Kadar insulin serum pra konsumsi tidak berbeda signifikan KK  $14,75 \pm 8,69$  IU/mL dan KP  $9,04 (5,99-43,20)$

IU/mL. Kadar insulin pasca konsumsi lebih tinggi pada KP tetapi tidak berbeda signifikan KK  $32,48 \pm 18,44$  IU/mL dan KP  $46,24 (14,50-183,00)$  IU/mL. Tidak terdapat perbedaan signifikan perubahan kadar insulin antara kedua kelompok, KK  $17,72 \pm 20,49$  IU/mL dan KP  $10,97 (4,00-173,00)$  IU/mL. Pada kedua kelompok terjadi peningkatan signifikan kadar insulin serum namun peningkatan yang lebih tinggi terjadi pada KP ( $p = 0,006$ ) dibandingkan pada KK ( $p = 0,033$ ). Kadar glukosa darah menit ke-15, 30 dan 60 lebih tinggi pada KK, tetapi tidak berbeda signifikan. Penelitian ini menunjukkan pemberian larutan cornflakes dan susu skim cenderung meningkatkan kadar insulin serum pasca lari 5.000 m yang lebih tinggi dibandingkan dengan minuman isotonik pada pemain futsal putra usia 19 30 tahun.

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### <b>ABSTRACT</b><br>

This parallel open randomized clinical trial aims to investigate the effect of cornflakes and skim milk to serum insulin levels after 5,000 m running in male futsal players aged 19 30 years. Subjects were divided into a control group (C) and treatment group (T), 10 subjects each, C and T received 1,400 mL isotonic drinks or cornflakes and skim milk solution respectively. Data were collected included age, body mass index (BMI), body percentage fat, energy, carbohydrate, protein intake, serum insulin and blood glucose levels. Serum insulin levels were assessed after 5,000 m running and 1 hour after consumption of the beverages. Blood glucose levels were examined pre-post 5,000 m running and at 15, 30, and 60' minutes post-drinking. Age, BMI and body fat mass percentage between the two groups did not differ significantly. Laboratory data obtained from 16 subjects, 4 subjects were excluded, 2 from each group. Serum insulin levels pre consumption did not differ significantly; C  $14.75 \pm 8.69$  IU / mL and T  $9.04 (5.99-$

43.20) IU / mL. Insulin levels after consumption was higher in T but did not differ significantly; C  $32.48 \pm 18.44$  IU / mL and T  $46.24 (14.50 \text{ } 183,00)$  IU / mL. There were no significant differences in insulin levels changes between the two groups; C  $17.72 \pm 20.49$  IU / mL and T  $10.97 (4.00 \text{ } 173,00)$  IU / mL. In both groups serum insulin levels increased significantly, higher increased occurred in the T ( $p = 0.006$ ) compared with the C ( $p = 0.033$ ). Blood glucose levels after 15, 30 and 60 minutes were higher in C, but did not differ significantly. This study showed cornflakes and skim milk solution tends to increase serum insulin levels after 5,000 m running higher than the isotonic drinks to male futsal players aged 19 30 years.