Hubungan antara Rasio Asupan Omega-6 terhadap Omega-3 dan HOMA-IR pada Perempuan Usia Reproduktif = Association between Ratio of Omega-6 to Omega-3 Fatty Acids Intake and HOMA-IR in Reproductive-aged Women

Putri Nuraini, author

Abstrak

Resistensi insulin adalah penurunan kemampuan jaringan (otot, hati, dan jaringan adiposa) untuk merespon insulin yang bersirkulasi secara normal dalam darah yang berisiko berkembang menjadi penyakit diabetes melitus tipe 2. Rasio tinggi asupan asam lemak omega-6/omega-3 diduga berperan dalam menurunkan sensitivitas insulin. Penelitian ini bertujuan untuk mengetahui hubungan antara rasio asupan omega-6/omega-3 dan HOMA-IR pada perempuan usia reproduktif. Studi potong lintang ini dilakukan di Jakarta, pada bulan Juli sampai Oktober 2021. Pengambilan sampel menggunakan metode consecutive sampling dan diperoleh 79 subjek perempuan yang memenuhi kriteria penelitian. Pengumpulan data dilakukan melalui wawancara 24-hours food recall sebanyak 3 kali, pengukuran antropometri untuk menilai status gizi, dan pengambilan serum untuk mengukur kadar glukosa darah puasa dan insulin. Rerata asupan omega-6 pada subjek adalah 9.43 ± 3.69 gram/hari, median asupan omega-3 pada subjek adalah 0.79 (0.23–3.53) gram/hari, dan rerata rasio asupan omega-6/omega-3 adalah 12.32 ± 4.32. Rerata HOMA-IR pada subjek adalah 3.04 ± 1.24. Terdapat korelasi positif lemah antara rasio asupan omega-6/omega-3 dan HOMA-IR, namun tidak signifikan (r=0.161, p=0.157). Ditemukan hubungan signifikan antara DHA dan HOMA-IR setelah mengontrol faktor perancu (p=0.014). Tidak ada hubungan antara rasio asupan asam lemak omega-6/omega-3 dan HOMA-IR pada perempuan usia reproduktif. Namun, ditemukan hubungan antara asupan DHA dan HOMA-IR yang menunjukkan bahwa peningkatan asupan asam lemak tidak jenuh dapat mencegah terjadinya resistensi insulin.

.....Insulin resistance is a decrease in the ability of tissues (muscle, liver, and adipose tissue) to respond to insulin that circulates normally in the blood which is at risk of developing type 2 diabetes mellitus. A high ratio of omega-6/omega-3 fatty acid intake is thought to play a role in reducing insulin sensitivity. This study aims to determine the association between the ratio of omega-6/omega-3 intake and HOMA-IR in reproductive-aged women. This cross-sectional study was conducted in Jakarta, from July to October 2021. Sampling used the consecutive sampling method and obtained 79 women subjects who met the research criteria. Data was collected through 24-hour food recall interviews 3 times, anthropometric measurements to assess nutritional status, and serum sampling to measure fasting blood glucose and insulin levels. The mean omega-6 intake in the subjects was 9.43 ± 3.69 grams/day, the median omega-3 intake in the subjects was 0.79 (0.23–3.53) grams/day, and the mean ratio of omega-6/omega-3 intake was 12.32 ± 4.32. The mean HOMA-IR in the subjects was 3.04 ± 1.24. There was weak positive correlation between the ratio of omega-6/omega-3 intake and HOMA-IR, but not significant (r=0.161, p=0.157). A significant relationship was found between DHA and HOMA-IR after adjusted confounding factors (p=0.014). There was no association between the ratio of omega-6/omega-3 fatty acid intake and HOMA-IR in reproductive-aged women. However, it was found that there was a assocation between DHA intake and HOMA-IR which indicated that increasing intake of unsaturated fatty acids could prevent insulin resistance