

Pengaruh diet rendah energi dan inhibitor lipase terhadap antropometri dan indikator metabolik pada subyek berat badan lebih

David Fadjar Putra, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=73513&lokasi=lokal>

Abstrak

Tujuan: Mengetahui pengaruh pemberian diet rendah energi seimbang dengan atau tanpa pemberian inhibitor lipase terhadap antropometri dan indikator metabolik pada subyek berat badan lebih.

Metodologi: Desain - uji klinis paralel selama 24 minggu, mulai Maret 2002 sampai Maret 2003. Subyek - orang dewasa sehat (berusia >18 sampai 60 tahun) laki-laki dan perempuan, dengan indeks massa tubuh >25 kg/m². Perlakuan - seluruh subyek mendapatkan diet rendah energi seimbang (defisit 500 kilokalori per hari) mengandung 25% energi dari lemak. Dilakukan randomisasi menjadi 2 kelompok, yaitu kelompok yang mendapat diet saja (kelompok D) dan kelompok diet disertai inhibitor lipase 120 mg 3 kali sehari (kelompok DIL).

Hasil: Dari 74 orang yang diskriming, 64 orang (laki-laki 8 orang, perempuan 56 orang) memenuhi syarat sebagai subyek, dilakukan randomisasi menjadi 2 kelompok, masing-masing 32 orang. Pada akhir penelitian, terdapat 13 subyek kelompok D dan 25 subyek kelompok DIL. Indeks massa tubuh kedua kelompok berbeda bermakna ($p=0,046$). Diet rendah energi menyebabkan penurunan berat badan dan penurunan massa lemak masing-masing sebesar 3,86% dan 2,59%. Perubahan komposisi tubuh tersebut berhubungan dengan perbaikan beberapa faktor risiko terkait obesitas. Kadar gula darah puasa dan kolesterol LDL turun bermakna masing-masing sebesar 8,45% dan 8,75%. Kombinasi diet dan inhibitor lipase memperbesar penurunan berat badan, massa lemak dan lingkar perut masing-masing 4,2±1,2 kg ($p=0,001$), 3,7±1,4 kg ($p=0,014$) dan 6,5±2,1 cm ($p=0,005$). Kombinasi tersebut juga memperbesar penurunan kadar total kolesterol dan HDL kolesterol masing-masing sebesar 20,0±7,2 mg/dL ($p=0,008$) dan 4,4±2,0 mg/dL ($p=0,035$). Perubahan pola distribusi lemak tubuh dan rasio LDL/HDL tidak bermakna. Setiap penurunan 1 kg berat badan, massa lemak berkurang 0,8±0,1 kg ($p<0,001$) ; lingkar perut berkurang 1,0±0,2 cm ($p<0,001$), ini menunjukkan terjadi pemecahan jaringan lemak intra-abdominal. Setiap penurunan 1 kg massa lemak, kadar gula darah postprandial berkurang 2,2±1,0 mg/dL ($p=0,039$). Setiap penurunan 1 kg berat badan, kadar total kolesterol berkurang 3,7±0,8 mg/dL ($p<0,001$) ; kadar LDL kolesterol berkurang 2,3±0,8 mg/dL ($p=0,008$) ; kadar trigliserida berkurang 2,5±1,2 mg/dL ($p=0,040$). Setiap penurunan 1 cm lingkar perut, kadar HDL kolesterol berkurang 0,4±0,1 mg/dL ($p=0,007$).

Simpulan: Pemberian diet rendah energi seimbang selama 24 minggu menurunkan berat badan, memperbaiki komposisi tubuh dan menurunkan faktor risiko terkait obesitas. Inhibitor lipase sebagai terapi adjuvan diet rendah energi dapat meningkatkan defisit energi, sehingga memperbesar penurunan berat badan, massa lemak, lingkar perut, kadar total kolesterol, dan HDL kolesterol.

<hr>

Effects of individualized modest energy deficit diet with or without lipase inhibitor on anthropometric and

metabolic indicator in overweight subjects Objectives: To study the effects of weight loss on anthropometric measures and metabolic indicators in overweight subjects consuming low-energy balanced diet with or without lipase inhibitor.

Methods: Design - 24 weeks randomized clinical trial study, conducted from March 2002 to March 2003. Subjects - healthy obese adults (>18 to 60 years of age) of both sexes, with body mass index >25 kg/m². Treatments - all subjects received low-energy diet designed individually to cause an energy deficit of approximately 500 kcal/day (2092 kJ/day) containing 25% of energy as fat. Subjects were randomized to receive diet only (D group) or diet and lipase inhibitor 120 mg 3 times daily (DIL group).

Results: A total of 74 subjects screened, 64 subjects (8 males and 56 females) entered the protocol were randomly assigned into 2 groups, each had 32 subjects. At the end of the study, 13 subjects of D group and 25 subjects of DIL group were evaluated. Lipase inhibitor significantly lowered body mass index (p=0.046). Low-energy diet induced weight loss and fat mass loss up to 3.86% and 2.59% respectively. Improved body composition was associated with improvement in several obesity-related risk factors. Fasting glucose level and LDL cholesterol were lowered by as much as 8.45% and 8.75% respectively.

Combination with lipase inhibitor accounted for 4.2±1.2 kg greater weight loss (p=0.001), 3.7±1.4 kg greater fat mass loss (p=0.014), and 6.5±2.1 cm less abdominal circumferences (p=0.005). Lipase inhibitor further reduced total cholesterol and HDL cholesterol up to 20.0±7.2 mg/dL (p=0.008) and 4.4±2.0 mg/dL (p=0.035) respectively. However both groups showed no statistically significant changes of body fat distribution and LDL/HDL ratio. Every 1 kg weight loss caused 0.8±0.1 kg fat mass loss (p<0.001) and 1.0±0.2 cm less abdominal circumference (p<0.001), these changes showed reduction of intra-abdominal fat tissue. One kilogram less fat mass lowered postprandial blood glucose level by 2.2±1.0 mg/dL (p=0.039). One kilogram weight loss also found to reduce total cholesterol, LDL cholesterol and triglyceride level as much as 3.7±0.8 mg/dL (p<0.001); 2.3±0.8 mg/dL (p=0.008) and 2.5±1.2 mg/dL (p=0.040) respectively. One centimetre less abdominal circumference lowered HDL cholesterol by 0.4±0.1 mg/dL (p=0.007).

Conclusion: 24 weeks treatment with low-energy diet significantly reduced body weight, improves body composition and some obesity-related risk factor. Lipase inhibitor as adjunctive therapy enhanced energy deficit.