

INTISARI

Latar belakang: Diabetes Mellitus tipe 2 (DM tipe 2) menjadi 3 besar masalah kesehatan di Indonesia. Komplikasi kardiovaskuler merupakan penyebab terbesar kematian pada penyandang DM tipe 2 sehingga penelitian mengenai terapi diet sebagai pencegahan sekunder komplikasi kardiovaskuler pada penyandang DM tipe 2 penting untuk dilakukan.

Tujuan: Untuk mengetahui efek pemberian yoghurt probiotik terhadap kadar LDL penyandang DM tipe 2.

Metode: Penelitian ini merupakan *double blinded randomized controlled trial* dengan subjek penyandang diabetes mellitus tipe 2 sebanyak 32 orang. Kelompok kontrol diberi yoghurt konvensional sedangkan kelompok intervensi diberi yoghurt probiotik. Perlakuan diberikan selama 4 minggu. Pengukuran kadar LDL dan antropometri dilakukan sebelum dan sesudah penelitian, sedangkan pengukuran asupan makan dan aktivitas fisik dilakukan sebelum dan saat penelitian. Analisis data dilakukan dengan uji *independent t-test*, *mann whitney test*, *paired t-test*, *wilcoxon test* dan korelasi *spearman* menggunakan STATA 13.

Hasil: Tidak ada perbedaan signifikan Kadar LDL kedua kelompok ($p > 0,05$) dan tidak ada perubahan kadar LDL sebelum-sesudah perlakuan pada kedua kelompok ($p > 0,05$). Namun, kadar LDL setelah intervensi pada kedua kelompok berbeda signifikan ($p < 0,05$). Median kadar LDL pada kelompok intervensi tetap dalam batas normal kadar LDL pada sebelum dan sesudah perlakuan (130 mg/dl – 120,5 mg/dl) sedangkan median kadar LDL pada kelompok kontrol meningkat dari sebelum ke sesudah perlakuan (128 mg/dl – 148,5 mg/dl).

Kesimpulan: Yoghurt probiotik dapat mempertahankan kadar LDL penyandang diabetes mellitus tipe 2 pada batas normal.

Kata Kunci: Diabetes mellitus tipe 2; penyandang diabetes mellitus tipe 2; yoghurt probiotik; LDL, *low density lipoprotein*

ABSTRACT

Background: Type 2 diabetes mellitus has been growing to be the one of the biggest health problem in Indonesia. It is importance to investigate a new diet therapy for preventing cardiovascular complication which cause mortality in patients with type 2 diabetes mellitus.

Objective: To investigate the effect of probiotic yogurt on LDL-cholesterol in patients with type 2 diabetes mellitus.

Design: This study was double blinded randomized controlled trial which was conducted on 32 type 2 diabetes mellitus patients. Conventional yogurt was given to the control group for 4 weeks while probiotic yogurt was given to the intervention group for 4 weeks. LDL-cholesterol and antropometric measurement had been held before and after intervention. Physical activity and dietary intake were measured during intervention period. Independent t-test, mann-whitney test, paired t-test, wilcoxon test, and spearman correlation test using STATA 13 were performed to analyze the data.

Results: There was no significant difference of LDL-cholesterol of control group and intervention group ($p > 0,05$). Before-after intervention LDL-cholesterol in both groups was also non-significant ($p > 0,05$), but the difference of after intervention LDL-cholesterols between control group and interventions was significant ($p < 0,05$). Median of LDL-cholesterol of intervention group was constantly in normal range before and after intervention (130 mg/dl – 120,5 mg/dl) while median of LDL-cholesterol of control group was increasing before-after intervention (128 mg/dl – 148,5 mg/dl).

Conclusions: Although there was significant change of energy intake of subjects in intervention group during intervention, probiotic yogurt could keep LDL-cholesterol of subjects in intervention group to be in normal range as part of diet.

Key Words: Type 2 diabetes mellitus; probiotic yogurt; LDL-cholesterol, patients with type 2 diabetes mellitus, *low density lipoprotein*