

# Pengaruh pemberian jus anggur selama dua minggu terhadap kadar NO serum pada subyek dengan kadar kolesterol total batas tinggi = Effect of grape juice consumption for two weeks on serum NO level in subjects with borderline high serum total cholesterol level

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## Abstrak

Penelitian ini adalah diketahuinya pengaruh pemberian jus anggur 300 gram per hari selama dua minggu terhadap kadar NO serum laki-laki dan perempuan dengan kadar kolesterol total batas tinggi. Penelitian ini merupakan sebuah field trial, membandingkan UI subyek dalam kelompok yang mendapatkan jus anggur disertai penyuluhan TIC (P) dengan 17 subyek dalam kelompok yang hanya mendapatkan penyuluhan 1LC (K). Subyek yang memenuhi kriteria penelitian dibagi menjadi dua kelompok dengan randomisasi sederhana. Data yang diambil meliputi usia, jenis kelamin, riwayat hiperkolesterolemia dalam keluarga, aktivitas fisik, indeks massa tubuh (IMT), asupan energi, lemak, kolesterol, serat, dan polifenol dengan food record. Pemeriksaan kadar kolesterol total dan NO serum dilakukan di awal dan akhir perlakuan. Analisis data menggunakan uji t tidak berpasangan dan uji Mann Whitney dengan batas kesalahan 5%. Sebanyak 18 subyek pada kelompok P dan 14 subyek pada kelompok K, dengan rerata usia  $35,57 \pm 5,20$  tahun mengikuti penelitian secara lengkap. Indeks aktivitas fisik subyek kedua kelompok termasuk di bawah rata-rata. Data awal tidak didapatkan perbedaan bermakna ( $p > 0,05$ ). Setelah dua minggu perlakuan, didapatkan persentase asupan energi terhadap kebutuhan energi total termasuk kategori cukup pada kelompok perlakuan dan kurang pada kontrol. Asupan lemak total dan kolesterol kedua kelompok adalah tergolong cukup. Asupan serat tergolong kurang. Terdapat perbedaan bermakna asupan polifenol pada kedua kelompok selama perlakuan ( $p < 0,05$ ). Terdapat peningkatan kadar NO serum sesudah perlakuan pada kedua kelompok yang tidak berbeda bermakna ( $p > 0,05$ ), bahkan terdapat penurunan kadar kolesterol total serum pada kedua kelompok sesudah perlakuan meskipun tidak berbeda bermakna ( $p > 0,05$ ) dan masih dalam kategori batas tinggi. Pemberian jus anggur 300 gram per hari tidak didapatkan perbedaan bermakna peningkatan kadar NO serum antara kelompok perlakuan dan kontrol.

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The aim of this study was to investigate the effect of grape juice (that made from 300 grams of grapes per day) during two weeks on serum NO level in male and female subjects with borderline high total cholesterol level. The study was a field trial Thirty five subjects were selected using certain criteria and randomly (simple randomization) divided into two groups. The treatment group (n=18) received grape juice and nutrition counseling; the control group (n=17) received nutrition counseling. Data obtained directly from the subjects were age, gender, history of hypercholesterolemia in subject's family, physical activity, and body mass index, intake of energy, fat, cholesterol, fiber and polyphenol using food record. Laboratory findings of serum NO level and total cholesterol level were done before and after intervention. For statistical analysis, unpaired t-test and Mann Whitney were used with the level of significance was 5%. Eighteen subjects in the treatment group and fourteen subjects in the control group completed the study and analyzed. Mean of age was  $35.57 \pm 5.20$  years old. The physical activity index of both groups were low. The characteristics of the two groups were closely matched at base line ( $p > 0.05$ ). After two weeks intervention,

subjects? energy consumed in the treatment group achieved the recommended diet, while in the control group was below. The average intake of total fat and cholesterol in both groups achieved the recommended diet, but the fiber intake were below. The average intake of polyphenol in the treatment group was increased significantly than the control group ( $p < 0.05$ ) during intervention period. There were increased of serum NO level after treatment in both groups. but not statistically significant ( $p > 0.05$ ). There were decreased on serum total cholesterol level in bath groups, although not statistically significant ( $p > 0.05$ ). The effect of gyape juice for two weeks did not significantly increase serum NO level in the treatment group.