

Pengaruh air kelapa muda terhadap kadar kalium plasma dan tekanan darah pada perempuan prahipertensi = Effect of tender coconut water on plasma potassium level and blood pressure in women prehypertension subjects.

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Abstrak

Penelitian uji klinis paralel single blind ini bertujuan untuk mengetahui pengaruh air kelapa muda 300 ml dua kali per hari selama 14 hari berturut-turut terhadap kadar kalium plasma dan tekanan darah guru perempuan dan karyawan prahipertensi usia 25-44 tahun. Sejumlah 32 subyek dipilih dengan kriteria tertentu dan dibagi menjadi dua kelompok dengan cara randomisasi blok, 16 orang masuk kelompok perlakuan (P) dan 16 orang masuk kelompok kontrol (K). Kelompok P mendapat air kelapa muda disertai penyuluhan gizi dan kelompok K mendapat air putih disertai penyuluhan gizi. Data yang diambil meliputi usia, aktivitas fisik, indeks massa tubuh (IMT), asupan energi dan kalium, kadar kalium plasma, dan tekanan darah. Pemeriksaan kadar kalium plasma dilakukan pada H0 dan H+15, sedangkan pengukuran tekanan darah dilakukan pada H0, H+8, dan H+15. Analisis data menggunakan uji t dan uji Mann-Whitney dengan batas kemaknaan 5%. Analisis lengkap dilakukan pada 31 orang subyek (15 subyek kelompok P dan 16 subyek kelompok K). Rerata usia subyek penelitian 36,58±5,39 tahun dan rerata IMT 24,59±2,89 kg/m<sup>2</sup>. Sebagian besar subyek (93,55%) tergolong indeks aktivitas fisik di bawah rata-rata. Rerata kadar kalium plasma 3,71±0,41 mmol/L, dan sebanyak 7 orang subyek (22,58%) tergolong hipokalemia. Rerata tekanan darah sistolik/ tekanan darah diastolik (TDS/ TDD) 125,87±6,36 mm Hg/ 79,84±4,11 mm Hg. Pada awal penelitian karakteristik data dasar kedua kelompok dalam keadaan sebanding. Persentase asupan energi dibandingkan kebutuhan energi total pada minggu 0, 1, dan 2 pada kedua kelompok tidak berbeda signifikan. Rerata asupan kalium subyek tergolong rendah (1420,28±405,54 mg/hari) atau sekitar 30,22±8,63% dari AKG. Selama perlakuan, didapatkan peningkatan signifikan asupan kalium kelompok P. Pada kedua kelompok didapatkan peningkatan kadar kalium plasma dan penurunan tekanan darah yang lebih besar pada kelompok P, namun tidak berbeda signifikan ( $p > 0,05$ ). Pada penelitian ini belum dapat dibuktikan bahwa air kelapa muda 300 ml dua kali per hari selama 14 hari berturut-turut dapat meningkatkan kadar kalium plasma dan menurunkan TDS dan TDD

.....The study is a parallel single blind randomized clinical trial aims to investigate the effect of tender coconut water 300 ml twice daily for 14 days on plasma potassium level and blood pressure in female teachers and employees prehypertension aged 25-44 years. A total of 32 subjects were selected using certain criteria and randomly allocated to one of two groups using block randomized, 16 subjects each. The treatment (T) group received tender coconut water 300 ml twice daily for 14 days and nutritional counseling, and the control (C) group received water 300 ml twice daily for 14 days and nutritional counseling. Data collected in this study consisted of age, physical activity, body mass index (BMI), intake of energy and potassium, plasma potassium level and blood pressure. Assessment of plasma potassium level were done on day 0 and day 15, while blood pressure were assessed on day 0, day 8, and day 15. Statistical analysis were done using t-test and Mann-Whitney with significance level was 5%. Complete analysis was done on 31 subjects (15 subjects of T group and 16 subjects of C group). The mean age was 36.58±5.39

years, mean BMI was  $24.59 \pm 2.89$  kg/m<sup>2</sup>, and 93.55% subjects had physical activity index score below the average. Plasma potassium level was  $3.71 \pm 0.41$  mmol/L, and 7 subjects (22.58%) was hypokalemia. Mean systolic and diastolic BP was  $125.87 \pm 6.36$  mm Hg and  $79.84 \pm 4.11$  mm Hg, respectively. The data characteristics of the two groups at baseline were closely matched. Percentage of energy intake compared to the total energy requirement at weeks 0, 1, 2 between the two groups were not significantly different. Mean dietary intakes of potassium were  $1420.28 \pm 405.54$  mg/day or only  $30.22 \pm 8.63\%$  compared to Indonesian Recommended Dietary Allowance 2004. During treatment period, potassium intake increased significantly in the T group. There were increased plasma potassium level and decreased blood pressure in both groups, which were greater in the T group, but not statistically significant different ( $p > 0.05$ ). This study has not proven yet that tender coconut water 300 ml twice daily for 14 days increase plasma potassium level and decrease systolic and diastolic BP