

PENGARUH KOMBINASI JUS BUAH MENKUDU DAN MADU TERHADAP KADAR TRIGLISERIDA PADA TIKUS MODEL DIABETES MELITUS TIPE 2

ABSTRAK

Latar Belakang: Diabetes melitus tipe 2 merupakan masalah kesehatan global dengan komplikasi hipertrigliseridemia. Mengkudu (*Morinda citrifolia L.*) dan madu menjadi alternatif terapi pada pasien DMT2 dengan hipertrigliseridemia.

Tujuan: mengetahui pengaruh kombinasi jus buah mengkudu dan madu terhadap kadar trigliserida pada tikus model diabetes melitus tipe 2.

Metode: Penelitian eksperimental laboratorium ini menggunakan desain post test only with control group. Sampel berjumlah 35 ekor tikus yang dibagi 7 kelompok: KS (kontrol sehat), KD (kontrol diabetes), P1 (diinduksi DMT2 kemudian diberikan 0,72 mL/200g jus buah mengkudu), P2 (diinduksi DMT2 kemudian diberikan 0,2 mL/200g madu), P3 (diinduksi DMT2 kemudian diberikan kombinasi 0,36 mL/200g jus buah mengkudu dan 0,2 mL/200g madu), P4 (diinduksi DMT2 kemudian diberikan kombinasi 0,72 mL/200g jus buah mengkudu dan 0,2 mL/200g madu), P5 (diinduksi DMT2 kemudian diberikan kombinasi 1,44 mL/200g jus buah mengkudu dan 0,2 mL/200g madu). Kadar trigliserida diukur menggunakan metode GPO.

Hasil: Rerata kadar trigliserida darah terbesar secara berurutan adalah kelompok P5, P4, P1, P3, dan P2. Hasil uji One Way ANOVA menunjukkan terdapat perbedaan signifikan pada seluruh kelompok. Hasil uji Post Hoc Tukey's HSD menunjukkan bahwa terdapat perbedaan signifikan antar semua kelompok.

Kesimpulan: Semakin tinggi dosis mengkudu pada kombinasi jus buah mengkudu dan madu, semakin tinggi pula menurunkan kadar trigliserida darah pada tikus yang diinduksi DMT2, yang mana dosis paling tinggi menurunkan adalah kombinasi 1,44 mL/200g jus buah mengkudu dan 0,2 mL/200g madu.

Kata Kunci: Jus buah mengkudu, madu, trigliserida, diabetes melitus tipe 2.

The Effect of the Combination of Noni Fruit Juice and Honey on Triglyceride Levels in a Type 2 Diabetes Mellitus Rat Model

ABSTRACT

Background: Type 2 diabetes mellitus (T2DM) is a global health issue with complications such as hypertriglyceridemia. Noni (*Morinda citrifolia* L.) and honey are considered therapeutic options for patients with T2DM and hypertriglyceridemia.

Objective: To investigate the effect of the combination of noni fruit juice and honey on triglyceride levels in a type 2 diabetes mellitus rat model.

Methods: This experimental laboratory study used a post-test only with control group design. A total of 35 rats were divided into 7 groups: KS (healthy control), KD (diabetic control), P1 (induced with T2DM and then given 0.72 mL/200g noni fruit juice), P2 (induced with T2DM and then given 0.2 mL/200g honey), P3 (induced with T2DM and then given a combination of 0.36 mL/200g noni fruit juice and 0.2 mL/200g honey), P4 (induced with T2DM and then given a combination of 0.72 mL/200g noni fruit juice and 0.2 mL/200g honey), P5 (induced with T2DM and then given a combination of 1.44 mL/200g noni fruit juice and 0.2 mL/200g honey). Triglyceride levels were measured using the GPO method.

Results: The greatest average reduction in blood triglyceride levels, in order, was observed in the P5, P4, P1, P3, and P2 groups. One Way ANOVA results showed significant differences across all groups. Post Hoc Tukey's HSD test indicated significant differences between all groups.

Conclusion: The higher the dose of noni in the combination of noni fruit juice and honey, the greater the reduction in blood triglyceride levels in rats induced with T2DM, with the highest dose combination of 1.44 mL/200g noni fruit juice and 0.2 mL/200g honey showing the greatest reduction.

Keywords: Noni fruit juice, honey, triglycerides, type 2 diabetes mellitus.