ABSTRACT

THE EFFECT OF COMBINATION OF BITTER MELON (*Momordica charantia L.*) and APPLE (*Malus domestica*) JUICES ON TOTAL CHOLESTEROL LEVELS OF MALE WHITE RATS (*Rattus norvegicus*) *Sprague dawley* STRAIN INDUCED by HIGH FAT DIET

By
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Background: Hypercholesterolemia is a major factor in the occurrence of dyslipidemia which plays a role in the occurrence of atherosclerosis and the cause of coronary heart disease (CHD). Bitter melon (*Momordica charantia L.)* and apple (*Malus domestica*) have compounds that can lower cholesterol levels.

Methods: Experimental research with Post Test Only Control design which was carried out for fourteen days using 35 samples of male white rats (*Rattus norvegicus*) *Sprague dawley* strain which were divided into five treatment groups, namely KN were only given standard feed, K- was given quail egg yolk induction. P1, P2, and P3 induced by quail egg yolk and bitter melon fruit juice (*Momordica charantia L.*) 3 ml/250grBB, apple (*Malus domestica*) 5 ml/250grBB and a combination of bitter melon fruit juice (*Momordica charantia L.)* and apple (*Malus domestica*) 8 ml/250grBB. Then blood was taken from the tail and then checked for total cholesterol levels using Glucose Choletsterol Uric acid (GCU) on the 15th day.

Results: The results of the One-Way ANOVA test showed that total blood cholesterol levels showed a p value of 0.001 ($p< 0.05$), which means that there was a significant difference. The results of the post-hoc Tamhene test on total cholesterol in the K- group were significantly different from the P1, P2, and P3 groups ($p < 0.05$).

Conclusion: The administration of bitter melon (*Momordica charantia L.*) and apple (*Malus domestica*) juice can reduce total cholesterol levels in rats fed a high-fat diet.

Keywords: Dyslipidemia, Cholesterol, *Momordica charantia L.*, *Malus domestica*,.

ABSTRAK

PENGARUH KOMBINASI JUS PARE (*Momordica charantia L.)* DAN JUS APEL (*Malus domestica*) TERHADAP KADAR KOLESTEROL TOTAL PADA TIKUS PUTIH (*Rattus norvegicus*) JANTAN GALUR *Sprague dawley* YANG DIINDUKSI DIET TINGGI LEMAK

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Latar Belakang: Hiperkolesterolemia merupakan faktor utama terjadinya dislipidemia yang berperan utama dalam terjadinya aterosklerosis dan penyebab terjadinya penyakit jantung koroner (PJK). Buah pare (*Momordica charantia L.)* dan apel (*Malus domestica*) memiliki senyawa yang dapat menurunkan kadar kolesterol.

Metode : Penelitian eksperimental dengan desain *Post Test Only Control* yang dilakukan selama empat belas hari menggunakan 35 sampel berupa tikus putih (*Rattus norvegicus*) jantan galur *Sprague dawley* yang dibagi menjadi lima kelompok perlakuan yaitu KN hanya diberikan pakan standar, K- diberi induksi kuning telur puyuh, P1, P2, dan P3 yang diinduksi kuning telur puyuh dan jus buah pare (*Momordica charantia L.)* 3 ml/250grBB, buah apel (*Malus domestica*) 5 ml/250grBB dan kombinasi jus buah pare (*Momordica charantia L.)* dan apel (*Malus domestica*) 8 ml/250grBB. Kemudian darah diambil dari ekor lalu diperiksa kadar kolesterol total menggunakan *Glucose Choletsterol Uric acid* (GCU) pada hari ke-15.

Hasil : Hasil uji *One-Way* ANOVA didapatkan kadar kolesterol total darah menunjukkan nilai *p* 0.001 ($p<0.05$) yang artinya terdapat perbedaan yang bermakna. Hasil uji *post-hoc Tamhene* pada kolesterol total kelompok K- terdapat perbedaan yang bermakna dengan kelompok P1,P2, dan P3 ($p<0.05$).

Kesimpulan : Pemberian Jus pare (*Momordica charantia L.)* dan apel (*Malus domestica*) dapat menurunkan kadar kolesterol total tikus yang diberi diet tinggi lemak.

Kata Kunci : Dislipidemia, Kolesterol, *Malus domestica, Momordica charantia L.*