

ABSTRACT

THE EFFECT OF COMBINATION OF PARE (*Momordica charantia L.*) and GREEN APPLE (*Malus domestica Borkh.*) juices on reducing blood glucose levels in male rats (*Rattus norvegicus*) Sprague dawley strain

By

Alfi Hakim

Background: Diabetes mellitus is a condition where there is absolute insulin deficiency and impaired insulin function and there is a hyperglycemia condition. The combination of bitter melon fruit juice (*Momordica charantia L.*) and green apple juice (*Malus domestica Borkh.*) has substances that have the potential to lower blood glucose levels.

Methods : This research is an experimental study with a posttest only control group design and was carried out for 14 days using 30 white rats (*Rattus norvegicus*) Sprague dawley strain. There were 5 treatment groups, namely KN given standard feed only, K- was given alloxan induction, P1 was given alloxan induction and given bitter melon fruit juice (*Momordica charantia L.*) with a dose of 3 ml, P2 was given alloxan induction and given green apple juice (*Malus domestica Borkh.*) with a dose of 5ml, and P3 was induced by alloxan and given a combination of bitter gourd juice (*Momordica charantia L.*) and green apple juice (*Malus domestica Borkh.*) with a dose of 8ml. Then the blood is taken through the heart and then checked for blood glucose levels using a glucometer.

Results : The results of the one-way annova test showed that blood glucose levels were 0.00 ($p < 0.05$). The results of the post-hoc LSD test on blood glucose K- had a significant difference with P1, P2, and P3 ($p < 0.05$).

Conclusion : There is an effect of the combination of bitter melon juice (*Momordica charantia L.*) and green apple juice (*Malus domestica Borkh.*) on decreasing blood glucose levels in male white rats (*Rattus norvegicus*) Sprague dawley strain.

Keywords : Hyperglycemia, *Momordica charantia L.*, *Malus domestica Borkh.*

ABSTRAK

PENGARUH PEMBERIAN KOMBINASI JUS BUAH PARE (*Momordica charantia L.*) DAN JUS APEL HIJAU (*Malus domestica Borkh.*) TERHADAP PENURUNAN KADAR GLUKOSA DARAH PADA TIKUS PUTIH JANTAN (*Rattus norvegicus*) GALUR *Sprague dawley*

Oleh

Alfi Hakim

Latar Belakang : Diabetes melitus merupakan suatu kondisi dimana terdapat defisiensi insulin absolut dan gangguan fungsi insulin dan terdapat adanya kondisi hiperglikemia. Kombinasi jus buah pare (*Momordica charantia L.*) dan jus buah apel hijau (*Malus domestica Borkh.*) memiliki zat yang berpotensi untuk menurunkan kadar glukosa dalam darah.

Metode : Penelitian ini merupakan penelitian eksperimental dengan posttest only control group design dan dilakukan selama 14 hari menggunakan hewan coba berupa tikus putih (*Rattus norvegicus*) galur *Sprague dawley* berjumlah 30 ekor. Terdapat 5 kelompok perlakuan yaitu KN hanya diberi pakan standar, K- diberi induksi aloksan, P1 diberi induksi aloksan dan diberi jus buah pare (*Momordica charantia L.*) dengan dosis 3ml, P2 diberi induksi aloksan dan diberi jus buah apel hijau (*Malus domestica Borkh.*) dengan dosis 5ml, dan P3 diberi induksi aloksan dan diberi kombinasi jus buah pare (*Momordica charantia L.*) dan jus buah apel hijau (*Malus domestica Borkh.*) dengan dosis 8ml. Kemudian diambil darahnya melalui jantung lalu diperiksa kadar glukosa darahnya menggunakan glukometer.

Hasil : Hasil uji one-way annova didapatkan kadar glukosa darah 0,00 ($p < 0,05$). Hasil uji post-hoc LSD pada glukosa darah K- terdapat perbedaan bermakna dengan P1, P2, dan P3 ($p < 0,05$).

Kesimpulan : Terdapat pengaruh pemberian kombinasi jus buah pare (*Momordica charantia L.*) dan jus buah apel hijau (*Malus domestica Borkh.*) terhadap penurunan kadar glukosa darah pada tikus putih (*Rattus norvegicus*) jantan galur *Sprague dawley*.

Kata Kunci : Hiperglikemia, *Momordica charantia L.*, *Malus domestica Borkh.*