

**FAKULTAS KEDOKTERAN
UNIVERSITAS PEMBANGUNAN NASIONAL VETERAN JAKARTA**

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**PENGARUH PEMBERIAN EKSTRAK BLUBERI (*Vaccinium spp.*)
TERHADAP KADAR LOW DENSITY LIPOPROTEIN (LDL) PADA
TIKUS GALUR SPRAGUE-DAWLEY DIABETES**

RINCIAN HALAMAN (xvii + 78 halaman, 10 tabel, 6 gambar, 7 lampiran)

ABSTRAK

Diabetes melitus kerap disertai dislipidemia yang ditandai antara lain dengan naiknya kadar *low density lipoprotein* (LDL). Kenaikan LDL merupakan faktor risiko aterosklerosis sehingga dapat memberikan peningkatan pada risiko komplikasi kardiovaskular yang menjadi faktor penyebab kematian paling banyak di dunia. Salah satu alternatif terapi yang berpotensi digunakan adalah ekstrak buah bluberi (*Vaccinium spp.*) yang memuat senyawa bioaktif flavonoid serta triterpenoid. Studi ini bertujuan mengetahui pengaruh pemberian ekstrak buah bluberi terhadap kadar *low density lipoprotein* (LDL) dalam tikus galur Sprague-Dawley diabetes. Desain penelitian ini adalah *true experimental* dengan *post test only control group design*. Sampel 30 ekor tikus jantan galur Sprague-Dawley, usia 2-3 bulan, serta berat 150-300 gram dibagi kedalam kelompok K1 (pakan standar dan akuades), K2 (pakan tinggi lemak serta aloksan), K3 (pakan tinggi lemak, aloksan, serta simvastatin), serta P1, P2, P3 {pakan tinggi lemak, aloksan, ekstrak buah bluberi dosis 125, 250, 500 (mg/KgBB)}. Perlakuan dijalankan dalam 14 hari sesuai dengan masing-masing kelompok. Tikus dianestesi dengan Ketamine-Xylazine, dibedah dan darah diambil dengan metode *cardiac puncture*, kemudian kadar LDL diukur menerapkan metode spektrofotometri dengan panjang gelombang 570 nm. Hasil uji One-way ANOVA menunjukkan terdapat pengaruh pemberian ekstrak buah bluberi (*Vaccinium spp.*) terhadap kadar LDL ($p=0,000$). Uji Post-Hoc Bonferroni mengindikasikan pemberian ekstrak buah bluberi (*Vaccinium spp.*) dosis 125 mg/kgBB mendekati simvastatin dan pakan standar ($p=1,000$) serta memiliki efektivitas yang setara dengan dosis 250 mg/kgBB dan 500 mg/kgBB ($p=1,000$). Ekstrak buah bluberi (*Vaccinium spp.*) dosis 125 mg/kgbb merupakan dosis efektif dalam menurunkan kadar LDL tikus Sprague-Dawley diabetes.

Daftar Pustaka : 54

Kata Kunci : Diabetes Melitus, Ekstrak Bluberi, Kadar LDL

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**THE EFFECT OF BLUEBERRY (*Vaccinium spp.*) EXTRACT ON LOW
DENSITY LIPOPROTEIN (LDL) LEVELS IN DIABETES SPRAGUE-
DAWLEY RATS**

PAGE DETAIL (xvii + 78 pages, 10 tables, 6 pictures, 7 appendices)

ABSTRACT

*Diabetes mellitus is often accompanied by dyslipidemia, characterized by increased levels of low-density lipoprotein (LDL). This increase contributes to atherosclerosis and raises the risk of cardiovascular complications, which are the leading cause of death worldwide. One potential therapeutic alternative is blueberry (*Vaccinium spp.*) extract, which contains bioactive compounds such as flavonoids and triterpenoids. This study aimed to determine the effect of blueberry extract on LDL levels in diabetic Sprague-Dawley rats. This study used a true experimental design with a post-test only control group design. A sample of 30 male Sprague-Dawley rats, aged 2–3 months and weighing 150–300 grams, were divided into groups K1 (standard feed and distilled water), K2 (high-fat feed and alloxan), K3 (high-fat feed, alloxan, and simvastatin), and P1, P2, P3 {high-fat feed, alloxan, blueberry extract doses of 125, 250, 500 (mg/kgBW)}. Treatment was given for 14 days. The rats were anesthetized with ketamine-xylazine, dissected, and blood was collected using the cardiac puncture method. LDL levels were measured using a spectrophotometric method at 570 nm. The One-way ANOVA test showed a significant effect of blueberry (*Vaccinium spp.*) extract on LDL levels ($p = 0.000$). The Bonferroni Post-Hoc test indicated that administration of blueberry (*Vaccinium spp.*) extract at a dose of 125 mg/kgBW was close to simvastatin and standard feed ($p=1.000$) and had an effectiveness equivalent to doses of 250 mg/kgBW and 500 mg/kgBW ($p=1.000$). Blueberry (*Vaccinium spp.*) extract at 125 mg/kgBW was effective in reducing LDL levels in diabetic Sprague-Dawley rats.*

References : 54

Keywords : *Diabetes Mellitus, Blueberry Extract, LDL Level*