

**FAKULTAS KEDOKTERAN
UNIVERSITAS PEMBANGUNAN NASIONAL “VETERAN” JAKARTA**

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**EFEK EKSTRAK BONGGOL NANAS (*Ananas comosus (L.) Merr.*)
TERHADAP RESISTENSI INSULIN DAN FUNGSI SEL β PANKREAS
PADA TIKUS WISTAR (*Rattus norvegicus*) MODEL DIABETES ALOKSAN
MELALUI ANALISIS HOMA**

RINCIAN HALAMAN (xiv + 96 halaman, 21 tabel, 12 gambar, 9 lampiran)

ABSTRAK

Tujuan

Diabetes melitus dapat menyebabkan resistensi insulin dan disfungsi sel β pankreas. Bonggol nanas (*Ananas comosus (L.) Merr.*) mengandung senyawa bioaktif yang berpotensi memengaruhi metabolisme glukosa dan insulin. Penelitian ini bertujuan untuk mengetahui pengaruh ekstrak bonggol nanas terhadap resistensi insulin dan fungsi sel β pankreas pada tikus Wistar (*Rattus norvegicus*) model diabetes aloksan melalui analisis HOMA (*Homeostatic Model Assesment*).

Metode

Penelitian ini merupakan penelitian eksperimental laboratorik dengan rancangan *post-test only control group*. Tikus Wistar jantan diinduksi aloksan dan dibagi menjadi kelompok kontrol serta perlakuan dengan pemberian ekstrak bonggol nanas dosis bertingkat. Kadar glukosa darah puasa dan kadar insulin plasma diukur masing-masing menggunakan *glucometer* dan metode ELISA, kemudian dianalisis menggunakan HOMA.

Hasil

Terdapat perbedaan bermakna nilai HOMA-IR (*Insulin Resistance*) dan HOMA- β antara kelompok kontrol negatif dan kelompok perlakuan dosis tinggi (perlakuan 3) dengan nilai $p = 0.034$.

Kesimpulan

Ekstrak bonggol nanas (*Ananas comosus (L.) Merr.*) berpotensi memperbaiki sensitivitas insulin dan meningkatkan fungsi sel β pankreas secara signifikan berdasarkan parameter HOMA-IR dan HOMA- β pada tikus Wistar model diabetes aloksan.

Daftar Pustaka : 77 (2014-2025)

Kata Kunci : Bonggol nanas, diabetes melitus, ekstrak, insulin, HOMA.

**FACULTY OF MEDICINE
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**Undergraduate Thesis, December 2025
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***EFFECT OF PINEAPPLE CORE EXTRACT (*Ananas comosus* (L.) Merr.) ON
INSULIN RESISTANCE AND PANCREATIC β CELL FUNCTION IN
ALLOXAN-INDUCED DIABETIC WISTAR RATS (*Rattus norvegicus*)
ASSESSED USING HOMA***

PAGE DETAIL (xiv + 96 pages, 21 tables, 12 figures, 9 appendices)

ABSTRACT

Objective

*Diabetes mellitus is associated with insulin resistance and pancreatic β -cell dysfunction. Pineapple core (*Ananas comosus* (L.) Merr.) contains bioactive compounds with potential effects on glucose and insulin metabolism. This study aimed to evaluate the effect of pineapple core extract on insulin sensitivity in alloxan-induced diabetic Wistar rats using HOMA-IR and HOMA- β parameters.*

Method

This was an experimental laboratory study with a post-test only control group design. Male Wistar rats were induced with alloxan and divided into control and treatment groups receiving graded doses of pineapple core extract. Fasting blood glucose was measured using a glucometer, while plasma insulin levels were determined by ELISA. Insulin sensitivity and β -cell function were assessed using HOMA-IR and HOMA- β .

Result

There was a significant difference in HOMA-IR and HOMA- β between the negative control group and the highest-dose treatment group (treatment 3) ($p = 0.034$).

Conclusion

*Pineapple core extract (*Ananas comosus* (L.) Merr.) at a certain dose may improve pancreatic β -cell function and insulin sensitivity based on HOMA-IR and HOMA- β parameters in alloxan-induced diabetic Wistar rats.*

References : 77 (2014-2025)

Keywords : Pineapple core, diabetes mellitus, extract, insulin, HOMA.