

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

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**PENGARUH PEMBERIAN EKSTRAK DAUN SUKUN (*Artocarpus altilis*)
TERHADAP GAMBARAN HISTOLOGI TUBULUS SEMINIFERUS
TIKUS PUTIH (*Rattus norvegicus*) GALUR WISTAR MODEL
DIABETES MELITUS**

(xvii + 101 halaman, 9 tabel, 12 gambar, 12 lampiran)

ABSTRAK

Tujuan

Kondisi hiperglikemia pada diabetes mampu memicu peningkatan produksi radikal bebas yang berpotensi menimbulkan stres oksidatif sebagai pencetus kerusakan organ, misalnya pada organ reproduksi pria yang dapat merusak struktur histologi tubulus seminiferus sebagai tempat pembentukan sel sperma. Flavonoid dalam buah sukun (*Artocarpus altilis*) diketahui mampu menangkal radikal bebas akibat diabetes. Studi ini dilakukan dengan tujuan untuk mengetahui pengaruh pemberian ekstrak daun sukun terhadap gambaran histologi tubulus seminiferus tikus putih model diabetes melitus.

Metode

Penelitian *true-experimental* dengan *post-test-only control group design* dan pengambilan sampel dengan teknik *purposive sampling* didapatkan 30 ekor tikus putih Wistar jantan usia 8-12 minggu berat 150-200 g yang dibagi 5 kelompok sampel. Kelompok kontrol negatif diberikan pakan standar, kontrol positif diinduksi STZ, perlakuan 1, 2, dan 3 diberikan ekstrak daun sukun dosis 200 mg/kgBB, 400 mg/kgBB, dan 800 mg/kgBB selama 30 hari. Penilaian spermatogenesis pada histologi tubulus seminiferus dengan kriteria *Johnsen score*.

Hasil

Analisis data dengan uji *Kruskal-Wallis* kemudian uji *post-hoc Mann-Whitney U* menunjukkan kebermaknaan dengan nilai $p < 0,001$ ($<0,05$).

Kesimpulan

Kesimpulan yang dicapai dari penelitian ini adalah bahwa ekstrak daun sukun mampu memperbaiki histologi tubulus seminiferus dan memiliki efek terapi walaupun belum sebaik gambaran histologi tubulus seminiferus kondisi normal.

Daftar Pustaka : 79 (2012-2023)

Kata Kunci : Ekstrak Daun Sukun, Diabetes Melitus, Tubulus Seminiferus, Spermatogenesis, *Johnsen Score*

**FACULTY OF MEDICINE
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**THE EFFECT OF BREADFRUIT LEAF (*Artocarpus altilis*) EXTRACT ON
THE HISTOLOGICAL FEATURES OF SEMINIFEROUS TUBULES IN
DIABETIC WISTAR RAT (*Rattus norvegicus*)**

(xvii + 101 pages, 9 tables, 12 pictures, 12 appendices)

ABSTRACT

Objective

Hyperglycemia in diabetes can lead to increased free radicals formation that can potentially cause oxidative stress as a trigger for organ damage, for example, in male reproductive organs, which can damage the histological structure of seminiferous tubules as a site for sperm cell formation. Flavonoids in breadfruit (*Artocarpus altilis*) are known to be able to counteract free radicals caused by diabetes. This research was conducted to observe the effect of breadfruit leaf extract on the histology of seminiferous tubules in diabetic Wistar rats.

Method

True-experimental research with post-test-only control group design and purposive sampling technique to obtain 30 male Wistar white rats aged 8-12 weeks weighing 150-200 g were grouped into 5 sample groups. The negative control group was fed standard food; the positive control was induced with STZ, and treatments 1, 2, and 3 were given breadfruit leaf extract at doses of 200 mg/kgBB, 400 mg/kgBB, and 800 mg/kgBB consecutively for 30 days. Assessment of spermatogenesis in the histology of seminiferous tubule using Johnsen score criteria.

Result

Data were analyzed using the Kruskal-Wallis test followed by the Mann-Whitney U posthoc test, which revealed significance with a p-value of <0.001 (<0.05).

Conclusion

The conclusion drawn from this study is that breadfruit leaf extract can improve the histology of seminiferous tubules. Despite not being as good as the histology of seminiferous tubules under normal conditions, it has a therapeutic effect.

Reference : 79 (2012-2023)

Keywords : Breadfruit Leaf Extract, Diabetes Mellitus, Seminiferous Tubules, Spermatogenesis, Johnsen score