

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

Skripsi, Desember 2023

JEREMY ALESSANDRO PERKASA, NIM. 2010211076

**PENGARUH PEMBERIAN EKSTRAK DAUN SUKUN (*Artocarpus altilis f.*)
TERHADAP MOTILITAS SPERMATOZOA TIKUS GALUR WISTAR
JANTAN DIABETIK YANG DIINDUKSI STREPTOZOTOSIN**

RINCIAN HALAMAN (xvi + 63 halaman, 10 tabel, 5 bagan, 2 gambar, 10 lampiran)

ABSTRAK

Tujuan

Tingginya tingkat Reactive Oxygen Species (ROS) pada pasien diabetes dapat memicu adanya fragmentasi DNA mitokondria spermatozoa, hal tersebut dapat menyebabkan penurunan motilitas spermatozoa sehingga dapat menyebabkan infertilitas. Terapi alternatif menggunakan bahan herbal seperti ekstrak daun sukun (*Artocarpus altilis f.*) mengandung flavonoid yang dapat meningkatkan enzim anti-oksidan. Tujuan penelitian ini adalah mengetahui pengaruh ekstrak daun sukun terhadap motilitas spermatozoa tikus Wistar diabetik.

Metode

Desain penelitian *true experimental* dengan *post-test only control group design*. Sampel tikus Wistar jantan sebanyak 25 ekor, berat \pm 200 gram dengan usia 2-3 bulan diambil secara *simple random sampling* dari lab farmakologi dan Terapi UNPAD, Bandung, Tikus dikelompokkan menjadi K- (pakan dan minum standar), K+ (Streptozotosin), dan P1, P2, P3 { ekstrak daun sukun dosis 200, 400, 800 (mg/KgBB)}, dengan perlakuan 28 hari. Tikus dibius dengan Ketamine Xylazine, organ epididimis dicacah lalu dihomogenkan dengan NaCl fisiologis, larutan kemudian dibuat menjadi preparat basah dan motilitas spermatozoa diamati menggunakan mikroskop binokuler.

Hasil

Hasil uji *ANOVA One-Way* terdapat pengaruh pemberian ekstrak daun sukun terhadap motilitas spermatozoa pada tikus Wistar diabetik ($p=0,000$). Uji *Post-Hoc Bonferroni* pemberian ekstrak daun sukun dosis 200, 400, dan 800 mg/KgBB signifikan dengan kontrol positif ($p=0,002;0,000;0,000$).

Kesimpulan

Ekstrak daun sukun dapat meningkatkan motilitas spermatozoa tikus galur Wistar diabetik.

Daftar Pustaka : 51 (1976-2023)

Kata Kunci : Ekstrak daun sukun, Infertilitas, Diabetes Melitus, Motilitas

Spermatozoa

**FACULTY OF MEDICINE
UNIVERSITAS PEMBANGUNAN NASIONAL “VETERAN” JAKARTA**

Undergraduate Thesis, December 2023

JEREMY ALESSANDRO PERKASA, NIM. 2010211076

EFFECT OF BREADFRUIT LEAF EXTRACT (*Artocarpus altilis f.*) ON SPERM MOTILITY OF STREPTOZOTOCIN-INDUCED DIABETIC MALE WISTAR RATS

PAGE DETAIL (xvi + 63 pages, 10 tables, 5 charts, 2 pictures, 10 appendices)

ABSTRACT

Objective

*High levels of Reactive Oxygen Species (ROS) in diabetic patients can trigger fragmentation of spermatozoa mitochondrial DNA, which can cause a decrease in the quality of spermatozoa motility thus can cause infertility. Alternative therapy using herbal ingredients such as breadfruit leaf extract (*Artocarpus altilis f.*) contains flavonoids that can increase anti-oxidant enzymes. The purpose of this study was to determine the effect of breadfruit leaf extract on the quality of motility of diabetic Wistar rat spermatozoa.*

Methodology

True experimental research design with post-test only control group design. Samples of 25 male Wistar rats, weighing \pm 200 grams with 2-3 months of age were taken by simple random sampling from the UNPAD Bandung Pharmacology Laboratory, Rats were grouped into K- (standard feed and drink), K+ (Streptozotocin), and P1, P2, P3 {breadfruit leaf extract doses of 200, 400, 800 (mg/KgBB)}, with a 28-day treatment. Rats were anesthetized with Ketamine Xylazine, epididymal organs were chopped and then homogenized with physiological NaCl, the solution was then made into wet preparations and spermatozoa motility was observed using a binocular microscope.

Results

The results of One-Way ANOVA test showed the effect of breadfruit leaf extract on the quality of spermatozoa motility in diabetic Wistar rats ($p=0.000$). Bonferroni Post-Hoc test for the administration of breadfruit leaf extract doses of 200, 400, and 800 mg/KgBB was significant with positive control ($p=0.002$; 0.000 ; 0.000).

Conclusion

Breadfruit leaf extract can improve the quality of motility of diabetic Wistar rat spermatozoa.

References : 51 (1976 – 2023)

Keywords : Breadfruit leaf extract, Infertility, Diabetes Melitus, Sperm Motility