

ABSTRAK

Latar Belakang : Buah manggis (*Garcinia mangostana L.*) yang dikenal sebagai queen of tropical fruit memiliki kandungan antioksidan (*xanthone*) yang dapat meningkatkan motilitas spermatozoa. Penelitian ini bertujuan mengetahui pengaruh pemberian ekstrak kulit buah manggis terhadap motilitas spermatozoa pada tikus putih Wistar yang dipapar asap obat nyamuk bakar.

Metode : Penelitian eksperimental dengan rancangan post test only control group design menggunakan 25 tikus putih jantan strain Wistar. Tikus dibagi 5 kelompok: kelompok A tanpa perlakuan, kelompok B, C, D, dan E dipapar asap obat nyamuk bakar selama 8 jam/hari. Kelompok C, D, dan E diberi ekstrak kulit buah manggis dosis 1, 10, dan 20 mg/ml. Perlakuan diberikan selama 30 hari. Motilitas spermatozoa yang tergolong progresif diamati dan dihitung dengan metode hand counter menggunakan bantuan mikroskop dengan perbesaran 400x. motilitas spermatozoa dianalisis dengan uji *Kruskal Wallis* dilanjutkan dengan uji *Mann Whitney*.

Hasil : Rerata motilitas spermatozoa pada kelompok A: $51.8 \pm 0.9\%$, kelompok B: $19.5 \pm 2.22\%$; kelompok C: $29.6 \pm 1.3\%$; kelompok D: $37.1 \pm 1.7\%$; dan kelompok E: $48.5 \pm 3.1\%$. Uji *Kruskal Wallis* diperoleh p sebesar 0,000 artinya perbedaan rerata motilitas spermatozoa pada kelima kelompok bermakna. Uji *Mann Whitney* diperoleh perbedaan motilitas spermatozoa antar dua kelompok ($p < 0,05$), kecuali antara kelompok A dan E ($p = 0,805$).

Kesimpulan : Disimpulkan bahwa pemberian ekstrak kulit buah manggis berpengaruh terhadap peningkatan motilitas spermatozoa pada tikus putih jantan strain Wistar yang dipapar asap obat nyamuk bakar.

Kata kunci: Motilitas Spermatozoa, Ekstrak Kulit Buah Manggis, Obat Nyamuk Bakar.

ABSTRACT

Background: Mangosteen (*Garcinia mangostana* L.) is also known as queen of tropical fruit. It had antioxidant (xanton) which can increase sperm motility. The objective of his study was to determine the effect of mangosteen peel extract on sperm motility in wistar rats exposed to mosquito coil smoke.

Methods: This was an experimental study with posttest only control grup design. 25 male wistar rats were divided into 5 groups: group A (normal) and group B,C,D and E were exposed to mosquito coil smoke for 8 hours/day. Group C,D and E were treated with mangosten peel extracts at the dose of 1, 10 and 20 mg/ml,respectively for 30 days. The sperm motility was evaluated. The data was analyzed Kruskal Wallis followed by Mann Whitney test.

Results: mean of sperm motilty in group A, B, C, D, E was $51.8 \pm 0.9\%$, $19.5 \pm 2.22\%$:: 29.6 ± 1.3 , $37.1 \pm 1.7\%$, $48.5 \pm 3.1\%$, respectively. Kruskal Wallis test resulted in p equal to 0.000 meaning that there was a significant difference in sperm motility among the five groups. The Mann Whitney test showed a significant differences in spermatozoa motility between all of two group ($p < 0.05$), except between group A and E ($p = 0.805$).

Conclusion: that administration of mangosteen peel extract increased sperm motility in male wistar rats exposed to mosquito coil smoke.

Keywords: spermatozoa motility, mangosteen peel extract, mosquitocoil.