ABSTRAK

Latar Belakang: Herbisida paraquat dapat menimbulkan radikal bebas sehingga memicu infertilitas pada pria. Banyak penelitian tentang cara mengatasi infertilitas dengan pengobatan herbal, salah satunya bahwa ekstrak kecambah kacang hijau dapat meningkatkan persentase morfologi dan motilitas spermatozoa tikus. Penelitian ini bertujuan mengetahui pengaruh suplemen ekstrak kecambah kacang hijau terhadap kadar LH, jumlah sel leydig, dan testosteron pada tikus jantan galur wistar yang diinduksi herbisida paraquat.

Metode: penelitian eksperimental dengan *posttest only controlgrup design*. Subyek penelitian 25ekor tikus wistar jantan dibagi acak jadi 5 kelompok: P0 tidak diberi perlakuan, P1diinduksi herbisida paraquat 4 mg; P2, P3, dan P4diinduksi herbisida paraquat 4 mgselama 6 hari dan suplemen ekstrak kecambah dengan dosis 21,6 mg;43,2 mg; 86,4 mgselama 14 hari.

Hasil: Kadar LH dianalisis dengan uji *mann whitney*. Kadar LH pada kelompok P0 (1,171±0,10) lebih tinggi dari P4 (S1,02±0,01), P3 (0,94±0,00), P2 (0,82±0,02), P1 (0,60±0,03); kelompok P4, P3, P2 lebih tinggi dari P1. Jumlah sel leydig dan kadar testosteron dianalisis dengan Uji *Post Hoc LSD*. Jumlah sel leydig dan kadar testosteron pada kelompok P0 (185,20±9,66) lebih tinggi dari dengan P4 (129,70±9,54), P3 (159,70±22,52), P2 (112,30±11,64), P1 (68,80±9,62); P4, P3, P2 lebih tinggi dari P1; P3 lebih tinggi dari P4. Kadar testosteron pada kelompok P0 (171,12±4,30) lebih tinggi dari P4 (146,27±3,70), P3 (127,79±2,79), P2 (111,58±5,09), P1 (72,87±4,14); kelompok P4, P3, P2 lebih tinggi dari P1.

Kesimpulan: suplemen ekstrak kecambah kacang hijau meningkatkan kadar LH, jumlah sel leydig, dan testosteron pada tikus jantan galur wistar yang diinduksi herbisida paraquat.

Kata Kunci : Suplemen ekstrak kecambah kacang hijau, *luteinizing hormone*, sel leydig, testosteron, herbisida paraquat.

ABSTRACT

Background: Paraquat herbicide can cause free radicals that can trigger infertility in men. Many studies on how to overcome infertility with herbal medicine, one of which is that green bean sprout extract can increase the morphology and motility of rat spermatozoa.This study aims to determine the effect of green bean sprout extract supplements on LH levels, the number of leydig cells, and testosterone in male Wistar strain rats that are induced by paraquat herbicide.

Method:experimental research with posttest only control group design. The research subjects were 25 male Wistar rats divided randomly into 5 groups: P0 was not treated, P1 was induced by a 4 mg paraquat herbicide; P2, P3, and P4 were induced by a 4 mg paraquat herbicide for 6 days and a sprout extract supplement with a dose of 21.6 mg; 43.2 mg; 86.4 mg for 14 days.

Results: LH levels were analyzed by Mann Whitney test. LH levels in the P0 group (1.171 ± 0.10) were higher than the P4 group (1.02 ± 0.01), P3 (0.94 ± 0.00), P2 (0, 82 ± 0.02), P1 (0.60 ± 0.03); P4, P3, P2 are higher than P1. Leydig cell counts and testosterone levels were analyzed by the Post Hoc LSD Test. The number of leydig cells and testosterone levels in the P0 group (185.20 ± 9.66) was higher than that of P4 (129.70 ± 9.54), P3 (159.70 ± 22.52), P2 (112.30 ± 11.64), P1 (SD: 68.80 ± 9.62); groups P4, P3, P2 are higher than P1; P3 group is higher than P4. Testosterone levels in the P0 group (171.12 ± 4.30) are higher than P4 (146.27 ± 3.70), P3 (127.79 ± 2.79), P2 (111 , 58 ± 5.09), P1 (72.87 ± 4.14); P4, P3, P2 are higher than P1.

Conclusion: Mung bean sprout extract supplement increased LH levels, leydig cell counts, and testosterone in male Wistar strain rats that were induced by paraquat herbicide.

Keywords: Mung bean sprout extract supplement, luteinizing hormone, leydig cells, testosterone, paraquat herbicide.