

# Pengaruh kombinasi depot medroksiprogesteron asetat dan ekstrak cabe jawa terhadap berat testis dan penurunan diameter tubulus seminiferus, sel-sel spermatogenik serta sel leydig tikus = Effect of combination of depot medroxyprogesterone acetate and javanese long pepper toward testis weight and the decreasing of seminiferous tubules diameter, population of spermatogenic cells and Leydig cell of rat

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## Abstrak

Latar belakang: Pengembangan kontrasepsi hormonal pada pria didasarkan pada pengetahuan bahwa spermatogenesis sangat tergantung pada sekresi dari hormon gonadotropin. Pemberian depot medroksiprogesteron asetat (DMPA) yang dikombinasikan dengan testosteron prospeknya baik untuk dikembangkan menjadi bahan kontrasepsi pria karena dapat menekan gonadotropin, sehingga menghambat spermatogenesis. Di alam terdapat berbagai macam tanaman obat yang mengandung androgen, salah satunya adalah cabe jawa (*Piper retrofractum* Vahl.). Secara tradisional buah cabe jawa digunakan untuk obat lemah syahwat dan telah terbukti dapat meningkatkan kadar hormon testosteron darah serta meningkatkan frekuensi koitus pria hipogonad.

Tujuan: Mengetahui pengaruh kombinasi DMPA dan ekstrak cabe jawa terhadap berat testis, diameter tubulus seminiferus, populasi sel-sel spermatogenik dan populasi sel Leydig tikus galur Sprague-Dawley.

Metode: Penelitian ini menggunakan rancangan acak lengkap (RAJ.), equal size sample yaitu terdiri dari 6 kelompok yang menggunakan tikus jantan galur Sprague Dawley sebagai model. Kelompok perlakuan terdiri atas kelompok kontrol perlakuan (KP=tikus disuntik DMPA dan diberi plasebo), perlakuan I (PI=tikus disuntik DMPA dan ekstrak cabe jawa dosis 6,94 mg), perlakuan II (PII=tikus disuntik DMPA dan ekstrak cabe jawa dosis 1,88 mg), perlakuan III (PIII=tikus disuntik DMPA dan ekstrak cabe jawa dosis 2,82 mg), perlakuan N (tikus disuntik DMPA dan ekstrak cabe jawa dosis 3,76 mg) dan kelompok kontrol (K). Penyuntikan DMPA dilakukan pada minggu ke-0 dan minggu ke-12 perlakuan, sedangkan pencekokan ekstrak cabe jawa dilakukan setiap hari dimulai dari minggu ke-7 sampai minggu ke-18 perlakuan.

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Background: The developing of hormonal male contraception based on the knowledge that spermatogenesis is depends to the secretion of gonadotrophin hormone. Administration of depot medroxyprogesterone acetate (DMPA) combined with testosterone has a good prospect to become hormonal male contraception because they can suppress gonadotrophin so that can inhibit spermatogenesis. In the nature there are many kinds of herbal medicine contains of androgens, one of them is javanese long pepper (*Piper retrofractum* Vahl). Traditionally, the fruit is used to cure impotency and has been proved can increase blood testosterone levels and frequency of coitus in hypogonad man.

Aim: The aim of this study was to find out the effects of combination of depot medroxyprogesterone acetate (DMPA) and javanese long pepper toward testis weight, seminiferous tubules diameter, population of

spermatogenic cells, and Leydig cell of rat.

Method: This research was using complete random design, equal size sample consist of six groups using male rat strain prague-Dawley as a model. Treatment groups consist of treatment control (KP=rat administered with DMPA and placebo), treatment I (PI=rat administered with DMPA and javanese long pepper extract dose 0,94 mg), treatment II (PII=rat administered with DMPA and javanese long pepper extract dose 1,88 mg), treatment III (PIII=rat administered with DMPA and javanese long pepper extract dose 2,82 mg), and treatment IV (PIV=rat administered with DMPA and javanese long pepper extract dose 3,76 mg), and also control group. Injection of DMPA was conducted in week-0 and week-12, meanwhile administered of Javanese long pepper was conducted everyday start at week-7 until week-18.