

Combination of depot medroxy progesterone acetate and Javanese long pepper extract on body weight, hematology, and blood biochemistry as a safe contraception model

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Abstrak

The development of male hormonal contraception is based on a decrease in sperm concentration without affecting libido and sexual potency. The combination of depot medroxy progesterone acetate (DMPA) + extract of Javanese long pepper (JLP) with dosages of 0.94 mg and 1.88 mg decreases the concentration of spermatozoa. However, it remains unknown whether the combination influences body weight, hematology, and blood biochemistry. Therefore, it is necessary to investigate the effect of DMPA + JLP extracts on the body weight, hematology, and blood biochemistry of male rats (*Rattus norvegicus* L.) using Sprague-Dawley strains.

The research uses a completely randomized design (CRD); one group control and two treatment groups. In the first group, the castrated rats were given oral administration extracts of JLP (CJ) with doses of 0, 0.94, 1.88, 2.82, and 3.76 mg. In the second group, the rats were injected with 1.25mg DMPA and given an oral administration extract of JLP. Injection was given in week-0 and 12. Administration was conducted every day from week 7-18. Analysis of the normality and homogeneity of data is done before the ANOVA test. Data that is abnormal and not homogeneous are tested with non-parametric statistical Kruskal-Wallis.

This study shows that the combination of minimal doses of DMPA and administration various doses of extracts of JLP does not affect body weight and hematology (erythrocyte, hemoglobin, hematocrite), and the blood biochemistry of rats, such as the values of SGPT, SGOT, HDL, and triglycerides ($p < 0.05$), but rather the total cholesterol and LDL ($p < 0.05$). Furthermore, it is concluded that the combination of the minimal dosage of DMPA and weaned various dosages of JLP extracts affect the total value and LDL cholesterol but do not influence body weight, nor hematology and blood biochemistry. Such combinations can be drawn on for a safe male contraceptive model by taking into account the value of the total cholesterol and LDL during its use.