

PENGARUH SUPLEMENTASI ZAT BESI DAN KURKUMIN TERHADAP KADAR ALBUMIN DAN PEMERIKSAAN DARAH RUTIN PADA TIKUS MALNUTRISI

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ABSTRAK

Latar Belakang: Malnutrisi merupakan kondisi dimana tubuh tidak mendapatkan nutrisi yang cukup. Kandungan kurkumin dalam temulawak melindungi hemoglobin dan oksihemoglobin dengan menghambat radikal bebas dalam sel darah merah. Zat besi diperlukan untuk perkembangan dan produksi darah.

Tujuan: Mengetahui efek kombinasi kurkumin dan suplemen besi terhadap kadar albumin dan nilai-nilai pemeriksaan darah rutin pada tikus malnutrisi

Metode: Penelitian ini menggunakan rancangan penelitian *true experimental post-test only control group design*. Subjek penelitian adalah 35 ekor tikus Wistar jantan yang dibagi dalam 5 kelompok. Induksi malnutrisi menggunakan pakan diet restriksi selama 28 hari. Ekstrak rimpang temulawak dosis 80mg/kgBB/hari serta zat besi elemental dosis 0,054mg/kgBB/hari diberikan secara oral selama 14 hari setelah induksi malnutrisi berjalan selama 14 hari. Perbedaan antar kelompok sebelum dan sesudah perlakuan dilakukan uji beda berpasangan.

Hasil : Penelitian didapatkan hubungan tidak bermakna antar kelompok sesudah perlakuan pada pemberian kurkumin dan suplemen zat besi terhadap perbaikan malnutrisi. Perbandingan ketiga kelompok perlakuan tidak signifikan ($p > 0.05$). Profil hematologis setelah perlakuan menghasilkan hemoglobin ($p = 0.888$), hematokrit ($p = 0.870$), MCV ($p = 0.346$), MCH ($p = 0.067$), MCHC ($p = 0.329$), eritrosit ($p = 0.977$), albumin ($p = 0.428$) lebih rendah dibanding KP. Kurkumin, zat besi dan kombinasi kurkumin dan zat besi menghasilkan nilai profil hematologis yang lebih rendah dibanding KP.

Kesimpulan : Tidak terdapat perbedaan bermakna antar kelompok perlakuan kurkumin, zat besi serta kombinasi kurkumin dan zat besi. Kurkumin dan zat besi tidak mampu memperbaiki malnutrisi tanpa bantuan asupan nutrisi yang lain.

Kata kunci : Kurkumin, rimpang temulawak, malnutrisi, zat besi

EFFECT OF IRON AND CURCUMIN SUPPLEMENTATION ON ALBUMIN LEVELS AND ROUTINE BLOOD EXAMINATIONS IN MALNUTRITED RATS

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ABSTRACT

Background: Malnutrition is a condition where the body does not get enough nutrition. The curcumin content in temulawak protects hemoglobin and oxyhemoglobin by inhibiting free radicals in red blood cells. The substance is indispensable for the development and production of blood.

Objective: To determine the effect of a combination of curcumin and iron supplements on albumin levels and routine blood test values in malnourished rats

Methods: This study used a true experimental post-test-only control group design. The research subjects were 35 male Wistar rats divided into 5 groups. Malnutrition induced using dietary restriction for 28 days. Temulawak rhizome extract at a dose of 80 mg/kgBB/day and elemental iron at a dose of 0.054 mg/kgBB/day was administered orally for 14 days after the induction of malnutrition lasted for 14 days. Differences between groups before and after treatment were carried out in a paired difference test.

Results: The study found no significant relationship between groups after treatment with curcumin and iron supplements to improve malnutrition. The comparison of the three treatment groups was not significant ($p > 0.05$). Hematological profile after treatment yielded hemoglobin ($p = 0.888$), hematocrit ($p = 0.870$), MCV ($p = 0.346$), MCH ($p = 0.067$), MCHC ($p = 0.329$), erythrocytes ($p = 0.977$), albumin ($p = 0.428$) lower than KP. Curcumin, iron, and the combination of curcumin and iron produced a lower hematological profile value than KP.

Conclusion: There was no significant difference between the curcumin, iron, and combination of curcumin and iron treatment groups. Curcumin and iron cannot correct malnutrition without the help of other nutrients.

Keywords: Curcumin, temulawak rhizome, malnutrition, iron