

# Effect of plectranthus amboinicus extract on BUN and creatinine levels and cellular response proinflammatory factors TNF- $\gamma$ ; and IL-1 $\beta$ ; on gout arthritis patients / Lailatul Muniroh, Triska Susila Nindya, Santi Martini, Rondius Solfaine

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## Abstrak

The purpose of this research was to develop anti-cytokine-based treatment using extract of *Plectranthus amboinicus* applied to gout arthritis (GA) patients. The research was quasi experimental, with a pretest-posttest randomized control group design. The samples were GA patients in the Outpatient Installation of Internal Medicine in General Hospital Haji, Surabaya. The sample was comprised of 30 respondents. The respondents were divided into a treatment group and a control group. The treatment group was asked to take medicine from the hospital, coupled with *P. amboinicus* extract capsules, for 7 days, during which time patients' joint inflammation was observed. The control group was provided with only medication from the hospital, and their joint inflammation was likewise observed. Blood samples were taken before and after treatment, to measure the levels of blood urea nitrogen (BUN) and creatinine, as well as the concentrations of TNF- $\gamma$ ; and IL-1 $\beta$ ;. There was a decrease in BUN and creatinine levels in the control group, but it was not significant, decreasing by 3% and 8%, respectively. The treatment group also showed elevated levels of BUN and creatinine, which also was not significant at 3% and 7%, respectively. There was a decrease in the concentration of TNF- $\gamma$ ; in the control group by 9% and 22%. The concentration of IL-1 $\beta$ ; in the control group increased by 18%, whereas, in the treatment group, it decreased by 3%; however, the decreases in both groups were not significant.

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Pengaruh Ekstrak Daun Jintan (*Plectranthus amboinicus*) terhadap Kadar BUN dan Kreatinin serta Respon Seluler Faktor Proinflamasi TNF- $\gamma$ ; dan IL-1 $\beta$ ; Pasien Gout Arthritis. Pengobatan gout arthritis (GA) saat ini dikembangkan berbasis anti sitokin yaitu blokade kemokin, penghambatan pelepasan IL-1 $\beta$ ; dan TNF- $\gamma$ ;. Tujuan

penelitian ini adalah mengembangkan pengobatan berbasis anti sitokin dengan menggunakan ekstrak daun jintan yang diaplikasikan pada penderita GA. Penelitian ini adalah penelitian eksperimental semu dengan desain penelitian randomized pretest-posttest control group design. Pengambilan sampel pasien GA di Instalasi Rawat Jalan Poli Penyakit Dalam RSUD Haji Surabaya yang memenuhi kriteria inklusi dan eksklusi. Jumlah sampel sebanyak 30 responden terbagi menjadi kelompok perlakuan dan kelompok kontrol masing-masing 15 responden. Pada kelompok perlakuan diminta untuk minum obat dari Rumah Sakit ditambah dengan kapsul ekstrak daun jintan selama 7 hari, dengan dilakukan pengamatan peradangan sendi. Pada kelompok kontrol minum obat dari Rumah Sakit dan dilakukan pengamatan peradangan sendi. Sampel darah diambil sebelum dan sesudah perlakuan untuk mengukur kadar BUN, kreatinin, konsentrasi TNF- $\alpha$ ; dan IL-1 $\beta$ . Terdapat penurunan kadar BUN dan kreatinin pada kelompok kontrol namun tidak signifikan yaitu menurun sebesar 3% dan 8%. Sementara pada kelompok perlakuan terdapat peningkatan kadar BUN dan Kreatinin namun juga tidak signifikan sebesar 3% dan 7%. Terdapat penurunan konsentrasi TNF- $\alpha$ ; pada kelompok kontrol sebesar 9% dan kelompok perlakuan sebesar 22%, keduanya tidak signifikan. Sementara konsentrasi IL-1 $\beta$ ; terjadi peningkatan pada kelompok kontrol sebesar 18%, sementara pada kelompok perlakuan terjadi penurunan sebesar 3%, keduanya tidak signifikan.