

## ABSTRAK

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Program Studi : Kedokteran  
Judul : Efektivitas Ekstrak Etanol Biji Kebiul (*Caesalpinia bonducella* L) terhadap Kadar Urem Kreatinin Serum pada Model Tikus Nefrektomi Subtotal 5/6 dan Tinjauannya Menurut Pandangan Islam

**Latar Belakang :** Penurunan atau ketidakmampuan ginjal dalam melaksanakan tugasnya, maka dapat menimbulkan gangguan pada organ ini. Penyakit ginjal kronik dapat disimulasikan kepada hewan coba menggunakan teknik pembedahan nefrektomi subtotal 5/6. Pengobatan menggunakan obat sintetik saat ini membutuhkan biaya tinggi dan adanya efek samping yang tidak diinginkan, sehingga perlu dicarikan obat alternatif ataupun komplementer, salah satunya menggunakan *Caesalpinia bonducella* L. Dalam Islam, hukumnya wajib untuk menjaga kesehatan.

**Tujuan :** Untuk mengetahui peran ekstrak tanaman kebiul (*Caesalpinia bonducella* L) secara *in vivo* terhadap model tikus putih jantan galur *Sprague Dawley* dengan perlakuan nefrektomi subtotal 5/6 menurut sisi kedokteran dan Islam.

**Metode :** Penelitian ini merupakan ekperimental laboratorik dengan subyek penelitian tikus putih jantan *Sprague dawley* yang diberi perlakuan nefrektomi subtotal 5/6 yang dibagi ke dalam lima kelompok perlakuan. Kelompok 1 diberi perlakuan induksi SN 5/6 tanpa pengobatan. Kelompok 2 diberi perlakuan induksi SN 5/6 dan diobati furosemid. Kelompok 3-5 diberikan perlakuan induksi SN 5/6 dan ekstrak biji kebiul (*Caesalpinia bonducella* L) dengan dosis 150, 300 dan 500 mg/kgBB berturut-turut. Setelah pemberian ekstrak selama 14 hari dan dilakukan pengambilan sampel darah dengan metode *cardiac puncture* yang kemudian dilakukan uji kadar serum ureum kreatinin serta pengambilan organ ginjal untuk dilakukan pewarnaan slide histopatologi HE. Jenis data yang digunakan adalah data primer kuantitatif.

**Hasil :** Tidak terdapat perbedaan signifikan rata rata serum ureum dan kreatinin terlihat pada dosis 125 mg/kgBB. Analisis hasil serum ureum menunjukkan peningkatan nilai pada rerata masing masing kelompok termasuk kelompok kontrol negatif (46,75). Pada dosis ekstrak kebiul 150 mg/kgBB dapat menurunkan peningkatan serum ureum (55,67) dan kreatinin (0,59) lebih baik daripada pengobatan konvensional (furosemide) (70,1 & 0,61).

**Kesimpulan :** Menurut perhitungan grafik, ekstrak etanol *Caesalpinia bonducella* L memiliki perbedaan bermakna terhadap serum ureum kreatinin pada kelompok model hewan coba tikus jantan galur *Sprague Dawley* nefrektomi subtotal 5/6. Data didukung grafik yang memperlihatkan pemberian ekstrak mengalami perubahan stabil yaitu nilai rerata kadar serum kreatinin pada kelompok 1 (0,42) sebagai kontrol negatif, kelompok 2 (0,61) pengobatan dengan furosemid, kelompok 3 (0,59) ekstrak biji kebiul dosis II, kelompok 4 (0,59) ekstrak biji kebiul dosis II, kelompok 5 (0,57) ekstrak biji kebiul dosis III. Pada grafik serum ureum seluruh kelompok perlakuan 1-5 mengalami peningkatan nilai rerata (normal: 15-22 mg/dL). Pemberian ekstrak etanol kebiul dosis 150 mg/kgBB mampu menurunkan angka peningkatan serum ureum dan kreatinin lebih baik dibandingkan pemberian furosemide (obat konvensional).

**Kata Kunci :** *Caesalpinia bonducella* L, Penyakit Ginjal, , Kadar Urem Kreatinin Serum, Histopatologis Ginjal

## ABSTRACT

Name : Bellatria Kentsyai  
Study Program : Medicine  
Title : Effectiveness Of Kebiul (*Caesalpinia Bonducella L*) Seed Ethanol Extract On Serum Ureum Creatinine Levels In 5/6 Subtotal Nephrectomic Rat Model And Its Review According To Islamic View

**Background:** Decreased or inability of the kidneys to carry out their duties can cause problems with this organ. Chronic kidney disease can be simulated in experimental animals using the 5/6 subtotal nephrectomy surgical technique. Treatment using synthetic drugs currently requires high costs and has undesirable side effects, so it is necessary to look for alternative or complementary medicines, one of which is using *Caesalpinia bonducella L*. In Islam, it is obligatory to maintain health.

**Objective:** To determine the role of kebiul plant extract (*Caesalpinia bonducella L*) in vivo on the male white rat model of the Sprague Dawley strain treated with 5/6 subtotal nephrectomy according to medical and Islamic perspectives.

**Method:** This research was a laboratory experiment with male white Sprague Dawley rats as subjects treated with 5/6 subtotal nephrectomy which were divided into five treatment groups. Group 1 was given SN 5/6 induction treatment without treatment. Group 2 was given SN 5/6 induction treatment and treated with furosemide. Groups 3-5 were given induction treatment of SN 5/6 and kebiul seed extract (*Caesalpinia bonducella L*) at doses of 150, 300 and 500 mg/kgBW respectively. After administering the extract for 14 days and taking blood samples using the cardiac puncture method, serum urea creatinine levels were then tested and kidneys were taken for staining of HE histopathology slides. The type of data used is quantitative primary data.

**Results:** There were no significant differences in mean serum urea and creatinine seen at a dose of 125 mg/kgBW. Analysis of serum urea results showed an increase in the mean value for each group including the negative control group (46.75). At a dose of kebiul extract of 150 mg/kgBW, it can reduce the increase in serum urea (55.67) and creatinine (0.59) better than conventional treatment (furosemide) (70.1 & 0.61).

**Conclusion:** According to graphical calculations, the ethanol extract of *Caesalpinia bonducella L* has a significant difference in serum urea creatinine in the animal model group of male Sprague Dawley nephrectomy 5/6 subtotal nephrectomy mice. The data is supported by graphs showing that the administration of the extract experienced stable changes, namely the mean value of serum creatinine levels in group 1 (0.42) as a negative control, group 2 (0.61) treated with furosemide, group 3 (0.59) kebiul seed extract dose II, group 4 (0.59) kebiul seed extract dose II, group 5 (0.57) kebiul seed extract dose III. In the serum urea graph, all treatment groups 1-5 experienced an increase in mean values (normal: 15-22 mg/dL). Administration of kebiul ethanol extract at a dose of 150 mg/kgBW was able to reduce the rate of increase in serum urea and creatinine better than administration of furosemide (conventional drug).

**Keywords:** *Caesalpinia bonducella L*, Kidney Disease, Serum Urem Creatinine Levels, Kidney Histopathology