

**EFEK PEMBERIAN EKSTRAK ETANOL SELEDRI (*Apium graveolens* L.)
TERHADAP KADAR HEMOGLOBIN TIKUS PUTIH (*Sprague dawley*)
MODEL *CHRONIC KIDNEY DISEASE***

ABSTRAK

Latar Belakang: *Chronic Kidney Disease* (CKD) adalah kerusakan ginjal dan/atau penurunan *Glomerular Filtration Rate* (GFR) kurang dari 60mL/min/1,73 m² selama minimal 3 bulan. CKD adalah suatu proses kerusakan dengan etiologi beragam yang menyebabkan penurunan fungsi ginjal yang progresif salah satunya ialah penurunan produksi eritropoietin sehingga mengakibatkan komplikasi berupa anemia. Anemia ditandai dengan kadar hemoglobin di bawah normal. Ekstrak etanol seledri (*Apium graveolens* L.) berfungsi sebagai antioksidan dan antiinflamasi yang berpotensi mencegah kerusakan ginjal pada CKD sehingga diduga dapat mencegah penurunan kadar hemoglobin pada CKD

Tujuan: Penelitian ini bertujuan untuk mengetahui efek pemberian ekstrak etanol seledri (*Apium graveolens* L.) dalam mencegah penurunan kadar hemoglobin tikus putih (*Sprague dawley*) model CKD.

Metode penelitian: Penelitian ini merupakan penelitian eksperimental dengan *post test only with control group design*. Dua puluh lima ekor tikus putih dibagi dalam 5 kelompok. Kelompok A: kelompok normal (SO, n=5), kelompok B: kelompok nefrektomi (SN, n=5), sebagai kontrol sakit, kelompok C, D, dan E adalah kelompok nefrektomi dan diberikan ekstrak etanol seledri 250 mg/kgBB, 500 mg/kgBB, dan 1000 mg/kgBB 14 hari sebelum dan 14 setelah nefrektomi.

Hasil: Rerata kadar hemoglobin kelompok A=10,82±1,93; B=10,04±0,63; C=10,2±0,85; D=10,12±1,55; E=10,06±0,43. Hasil uji *One Way ANOVA* hemoglobin menunjukkan nilai p=0,849 (p>0,05).

Kesimpulan: Pemberian ekstrak etanol seledri (*Apium graveolens* L.) tidak dapat mencegah penurunan kadar hemoglobin tikus putih (*Sprague dawley*) model CKD.

Kata kunci: Seledri, *Apium graveolens* L., hemoglobin, *chronic kidney disease*

THE EFFECT OF ETHANOL EXTRACT OF CELERY (*Apium graveolens* L.) TO HAEMOGLOBIN LEVELS ON CHRONIC KIDNEY DISEASE MODEL RATS (*Sprague dawley*)

ABSTRACT

Background: Chronic Kidney Disease (CKD) is defined as kidney damage and / or decreased Glomerular Filtration Rate (GFR) of less than 60 mL/min/1,73 m² for at least 3 months. CKD is a pathophysiological process with so many etiologies that cause progressive decline in kidney function. One of them is the ability to produce erythropoietin. In CKD there is a decrease in erythropoietin production which leading to a complication called anemia. Anemia is marked by the decrease of haemoglobin levels from its normal levels. Ethanol extract of celery (*Apium graveolens* L.) has antioxidant and anti-inflammatory effect which has potential to prevent the progression of kidney damage in CKD so the decrease of erythropoietin and haemoglobin levels can be prevented.

Goals: This study aimed to know the effect of celery ethanol extract (*Apium graveolens* L.) administration in preventing the decrease of haemoglobin levels on chronic kidney disease model rats (*Sprague dawley*).

Study Method: The method was an experimental study with post test only with control group design. Twenty five males of white rats were randomly assigned to 5 groups. Group A: normal rats (S0, n=5), group B: sick control (SN, n=5), group C (250 mg/kgBW ethanol extract of celery), group D (500 mg/kgBW), and group E (1000 mg/kgBW). On the 15th after celery extract or CMC was given, sham operation was performed in group A, while 5/6 subtotal nephrectomy was performed in group B, C, D, and E. Then the celery extract and CMC was given until the 14th day after operation.

Result: The mean of haemoglobin concentration in group A=10,82±1,93; B=10,04±0,63; C=10,2±0,85; D=10,12±1,55; E=10,06±0,43. One Way ANOVA test of haemoglobin shows that no significant differences between groups (p 0.849 (p>0.05)).

Conclusion: Administration of ethanol extract of celery (*Apium graveolens* L.) can not prevent the decrease of haemoglobin levels in CKD rats models.

Keywords: Celery, *Apium graveolens* L., haemoglobin, chronic kidney disease