SKRIPSI SARJANA FARMASI

UJI TOKSISITAS SUBAKUT EKSTRAK ETANOL DAUN KELOR *(Moringa oleifera* Lam.*)* TERHADAP BERSIHAN KREATININ DAN SGOT TIKUS PUTIH JANTAN

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ABSTRAK

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Daun Kelor (*Moringa oleifera* Lam.) diketahui memiliki banyak aktivitas farmakologi salah satunya, yaitu meningkatkan daya tahan tubuh. Penggunaan daun kelor yang cukup luas sebagai imunostimulan, tetapi belum ada penelitian terkait tingkat keamanan daun kelor untuk pemakaian jangka menengah hingga panjang, maka dilakukan studi uji toksisitas subakut ekstrak etanol *Moringa oleifera* Lam. terhadap organ ginjal. Sebanyak 36 ekor tikus putih jantan digunakan dalam penelitian yang dibagi menjadi 4 kelompok. Kelompok kontrol diberi Na CMC 1% dan 3 kelompok uji yang diberi ekstrak etanol daun kelor dengan dosis 7, 21, 140 mg/kgbb secara oral selama 21 hari. Parameter yang diamati adalah volume urin 24 jam, kreatinin serum, kreatinin urin, bersihan kreatinin, persentase fungsi ginjal, dan kadar SGOT hewan diukur pada hari ke-8, 15, dan 22. Semua data pada setiap parameter dianalisis dengan menggunakan ANOVA dua arah dan dilanjutkan dengan uji lanjutan Duncan. Hasil penelitian menunjukkan bahwa variasi dosis (7, 21, dan 140 mg/kgbb) ekstrak etanol daun kelor dan lama pemberian (7, 14, dan 21 hari) memberikan pengaruh signifikan ($p<0,05$) terhadap kadar bersihan kreatinin dan kadar SGOT. Dapat disimpulkan bahwa persentase fungsi ginjal dan kadar SGOT mengalami kenaikan lebih dari rentang normal (fungsi ginjal > 100%) dan (SGOT >100µ/L) yang menandakan bahwa adanya potensi terjadinya kerusakan fungsi ginjal.

Kata Kunci: *Moringa oleifera* Lam., ekstrak etanol daun kelor, uji toksisitas, fungsi ginjal, kreatinin, *Serum Glutamic Oxaloacetic Transaminase*

ABSTRACT

SUBACUTE TOXICITY STUDY OF MORINGA LEAVES EXTRACT (*Moringa oleifera* Lam.) ON CREATININE CLEARANCE AND AST LEVELS OF MALE WHITE RAT

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Moringa oleifera Lam. leaves has several pharmacological activies, one of them as increasing body endurance. The use Moringa leaves is quite extensive as an immunostimulant, but there has been no research related to the level of safety of Moringa leaves for medium to long term use, so a study was conducted to determine the subacute toxicity of the ethanol extract of *Moringa oleifera* Lam. on the kidneys. Thirty-six male white rats divided into 4 groups. The control group was given 1% Na CMC and the 3 test groups were given the ethanol extract of *Moringa oleifera* Lam. at a dose of 7, 21, 140 mg/kgbw orally for 21 days and observed the toxic symptoms that arise and the number of dead animals. Parameters observed were 24-hour urine volume, serum creatinine, urine creatinine, creatinine clearance, percentage of kidney function, and AST levels of animals measured on day 8, 15, and 22. All data on each parameter were analyzed using two-way ANOVA and continued with Duncan's test. The results showed that the dose variation (7, 21, and 140 mg/kgbw) of the ethanol extract of *Moringa oleifera* Lam. and the duration of administration (7, 14, and 21 days) had a significant effect ($p<0.05$) on creatinine clearance and AST levels. Administration of extract *Moringa oleifera* Lam. did not cause death in animals and no toxic symptoms were seen. It can be concluded that the kidneys function and AST levels increased more than the normal range (kidneys function>100 %) and (AST> 100 µ/L) which indicated that there was a potential damage to kidneys function.

Keywords: *Moringa oleifera* Lam., ethanol extract of Moringa, toxicity, kidneys function, creatinine, aspartate aminotransferase