

## ABSTRAK

Rositasari, Devy. 2014. **Efek Ekstrak Daun Binahong (*Anredera cordifolia*) Terhadap Kadar Malondialdehid Ginjal Tikus DM Tipe 2**. Tugas Akhir, Program Studi Farmasi Fakultas Kedokteran Universitas Brawijaya. Pembimbing: (1) Dra. Diana Lyrawati, Apt., M.S., Ph.D. (2) Dra. Siti Jazimah Iswarin, Apt, M.Si.

Hiperglikemia kronis memicu terjadinya stres oksidatif yang dapat menyebabkan diabetes nefropati. Malondialdehid merupakan produk peroksidasi lipid yang dapat meningkat sebagai hasil akhir ROS. Ekstrak daun binahong efektif terhadap kondisi patologis yang disebabkan ROS, mengetahui efek ekstrak binahong terhadap kadar glukosa darah dan kadar malondialdehid. Penelitian ini menggunakan *True experimental design*. Tiga puluh ekor tikus wistar jantan secara acak dibagi menjadi 6 kelompok : (i) kelompok tikus normal (kontrol negatif); (ii) kelompok tikus diabetes (kontrol positif); (iii-v) kelompok tikus diabetes yang diterapi dengan 3 dosis ekstrak daun binahong ( 17,5 mg/kgBB, 35 mg/kgBB, dan 70 mg/kgBB tiap hari) selama 15 hari; (vi) kelompok tikus diabetes dan glimepiride (kontrol pembanding). Induksi diabetes pada tikus dilakukan dengan diet tinggi lemak dan injeksi intraperitoneal dosis tunggal streptozotocin 35 mg/kgBB. Kadar glukosa darah diamati setiap minggu dan kadar malondialdehid ginjal diukur melalui metode spektrofotometri. Kadar glukosa darah berhasil mencapai target (<200 mg/dl) pada dosis binahong 35 mg/kgBB. Kadar malondialdehid mengalami penurunan secara signifikan pada dosis binahong 70 mg/kgBB ( $p = 0,014$ ) terhadap kontrol positif. Ekstrak daun binahong selama 15 hari dapat menurunkan kadar glukosa darah hingga mencapai target dan menurunkan kadar MDA ginjal.

Kata kunci: diabetes mellitus tipe 2, diet tinggi lemak, streptozotocin, daun binahong, malondialdehid.

## ABSTRACT

Rositasari, Devy. 2014. **Effect of Binahong (*Anredera cordifolia*) Leaves Extract on Kidney Malondialdehyde Level in DM type 2 Rats**. Final Assignment, Pharmacy Program, Faculty of Medicine, University of Brawijaya. Supervisors: (1) Dra. Diana Lyrawati, Apt., M.S., Ph.D. (2) Dra. Siti Jazimah Iswarin, Apt, M.Si.

Chronic hyperglycemia triggers oxidative stress that can lead to diabetic nephropathy. Malondialdehyde is a product of lipid peroxidation which may have increased as an end result of ROS. Binahong extract is effective in many pathological conditions which caused by ROS. This study aimed to determine effect of binahong extract on blood glucose levels and malondialdehyde levels. *True experimental design* are used in this study. Thirty male wistar rats were randomly assigned into 6 groups: (i) normal rats (negative controls); (ii) diabetic induced groups (positive controls); (iii-v) diabetic groups treated with three dose of binahong leaves extract ( 17,5 mg/kgbw , 35 mg/kgbw, and 70 mg/kgbw per day) during fifteen days; (vi) diabetic induced and glimepiride per day (control standard drug). Diabetes was induced in rats by high fat diet and single intraperitoneal injection of streptozotocin at 60 mg/kgbw. Blood glucose levels were observed every week and malondialdehyde levels was measured by spetrophotometric assays. Blood glucose levels may reach the target (<200 mg/dl) at a dose of 35 mg/kgbw. Malondialdehyde levels was significantly decrease at a dose 70 mg/kgbw ( $p = 0.014$ ) against positive controls. Extract of binahong leaves during fifteen days can reduce both of blood glucose levels to reach the target and kidney malondialdehyde levels.

Keywords: type 2 diabetes mellitus, high fat diet, streptozotocin, binahong leaves, malondialdehyde.

