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ABSTRACT BOOK

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The dose dependence analysis of the water fraction of *Merremia mammosa* (Lour.) extract on diabetic wound healing enhancement

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ABSTRACT

Introduction: Diabetic wounds or ulcers happened in Indonesia's hospitalized diabetes patients range from 17.3 to 32.9%. The high cost of treatment, the high risk of amputation and the difficulty of handling diabetic wounds, make it necessary to look for alternative medicine derived from plants e.g. *Merremia mammosa* (*Mm*). This study aimed to analyze the potential dose of the water fraction of *Mm* (*Lour.*) extract on diabetic wound healing enhancement.

Method: This study used fifty-seven male wistar rats that were made diabetic by intraperitoneal injection of 40 mg/kg body weight streptozotocin. Rats divided into six groups equally, which consist of positive control (gentamicin 0.1%), negative control (aquadest) and water fraction of *Mm* (*Lour.*) extract dose 12.5 mg, 25 mg, 50 mg and 100 mg. Wound was made by Morton method and treatment applied on the wound every other day for 21 days. Wound healing process were observed by percent wound healing and histopathological changings on day 0, 3, 10 and 25, representing each healing phase.

Results: The percentage of reduction in wound size comparison at day 10 showed no significant different when compared with positive control started from dose 50 mg. This result is consistent with the histopathological changings parameter (angiogenesis, macrophage, fibroblast and collagen density).

Conclusion: Water fraction of *Mm* (*Lour.*) extract was dose-dependently enhanced the process of wound healing in diabetic rat model and the most effective dose was 100 mg, which looks similar with positive control. Therefore, it is potential to be developed further as a topical drug.

Keywords: *Merremia mammosa* (*Lour.*), wound healing, diabetic ulcers