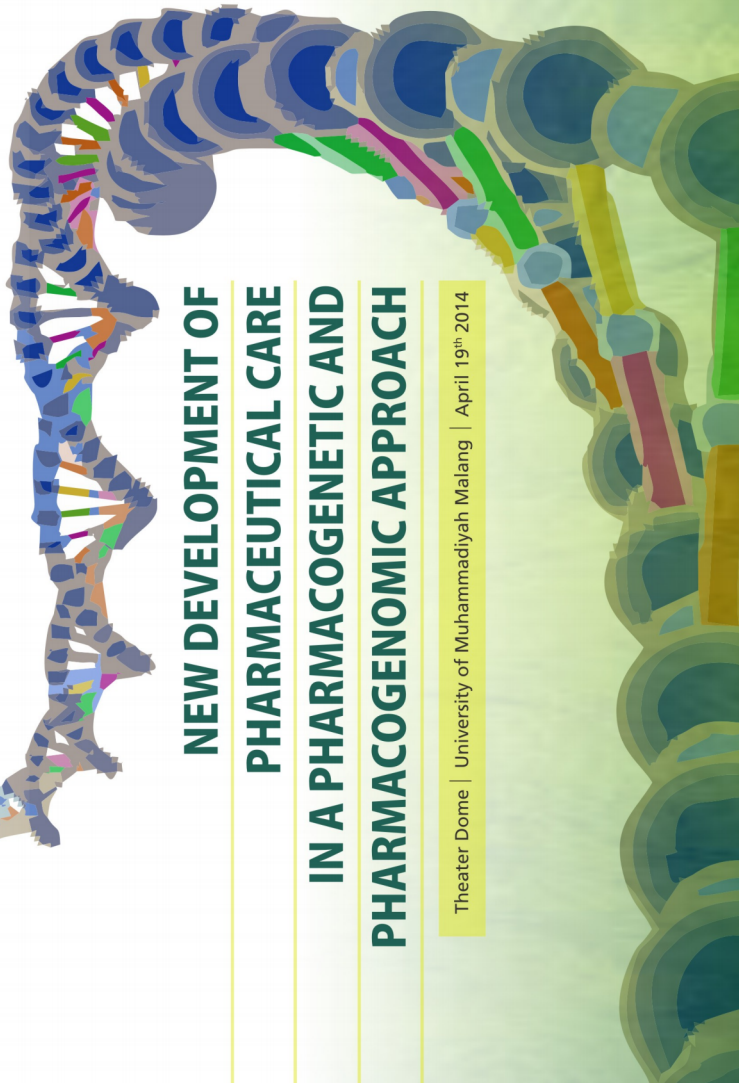


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The International Conference
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Theater Dome | University of Muhammadiyah Malang | April 19th 2014

PROCEEDING THE INTERNATIONAL CONFERENCE PHARMACEUTICAL CARE



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ANTIDIABETIC ACTIVITY OF AEGLE MARMELLOS LEAVES ON ALLOXAN INDUCED DIABETIC RAT

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ABSTRACT

Background : Diabetes mellitus is found in all parts of the world and is becoming a serious threat to mankind health. There are lots of chemical agents available to control diabetic patients, but total recovery from diabetes has not been reported up to this date. As alternative, plants provide a potential source of hypoglycemic agents and are widely used in several traditional systems of medicine to prevent diabetes. Several medicinal plants have been investigated for their beneficial use in diabetes. The effects of these plants may delay the development of diabetic complications and correct the metabolic abnormalities using variety of mechanisms.

Objective : The aim of the research is compare antidiabetic activity between N-hexane extract, ethyl acetate extract and ethanolic extract of *Aegle marmelos* leaf on alloxan induced diabetic rat.

Methods : The dried *Aegle marmelos* leaves powder were extracted with N-Hexane, ethyl acetate and ethanol. Diabetic rat induced by alloxan monohidrat 150mg/KgBW. After 3 days the rats showing diabetes having fast blood glucose (FBG) values more than 200 mg/dL was considered as diabetic animals consider it as zero days. Dosing with the extracts (500 mg/KgBW) was started on the first day and continued for 14 days. Blood was collected on 15th day of treatment. Blood was collected retro-orbitally from the inner cantus of the eye (under light ether anesthesia) using capillary tubes. Blood glucose level was determined by using enzymed GOD-POD glucose kit using colorimeter. Data of blood glucose levels was analyzed by one way ANOVA followed by LSD post hoc multiple comparsion test.

Result : *Aegle marmelos* leaves extract decreased Fast blood glucose level of diabetic rats after 14 day of treatment. The blood glucose levels was significantly ($P < 0.05$) reduced when compared to the specific diabetic control animals. N-Hexane extract decreased FBG level by 35.19% ; ethyl acetate extract decreased FBG level by 5.43% and ethanol extract decreased FBG level by 10.99%. N-hexane extract produced the maximum reduction of blood glucose level followed by Ethanol extract and ethyl acetate extract.

Keywords : *Aegle marmelos* leaves, diabetes mellitus, fasting blood glucose level