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The 1st Tarumanagara International Conference on Medicine and Health (TICMIH) 2021 was held by Consortium of Health Science of LLDIKTI Region III collaborated with Untar Institute of Research & Community Engagement (LPPM Untar). The conference brought a topic about “Challenges and Opportunities for Overcoming Infectious Diseases in the 21st Century.” The scope of the articles included but was not limited to the following: Medicine, Health, Public Health, Infectious Disease & Tropical Medicine, Community Medicine, Dentistry, Pharmacy, Nursing, Nutrition, Obstetrics, and Clinical Psychology.

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### Phytochemical Screening and Total Antioxidant Capacity of Methanolic-Extract of Kembang Bokor Roots (*Hydrangea Macrophylla*)

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**Abstract**

Reactive oxygen species can cause damage to biological systems such as mutations, inhibit protein synthesis and even damage proteins. Excess free radicals will produce oxidative stress. Antioxidants are substances that play a role in preventing and repairing damage caused by oxidative stress.

Antioxidants can be obtained from food and plants. One of the plants is the root of the kembang bokor (*Hydrangea Macrophylla*) which is a medicinal plant. The purpose of this study was to determine the phytochemical content and total antioxidant capacity on methanol extract of the kembang bokor roots. This is in-vitro experimental research against methanol extract of kembang bokor roots through maceration process. The in-vitro tests are qualitative phytochemical tests (Harborne) and total antioxidant capacity tests with the DPPH (Blois) method. In the qualitative test, it was found that the root extract of kembang bokor contained alkaloids, betasianin, cardioglycosides, terpenoids, steroids, glycosides, flavonoids, quinones, phenolics, saponins, tannins and coumarin. Kembang bokor roots extract has antioxidant capacity ( $IC_{50} = 261.45 \mu\text{g} / \text{mL}$ ) that classified as very weak antioxidant. In this study we found that the antioxidant capacity which contain in kembang bokor root extract not as much as vitamin C. Although the level of antioxidant capacity of kembang bokor root extract is lower than vitamin C, it has advantages over vitamin C, kembang bokor root can treat kidney stones while high dose of vitamin C can cause kidney stones. This result proves that kembang bokor roots extract has secondary metabolites and the potential as an antioxidant.

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