

Uji efektivitas ekstrak daun kalanchoe pinnata sebagai senyawa antimikroba terhadap acinetobacter baumannii dan methicillin-resistant staphylococcus aureus secara in vitro = In vitro anti microbial efficacy of kalanchoe pinnata leaves against acinetobacter baumannii and methicillin resistant staphylococcus aureus

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Abstrak

Acinetobacter baumannii dan Methicillin-Resistant Staphylococcus aureus merupakan dua dari sekian banyak bakteri yang menginfeksi manusia. Infeksi bakteri tersebut menjadi semakin berbahaya akibat tingginya kejadian resistensi bakteri tersebut terhadap antibiotik. Keterbatasan antibiotik yang tersedia menyebabkan perlunya penggunaan bahan alternatif sebagai antibiotik, antara lain tanaman herbal yang banyak dijumpai di Indonesia sebagai kekayaan hayati. Kalanchoe pinnata merupakan salah satu tanaman herbal yang sering digunakan untuk menghambat pertumbuhan beberapa jenis bakteri. Penelitian ini bertujuan untuk mengetahui aktivitas antibakteri ekstrak etanol daun Kalanchoe pinnata terhadap Acinetobacter baumannii dan Methicillin-Resistant Staphylococcus aureus. Penelitian ini dilakukan di Departemen Mikrobiologi dan Farmasi, Fakultas Kedokteran, Universitas Indonesia. Daun Kalanchoe pinnata diekstraksi dengan etanol. Sampel bakteri diambil secara acak dari koleksi kultur bakteri yang diisolasi dari pasien. Uji kepekaan dilakukan dengan metode mikrodilusi. Kalanchoe pinnata mempunyai aktivitas antibakteri terhadap Acinetobacter baumannii dan Methicillin-Resistant Staphylococcus aureus. Konsentrasi Hambat Minimum dan Konsentrasi Bunuh Minimum ekstrak daun Kalanchoe pinnata terhadap Acinetobacter baumannii sebesar 144,9 mg/ml dan 289,8 mg/ml, sedangkan terhadap Methicillin-Resistant Staphylococcus aureus sebesar 144,9 mg/ml; dengan Konsentrasi Bunuh Minimum yang tidak dapat ditentukan.

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Acinetobacter baumannii and Methicillin Resistant Staphylococcus aureus are two out of many human infecting bacteria. These bacterial infections are becoming more threatening due to their high resistance towards antibiotics. This condition leads to a challenge in searching alternative substances that can be utilized as antibiotics. One way to obtain the substance is from herbs that are found all around Indonesia as its national plant heritage. Cocor Bebek Kalanchoe pinnata is one of the herbs that is often used to treat infections. The aim of this study is to investigate the antibacterial activity of leaves extract of Kalanchoe pinnata against Acinetobacter baumannii and Methicillin Resistant Staphylococcus aureus. This study was conducted at The Department of Microbiology and Pharmacy, Faculty of Medicine, Universitas Indonesia. Leaves of Kalanchoe pinnata were extracted using ethanol as solvent. Bacterial samples were selected randomly from a culture collection isolated from patients. Susceptibility test was done by broth microdilution method. Kalanchoe pinnata has antibacterial activity against Acinetobacter baumannii and Methicillin Resistant Staphylococcus aureus. The Minimum Inhibitory Concentration and Minimum Bactericidal Concentration of Kalanchoe pinnata leaves extract against Acinetobacter baumannii are 144.9 mg ml and 289.8 mg ml, while for Methicillin Resistant Staphylococcus aureus is 144.9 mg ml unfortunately, its MBC cannot be determined.