Antifungal Activity of *Rhizome coptidis* and *Alpinia galangal* against *Candida* species

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Candidiasis is a fungal infectious disease, caused by the opportunistic pathogens, Candida species. Incidences of candidiasis have become more common, as a result of prolonged antibiotic therapy and increased number of immunocompromised patients. This study was conducted to investigate the antifungal properties of *Rhizome coptidis*, Radix Sophorae flavescentis, Radix Stemonae, Etlingera elatoir, Alpinia galangal and Cymbopogon citratus extracts in terms of inhibition zone and minimum inhibitory concentration (MIC) of plant extracts against some of clinically prevalent species of Candida outlined by CLSI susceptibility testing guidelines for yeast cells. Our favourable results demonstrated that *R. coptidis* has potential to show the strong antifungal activity against all Candida species tested as ranged from 64 to >1024 μ g/ml. A. galangal was also able to inhibit the growth of Candida tropicalis and Candida glabrata, although to a lower extent. Moreover, the MIC value of A. galangal was 64 μ g/ml for both Candida tested. Meanwhile, the majority of plant extracts tested did not show significant antifungal activity. Nonetheless, In vivo testing needs to be performed to support these findings.

Key words: Candida species, Rhizome coptidis, Alpinia galangal, anti-Candida activity.

Candidiasis is a fungal infection which is caused by *Candida* species. Candidiasis thereby encompasses infections that range from superficial to systemic and potentially life-threatening diseases. *Candida* yeasts are usually present in most people, but uncontrolled multiplication may result in disease symptoms, especially in immunocompromised patients. However, due to wide usage of azole drugs and prolonged antifungal therapy, the number of azole-resistant isolates has increased in many institutions during the past decade. There are five most frequently isolated species of *Candida*, namely *C. albicans*, *C. tropicalis, C. krusei, C. parasilopsis* and *C. glabrata.* Among these, *C. albicans* is the most significant species causing numerous infections in human, especially in immunocompromised patients¹.

Clinically, candidiasis is normally treated with antimycotics, which are the antifungal drugs commonly used in hospitals. For non-severe clinical condition, the antifungal drugs used include topical clotrimazole, topical nystatin, fluconazole and topical ketonazole, whereas for severe infection, amphotericin B, caspofungin or variconazole may be used. Although different kinds of antifungals have been developed, resistant strains still exist, especially *C. glabrata. C. glabrata* has emerged as the second most common

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