

## ABSTRACT

### **Agar Dilution Method on Chromogenic Medium Modified by *Fluconazole* for Identification and Determination of Fluconazole Susceptibility in *Candida spp.***

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#### **Background:**

Antifungal susceptibility testing is needed in the adequate management of candidiasis due to the increased of *fluconazole* resistance. Agar dilution method on chromogenic medium modified by *fluconazole* thought to be used as accurate and simple method.

#### **Purpose:**

To determine the accuracy of agar dilution method on chromogenic medium modified by *fluconazole* for species identification and fluconazole susceptibility testing in *Candida spp.*

#### **Method:**

The study design was observational study to study species identification and quasi experimental to study fluconazole susceptibility testing. Species identification and fluconazole susceptibility testing of *Candida spp.* were done by agar dilution method on chromogenic medium modified by *fluconazole* at concentrations of 0, 8, and 32 µg/ml and standard method, i.e.: API 20 C AUX and Vitek 2 compact. Accuracy analysis of agar dilution method on chromogenic medium modified by *fluconazole* was compared with standard method.

#### **Result:**

The results showed that of 25 isolates, the identification on chromogenic medium (CHROMagar *Candida*) obtained 12 isolates were *C. albicans*, 9 isolates were *C. tropicalis*, and 4 isolates were *C. glabrata*. The results showed 100% agreement to API 20 C AUX. Result of *Fluconazole* susceptibility testing showed that of the 25 isolates, obtained 21 isolates susceptible (S) by using both methods; 3 isolates susceptible (S) with Vitek 2 compact method and susceptible-dose dependent (S-DD) with a dilution method on chromogenic medium modified by fluconazole; 1 isolate resistant (R) by using both methods. Sensitivity, specificity, positive predictive value and negative predictive value of *fluconazole* susceptibility testing by agar dilution method on chromogenic medium modified by *fluconazole* was 100%.

#### **Conclusion:**

Agar dilution method on chromogenic medium modified by *fluconazole* showed a high accuracy for species identification and *fluconazole* susceptibility testing in *Candida spp.*

**Key words:** *agar dilution method, chromogenic medium, species identification, fluconazole susceptibility, Candida spp.*