

# Pola Kepekaan *Candida albicans* dan *Candida krusei* Terhadap Flukonazol Secara In Vitro: Tinjauan Data Uji Laboratorium Departemen Parasitologi FKUI = Sensitivity Pattern of *Candida albicans* and *Candida krusei* to Fluconazole by In Vitro: An Overview of Laboratory Test Data in Department of Parasitology FMUI

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## Abstrak

**Pendahuluan:** Kandidiasis merupakan penyakit infeksi yang disebabkan oleh jamur jenis *Candida* sp. Beberapa jenisnya adalah *Candida albicans*, spesies *Candida* sp. yang menjadi etiologi terbanyak kasus kandidiasis dan *Candida krusei*, spesies *Candida* sp. yang memiliki resistensi tertinggi terhadap flukonazol. Dewasa ini, kejadian kandidiasis semakin meningkat disebabkan tingginya insidens HIV dan semakin maraknya penggunaan antibiotika spektrum luas. Tujuan dari penelitian ini adalah untuk mengetahui pola kepekaan *Candida albicans* dan *Candida krusei* terhadap antifungal flukonazol secara in vitro di Indonesia. **Metode:** Penelitian ini merupakan penelitian observasional in vitro menggunakan data sekunder hasil uji kepekaan difusi cakram kultur *Candida albicans* dan *Candida krusei* yang didapat dari spesimen klinik yang masuk ke Laboratorium Departemen Parasitologi Fakultas Kedokteran Universitas Indonesia periode 2013-2018. Setiap spesimen dimasukkan cakram antifungal flukonazol dan dilakukan interpretasi hasil kepekaan sesuai panduan dari CLSI yang terdiri atas sensitif, peka tergantung dosis, dan resisten. **Hasil:** Uji kepekaan *Candida albicans* terhadap flukonazol menunjukkan dari 1554 isolat *Candida albicans* didapatkan 1545 isolat (99,421%) sensitif, 4 isolat (0,257%) peka tergantung dosis, dan 5 isolat (0,322%) resisten. Sementara itu, uji kepekaan *Candida krusei* terhadap flukonazol menunjukkan dari 191 isolat *Candida krusei*, didapatkan 96 isolat (50,262%) sensitif, 4 isolat (2,094%) peka tergantung dosis, dan 91 isolat (4,31%) resisten. Hasil uji statistik menunjukkan terdapat perbedaan yang signifikan antara pola kepekaan *Candida albicans* dan *Candida krusei* terhadap antijamur flukonazol secara in vitro ( $p < 0,001$ ). **Kesimpulan:** *Candida krusei* memiliki presentase resistensi terhadap flukonazol yang lebih tinggi dibandingkan *Candida albicans*.

.....**Introduction:** Candidiasis is an infectious disease caused by a fungus type *Candida* sp. Several types of them are *Candida albicans*, species of *Candida* sp. which became the most etiological cases of candidiasis and *Candida krusei*, species of *Candida* sp. which has the highest resistance to fluconazole. Nowadays, the incidence of candidiasis is increasing due to the high incidence of HIV and the increasingly widespread use of broad-spectrum antibiotics. The purpose of this study was to determine the pattern of sensitivity of *Candida albicans* and *Candida krusei* to antifungal fluconazole in vitro in Indonesia. **Method:** This study was an in vitro observational study using secondary data from the diffusion sensitivity test of *Candida albicans* and *Candida krusei* culture discs obtained from clinical specimens that entered the Laboratory of the Department of Parasitology, Faculty of Medicine, University of Indonesia, 2013-2018. Each specimen was inserted fluconazole antifungal discs and interpreted the sensitivity results according to the guidelines of CLSI which consisted of sensitive, dose-dependent, and resistant. **Result:** *Candida albicans* sensitivity to fluconazole showed that from 1554 *Candida albicans* isolates of which 1545 isolates (99.421%) were sensitive, 4 isolates (0.257%) were susceptible dose dependent (SDD), and 5 isolates (0.322%) were resistant. Meanwhile, *Candida krusei* sensitivity to fluconazole showed that from 191 *Candida krusei*

isolates of which 96 isolates (50.262%) were sensitive, 4 isolates (2.094%) were susceptible dose dependent (SDD), and 91 isolates (4.31%) were resistant. Statistical test results showed that there were significant differences between the sensitivity patterns of *Candida albicans* and *Candida krusei* to fluconazole antifungals in vitro ( $p < 0.001$ ). Conclusion: *Candida krusei* has a higher percentage of resistance to fluconazole than *Candida albicans*.