CLINICO-DEMOGRAPHIC AND RISK CHARACTERISTICS OF WOMEN PATIENTS OF REPRODUCTIVE AGE AT THE DE LA SALLE UNIVERSITY MEDICAL CENTER (DLS-HSI) AND THE MORPHO-PHYSIOLOGICAL AND ANTIFUNGAL SENSITIVITY PROPERTIES OF THE *CANDIDA* SPECIES ISOLATED

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ABSTRACT

Vulvo-vaginal candidiasis (VVC) is a common universal problem encountered that affects a large fraction of women in a population. This study was conducted to determine the relationship of clinico-demographic and risk characteristics of women patients of reproductive age at the De La Salle University Medical Center to the prevalence of *Candida* species, and to evaluate the *in-vitro* sensitivity of the isolated *Candida* species to six commonly used antifungal agents.

Preliminary isolation of *Candida* species was done using the Brain Heart Infusion Broth (BHIB) and subcultured on Saboraud Dextrose Agar (SDA). Gram-staining was also performed to ensure that the collected species were yeasts. Presumptive test of the isolates was done using the CHROMagar *Candida*. Identified yeast isolates were tested for Germ Tube and Chlamydospore formation to confirm the presence of *C. albicans* while API *Candida* was used to identify the *Candida* species. Sensitivity test was done using the six common antifungal drugs. Frequency, ranking and chi-square tests were performed.

Of the 96 clinical samples, 54 (56.25%) developed green colonies which are characteristic of C*. albicans,* 33 had (34.37%) pink to violet colonies distinctive for *C. krusei,* six *(6.25%) had* cream-colored colonies the characterisctic of *C. parapsilosis,* and only three (3.12%) had dark blue colonies for *C. tropicalis.*

Representative *Candida* isolates developed color reactions to different sugars, and enzymes in API *Candida*. *C. albicans* were positive for germ tube and chlamydospores.

From a total of 86 respondents, less than one third (30.23 %, 26) were from the out-patient charity department and 69.77 %, 60 came from the out-patient private physician's clinic. Out of the total respondents, the prevalence of *Candida* species were 32 (33.33%) out of the total population were 18 (56.25%) belonged *to C. albicans,* 11 (34.37%) *C. krusei*, two (6.25%) *C. parapsilosis* and one (3.12%) *C. tropicalis.*

Among the patients who are symptomatic and asymptomatic for candidiasis, thirty two (37.2%) out of 86 patients were identified positive for the presence of *Candida species.* Respondents between 41 and 45 years old had the highest frequency of *Candida* infection (9, 28.12%). Majority of the respondents positive for candidiasis were married, and the highest frequency of occurrence of *C. albicans was* found among women with one to two children.

Out of 32 respondents, two (6.25%) had sexual contact with someone having candidiasis. *Candida* species were isolated from both of

respondents. *C. krusei* were isolated from patients who had sexual contact with the same sex. A total of three (9.37%) patients had multiple sex partners. There were 11 (34.37 %) *Candida species* isolated from patients with history of candidiasis in the family. Based on actual contact with the disease, 19 (59.37%) were positive for *Candida* species. Majority of patients who were suffering from dysmenorrhea during menstruation harbored *Candida* species. More than 50% of the patients who did not use contraceptive methods harbored more *Candida* isolates than those who adopted contraceptive methods.

Vaginal and labial itchiness and abnormal discharges showed the highest distribution for *Candida* species among the manifestations of VVC.

Antifungal susceptibility testing revealed that eighty (83.33%) out of the 96 *Candida* species isolates were susceptible to amphotericin-B, 38 (39.58%) to Grisefulvin, 72 (75.00%) to Sporonox, 21 (21.88%) to Nizoral, 15 (15.63%) to Diflucan and 78 (81.25%) to Nystatin.

C. albicans is the most prevalent species associated to VVC. In relation to this, women between the age of 36-40 and 41-45 who are married have the highest risk of having such infection. Antifungal prescription should be only given once the proper identification of the *Candida* species has been performed. Improperly prescribed antifungal agents may lead to drug resistance.

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