



Prevalence of *Candida* species from samples of women population from Maputo, Mozambique.

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OBJECTIVE

Vulvovaginal candidiasis (VVC) represents the most frequent mucocutaneous mycoses caused by yeast of the genus *Candida*. It is the third cause for all cases of vulvovaginitis in reproductive-aged women and, about 8% of women suffer recurrent candida vulvovaginitis. Besides the pathogenesis of symptomatic VVC is not clear and defined, some studies have been shown the increasing prevalence of azole-resistant strain of *Candida albicans* and, isolation of species with reduced sensibility to fluconazole as *C.glabrata* and *C.krusei*. To establish some politics to prevention and control of diseases, is necessary to identify which pathogens are circulating in that specific population. So, the presented study was performed to assess for the first time the prevalence of *Candida* species isolated from vaginal secretion from symptomatic women from Maputo - Mozambique.

METHODS

The samples were collected of women with symptoms of vulvovaginitis, attend in the Reference Center for Sexually Transmitted Infections of the Health Center May 1st to the National Institute of Health, in Maputo – Mozambique. The patients are referred from the various health services as: Service of Assistance and Support to Young People (SAAJ), Prenatal Consultation, Chronic Disease Consultation (CDC), Children's Consultation at Risk (CCR), Family Planning and Screening. However, most of the patients are from the SAAJ. It is a part of National Surveillance of Sexual Transmission Infection, from Mozambique. The samples were obtained during May 2016 to September 2017 and when suspicious to VVC were incubated in Sabouraud agar plates to 37°C. The *Candida*-like growths the DNA was extracted to confirm the species by multiplex real-time PCR. To this technique was used a specific anti-sense primer based on variability in the internal transcribed spacer (ITS) region of ribosomal DNA to differentiate species. The reaction consisted a PCR mix containing SYBR green as fluorescent and running on LightCycler instrument (Roche) where *Candida* identification could be obtained by analyzing the different melting points of the different species.

RESULTS

In this period a total of 91 samples showed a *Candida*-like growths. When Multiplex PCR was done, 68 (74,73%) were identified as *C.albicans*, 7 (7,69%) *C.glabrata* and 1 (1,09%) *C.krusei* (Table 1). Seventeen samples showed negative results after PCR analyzes. One hypothesis is that isolates are of other genera of yeast and need to be confirmed using other primers. The average age of women was 22, ranging 15 to 39 years.

Age (median)	22 (15 to 39 y)
Species	Frequency
<i>C.albicans</i>	74,72%
<i>C.glabrata</i>	7,69%
<i>C.krusei</i>	1,09%
Negative to <i>Candida</i> PCR identification	16,50%

Table 1. Frequency of *Candida* species isolated from vaginal secretion

CONCLUSION

The present work has provided recent data on the prevalence *Candida* species in a specific population of Maputo, and it are the first dates about this specific population. Such data is critical for establishment of therapeutic strategies and measures for prevention and control. Besides *C.albicans* was the most prevalent, we detected two other species that show reduced sensibility to fluconazole and usually reported in recurrence cases, which show the importance of good tools to diagnose and correct species identification.

REFERENCES

1. Gunther LS et al. Prevalence of *Candida albicans* and non-*albicans* isolates from vaginal secretions: comparative evaluation of colonization, vaginal candidiasis and recurrent vaginal candidiasis in diabetic and non-diabetic women. São Paulo Med J (2014).
2. Sadeghi G et. Al. Emergence of non-*Candida albicans* species: Epidemiology, phylogeny and fluconazole susceptibility profile. J Mycol Med 2018, 28(1):51-58.
3. Blostein F et al. Recurrent vulvovaginal candidiasis Ann Epidemiol 2017, 27(9): 575-582.