

Prevalence of Oral *Candida* Infections in Diabetic Patients

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Objective: The purpose of this study was to determine the prevalence, species distribution and antifungal susceptibility profile among oral cavity isolates of *Candida* species from diabetic and non-diabetic subjects. The contribution of smoking and dental status to the prevalence and distribution of *Candida* species was also evaluated.

Design: Retrospective study of oral candidiasis in diabetic patients between January and October 2003 was undertaken.

Setting: Three private clinics in Amman, Jordan and Department of Biological Sciences at Hashemite University.

Method: A total of 262 individuals were enrolled in the study, 132 were diabetics and 130 healthy controls. None of the non-diabetic controls had any clinical evidence of oral candidiasis, 8.3% of diabetics had clinical evidence of oral candidiasis, of which, 36% were overnight denture wearers and tobacco smokers. An imprint culture method was used to determine the frequency of isolation and density of *Candida* species at up to nine intra-oral sites. Yeast-like colonies were identified by classical methods and CHROMagar *Candida* medium. Broth macrodilution technique was used to determine the antifungal susceptibility pattern of *Candida* isolates.

Results: Positive yeast was detected in 58.3% of diabetics compared with 30% in healthy controls ($P<0.001$). *C. albicans* was the most prevalent species in both diabetics (81.8%) and controls (76.9%) followed by *C. tropicalis*, *C. parapsilosis* and *C. glabrata*. *C. kefyr* and *C. krusei* were isolated only from diabetics at a combined rate of 1.3%. *Candida* was detected more frequently in diabetic denture wearers than in control counterparts in all anatomic sampled sites ($P<0.05$). The frequency of *Candida* isolation was significantly higher in smokers than in the non-smokers in both diabetics and controls ($P<0.001$). All *C. albicans* recovered from diabetics and controls were susceptible to amphotericin B, ketoconazole, itraconazole and fluconazole. Non-*albicans Candida* isolates were shown to have higher azole MIC values than *C. albicans* isolates.

Conclusions: Our findings show that smoking and continuously worn dentures, promote oral candidal colonization in diabetics.

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