

Effect of xylitol with various concentration and duration on the growth of candida albicans (in vitro study)

Leepel, Lakshmi A., author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20428851&lokasi=lokal>

Abstrak

ABSTRAK

The growth of *C. albicans* is influenced by glucose intake. Xylitol is commonly used as sugar substitute. Reported effective concentrations of xylitol in reducing *C. albicans* growth in vitro were varied, 1%, 5%, and 10%. Objectives: Investigate the effect of different concentration and duration of xylitol exposure in inhibiting *C. albicans* growth in vitro. Method: Identification of *C. albicans* from oral swab of a male candidiasis patient was conducted using CHROMagar, confirmed by germ tube test. *C. albicans* suspension (10⁸ cells/μl) were inoculated in SDB contained 1%, 5%, 10% xylitol, and without xylitol (as control), for 3 and 7 days, then incubated in 37°C on SDA and counted for their CFU after 48 hours. The *C. albicans* ATCC 10231 strain was used as a comparison. Results: After 3 days, increased concentration of xylitol (1%, 5%, 10%) lead to decrease growth of *C. albicans*, both the ATCC 10231 (125%; 51%; 14% respectively) and the clinical isolate (103%; 81%; 42%), $p = 0.044$. Significant lower growth of *C. albicans* compared to control were only seen in those exposed to 10% xylitol ($p = 0.024$). After 7 days, exposure of 1%, 5%, 10% xylitol did not significantly affect the growth of *C. albicans* ($p = 0.396$). Conclusion: The growth of *C. albicans* could be inhibited by 10% xylitol for 3 days.