

**Prevalence of Candida species
and oral Candidiasis during
menstrual cycle in a sample of
women in Baghdad city**

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Abstract:

Background:

Menstrual cycle define and reflect the women internal endocrine environment. Ovarian hormones, estrogens and progesterone, are not secreted in constant amounts throughout the cycle. Estrogen and progesterone have been shown to inhibit aspects of both innate and acquired immunity at the systemic or local level furthermore they have been shown to influence on maturation and keratinization of oral mucosa. So there may be possible influence of the menstrual cycle on the adherence of *Candida* to human oral epithelial cells, and may implicate hormonal factors in the aetiology of oral Candidiasis.

Objectives:

The purpose of this study was to estimate the prevalence of *Candida albicans* and other different *Candida* species in the oral cavity during different periods of menstrual cycle. Also to show the prevalence of clinically oral pseudomembranous Candidiasis and other types of oral Candidiasis during different periods of menstrual cycle.

Patients and Methods:

One hundred and seventy six oral swabs were taken in a hot weather (summer) in Baghdad city from 44 healthy females at childbearing age from 15 to 49 years old at different periods of menstrual cycle on days 5, 13, 22 and 28, which represent menstrual phase, ovulatory phase, mid-luteal phase and premenstrual phase respectively.

Females were non-smokers, had no past or present medical history, under no medication and had regular menses.

Swabs were taken from the posterior part of the dorsal surface of the tongue as a sample for isolation of *Candida* species. The specimens were

inoculated on Sabouraud's glucose agar for isolation of *Candida*, which then identified by gram stain method, germ tube method and fermentation of sugar set.

Results and Conclusions:

The prevalence of *Candida* in the oral cavity at 5th, 13th, 22nd and 28th days of menstrual cycle were 31.8%, 22.7%, 40.9% and 25% respectively.

The study shows that the prevalence of *Candida* in the oral cavity was non-significantly higher at 22nd day of menstrual cycle and a non-significant relationship was found between the prevalence of *Candida* in the oral cavity and the menstrual cycle during different periods. There was no significant influence of menstrual cycle on the prevalence of *Candida* in the oral cavity during different periods.

The prevalence of *Candida albicans* was higher during different periods of menstrual cycle in comparison to *Candida tropicalis* and *Candida parapsilosis*. For each selected day of menstrual cycle, there was high significant difference in the prevalence of *Candida* species, but the menstrual cycle appears to have no significant influence on the prevalence of each *Candidal* species during different periods.

Scanty growth of *Candida* in the oral cavity was recorded during different periods of menstrual cycle and the menstrual cycle appears to have no significant influence on density of *Candidal* growth and have no influence on oral *Candidiasis*.

Age, marital status and time of specimens' collection did not exert a significant influence on the prevalence of *Candida* in the oral cavity during different periods of menstrual cycle.