

## Original Research Article

**Vaginal candidiasis among pregnant women: A prevalence study**Raviraj Khairnar<sup>1</sup>, Archana Khairnar<sup>2</sup><sup>1</sup>Associate professor, Dept. of Obstetrics & Gynecology, SMBT Institute of medical sciences and research centre, Dhamangoan, Nashik<sup>2</sup>Ex Lecturer, Dept. of Obstetrics & Gynecology, NDMVP medical college Nashik**\*Corresponding author**

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**Abstract:** Pregnant women frequently develop greater than before vaginal discharge which can lead to pregnancy difficulties like abortions, premature birth, low birth weight and other morbidities. The present study was aimed to study the prevalence of vaginal candidiasis among pregnant patients. 143 high vaginal swabs were collected from pregnant woman with symptoms of vaginal infection. These samples were tested by microscopical examination and culture on Sabouraud Dextrose agar. Colonial morphology, wet preparation, gram staining, germ tube test, were carried out for identification of the isolated organisms. Out of 143 samples collected, 67 (46.85%) patients were shown positive candida infection. The age group showing the highest number of positive candidiasis was of 26 to 35 year age group. Vaginal candidiasis was common in pregnant women with more common in young adults of age range 26 to 35 years.

**Keywords:** Candidiasis, Vaginal candidiasis, pregnant women

**INTRODUCTION:**

Vaginal Candidiasis is infection caused by extra growth of *Candida* species affecting the genital tract as adaptable pathogen. Vaginal Candidiasis is a common type of vaginitis, a gynaecologic disorder manifests with an odorless curdy white discharge ("cottage cheese") in the female lower reproductive tracts with pruritus, irritation, dysuria or dyspareunia [1, 2].

*Candida* species are part of the lower genital tract flora in 20-50 % of healthy asymptomatic women. Carrier rates are higher in women treated with broad spectrum antibiotics, pregnant women, diabetic women and women with HIV/AIDS [1, 3]. The present study was aimed to study the prevalence of vaginal candidiasis among pregnant patients.

**MATERIALS AND METHODS:**

A total number of 143 swabs from the vaginal area were collected from pregnant women having symptoms of vaginal infections. The pregnant women were having the age range from 19 to 39 years. The study was done over a period of 1 year. Two swabs were collected from each of the patient at the same time and transported immediately to the mycology lab.

The first swab was used for the preparation of the wet mount and for the preparation of the slide for the gram stain, while the next swab was inoculated under aseptic condition on Sabouraud Dextrose agar and inoculated at 37<sup>0</sup> C for 24 to 72 hours. Colonial morphology, gram staining, wet mount preparation and germ tube test were carried out for the identification of the isolated organisms. A well informed consent was taken from each of the participant and the ethical committee approval was also taken before start of the study.

**RESULTS:**

One hundred and forty-three samples were collected for the identification of the candidiasis from symptomatic pregnant women. Out of these, 67 (46.85%) patients were shown positive candida infection. (Table 1) The patients were having various complaints like complaint of discharge was present in 85.31% patients, complaint of itching was present in 51.04% patients and complaint of odor and burning was present in 26.57% and 11.88% respectively. (Table 2) The age group showing the highest number of positive candidiasis was of 26 to 35 year age group. (Table 3)

**Table 1: Number of pregnant women with positive vaginal candidiasis**

| Vaginal candidiasis | Number of pregnant women | %     |
|---------------------|--------------------------|-------|
| Positive            | 67                       | 46.85 |
| Negative            | 76                       | 53.15 |
| Total               | 143                      |       |

**Table 2: Complaints of pregnant women**

| Symptoms  | Number of Pregnant women | %     |
|-----------|--------------------------|-------|
| Discharge | 122                      | 85.31 |
| Itching   | 73                       | 51.04 |
| Odor      | 38                       | 26.57 |
| Burning   | 17                       | 11.88 |

**Table 3: Age group wise distribution of the pregnant women**

| Age group | Number of pregnant women | Number of candida positive samples | %     |
|-----------|--------------------------|------------------------------------|-------|
| 16-25     | 59                       | 29                                 | 49.15 |
| 26-35     | 52                       | 27                                 | 51.92 |
| 36-45     | 32                       | 11                                 | 34.37 |
| Total     | 143                      | 67                                 | 46.85 |

**DISCUSSION:**

Among all incentives of women motherhood is the most universal and the strongest. Motherhood is a beautiful and joyous involvement to a woman. The feeling of a life growing inside makes her ecstatic. The health of the mother during pregnancy is important to give birth to a healthy baby. Reproductive tract infections are common during pregnancy [4].

Vaginal candidiasis affects around 75% of women of child-bearing age. Factors that predispose women to vaginal candidiasis include hormonal variation, i.e., during pregnancy, luteal phase of menstrual cycle, antibiotic uses and use of oral contraceptives [5]. Wilkinson labeled vaginal Candidiasis for the first time in 1849. Women are unlikely to seek advice because there is a tendency to view "white discharge" as normal and also because the condition is associated with shame and guilt. Usually women complain of vaginal release when they think it is unusual for them or if it causes itching or discomfort [6].

Nelson et al showed candida albicans as the most common vaginal candida species followed by candida glabrata causing vaginal Candidiasis among pregnant women. Candida spp. that rarely causes infection includes *C. parapsilosis*, *C. pseudotropicalis*, *C. krusei*, *C. guilliermondi* and *C. stellatoidea* [1]. The pathogenesis and prognosis of candidial infections are affected by the host immune status and also differ

greatly according to disease presentations. Therefore, diagnosis, management, and treatment choices vary and need to be considered in the overall setting of the affected human host. At least 75% women suffer once in their life from one episode of a candida infection. Although *Candida albicans* is the pathogen identified in most patients with vulvovaginal candidiasis, other possible pathogens include *Candida tropicalis*, *Candida glabrata* amongst others, which are responsible for up to 33 percent of recurrent infections [7].

During pregnancy, levels of both progesterone and estrogen hormones are elevated. Progesterone has oppressive effects on the anti-Candida activity of neutrophils, while estrogen have been found to reduce the ability of vaginal epithelial cells to inhibit the growth of *Candida albicans* and also decreases immunoglobins in vaginal secretions resulting in increased vulnerability of pregnant women to vaginal Candidiasis. Several additional factors like gestational diabetes, frequent antibiotic therapy, HIV status, contraceptives, and reproductive hormones also predispose women to acute and chronic candidiasis [8].

Vaginal secretions during pregnancy fall from a pH of greater than 7 (an alkaline pH) to 4 or 5 (an acid pH). This occurs because of the action of *Lactobacillus acidophilus*, bacteria that grow freely in the increased glycogen atmosphere, and by so doing increase the lactic acid content of secretions. This changing acid content helps to make the vagina resistant to bacterial

invasion for the length of the pregnancy. This change in pH also unfortunately, favors the growth of *Candida albicans*. *Candida* infection occurs more regularly in pregnant women. It is believed that higher estrogen levels and higher glycogen content in vaginal secretions during pregnancy increase a woman's risk of developing vulvo-vaginal candidiasis [4].

This immune inequity is caused by a number of factors, such as excess stress, allergies, indiscriminate use of antibiotics, steroids, birth control pills and hormonal drugs and nutrient deficiency. Diabetes mellitus, pregnancy, and the use of tight nylon underwear also enhance overgrowth of *Candida* in a manner that cannot easily be controlled by the body's defense mechanisms [7, 9]. Proper sex teaching of teenagers, adolescents and young adults could be useful in the control of vaginal candidiasis, even though the exclusive sexual communication of the organism is yet to be recognized. However, its near absence in the very young age groups and its high incidence in the greatest sexually active age range further strengthens the belief that sexual activity could contribute to a large extent, the spread of the disease. The especially high prevalence of vulvovaginal candidiasis among commercial sex workers further affirms the impact of unsafe sexual activity on the burden of the disease [10].

#### CONCLUSION:

Vaginal candidiasis was common in pregnant women with more common in young adults of age range 26 to 35 years.

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