

# Perspective Study on Vaginal, Vulvar Disorders in South Karnataka Women

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## Abstract

**Background:** Due to unhygienic and illiteracy in the women, there are many genital infections, that is, bacterial, fungal herpes, and viral infections which are usually ignored by females. Due to their busy schedule of their domestic commitments moreover they belong to, middle and low socio-economic status.

**Materials and Methods:** A total of 125 women aged between 16 and 66 years were studied and classified into three groups: (a) 16–24, (b) 25–45, and (c) 46–66 years age group; vaginal pH was measured by pH indicator strip bimanual examination. Swab was collected from posterior vaginal fornix sent for amine test and Gram staining and culture to rule out bacterial vaginitis. Fungal swab was incubated on Sabouraud Dextrose Agar. Incubated at 37°C temperature and observed for 4 weeks. Valvular biopsy was done in valvular dystrophy or if malignancy was suspected.

**Results:** In 16–24 years age group, 11 (34.3%) had bacterial infection, 9 (28.1%) had fungal infection, 7 (21.8%) had allergic conditions, 3 (9.37%) had herpes, and 2 (6.25%) had malignancy. In age group of 25–45 years, 15 (35.7%) had bacterial infection, 13 (30.9%) had fungal infection, 6 (14.2%) had allergic condition, 5 (11.9%) herpes, and 3 (7.1%) had malignancy. In the age group of 46–66 years, 20 (39.2%) had bacterial infections, 14 (27.4%) had fungal infections, 6 (11.7%) had allergic condition, 4 (7.84%) had herpes, and 7 (13.7%) had malignancy.

**Conclusion:** Prevalence of vaginal, valvular disorders is due to unhygienic, undernutrition, malnutrition, and late approach to medical help. The disorders of different age group will be useful to obstetrician and gynecologist, endocrinologist to treat such patients efficiently.

**Key words:** Allergic conditions, Bacterial infections, Herpes, Malignancy, Vulvovaginal conditions

## INTRODUCTION

Infection or inflammation of vagina or vaginitis caused by various infections or non-infectious factors.<sup>[1]</sup> The most of the common causes are bacterial vaginosis (BV), vulvovaginal candidiasis (VVC), and trichomatous vaginitis (TV).<sup>[2]</sup> BV is most commonly asymptomatic characterized by discharge of homogenous grayish-white smelly secretion fishy smell after intercourse or during menstruation and elevation of pH above 4.5.<sup>[3]</sup> VVC caused by overgrowth of yeast, mainly *Candida albicans*.<sup>[4]</sup> TV is flagellate protozoan parasite that causes trichomoniasis, characterized by severe vaginitis. Its

transmission is usually sexual and frequent recurrence if the male partner is not simultaneously treated, women with TV may complain foul smelling discharge, dysuria, dyspareunia, vulvar itching, and pain. The vulva may be erythematous, edematous, and excoriated and subepithelial hemorrhages or strawberry spots may be observed on the vagina and cervix.<sup>[5]</sup> If these disorders are not treated properly, it may cause morbidity and mortality in later days.

## MATERIALS AND METHODS

A total of 125 women visiting to the Obstetrics and Gynecology Department of Basaveshwara Medical College, Chitradurga - 577502, Karnataka, were studied.

### Inclusive Criteria

Women having vulvar and vaginal irritation, itching burning pain, and/or dyspareunia (painful intercourse) were included in the study.

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**Exclusion Criteria**

Patients having pregnancy HIV positive were excluded from the study.

**Methods**

Detail history of each patient was noted, the quantity odor, color, and consistency vaginal discharge were noted. The vaginal pH was measured directly using pH indicator strip against posterior fornix. A bimanual examination was done to look for any adnexal tenderness. Clinical investigations were done. Vaginal swabs from the posterior vaginal fornix were collected before bimanual examination. One swab was sent for amine test and preparation of wet mounts. The second (another swab) was sent for Gram staining and culture to rule out bacterial vaginosis from amine test. The wet mount test was carried out to identify the presence of motile *Trichomonas* and clue cells. Gram staining was performed to confirm the presence of clue cells budding yeast cells and pseudohyphae.

To rule out the secondary bacterial infection, the swab was inoculated on blood agar and MacConkey agar, incubated at 37°C for 18 h and plates were studied and confirmed by a battery of biochemical reactions for fungus, swab was inoculated on Sabouraud Dextrose Agar, incubated at 37°C, and observed till 4 weeks and growth was confirmed by germ tube test, valvular biopsy is done in cases where valvular dystrophy or malignancy is suspected. The duration of study was October 2018–April 2020.

**Statistical Analysis**

The different age group and different diseases were classified with percentage. The statistical analysis was in SPSS software.

**OBSERVATION AND RESULTS**

Table 1 shows study of vaginvalvular disorders in the age group between 16 and 24 years.

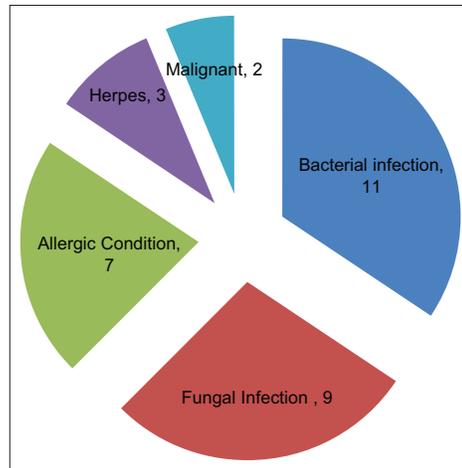
The number of patients was 32, 11 (34.3%) had bacterial infection, 9 (28.1%) had fungal infection, 7 (21.8%) had allergic, 3 (9.37%) had herpes, and 2 (6.25%) had malignancy.

In Table 2, the patient aged between 25 and 45 years. The number of patients was 42, 15 (35.7%) had bacterial infection, 13 (30.9%) had fungal infection, 6 (14.2%) had allergic disorders, 5 (11.9%) had herpes, and 3 (7.1%) had malignancy.

In Table 3, the patient aged between 46 and 66 years. The number of patients was 51, 20 (39.2%) had bacterial infection, 14 (27.4%) had fungal infection, 6 (11.7%) had

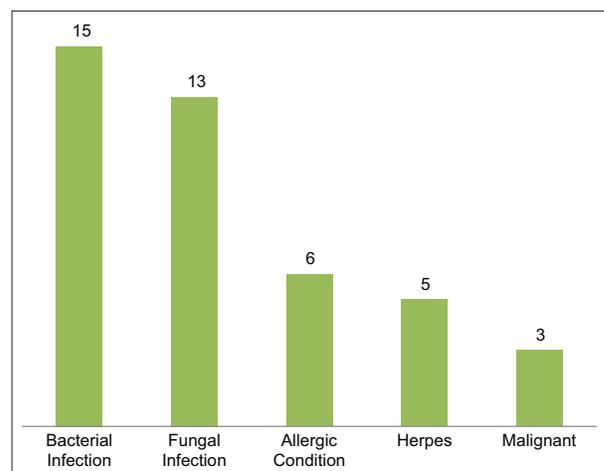
**Table 1: Study of vaginvalvular disorder in the age group of 16–24 years (Total no. of patients: 32)**

Particulars	No. of patients	Percentage
Bacterial infection	11	34.3
Fungal infection	9	28.1
Allergic condition	7	21.8
Herpes	3	9.37
Malignant	2	6.25



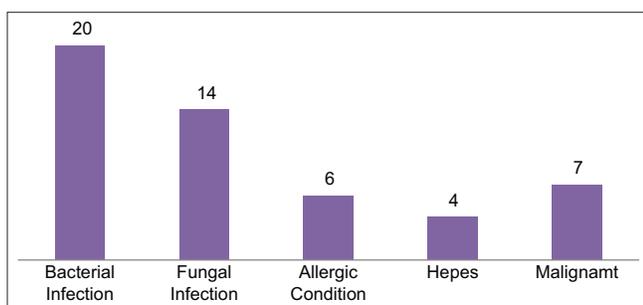
**Table 2: Study of vaginvalvular disorders in different age groups of 25–45 years (Total no. of patients=42)**

Particular	No. of patients	Percentage
Bacterial infection	15	35.7
Fungal infection	13	30.9
Allergic condition	6	14.2
Herpes	5	11.9
Malignant	3	7.1



**Table 3: Study of vaginavalvular disorders age groups of 46–66 years (Total no. of patients=51)**

Particular	No. of patients	Percentage
Bacterial infection	20	39.2
Fungal infection	14	27.4
Allergic condition	6	11.7
Herpes	4	7.84
Malignant	7	13.7



allergic disorders, 4 (7.84%) had herpes, and 7 (13.7%) had malignancy.

## DISCUSSION

The present study of vaginal, vulvar disorders in females of South Karnataka in different age groups. In the age groups between 16 and 24 years, the total number of patients was 32, 11 (34.3%) had bacterial infection, 9 (28.1%) fungal infection, 7 (21.8%) had allergic disorder, 3 (9.37%) had herpes, and 2 (6.25%) had malignancy [Table 1]. In the age group between 25 and 45 years, the total number of patients was 42, 15 (35.7%) had bacterial infection, 13 (30.9%) fungal infection, 6 (14.2%) allergic disorders, 5 (11.9%) herpes, and 3 (7.1%) had malignancy [Table 2]. The patient aged between 46 and 66 years, the total number of patients was 51, 20 (39.2%) had bacterial infection, 14 (27.4%) had fungal infection, 6 (11.7%) had allergic disorders, 4 (7.84%) had herpes, and 7 (13.7%) had malignancy [Table 3]. These findings were more or less in agreement with the previous studies.<sup>[6-8]</sup>

Bacterial infection includes BV, human papilloma virus (HPV), molluscum contagiosum, trichomoniasis, scabies, and atrophy of vagina and vulva.

Fungal infections due to VVC caused by *Candida albicans* quite common in all age groups.<sup>[9]</sup> Malignancy was higher in 46–66 age groups (13.7%). Allergic condition rates were higher in 16–24 age group (21.8%) of females, could be usage of soap, detergents, medications which irritate the

vulva and vagina, allergic contact dermatitis too. Herpes highest in 25–45 age group (11.9%) is the most common cause of vulvar ulcer, these are two serio type of HSV<sub>1</sub> and HSV<sub>2</sub> more commonly associated with genital outbreaks. It is associated with pyrexia, dysuria, burning, and pruritis. Vesicles are seen on the vulva which is more painful often found in clusters, the patient will have severe pain with retention of urine. Malignancy of vulva can be caused by HPV and Bartholin glands which are lubricating glands may form cyst. This cyst may develop into malignancy.

In addition to these disorders psoriasis seborrheic dermatitis, squamous cell carcinoma, tinea cruris, Lichen sclerosis, immune disorders like alopecia, vitiligo and hypothyroidism.<sup>[10]</sup>

The present disorders are quite prevalent in lower or middle socioeconomic status females who were poorly educated<sup>[11]</sup> who were unaware of unhygienic diseases; moreover, such infections were also observed in the Indian Society where premarital or extra marital sexual contact was the history of patients, moreover, BV, VVC, and *Trichomonas vaginalis* were commonly observed in sexually active patients.<sup>[12]</sup>

Apart from this, BV was commonly observed in females who were in the usage of Intra uterine contraceptive devices which was associated with increased menstrual flow and irregular vaginal bleeding. In addition to this, miscarriage had a history of bacterial infection.

VVC observed in females whose husband had extra marital relation or female herself had extra marital or pre-marital relation. Atrophic vaginitis is common vaginal condition due to low estrogen states, such as menopause (natural or surgical), breastfeeding, and sometimes as a result of medications.

## CONCLUSION

The present study of vaginal valvular disorders at different age groups will be useful to gynecologist, pathologist, and endocrinologist to classify the higher incidence of infections as per their age group. Although vagina is lined by stratified squamous non-keratinized epithelium with abundant hair to combat with genital infection. Majority of females of our country are illiterate, unhygienic, undernutritional, and late approach to seek medical help. Moreover, as age advances, there will be withdrawal of hormones which lead to atrophy of vaginavalvular parts of uterus and more liable to infection. Hence, elder women should approach frequently to gynecologist if any vaginavalvular disorders. This study needs to create awareness among women of different age group regarding benefits of hygiene, usage of condoms in unwanted pregnancy. It also safeguards the

hygienic conditions. Medicosocial workers and community medicine staff must conduct awareness programs in rural areas which can minimize such vulvovaginal disorders.

This research paper is approved by Ethical Committee Basaveshwara Medical College, Chitradurga-577502, Karnataka.

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