



CLINICO-DERMATOLOGICAL PROFILE OF VULVAR DERMATOSES IN WOMEN ATTENDING A TERTIARY CARE HOSPITAL

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Abstract

Background: Vulvar dermatoses comprise a diverse group of infectious, inflammatory, autoimmune, pigmentary, and neoplastic disorders affecting the female genitalia. These conditions often present with symptoms such as pruritus, burning sensation, pain, and dyspareunia, significantly affecting the quality of life of affected women. Despite their clinical importance, vulvar dermatoses remain underdiagnosed due to social stigma, delayed healthcare-seeking behavior, and overlapping clinical presentations.

Aim To evaluate the clinico-dermatological profile of vulvar dermatoses in women attending a tertiary care hospital.

Materials and Methods This hospital-based cross-sectional observational study included 100 women diagnosed with vulvar dermatoses. Detailed demographic information, clinical history, symptomatology, lesion morphology, anatomical site involvement, and clinical diagnosis were recorded using a predesigned proforma. Relevant laboratory investigations and histopathological examination were performed whenever indicated. Data were analyzed using appropriate descriptive statistical methods.

Results The majority of patients belonged to the 21–30 years age group (28%), and 76% were married. Pruritus was the most common presenting symptom (78%), followed by burning sensation (42%) and vaginal discharge (34%). Vulvovaginal candidiasis was the most common diagnosis (24%), followed by lichen simplex chronicus (18%), contact dermatitis (14%), and lichen sclerosus (12%). Erythematous plaques were the most frequently observed morphological lesion (30%), while the labia majora was the most commonly involved anatomical site (42%).

Conclusion Vulvar dermatoses are common disorders affecting women of various age groups, with infectious and inflammatory conditions constituting the majority of cases. Pruritus remains the predominant presenting complaint. Early diagnosis through detailed clinical examination and appropriate investigations is essential for effective management and prevention of complications. Increased awareness among clinicians and patients can facilitate timely intervention and improve patient outcomes.

Keywords: Vulvar dermatoses; Vulvovaginal candidiasis; Lichen simplex chronicus; Vulvar pruritus; Lichen sclerosus; Female genital dermatoses; Clinico-dermatological profile.

Introduction

The vulva is the external female genital organ composed of the mons pubis, labia majora, labia minora, clitoris, vestibule, and associated glands. It is exposed to a unique environment characterized by warmth, moisture, friction, occlusion, and contact with urine, vaginal secretions, and various external agents, making it susceptible to a wide range of dermatological disorders.[1]

Vulvar dermatoses constitute a diverse group of disorders affecting the vulvar skin and mucosa and include infectious, inflammatory, autoimmune, pigmentary, premalignant, and neoplastic conditions.[2] These disorders may present with symptoms such as pruritus, burning sensation, pain, dyspareunia, discharge, ulceration, pigmentation changes, and architectural distortion of the vulva. Vulvar pruritus is one of the most common symptoms and significantly affects the quality of life of affected women.[3]

The prevalence of vulvar dermatoses is difficult to ascertain because many women do not seek medical attention due to embarrassment, social stigma, or the misconception that genital symptoms are a normal part of aging or reproductive life.[4] Studies have shown that non-venereal vulvar dermatoses are more common than sexually transmitted diseases and account for a significant proportion of gynecological and dermatological consultations.[5]

The spectrum of vulvar dermatoses varies according to age and geographic region. Infectious dermatoses such as candidiasis, tinea infections, and viral infections are commonly encountered in reproductive-age women, whereas inflammatory dermatoses including lichen sclerosus, lichen simplex chronicus, psoriasis, and lichen planus are observed across all age groups.[6] Lichen sclerosus is one of the most important chronic inflammatory vulvar disorders because of its association with scarring, sexual dysfunction, and an increased risk of vulvar squamous cell carcinoma.[7]

Accurate diagnosis of vulvar dermatoses can be challenging due to overlapping clinical manifestations and the coexistence of multiple pathological processes. A thorough history, detailed genital examination, dermoscopy, microbiological investigations, and histopathological evaluation when necessary are essential for establishing the diagnosis and guiding treatment.[8] Early recognition and appropriate management are important to prevent chronic symptoms, psychological distress, sexual dysfunction, and malignant transformation in selected conditions.[9]

Several studies from India and other countries have reported varying clinico-epidemiological patterns of vulvar dermatoses. The most frequently reported conditions include lichen sclerosus, lichen simplex chronicus, contact dermatitis, psoriasis, candidiasis, vitiligo, and vulvar intraepithelial neoplasia.[10,11] However, data regarding the clinical spectrum of vulvar dermatoses among Indian women remain limited, particularly in tertiary care settings where patients often present with advanced or atypical disease.[12]

Therefore, the present study was undertaken to evaluate the clinico-dermatological profile of vulvar dermatoses in women attending a tertiary care hospital and to analyze their demographic characteristics, clinical presentations, and disease patterns. Such information may contribute to improved awareness, early diagnosis, and better management of vulvar disorders.

Materials And Methods

Study Design

The present study was conducted as a hospital-based observational cross-sectional study to evaluate the clinico-dermatological profile of vulvar dermatoses in women attending a tertiary care hospital.

Study Setting

The study was carried out in the Department of Dermatology in collaboration with the Department of Obstetrics and Gynecology at a tertiary care teaching hospital.

Study Population

All female patients presenting with symptoms and/or signs suggestive of vulvar dermatoses during the study period were screened for eligibility and considered for inclusion in the study.

Inclusion Criteria

The study included:

1. Female patients of all age groups presenting with clinically evident vulvar dermatoses.
2. Patients willing to participate in the study.
3. Patients who provided written informed consent (or assent along with guardian consent in minors).

Exclusion Criteria

The following patients were excluded from the study:

1. Patients unwilling to participate in the study.
2. Patients who did not provide informed consent.
3. Patients with severe systemic illness precluding detailed examination.
4. Patients with incomplete clinical data or inadequate follow-up investigations.

Ethical Considerations

Ethical clearance was obtained from the Institutional Ethics Committee prior to commencement of the study. Written informed consent was obtained from all participants before enrollment. Confidentiality of patient information was maintained throughout the study.

Study Procedure

After enrollment, detailed demographic data including age, marital status, occupation, educational status, socioeconomic status, and relevant medical history were recorded in a predesigned case record form.

A detailed history regarding presenting complaints such as pruritus, burning sensation, pain, discharge, dyspareunia, pigmentation changes, ulceration, swelling, and duration of symptoms was obtained. Information regarding menstrual history, obstetric history, sexual history, personal hygiene practices, previous treatments, associated dermatological diseases, and systemic comorbidities was also recorded.

General physical examination and systemic examination were performed in all patients. Detailed dermatological examination of the vulva was carried out under adequate illumination. Morphological characteristics of lesions including site, number, distribution, color, surface changes, erosions, fissures, plaques, papules, vesicles, ulcers, and pigmentation abnormalities were documented.

Investigations

Relevant laboratory investigations were performed whenever indicated. These included:

- Complete blood count
- Blood sugar estimation
- Urine examination
- Potassium hydroxide (KOH) mount
- Gram staining
- Bacterial culture and sensitivity
- Fungal culture
- Serological investigations for sexually transmitted infections, when required

Skin biopsy and histopathological examination were performed in selected patients where the diagnosis was uncertain or when premalignant or malignant lesions were suspected.

Diagnostic Criteria

The diagnosis of vulvar dermatoses was established based on clinical findings and supported by relevant laboratory investigations and histopathological examination wherever indicated. Cases were categorized into infectious, inflammatory, autoimmune, pigmentary, premalignant, and neoplastic dermatoses according to standard dermatological criteria.

Outcome Measures

The following parameters were assessed:

1. Demographic profile of patients.
2. Clinical presentation of vulvar dermatoses.
3. Distribution of different vulvar dermatoses.
4. Morphological characteristics of lesions.
5. Associated dermatological and systemic disorders.
6. Histopathological findings wherever available.

Statistical Analysis

The collected data were entered into Microsoft Excel and analyzed using Statistical Package for Social Sciences (SPSS) software version 11.

Continuous variables were expressed as mean $\pm$ standard deviation (SD) or median with interquartile range (IQR), whereas categorical variables were expressed as frequencies and percentages. Associations between categorical variables were analyzed using the Chi-square test or Fisher's exact test. Continuous variables were compared using Student's t-test or analysis of variance (ANOVA), wherever applicable. A p-value of less than 0.05 was considered statistically significant.

Results

A total of 100 women diagnosed with vulvar dermatoses were included in the study.

The demographic characteristics of the study participants are presented in Table 1 and Figure 1. The majority of patients belonged to the 21–30 years age group (28%), followed by the 31–40 years age group (24%). Patients aged 41–50 years and those older than 50 years each accounted for 20% of the study population, while only 8% were younger than 20 years. Most participants were married (76%), whereas 16% were unmarried and 8% were widowed or divorced. Urban residents constituted 58% of the study population, while 42% were from rural areas (Table 1, Figure 1).

The distribution of presenting symptoms is shown in Table 2. Pruritus was the most common presenting complaint, reported by 78% of patients, followed by burning sensation (42%) and vaginal discharge (34%). Pain was observed in 28% of cases, while dyspareunia and pigmentation changes were reported by 20% and 22% of patients, respectively. Swelling was present in 14% of patients, ulceration in 10%, and asymptomatic lesions were noted in only 6% of cases (Table 2).

The spectrum of vulvar dermatoses diagnosed in the study population is summarized in Table 3. Vulvovaginal candidiasis was the most common diagnosis, accounting for 24% of cases, followed by lichen simplex chronicus (18%), contact dermatitis (14%), and lichen sclerosus (12%). Psoriasis and lichen planus were observed in 8% and 6% of patients, respectively. Vitiligo and genital warts each accounted for 5% of cases, while tinea infection was seen in 4%. Vulvar intraepithelial neoplasia and other miscellaneous dermatoses were identified in 2% of patients each (Table 3).

The morphological patterns of vulvar lesions are depicted in Table 4. Erythematous plaques were the most frequently encountered lesion type, observed in 30% of patients. Hyperpigmented plaques and depigmented patches accounted for 18% and 12% of lesions, respectively. Papules were present in 10% of cases, while erosions were seen in 8%. Ulcers and fissures each constituted 6% of lesions. Verrucous lesions and mixed morphological patterns were observed in 5% of patients each (Table 4).

The anatomical distribution of vulvar lesions is presented in Table 5. The labia majora was the most commonly affected site, involved in 42% of patients. The labia minora and multiple-site involvement each accounted for 18% of cases. The vestibule was affected in 10% of patients, followed by the perineum in 8%, whereas clitoral involvement was relatively uncommon and observed in only 4% of patients (Table 5).

Table 1. Demographic Characteristics of Study Participants (n = 100)

Variable	Category	n	%
Age Group (Years)	<20	8	8.0
	21–30	28	28.0
	31–40	24	24.0
	41–50	20	20.0
	>50	20	20.0
Marital Status	Married	76	76.0
	Unmarried	16	16.0
	Widowed/Divorced	8	8.0
Residence	Urban	58	58.0
	Rural	42	42.0

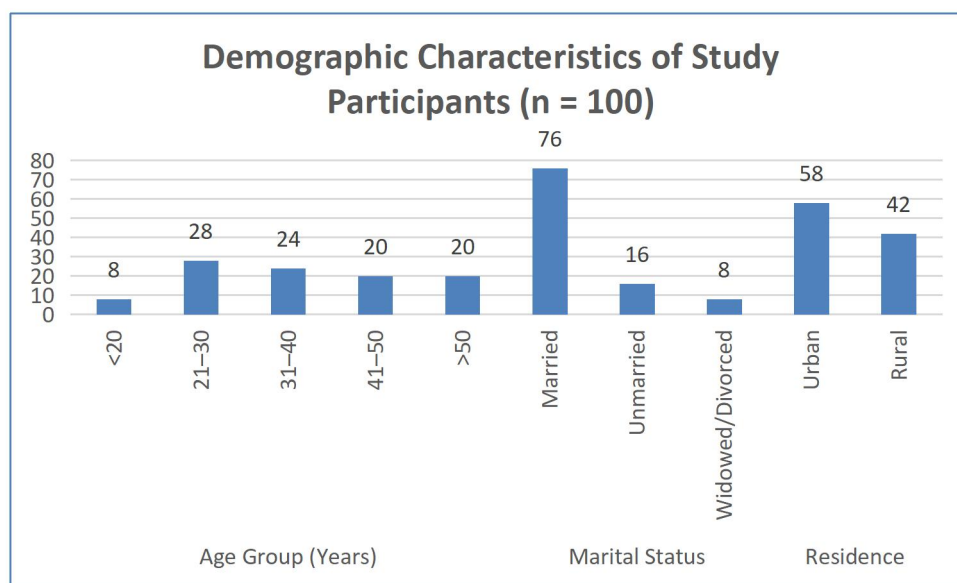


Figure 1 Demographic Characteristics of Study Participants (n = 100)

Table 2. Distribution of Presenting Symptoms Among Patients with Vulvar Dermatoses (n = 100)

Symptom*	n	%
Pruritus	78	78.0
Burning Sensation	42	42.0
Pain	28	28.0
Dyspareunia	20	20.0
Vaginal Discharge	34	34.0
Pigmentation Changes	22	22.0
Ulceration	10	10.0
Swelling	14	14.0
Asymptomatic Lesions	6	6.0

*Multiple responses possible.

Table 3. Clinical Diagnosis of Vulvar Dermatoses (n = 100)

Diagnosis	n	%
Vulvovaginal Candidiasis	24	24.0
Lichen Simplex Chronicus	18	18.0
Contact Dermatitis	14	14.0
Lichen Sclerosus	12	12.0
Psoriasis	8	8.0
Lichen Planus	6	6.0
Vitiligo	5	5.0
Genital Warts	5	5.0
Tinea Infection	4	4.0
Vulvar Intraepithelial Neoplasia	2	2.0

Others	2	2.0
Total	100	100.0

Table 4. Morphological Pattern of Vulvar Lesions (n = 100)

Morphological Pattern	n	%
Erythematous Plaques	30	30.0
Hyperpigmented Plaques	18	18.0
Depigmented Patches	12	12.0
Papules	10	10.0
Erosions	8	8.0
Ulcers	6	6.0
Fissures	6	6.0
Verrucous Lesions	5	5.0
Mixed Lesions	5	5.0
Total	100	100.0

Table 5. Site-wise Distribution of Vulvar Lesions (n = 100)

Site Involved	n	%
Labia Majora	42	42.0
Labia Minora	18	18.0
Vestibule	10	10.0
Clitoris	4	4.0
Perineum	8	8.0
Multiple Sites	18	18.0
Total	100	100.0

Discussion

The present study evaluated the clinico-demographic and clinical profile of vulvar dermatoses among 100 women attending a tertiary care hospital. Vulvar dermatoses represent a diverse group of infectious, inflammatory, and autoimmune disorders that significantly affect physical comfort, sexual health, and quality of life.

In our study, the majority of patients belonged to the 21–30 years (28%) and 31–40 years (24%) age groups. Similar findings were reported by Bhat et al. [11] and Kaur et al. [12], who observed that vulvar dermatoses are most commonly encountered among women of reproductive age. This predominance may be related to hormonal influences, increased sexual activity, and greater healthcare-seeking behavior. Most patients were married (76%), which is comparable to observations by Kaur et al. [12] and Singh and Ghatage [5], who also reported a higher prevalence of vulvar complaints among married women. Urban residents constituted 58% of cases, likely reflecting better access to specialized healthcare services.

Pruritus was the most common presenting symptom (78%), followed by burning sensation (42%) and vaginal discharge (34%). These findings are consistent with reports by Stockdale and Boardman [3] and Raef and Elmariah [13], who identified chronic itching as the hallmark symptom of most vulvar dermatoses. Persistent pruritus often leads to scratching, lichenification, sleep disturbance, and reduced quality of life, emphasizing the need for prompt diagnosis and treatment.

Among the various disorders identified, vulvovaginal candidiasis was the most common diagnosis (24%), followed by lichen simplex chronicus (18%), contact dermatitis (14%), and lichen sclerosus (12%). Similar patterns have been described by Kaur et al. [12] and Bhat et al. [11], who reported infectious dermatoses and lichen simplex chronicus as leading causes of vulvar symptoms. The high frequency of candidiasis may be associated with factors such as poor genital hygiene, diabetes, antibiotic use, and humid environmental conditions.

Lichen simplex chronicus accounted for 18% of cases, supporting the observations of Margesson [4], who described it as one of the most common chronic inflammatory vulvar disorders resulting

from a persistent itch–scratch cycle. Lichen sclerosus was observed in 12% of patients, comparable to findings reported by Goldstein et al. [7], who emphasized its chronic nature and potential for scarring, dyspareunia, and malignant transformation if left untreated.

Psoriasis (8%) and lichen planus (6%) were less common but clinically significant conditions. Similar observations were reported by Micheletti et al. [8], who highlighted the importance of recognizing these inflammatory disorders because of their impact on sexual function and quality of life.

Morphologically, erythematous plaques (30%) were the most common lesions, followed by hyperpigmented plaques (18%) and depigmented patches (12%). These findings correspond with the clinical patterns described by Bornstein et al. [9], who reported plaques, pigmentary changes, erosions, and papules as common manifestations of vulvar dermatoses. The labia majora was the most frequently involved site (42%), similar to observations by Bhat et al. [11] and Kaur et al. [12], likely due to greater exposure to friction, moisture, and irritants.

Overall, the present study demonstrates that infectious and inflammatory vulvar dermatoses constitute the majority of cases, with pruritus being the predominant symptom. Early recognition and appropriate management are essential to reduce morbidity and improve patients' quality of life.

Conclusion

Vulvar dermatoses constitute a significant group of disorders affecting women across different age groups, with pruritus being the most common presenting symptom. Infectious and inflammatory conditions, particularly vulvovaginal candidiasis, lichen simplex chronicus, contact dermatitis, and lichen sclerosus, accounted for the majority of cases. The labia majora was the most frequently involved anatomical site, and erythematous plaques were the predominant morphological presentation. Early recognition through careful clinical evaluation and appropriate investigations is essential for timely diagnosis, effective management, and prevention of long-term complications, thereby improving the quality of life of affected women.

Limitations

This study was conducted at a single tertiary care center with a relatively small sample size, which may limit the generalizability of the findings to the broader population. The cross-sectional design precluded assessment of disease progression, treatment response, and long-term outcomes. Histopathological confirmation was not performed in all cases, and some diagnoses were based primarily on clinical findings. Additionally, the possibility of referral bias cannot be excluded, as patients attending a tertiary care hospital may represent more severe or complex cases.

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