Original Article

Clinical and Demographic Patterns of Vulval Dermatoses and Their Impact on Quality of Life

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Abstract

Background: Vulval dermatoses may present with varied manifestations ranging from asymptomatic to chronic disabling conditions. The multifactorial nature of symptoms and physical expression of the disease on the vulva complicate the evaluation and management of genital dermatoses, thereby severely impairing the quality of life of patients. **Objectives:** To study the clinical patterns and socio-demographic features of vulval dermatoses and their impact on the quality of life using the dermatology life quality index (DLQI) questionnaire. **Materials and Methods:** Female patients of all age groups who attended our outpatient department (OPD) from October 2019 to March 2021 with vulval lesions were included in the study after a detailed history and complete examination. Based on sites of involvement, the lesions were classified as genital lesions alone, genital and skin lesions, oro-genital lesions, and oro-genital and skin lesions. DLQI score was assessed using the DLQI questionnaire. **Results:** In total, 520 patients were recruited for the study after following the inclusion and exclusion criteria. The most common age group was 31–40 years (33.65%). The majority of the patients were married (91.92%), housewives (82.88%), and illiterate (49.61%) women. The most common presenting symptom was itching (43%). The most common vulval dermatoses were infections, seen in 401 (77.11%) patients, followed by inflammatory diseases in 78 (15%) patients, and immunobullous diseases (1.53%). Patients with genital, skin, and oral involvement showed statistically significant higher DLQI scores (P value < 0.05). Patients with immunobullous disorders had the highest mean DLQI scores. **Limitations:** As this study was a hospital-based study, the observations may not represent and reflect the general population. **Conclusion:** Patients with genital, skin, and oral lesions had the highest DLQI scores, indicating higher impact on the quality of life. Assessment of the disease's impact on the quality of life is essential because it not only aids in early management but also helps in minimizing the duration of the ailment.

Keywords: *Dermatology life quality index, infections, orogenital lesions, vulval dermatoses*

Introduction

The vulva constitutes the external genitalia of the female consisting of labia majora, labia minora, mons pubis, clitoris, vestibule, and Bartholin glands.[1] Vulval dermatoses may present with varied manifestations ranging from asymptomatic to chronic disabling conditions.[2]

The classical characteristics of common dermatoses are modified in genitals due to the warm, moist, and frictional environment of the vulva and its frequent exposure to irritating substances such as urine, feces, and vaginal secretions.[3] The vulva is a difficult site for self-examination, which along with hesitation to seek medical care for genital lesions leads to anxiety, fear, and may severely impair the quality of life of patients in terms of increased morbidity and disturbed sexual function.[4,5]

The dermatology life quality index (DLQI) questionnaire is a validated, fast, and reliable tool to measure the impact of diseases on the quality of life. A DLQI score of more than 10 indicates a severe impact on the quality of life.[6]

Vulval diseases are not uncommon; however, their frequency and importance are often underestimated.[6] The multifactorial nature of symptoms and physical expression of the disease on the vulva complicate the evaluation and management of genital dermatoses.[2,7]

There are very few studies worldwide[8,9] and no studies from India on vulval dermatoses and their effect on the quality of life. Hence,

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we have taken up this study to know the clinical patterns and socio-demographic features of vulval dermatoses and their impact on the quality of life, assessed by DLQI.

Materials and Methods

A hospital-based cross-sectional study was conducted in our outpatient department (OPD) from October 2019 to March 2021. Ethical approval was obtained from the Institutional Ethics Committee (GSLMC/RC: 638-EC/638-09/19) before the study. Female patients of all age groups who attended the OPD with vulval lesions were included in the study after informed consent.

A detailed socio-demographic history was taken. A comprehensive clinical examination of external genitalia was done after ensuring adequate privacy along with vaginal and per speculum examination, and all findings were recorded. Examination of oral mucosa, scalp, hair, nail, perineal, and perianal region were done. Other sites of involvement were assessed and the lesions were classified as genital lesions alone, genital and skin lesions, oro-genital lesions, and oro-genital and skin lesions. Associated comorbidities were documented and blood investigations were done. Potassium hydroxide (KOH) mount, wet mount, dark ground microscopy, Tzanck smear, and Grams stain were done as and when required to establish the diagnosis. Biopsy was done wherever indicated. DLQI questionnaire was administered to all patients and assessed using the scoring system. Scoring was calculated between 0 and 30. These scores were correlated with the clinical and socio-demographic features.

Statistical analysis was performed using the SPSS version 20 software (IBM SPSS, IBM, Armonk, NY, USA. 2018). Descriptive statistics, one-way analysis of variance, Spearman's correlation test, and independent samples *t*-tests were done to analyze the study data.

Results

A total of 520 female patients who attended our OPD with vulval dermatoses, were recruited for the study. The age of the patients ranged from 4 years to 85 years. The majority of patients in the study belonged to the 31– 40 years age group (33.65%), followed by 21–30 years (29.03%), and 41–50 years (22.88%). Out of 520 patients, 478 (91.92%) of the study subjects were married women, and almost half of the patients, that is, 258 (49.61%) were illiterates [Table 1]. The majority of them were housewives (431, 82.88%).

Diabetes (40, 7.69%), hypertension (34, 6.53%), and anemia (28, 5.38%) were the predominant comorbidities, and 418 (80.38%) patients did not have any comorbidities.

The most common presenting symptom was itching (43%), followed by a burning sensation in 23%, swelling in 14%, and pain in 8%, and asymptomatic in 12% of the patients.

The most common vulval dermatoses in our study were infections, observed in 401 (77.11%) patients [Table 2] followed by inflammatory diseases in 78 (15%) patients. Among the infections, fungal infections were more common, seen in 265 (50.9%) patients followed by viral infections in 95 (18.26%) and bacterial infections in 41 (7.88%) patients. Lichen sclerosus [Figure 1] was the most common inflammatory disorder seen in 46 (8.84%) patients followed by lichen simplex chronicus in 27 (5.19%) patients. We observed vulval tuberculosis in one [Figure 2] and acute vulval edema in three patients [Figure 3].

Table 1 : Frequency of socio-demographic features of vulval dermatoses in our study

Variable	Category	Number (%)
Age group	< 20 years	33 (6.34%)
	21-30 years	151 (29.03%)
	31-40 years	175 (33.65%)
	41-50 years	119 (22.88%)
	≥51 years	42 (8.07%)
Marital status	Married	478 (91.92%)
	Unmarried	42 (8.08%)
Education	Graduation	52 (10%)
	Intermediate/diploma	60 (11.53%)
	High school	106 (20.38%)
	Middle/primary school	44 (8.46%)
	Illiterate	258 (49.61%)
Occupation	Employee	46 (8.84%)
	Student	43 (8.26%)
	Housewife	431 (82.88%)

The site of involvement was mainly genital alone (78.8%) followed by involvement of skin and genitalia (18.07%). DLQI scores of patients with genital, skin, and oral involvement were significantly high (17.87), indicating the highest impact on the quality of life in patients with these dermatoses [Table 3].

The immunobullous diseases had the highest mean DLQI (19.63), indicating a statistically significant impact on the quality of life. Among infections, patients with viral infections had high DLQI scores followed by bacterial infections and fungal infections [Figure 4].

Discussion

Vulval dermatoses may be associated with severe psychological trauma and fear in the minds of patients. They are associated with high morbidity and may significantly impact the quality of life. Therefore, it is of immense importance to diagnose these vulval dermatoses to relieve the patients from the stigma and phobia associated with them and improve their quality of life.

Out of 520 patients with vulval dermatoses, the majority of the patients belonged to the 31–40 years age group (33.65%) and the mean age of the patients was 35.49 ± 11.22 years, which was similar to the findings by Singh *et al*.[2] (34.9 years) and Gokdemir *et al*.[10] (32.64 ± 16.47 years) but the mean

Table 2 : Frequency distributions of vulval dermatoses

Vulval dermatoses	No of patients *n* (%)
Infections	401 (77.11%)
Fungal infections	265 (50.9%)
Tinea cruris	147 (28.2%)
Candidiasis	118 (22.6%)
Viral infections	95 (18.26%)
Genital warts	37 (7.1%)
Herpes genitalis	31 (5.9%)
Molluscum contagiosum	27 (5.1%)
Bacterial infections	41 (7.88%)
Folliculitis	26 (5.1%)
Bartholin cysts	14 (2.6%)
Vulval tuberculosis	1 (0.19%)
Inflammatory	78 (15%)
Lichen sclerosus	46 (8.84%)
Lichen simplex chronicus	27 (5.19%)
Eczema	3 (0.57%)
Lichen planus	1 (0.19%)
Crohn's disease of the vulva	1 (0.19%)
Immunobullous	8 (1.53%)
Pemphigus vulgaris	4 (0.76%)
Bullous pemphigoid	2 (0.38%)
Lichen planus pemphigoides	1 (0.19%)
Hailey–Hailey disease	1 (0.19%)
Pigmentary	
Vitiligo	5 (0.96%)
Normal variants	
Skin tags	13 (2.5%)
Others	15 (2.8%)
Acute vulval edema	3
Lymphangiectasia	5
Vulvodynia	6
Foreign body-induced vaginal discharge	1

age of the patients was slightly low (28.8 ± 17.8 years) in a study done by Pathak *et al*.[7] The majority of the patients were married (91.92%), housewives (82.88%), and illiterate (49.61%) women similar to Pathak *et al*.'s[7]and Singh *et al*.'s[2] studies.

The most common presenting symptom of vulval dermatoses was itching, observed in 43% of patients, followed by a burning sensation in 23%, swelling in 14%, pain in 8%, and 12% of the patients were asymptomatic. As fungal infections were most common in the present study, itching was the most common symptom. Similarly, the commonest presenting complaint was itching in studies done by Pathak *et al*.[7] (82.8%) and Singh *et al*.[2](60%).

The most common vulval dermatoses in the present study were infections seen in 401 (77.11%) patients. Sivayadevi *et al*.,[4] Pathak *et al*.,[7] and Singh *et al*.[2] also reported infections as the most common vulval dermatoses in their studies [Table 4]. We found poor hygiene, improper hair removal practices, tight clothing, and frequent improper vaginal douching as the most common causes of infections in the present study.

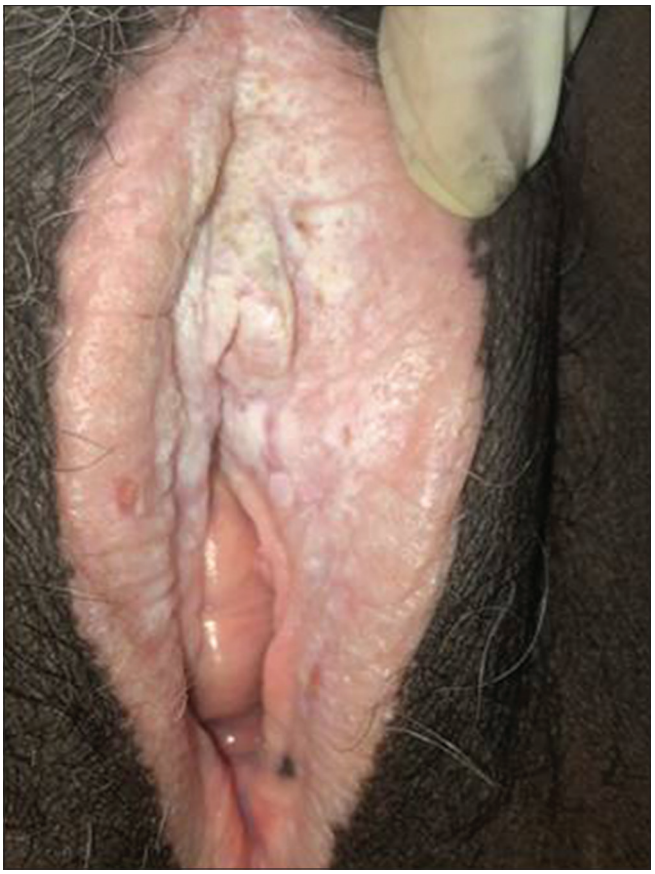

Figure 1: Lichen sclerosus

Among the infections, fungal infections were the most common, with a frequency of 50.9% followed by viral infections in 18.26% and bacterial infections in 7.88% of patients, in this study, similar to other studies.[2,7] Increased sweating and friction due to tight clothing in the vulval area might have contributed to the high incidence of fungal infections. Tinea cruris was the most common fungal infection followed by candidiasis, genital warts, herpes genitalis [Figure 5], and molluscum contagiosum were most common among viral infections, and folliculitis was the most common bacterial infection. In the study done by Gokdemir *et al*.,[10] viral infections were the most common infectious vulvar dermatoses.

The second most common vulval dermatoses were inflammatory dermatoses (15%), and lichen sclerosus was the most common, seen in 46 (8.84%) patients. We observed one (0.19%) case of Crohn's disease of the vulva with knife-cut ulcers involving the perineum and the sacral area [Figure 6]. Sivayadevi *et al*.[4] and Pathak *et al*.[7] also

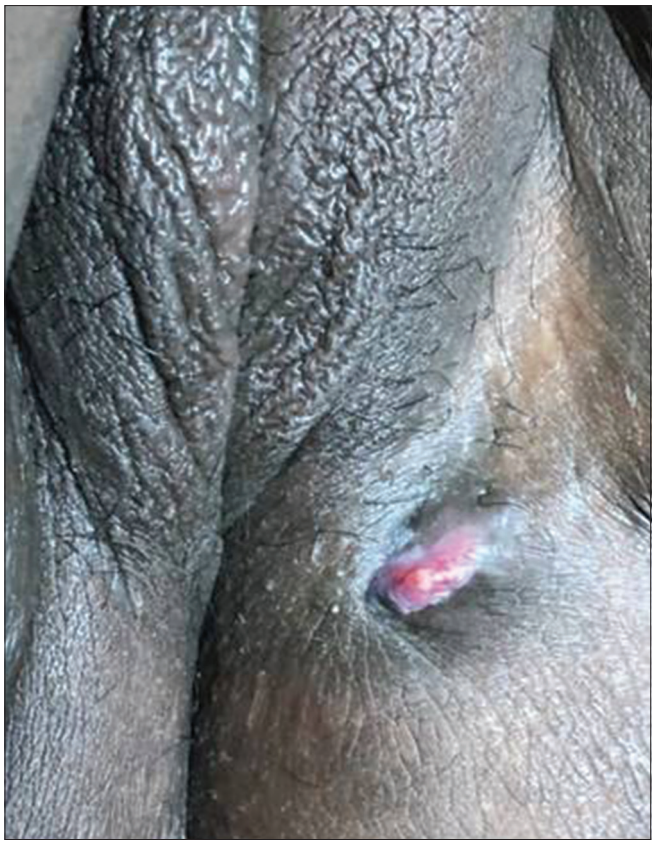

Figure 2: Vulval tuberculosis

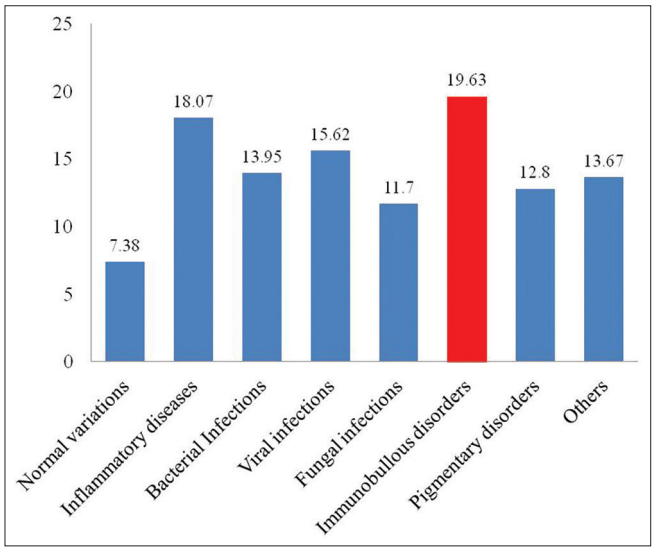

Figure 4: Mean DLQI scores of vulval dermatoses

reported lichen sclerosus as the most common inflammatory disorder in 10% and 2.9% of patients, respectively, but Geeta *et al*.,[3] have reported psoriasis (17%) as the most common inflammatory disorder. Contact dermatitis due to the topical application of povidone-iodine was observed in one patient. Sivayadevi *et al*.[4] reported contact dermatitis due to a combination of antifungal preparation and povidone-iodine application in four patients.

Figure 3: Acute vulval edema

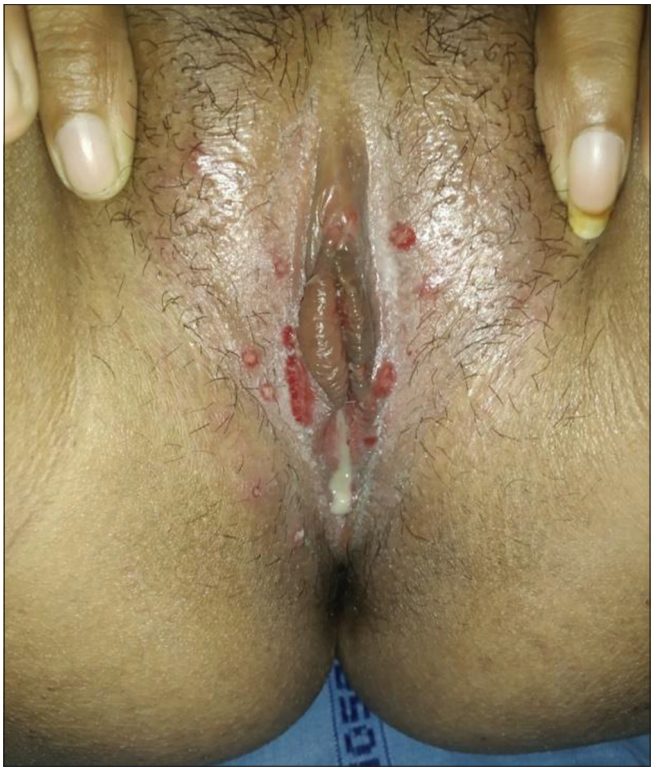

Figure 5: Herpes genitalis

Table 3 : DLQI scores based on site of involvement

Site of involvement	No. of patients *n* (%)	Mean DLQI	*P*
Genital alone	410 (78.8%)	13.12	<0.001
Genital and skin	94 (18.07)	13.24	
Genital and oral	3 (0.57%)	13	
Genital, skin, and oral	13 (2.5%)	17.87	

Among the pigmentary disorders, genital vitiligo was seen in five patients (0.96%) in this study. The incidence of genital vitiligo was higher in studies done by Sivayadevi

Table 4 : Comparison of present study with other studies on vulval dermatoses

Studies of vulval dermatoses	Infections	Inflammatory diseaseas	Vesiculobullous diseases	Pigmentary diseases
Sullivan *et al*., UK[11]	34%	40%	-	-
Gokdemir *et al*., Turkey[10]	32.25%	33.5% had dermatological conditions such as vitiligo, psoriasis, contact dermatitis, and lichen simplex chronicus. Individual disease data were not available.		
Pathak *et al*., Nepal[7]	33.4%	6.6%	0.9%	5.6%
Singh *et al*., Uttar Pradesh, India[2]	68.57%	20%	1.42%	1.42%
Sivayadevi *et al*., Tamil Nadu, India[4]	32%	30%	-	7%
Present study, Andhra Pradesh, India	50.9%	15%	1.53%	0.96%

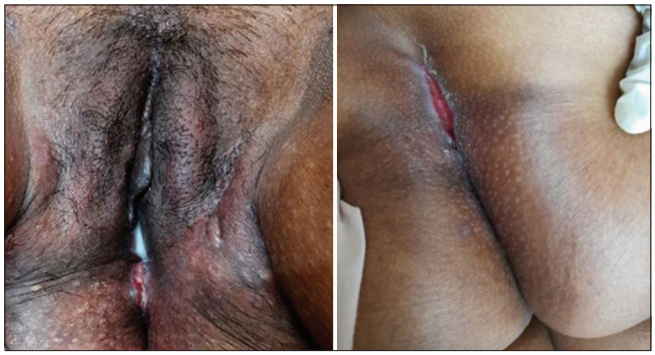

Figure 6: Crohn's disease of the vulva with knife-cut ulcers over perineum and sacral area

et al.[4] (7%) and Agarwal *et al*.[12] (3.4%), compared to the present study.

Four patients of pemphigus vulgaris, two patients of bullous pemphigoid, and one each of Hailey–Hailey disease and lichen planus pemphigoides were seen in the immunobullous vulval dermatoses (1.53%). Pemphigus vulgaris involving the genitalia was observed in 7% in a study done by Geeta *et al*.[3] Skin tags of the vulva were seen in 13 (2.5%) patients, similar to Singh *et al*.[2] study (2.85%).

Based on the site of involvement, the majority of patients, that is, 410 (78.8%) had only genital involvement [Table 3]. The DLQI scores were high in all patients (>10), but they were significantly higher in patients with genital, skin, and oral involvement (17.87), than either genital alone or genital and oral, or genital and skin involvement. A DLQI score of more than 10 indicates a severe impact on the quality of life.[6]

The immunobullous diseases involving genital, oral, and skin had the highest impact on the quality of life [Figure 4]. Among the infections, patients with viral infections had high DLQI scores followed by bacterial infections and fungal infections. Unusual diseases in this study such as Crohn's disease of the vulva and vulval tuberculosis had a higher impact on the quality of life with high DLQI scores, that is, DLQI scores of 22 and 20, respectively.

Limitations

This study was a hospital-based study and did not cover the general population. Thus, our observations may not represent and reflect the general population. Skin biopsy was not done in all cases.

Conclusion

This study highlights that vulval dermatoses are having a high impact on the quality of life, and the involvement of the genital, skin, and oral mucosae has the highest DLQI scores, indicating greater impact on the quality of life. This study signifies the importance of diagnosing vulval dermatoses and their impact on the quality of life using the DLQI questionnaire. Assessment of the disease's impact on the quality of life is essential because it not only aids in early management but also minimizes the duration of ailment, morbidity and most importantly helps avoid damage to the self-esteem of these patients. A multidisciplinary approach, which offers both diagnostic and therapeutic modalities, and covers all vulval disease-related symptoms shall be the future.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient (s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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