

Sociodemographic Determinants and Clinical Manifestations of Vulval Dermatoses: Correlation with Quality of Life

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Abstract

Background: Vulval dermatoses encompass a spectrum of conditions ranging from asymptomatic presentations to chronic disorders causing significant impairment. The multifactorial nature of these conditions, combined with their visible anatomical location, creates challenges in diagnosis and management. These factors frequently result in substantial deterioration of patients' quality of life. The aim is to using the Dermatology Life Quality Index (DLQI), this clinical study aimed to assess the quality of life of people with vulval dermatoses by analysing their clinical and sociodemographic characteristics. **Material and Methods:** All age groups of female volunteers who had vulval lesions were enlisted. Oro-genital and skin lesions, genital and skin lesions, or genital lesions alone were the categories into which cases were divided according to the affected areas. The DLQI questionnaire was used to measure quality of life impairment. **Results:** Among 260 participants, the largest cohort (33.8%, n=88) was aged 31-40 years. The majority were housewives (82.69%, n=215), nearly half were illiterate (49.61%, n=129), and the majority were married (91.92%, n=239). Pruritus was the predominant symptom (43.07%, n=112). Infectious conditions constituted the leading diagnosis (76.92%, n=200), followed by inflammatory disorders (15%, n=39) and immunobullous diseases (1.53%, n=4). DLQI scores were significantly elevated ($p<0.05$) among patients with combined oral, cutaneous, and genital involvement, with the highest mean DLQI observed in immunobullous cases. **Conclusion:** Patients exhibiting oral, cutaneous, and genital lesions demonstrated the most substantial negative impact on quality of life. Evaluating this impact is essential for effective management and potentially reducing disease duration.

Keywords: Oro-genital lesions, vulval dermatoses, quality of life, and the dermatological life quality index.

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INTRODUCTION

The vestibule, clitoris, mons pubis, labia minora, labia majora, and Bartholin glands are among the physical features that make up the female external genitalia, which includes the vulva.^[1] In India and around the world, vulval dermatoses are common illnesses that impact women of all ages.^[2] These disorders present diagnostic challenges due to their heterogeneous clinical manifestations, which may vary from complete absence of symptoms to persistent disability.^[3] Dermatoses affecting the genital region often display different presentations compared to those occurring elsewhere on the body, largely attributable to the vulva's warm, moist, and friction-prone environment.^[4] Additionally, this anatomical region is frequently exposed to irritants including vaginal secretions, fecal matter, and urine. Self-examination remains uncommon due to the site's limited visibility. Furthermore, cultural and personal reluctance to seek treatment for genital symptoms often results in delayed healthcare access, potentially leading to anxiety, sexual dysfunction, and diminished quality of life.^[5]

The Dermatology Life Quality Index (DLQI) serves as a well-established, validated, and efficient instrument for evaluating the impact of dermatological conditions on patients' lives. A DLQI score exceeding 10 indicates a

substantial effect on daily functioning and overall well-being. Although vulval disorders are commonly encountered among Indian women, their significance, incidence, and reporting rates are frequently underestimated. The combination of visible physical manifestations and multiple contributing factors complicates assessment and treatment approaches. Global research on vulval dermatoses remains limited, and within the Indian context, even less information exists regarding their prevalence and influence on quality of life.^[6,7] The current study was carried out in light of these knowledge gaps in order to examine the clinical and sociodemographic trends of vulval dermatoses and evaluate their impact on quality of life using the DLQI.

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MATERIALS AND METHODS

This clinical cross-sectional study was designed to evaluate the clinical and sociodemographic characteristics of vulval dermatosis patients and ascertain how these conditions affected their quality of life using the Dermatology Life Quality Index (DLQI). The institutional ethics committee approved the study before it started.

Study Population: Female participants across all age groups presenting to the Department of Dermatology, Venereology, and Leprosy with symptoms or signs indicative of vulval dermatoses were included. Informed consent was obtained from all participants in both written and verbal formats.

Data Collection and Clinical Examination: For each enrolled patient, comprehensive histories were recorded, including sociodemographic information. A thorough clinical examination of the external genitalia was conducted while ensuring appropriate privacy. When clinically indicated, speculum and vaginal examinations were also performed. All clinical observations were systematically documented.

To find potential lesions at additional anatomical sites, further examination of the perianal, perineal, nail, hair, scalp, and oral mucosa regions was carried out.

Based on lesion distribution, cases were classified into the following categories: • Cutaneous lesions alone • Both genital and cutaneous lesions, genital and cutaneous lesions, and oro-genital lesions mainly.

Diagnostic Investigations: Appropriate laboratory investigations were performed when clinically necessary, including Gram staining, Tzanck smear, potassium hydroxide (KOH) preparations, wet mount, and dark-field microscopy. In a few chosen cases, biopsies were performed to confirm the diagnosis.

Assessment of Quality of Life: All participants completed the DLQI questionnaire, which generates scores ranging from 0 to 30. Elevated scores indicate greater impairment in quality of life. The DLQI results were subsequently correlated with the collected clinical and sociodemographic data.

Statistical Analysis: Data analysis was performed using SPSS software version 20 (IBM, Armonk, NY, USA, 2018). Statistical methods included the t-test, Spearman's correlation test, and one-way analysis of variance (ANOVA). A p-value below 0.05 was considered statistically significant.

RESULTS

This cross-sectional investigation evaluated 260 female patients diagnosed with vulval dermatoses.

Sociodemographic Characteristics: Ages 31–40 years old accounted for the largest percentage of cases (33.8%, n=88), followed by 21–30 years old (28.84%, n=75), 41–50 years old (22.69%, n=59), women over 50 (8.07%, n=21), and those under 20 years old (6.53%, n=17). [Table 1]

Regarding occupation, most participants were housewives (82.69%, n=215), while working women constituted 8.84% (n=23) and students 8.46% (n=22).

In terms of educational attainment, nearly half were illiterate (49.61%, n=129). The remaining participants had intermediate education (20.38%, n=53), graduation (11.53%, n=30), postgraduation (10%, n=26), and primary schooling (8.46%, n=22).

The majority of patients were married (91.92%, n=239), with unmarried women comprising only 8.07% (n=21).

Pattern of Vulval Dermatoses: Infectious dermatoses represented the most frequent diagnosis, affecting 77.30% (n=201) of patients. This was followed by inflammatory conditions (15%, n=39), other miscellaneous disorders (3.07%, n=8), skin tags immunobullous illnesses 2.69%, n=7, pigmentation abnormalities (0.76%, n=2), and (1.53%, n=4).

Infectious cases were predominantly fungal (51.15%, n=133), with tinea cruris (28.46%, n=74) and candidiasis (22.69%, n=59) being most prevalent. Viral infections were identified in 18.07% (n=47), including genital warts (7.30%, n=19), herpes genitalis (5.76%, n=15), and molluscum contagiosum (5%, n=13). Bacterial infections comprised 8.07% (n=21), including folliculitis (4.61%, n=12), Bartholin cysts (2.69%, n=7), and a single case of vulval tuberculosis (0.38%). [Table 2]

Lichen sclerosus Eczema (0.76%, n=2), lichen simplex chronicus (5%, n=13), and isolated cases of Crohn's disease and lichen planus (0.38% each) comprised the remaining 22% (8.46%). were among the inflammatory dermatoses.

The immunobullous illnesses included one case (0.38%) of each of the following: pemphigus vulgaris, lichen planus pemphigoides, bullous pemphigoides, and Hailey-Hailey disease.

Other conditions included foreign body-induced vaginal discharge (1.15%, n=3), vulvodynia (1.15%, n=3), and single cases of lymphangiectasia and acute vulvaedema (0.38% each).

Site Involvement and DLQI Scores: The most commonly affected site was the genital area alone (78.84%, n=205), followed by genital with cutaneous involvement genital, cutaneous, and oral mucosa (2.30%, n=6), and genital with oral lesions (0.76%, n=2) (18.07%, n=47, n=6).

The mean DLQI score was highest in patients with genital, cutaneous, and oral involvement (17.85), followed by genital and cutaneous lesions (13.22), genital lesions only (13.14), and the lowest in those with genital and oral lesions (12.98). These differences demonstrated statistical significance ($p < 0.001$). [Table 3]

Table 1: Sociodemographic traits of research participants with vulval dermatoses

Characteristics	Number (n)	Percentage (%)
Age range (years)		
<20	17	6.53
21-30	75	28.84
31-40	88	33.8
41-50	59	22.69
>50	21	8.07

Occupation		
Housewife	215	82.69
Student	22	8.46
Working	23	8.84
Education		
Illiterate	129	49.61
Primary schooling	22	8.46
Intermediate	53	20.38
Graduation	30	11.53
Post-graduation	26	10
Marital status		
Married	239	91.92
Unmarried	21	8.07

Table 2: Distribution of vulval dermatoses' frequency in the research participants

Vulval dermatoses	N=260	%
Infections	201	77.30
Bacterial	21	8.07
Vulval tuberculosis	1	0.38
Bartholin cyst	7	2.69
Folliculitis	12	4.61
Viral	47	18.07
Molluscum contagiosum	13	5
Herpes genitalis	15	5.76
Genital warts	19	7.30
Fungal	133	51.15
Candidiasis	59	22.69
Tinea curis	74	28.46
Inflammations	39	15
Crohn's disease	1	0.38
Lichen planus	1	0.38
Eczema	2	0.76
Lichen simplex chronicus	13	5
Lichen sclerosis	22	8.46
Normal variants (skin tags)	7	2.69
Pigmentation (vitiligo)	2	0.76
Immunobullous	4	1.53
Hailey-Hailey disease	1	0.38
Lichen planus pemphigoides	1	0.38
Bullous pemphigoides	1	0.38
Pemphigus vulgaris	1	0.38
Others	8	3.07
Foreign body-induced vaginal discharge	3	1.15
Vulvodynia	3	1.15
Lymphangiectasia	1	0.38
Acute vulval edema	1	0.38

Table 3: DLQI scores based on the site involved in the study subjects

Involved site	N	%	Mean DLQI	p-value
Genital, skin, and oral	6	2.30	17.85	<0.001
Genital and oral	2	0.76	12.98	
Genital and skin	47	18.07	13.22	
Genital alone	205	78.84	13.14	

DISCUSSION

In line with earlier findings by Shinde et al,^[8] most cases in this study of 260 women with vulval dermatoses were found in the age category of 31–40 years (33.8%), followed by those in the 21–30year age range (28.84%). (2017) and Singh et al. (2016),^[9] where similar demographic patterns were observed.

Occupational distribution revealed that most participants were housewives (82.69%), followed by working women (8.84%) and students (8.46%). Educational status showed that nearly half of the participants lacked formal education, which may suggest reduced awareness of genital health and

delayed healthcare-seeking behaviors. The overwhelming majority of participants were married (91.92%), indicating the likelihood of increased exposure to sexual activity as a contributing factor for certain infections.

Regarding disease etiology, infectious dermatoses were predominant (77.30%), with fungal infections being most frequent (51.15%). This pattern aligns with reports by Agarwal et al. (2014),^[10] and Gokdemir et al. (2005),^[11] both of which identified infections, particularly fungal, as the most common cause of vulval lesions. Viral and bacterial infections were less prevalent but remained significant contributors.

Inflammatory conditions such as lichen sclerosis (8.46%) and

lichen simplex chronicus (5%) were notable findings, comparable to previous literature where these disorders were recognized as common chronic dermatoses of the vulva. Immunobullous disorders were uncommon in our cohort, with each specific disease type represented by a single case. Miscellaneous conditions like vulvodynia and foreign body-induced discharge were infrequent but clinically important due to their impact on patient comfort and quality of life.

Regarding lesion distribution, the genital area alone was the most commonly affected site (78.84%), which mirrors earlier studies by Pathak et al. (2011),^[12] and Stewart (2012),^[13] where localized genital involvement was the predominant presentation.

Quality of life assessment using the DLQI demonstrated that patients with combined genital, cutaneous, and oral involvement experienced the greatest impact (mean score 17.85), followed by those with both genital and cutaneous lesions (13.22). The lowest scores were observed in cases involving Oral and genital mucosa alone (12.98). A statistically significant result was obtained ($p < 0.001$) and supports findings by Sivayadevi et al. (2019),^[14] and Sullivan et al. (1999),^[15] who also noted that patients with more severe disease had higher quality-of-life impairment. Overall, the data suggest that both the extent of lesion involvement and the type of dermatosis significantly influence the degree of quality-of-life disruption. These results emphasize the importance of early diagnosis and comprehensive management, particularly for cases involving multiple anatomical sites.

CONCLUSION

Within the limitations of this investigation, it can be concluded that patients presenting with combined oral, cutaneous, and genital lesions exhibit the highest Dermatology Life Quality Index (DLQI) scores, indicating a substantial negative effect on their quality of life. Recognizing and evaluating this impact is essential, as it can facilitate more effective disease management strategies and potentially reduce the overall duration of illness.

However, to strengthen these findings, future longitudinal studies incorporating larger sample sizes and extended follow-up periods are recommended. Such investigations would provide deeper insights into the disease spectrum and its long-term consequences, ultimately guiding improved patient care and targeted interventions.

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Conflicts of interest

There are no conflicts of interest.

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