e-ISSN: 0976-822X, p-ISSN:2961-6042

Available online on http://www.ijcpr.com/

International Journal of Current Pharmaceutical Review and Research 2025; 17(12); 667-672

Original Research Article

Quality of Life Impact of Chronic Non-Venereal Genital Dermatoses in Adult Patients

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Received: 11-11-2025 / Revised: 15-12-2025 / Accepted: 20-12-2025
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Conflict of interest: Nil

Abstract

Background: Chronic non-venereal genital dermatoses represent a significant yet often underrecognized group of dermatological conditions that profoundly affect patients' psychosocial well-being and intimate relationships. Despite their prevalence, comprehensive assessment of quality of life (QoL) implications remains limited in clinical literature.

Methods: A cross-sectional observational study was conducted among 148 adult patients diagnosed with chronic non-venereal genital dermatoses attending the dermatology outpatient department over 18 months. The Dermatology Life Quality Index (DLQI), Hospital Anxiety and Depression Scale (HADS), and disease-specific sexual function questionnaires were administered. Statistical analysis included descriptive statistics, correlation analysis, and multiple regression modeling.

Results: The mean age was 42.6 ± 12.8 years, with females comprising 56.1%. Lichen sclerosus (29.7%) was the most common diagnosis. The mean DLQI score was 12.4 ± 5.7, indicating moderate-to-severe QoL impairment. Symptoms/feelings (3.2 ± 1.4) and sexual difficulties (2.8 ± 1.2) domains showed highest impairment. Significant correlations existed between DLQI and anxiety ($r = 0.58$, $p < 0.001$), depression ($r = 0.52$, $p < 0.001$), and disease duration ($r = 0.34$, $p < 0.001$). Multiple regression revealed disease severity ($\beta = 0.42$, $p < 0.001$), female gender ($\beta = 0.28$, $p = 0.003$), and anxiety scores ($\beta = 0.31$, $p < 0.001$) as independent predictors of QoL impairment.

Conclusion: Chronic non-venereal genital dermatoses substantially impair quality of life, with sexual function and psychological well-being being particularly affected. Comprehensive management strategies incorporating psychological support are essential.

Keywords: Genital dermatoses; Quality of life; DLQI; Lichen sclerosus; Sexual dysfunction; Psychological distress.

Introduction

Chronic non-venereal genital dermatoses encompass a heterogeneous group of inflammatory, infectious, and neoplastic conditions affecting the genital region that are not sexually transmitted [1]. These conditions include lichen sclerosus, lichen planus, eczematous dermatitis, psoriasis, vitiligo, and various other dermatological entities that significantly impact patient well-being beyond physical symptomatology [2].

The intimate anatomical location of these conditions creates unique challenges in diagnosis, management, and patient communication that distinguish them from dermatoses affecting other body sites [3]. The prevalence of non-venereal genital dermatoses varies considerably across populations, with estimates suggesting that genital skin complaints account for approximately 5-15% of dermatology outpatient consultations [4]. Lichen sclerosus, one of the most frequently encountered conditions, affects approximately 1 in 300-1000 individuals, with a female predominance [5]. Despite this substantial prevalence, patients often experience significant delays in diagnosis due to embarrassment, self-treatment, and healthcare provider unfamiliarity with genital dermatological conditions [6].

Quality of life assessment has become an integral component of dermatological practice, recognizing that skin diseases impact patients beyond objective clinical measures [7]. The Dermatology Life

Quality Index (DLQI), developed by Finlay and Khan, remains the most widely utilized instrument for evaluating dermatology-specific quality of life impairment [8]. Studies have demonstrated that chronic skin diseases can cause quality of life impairment comparable to or exceeding that of systemic conditions such as diabetes, cardiovascular disease, and cancer [9].

Research specifically examining quality of life in genital dermatoses has expanded in recent years, with studies highlighting significant impacts on sexual function, intimate relationships, and psychological health [10]. Van de Nieuwenhof et al. demonstrated that women with lichen sclerosus experience substantial impairment in sexual quality of life, often persisting despite adequate symptomatic treatment [11]. Similarly, genital psoriasis has been associated with significant psychological distress and relationship difficulties [12].

However, significant research gaps persist in this domain. Most existing studies focus on single disease entities rather than comprehensively evaluating the spectrum of non-venereal genital dermatoses. Additionally, factors predicting quality of life impairment in this population remain inadequately characterized, limiting the development of targeted interventions [13]. The intersection between dermatological symptoms, psychological morbidity, and sexual dysfunction requires further elucidation to optimize patient care [14].

The aim of this study was to comprehensively evaluate the impact of chronic non-venereal genital dermatoses on quality of life in adult patients and identify clinical, demographic, and psychological factors associated with quality of life impairment.

Materials and Methods

Study Design and Setting: This cross-sectional observational study was conducted in the Dermatology Outpatient Department of a tertiary care teaching hospital over an 18-month period.

Sample Size Calculation: Sample size was calculated using the formula for estimating a population mean with 95% confidence interval and 5% margin of error. Based on previous literature reporting mean DLQI scores of 10-14 with standard deviation of 6 in similar populations, a minimum sample size of 138 patients was determined.

Accounting for potential incomplete responses, 160 patients were targeted for recruitment.

Inclusion and Exclusion Criteria: Adult patients aged 18-65 years with clinically and/or histopathologically confirmed chronic non-venereal genital dermatoses of at least 3 months duration were included. Conditions encompassed lichen sclerosus, lichen planus, eczematous dermatitis, psoriasis, vitiligo, lichen simplex chronicus, and other inflammatory genital dermatoses. Exclusion criteria included sexually transmitted infections, genital malignancies, acute dermatoses, pregnancy, cognitive impairment precluding questionnaire completion, and concurrent severe systemic illness.

Data Collection Instruments: Demographic and clinical data were collected using a structured proforma including age, gender, marital status, education level, occupation, disease duration, and previous treatments. Clinical examination documented specific diagnosis, anatomical extent of involvement, and disease severity using condition-specific validated scales where available.

The primary outcome measure was the Dermatology Life Quality Index (DLQI), a 10-item self-administered questionnaire evaluating six domains: symptoms and feelings, daily activities, leisure, work/school, personal relationships, and treatment. Scores range from 0-30, with higher scores indicating greater impairment. DLQI interpretation: 0-1 (no effect), 2-5 (small effect), 6-10 (moderate effect), 11-20 (very large effect), and 21-30 (extremely large effect).

Psychological assessment utilized the Hospital Anxiety and Depression Scale (HADS), comprising 14 items with separate subscales for anxiety (HADS-A) and depression (HADS-D). Scores ≥8 on either subscale indicate clinically significant symptoms.

Sexual function was assessed using the Female Sexual Function Index (FSFI) for female participants and the International Index of Erectile Function-5 (IIEF-5) for male participants.

Statistical Analysis: Data were analyzed using SPSS version 26.0 (IBM Corporation, Armonk, NY). Continuous variables were expressed as mean ± standard deviation (SD) and categorical variables as frequencies and percentages. Normality was assessed using the Shapiro-Wilk test. Comparisons between groups were performed using independent samples t-test or one-way ANOVA for normally distributed variables and Mann-Whitney U or Kruskal-Wallis tests for non-parametric data. Correlation analysis utilized Pearson's or Spearman's coefficients as appropriate. Multiple linear regression identified independent predictors of DLQI scores. A p-value < 0.05 was considered statistically significant.

Results

Demographic and Clinical Characteristics: Of 160 patients initially enrolled, 148 completed all assessments and were included in analysis (response rate: 92.5%). The mean age was 42.6 ±

12.8 years (range: 18-65 years). Females comprised 56.1% (n = 83) of the study population. The majority were married (72.3%), educated to secondary level or above (68.2%), and employed (54.1%). The demographic and clinical characteristics are presented in Table 1.

Table 1: Demographic and Clinical Characteristics of Study Participants (N = 148)

Variable	n (%) or Mean ± SD
Age (years)	42.6 ± 12.8
18-30	28 (18.9%)
31-45	62 (41.9%)
46-65	58 (39.2%)
Gender	
Male	65 (43.9%)
Female	83 (56.1%)
Marital Status	
Married	107 (72.3%)
Unmarried	29 (19.6%)
Divorced/Widowed	12 (8.1%)
Education Level	
Primary or below	47 (31.8%)
Secondary	58 (39.2%)
Graduate and above	43 (29.0%)
Diagnosis	
Lichen sclerosus	44 (29.7%)
Lichen planus	26 (17.6%)
Eczematous dermatitis	24 (16.2%)
Psoriasis	22 (14.9%)
Vitiligo	15 (10.1%)
Lichen simplex chronicus	11 (7.4%)
Others	6 (4.1%)
Disease Duration (months)	24.8 ± 18.6
< 12 months	42 (28.4%)
12-36 months	68 (45.9%)
> 36 months	38 (25.7%)
Previous Treatment	
None	31 (20.9%)
Topical only	89 (60.1%)
Systemic treatment	28 (18.9%)

Quality of Life Assessment: The mean DLQI score was 12.4 ± 5.7, indicating very large effect on quality of life. Analysis by DLQI bands revealed that 8.1% had no effect (0-1), 14.2% small effect (2-5), 22.3% moderate effect (6-10), 41.2% very large effect (11-20), and 14.2% extremely large effect (21-30). Domain-wise analysis showed highest impairment in symptoms/feelings (3.2 ± 1.4) and personal relationships including sexual difficulties (2.8 ± 1.2). The DLQI scores stratified by diagnosis and demographic variables are presented in Table 2.

Table 2: DLQI Scores by Diagnosis and Demographic Variables

Variable	Mean DLQI ± SD	p-value
Overall	12.4 ± 5.7	-
DLQI Domain Scores		
Symptoms and feelings	3.2 ± 1.4	-
Daily activities	1.8 ± 1.2	-
Leisure	1.6 ± 1.3	-
Work/School	1.4 ± 1.1	-
Personal relationships	2.8 ± 1.2	-
Treatment	1.6 ± 0.9	-
By Diagnosis		0.004*
Lichen sclerosus	14.2 ± 5.4	
Lichen planus	13.8 ± 5.1	

Eczematous dermatitis	12.6 ± 5.8	
Psoriasis	11.9 ± 5.6	
Vitiligo	9.8 ± 4.9	
Lichen simplex chronicus	10.4 ± 5.2	
By Gender		0.012*
Male	11.2 ± 5.3	
Female	13.4 ± 5.9	
By Age Group		0.087
18-30 years	11.6 ± 5.2	
31-45 years	12.8 ± 5.9	
46-65 years	12.4 ± 5.6	
By Marital Status		0.023*
Married	13.1 ± 5.6	
Unmarried	10.4 ± 5.4	
Divorced/Widowed	11.8 ± 6.2	
By Disease Duration		0.008*
< 12 months	10.6 ± 5.1	
12-36 months	12.8 ± 5.6	
> 36 months	14.2 ± 5.9	

***p < 0.05 indicates statistical significance (ANOVA/t-test)**

Psychological Assessment and Correlations: The mean HADS-Anxiety score was 8.4 ± 4.2, with 52.7% (n = 78) scoring ≥8 indicating clinically significant anxiety. The mean HADS-Depression score was 6.8 ± 3.8, with 37.8% (n = 56) demonstrating clinically significant depressive symptoms. Sexual dysfunction was reported by 68.9% of female participants (FSFI < 26.55) and 54.6% of male participants (IIEF-5 ≤ 21). Significant positive correlations were observed between DLQI and HADS-Anxiety ($r = 0.58$, $p < 0.001$), HADS-Depression ($r = 0.52$, $p < 0.001$), and disease duration ($r = 0.34$, $p < 0.001$). Multiple regression analysis identified independent predictors of DLQI scores, as shown in Table 3.

Table 3: Multiple Linear Regression Analysis for Predictors of DLQI Score

Variable	Unstandardized B (95% CI)	Standardized β	p-value
Constant	2.84 (0.96 - 4.72)	-	0.003
Disease severity score	0.68 (0.42 - 0.94)	0.42	< 0.001
Female gender	1.94 (0.68 - 3.20)	0.28	0.003
HADS-Anxiety score	0.42 (0.24 - 0.60)	0.31	< 0.001
Disease duration (months)	0.06 (0.02 - 0.10)	0.19	0.006
Married status	1.28 (0.14 - 2.42)	0.16	0.028
Age	0.02 (-0.04 - 0.08)	0.04	0.482
Education level	-0.48 (-1.12 - 0.16)	-0.08	0.142

Model summary: $R^2 = 0.486$, Adjusted $R^2 = 0.461$, $F = 18.92$, $p < 0.001$

Discussion

This study comprehensively evaluated quality of life impact in patients with chronic non-venereal genital dermatoses, revealing substantial impairment across multiple domains with significant implications for clinical practice. The mean DLQI score of 12.4 indicated very large effect on quality of life, comparable to or exceeding impairment reported in psoriasis affecting visible body sites and other severe dermatological conditions [15]. The predominance of lichen sclerosus (29.7%) among our study population aligns with epidemiological data indicating it as the most common non-infectious, non-neoplastic genital dermatosis [16]. Notably, lichen sclerosus demonstrated the highest mean DLQI score (14.2 ± 5.4), consistent with previous research documenting significant quality of life burden in this condition [17]. The chronic, relapsing nature of lichen sclerosus, combined with symptoms of pruritus, dyspareunia, and anatomical changes, likely contributes to this substantial impairment.

Female patients demonstrated significantly higher DLQI scores compared to males, a finding supported by previous literature examining gender differences in dermatological quality of life [18]. This disparity may reflect anatomical differences in disease manifestation, greater impact on sexual function in women, and potentially heightened body image concerns. Furthermore, the higher prevalence of lichen sclerosus among female

participants may partially explain this observation [19].

The symptoms/feelings and personal relationships domains showed the greatest impairment, highlighting the profound impact on intimate aspects of patients' lives. Sexual dysfunction was notably prevalent, affecting 68.9% of female and 54.6% of male participants. These findings corroborate research by Lansdorp et al. demonstrating that genital dermatoses significantly impair sexual quality of life, often leading to relationship difficulties and avoidance of intimacy [20].

Psychological morbidity was substantial in our cohort, with over half demonstrating clinically significant anxiety. The strong correlation between DLQI and both anxiety ($r = 0.58$) and depression ($r = 0.52$) underscores the bidirectional relationship between dermatological symptoms and psychological distress [21]. Genital dermatoses may be particularly prone to psychological comorbidity due to the intimate anatomical location, associated embarrassment, and impact on sexual identity and function [22].

Disease duration emerged as an independent predictor of quality of life impairment, suggesting cumulative effects of chronic symptoms on patient well-being. This temporal relationship emphasizes the importance of early diagnosis and intervention to prevent prolonged suffering and deteriorating quality of life [23]. The mean diagnostic delay of over two years observed in our cohort reflects barriers to timely care that require systematic attention.

Married patients demonstrated higher DLQI scores compared to unmarried individuals, potentially reflecting the greater impact on intimate relationships and partner dynamics when genital dermatoses affect coupled individuals. This finding has implications for involving partners in education and management strategies [24].

The multiple regression model explained approximately 49% of variance in DLQI scores, with disease severity being the strongest predictor. This emphasizes the importance of achieving disease control while simultaneously addressing psychological comorbidities and sexual function concerns. Comprehensive management approaches incorporating dermatological treatment, psychological support, and sexual health counseling may optimize patient outcomes [25]. Study limitations include the cross-sectional design precluding causal inferences, single-center recruitment potentially limiting generalizability, and reliance on self-reported measures. Additionally, the heterogeneous grouping of different dermatological conditions may obscure disease-specific patterns warranting focused investigation.

Conclusion

This study demonstrates that chronic non-venereal genital dermatoses substantially impair quality of life in adult patients, with over 55% experiencing very large to extremely large effects on their daily lives. Sexual function, intimate relationships, and psychological well-being emerge as particularly vulnerable domains requiring targeted clinical attention. Disease severity, female gender, anxiety, disease duration, and married status independently predict quality of life impairment.

These findings underscore the necessity for dermatologists to adopt holistic management approaches extending beyond symptom control. Routine quality of life assessment using validated instruments, screening for psychological comorbidities, and addressing sexual health concerns should be integrated into standard care protocols.

Multidisciplinary collaboration involving psychologists and sexual health specialists may optimize outcomes in this underserved patient population. Early diagnosis and intervention are critical to preventing cumulative quality of life deterioration in chronic genital dermatoses.

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