Dermatology Practical & Conceptual

Impact of Genital and Non-Genital Psoriasis on Genital Self-Image, Quality of Life, and Sexual Dysfunction in Female Patients

Hala Mohammed Elsadek[1], Mona Sobh Ali[1], Asmaa Mohamed Elaidy[2]

1 Department of Dermatology and Venereology, Faculty of medicine for girls, Al-azhar University, Cairo, Egypt
2 Department of Psychiatry, Faculty of medicine for girls, Al-azhar University, Cairo, Egypt

Key words: psoriasis, genital psoriasis, sexual dysfunction, female sexual function

Citation: Elsadek HM, Ali MS, Elaidy AM. Impact of Genital and Non-Genital Psoriasis on Genital Self-Image, Quality of Life, and Sexual Dysfunction in Female Patients. *Dermatol Pract Concept*. 2024;14(3):e2024159. DOI: https://doi.org/10.5826/dpc.1403a159

Accepted: February 14, 2024; **Published:** July 2024

Funding: None.

Competing Interests: None.

Authorship: All authors have contributed significantly to this publication.

Corresponding Author: Asmaa M. Elaidy, Department of Psychiatry, Faculty of medicine for girls, Al-azhar University, Cairo, Egypt. Email: asmaamohamedelaidy.medg@azhar.edu.eg

ABSTRACT

Introduction: Psoriasis is a chronic systemic inflammatory disease that affects millions of people worldwide. While its physical manifestations are well-documented, the psychosocial impact of psoriasis, particularly on female patients, is an area of growing concern. Feelings of shame, inferiority, and stigma are common among individuals with psoriasis, and these emotional burdens can be especially pronounced in females, particularly when the genital area is affected.

Objectives: We aimed to shed light on the significance of genital psoriasis on the overall well-being of female patients.

Methods: This cross-sectional, descriptive comparative study comprised 50 female participants diagnosed with psoriasis: 25 with genital psoriasis, 25 without genital psoriasis, and 25 healthy women matched for age and sex who served as the control group. All participants underwent an assessment of disease severity using the Psoriasis Area and Severity Index in the psoriasis group and completed questionnaires for the assessment of the Female Sexual Function Index (FSFI). Additionally, quality of life was evaluated using the Dermatology Life Quality Index , and the Female Genital Self-Image Scale (FGSIS) was used to assess genital self-image.

Results: We found that females with genital lesions, experience a notable decline in sexual health with higher levels of sexual distress compared to healthy individuals. In terms of the six FSFI domains, the psoriatic group scored lower than the control group in all areas, except for pain, which showed a significant increase. Psoriatic females also exhibited a significantly more negative FGSIS compared to the control group, and there was a highly significant difference in FGSIS between females with and without genital psoriasis.

Conclusions: Understanding the impact of genital psoriasis on female sexual health and overall quality of life is essential for comprehensive patient care. This research is instrumental in addressing the psychosocial aspects of psoriasis and enhancing patient well-being.

Introduction

Psoriasis is a chronic systemic inflammatory disease that affects not only the skin but also nails and genitalia. Individuals dealing with genital psoriasis often experience profound internalized stigma and psychological distress [1]. While the exact cause of psoriasis remains uncertain, it is believed to result from a combination of genetic predisposition, as well as various endogenous and exogenous factors, including emotional stress, trauma, infections, and medications [2].

The conspicuous nature of psoriasis skin manifestations can lead to stigmatization and diminished self-esteem among those affected [3]. Consequently, individuals with psoriasis frequently encounter difficulties in forming relationships, engaging in dating, and participating in social activities. Remarkably, research has revealed that up to 63% of patients develop psoriatic lesions in their genital area at some point in their lives. Regrettably, many avoid discussing these issues with their physicians due to shyness, embarrassment, or the fear of stigmatization. This reluctance to seek help can result in a significant decline in their quality of life (QoL), particularly in the context of romantic relationships, intimacy, and sexual function [4]. Female sexual dysfunction (FSD) encompasses a range of issues that interfere with sexual satisfaction during the sexual response cycle. It includes problems related to sexual desire, arousal, orgasm, and pain [5].

Notably, one body image plays a pivotal role in sexual well-being. Women who have a positive body image tend to report more sexual activity, orgasms, and overall confidence in their sexual lives. Conversely, a negative body image is often associated with a greater emphasis on physical attractiveness, which can have adverse effects on sexual functioning and satisfaction [6].

Objectives

This study aims to assess genital self-image in Egyptian females with psoriasis and study its effects on their sexual function and QoL in relation to disease severity.

Methods

Study Design and Setting

This cross-sectional descriptive comparative case-control study was conducted at Al-Zahraa University Hospital, Dermatology and Venereology Department, in collaboration with Psychiatry Department affiliated with the Faculty of Medicine for Girls, Al-Azhar University, Egypt. The study received approval from the Medical Ethics Committee (reference number RHDIRB 2023021746), and written informed consent was obtained from all participants.

Inclusion and Exclusion Criteria

Participants included married and sexually active women diagnosed with psoriasis, aged 18 to 55 years. The control group consisted of age- and sex-matched healthy women. Exclusion criteria encompassed women with other dermatological, chronic/autoimmune diseases, psychiatric disorders, gynecological problems, recent psoriasis flare-ups, or those who received topical or systemic psoriasis treatment in the last 2-4 weeks. Additionally, pregnant, lactating, and menopausal women were excluded.

Study Duration and Participants

The study spanned a 6-month period, from February 2023 to July 2023. A total of 75 participants attending the outpatient clinic of the Dermatology and Venereology Department were included, comprising three groups: 25 female patients without genital psoriasis, 25 female patients with genital psoriasis, and 25 age-matched healthy women (nonrelatives of patients) as the control group.

Data Collection

Each participant underwent a comprehensive assessment, including:

- Demographic and Clinical Information: age, education level, occupation, special habits, disease onset, course, duration, associated disorders, family history of psoriasis, and history of previous treatments. Additional details collected were the duration of marriage and sexual history.
- Physical Examination: general and dermatological examinations were conducted to detect signs of associated systemic disorders, pinpoint the site of psoriatic lesions, assess clinical forms, and determine surface area involvement.
- Questionnaires:
  - Psoriasis Severity Assessment: the Psoriasis Area and Severity Index (PASI) score was used to evaluate psoriasis severity. The PASI score considers lesion area and severity, with scores ranging from 0 to 72. Higher scores indicate more severe psoriasis [7]. Severity categories were defined as mild (PASI < 10), moderate (PASI 10-20), and severe (PASI > 20) [8].

- Quality of Life Assessment: the Dermatology Life Quality Index (DLQI), a 10-item questionnaire, assessed the impact of skin disease on various aspects of life, with scores ranging from 0 to 30. Higher scores indicated greater impairment in QoL [9].
- Female Sexual Function Assessment: the Arabic version of the Female Sexual Function Index (FSFI) questionnaire evaluated sexual function across six domains: sexual desire, arousal, lubrication, orgasm, satisfaction, and pain. Individual domain scores were calculated, and a total score was derived, with lower scores indicating sexual dysfunction. Cutoff scores were used to classify dysfunction in each domain [10]).
- Female Genital Self-Image Assessment: women feelings and beliefs about their own genitals were assessed using the 4-item Arabic version of the Female Genital Self-Image Scale (FGSIS) with a 4-point response scale [11].

- Assessment of Psychiatric Disorders by a Consultant Psychiatrist: the exclusion of other psychiatric disorders was carried out using the criteria outlined in the 5th Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) [12].

Statistical Analysis

Data were meticulously collected, reviewed, coded, and subsequently entered into IBM SPSS version 23 for analysis. Quantitative data were presented as means, standard deviations, and ranges when they met parametric assumptions. For non-parametric data, medians and inter-quartile ranges (IQR) were reported. Qualitative variables were summarized using frequencies and percentages.

Results

The studied groups, comprising 50 female participants diagnosed with psoriasis (25 with genital psoriasis, 25 without genital psoriasis, and 25 healthy controls), were well-matched in terms of age, sociocultural factors (including education, occupation, and residence), duration of disease, body mass index (BMI), and duration of marriage (Table 1). Regarding PASI scores, the genital psoriasis group represented 14 (56.0%) cases of moderate psoriasis and 11 (44.0%) cases of severe psoriasis, while the non-genital group showed 3 (12.0%) cases of mild

Table 1. Sociodemographic Data of the Studied Groups (N = 75)

		Control Group	Non-Genital Psoriasis	Genital Psoriasis	Test Value	P-Value	Significativity
		No. = 25	No. = 25	No. = 25			
Age	Mean ± SD	35.72 ± 11.98	36.32 ± 10.95	37.24 ± 10.45	0.118	0.889	NS
	Range	19 – 55	19 – 55	18 – 55			
	18-29 y	9 (36.0%)	8 (32.0%)	6 (24.0%)	2.734	0.841	NS
	30-39 y	7 (28.0%)	7 (28.0%)	10 (40.0%)			
	40-49 y	4 (16.0%)	7 (28.0%)	5 (20.0%)			
	<50 y	5 (20.0%)	3 (12.0%)	4 (16.0%)			
BMI	Mean±SD	23.02 ± 3.41	23.08 ± 4	24.6 ± 4.12	1.347	0.266	NS
	Range	18.5 – 30	19 – 31	19 – 31			
	Normal	17 (68.0%)	17 (68.0%)	13 (52.0%)	3.769	0.438	NS
	Overweight	7 (28.0%)	5 (20.0%)	7 (28.0%)			
	Obese Class I	1 (4.0%)	3 (12.0%)	5 (20.0%)			
	Obese Class II	0 (0.0%)	0 (0.0%)	0 (0.0%)			
	Obese Class III	0 (0.0%)	0 (0.0%)	0 (0.0%)			
Residence	Rural	12 (48.0%)	13 (52.0%)	13 (52.0%)	0.107	0.948	NS
	Urban	13 (52.0%)	12 (48.0%)	12 (48.0%)			
Education	Illiterate	3 (12.0%)	5 (20.0%)	6 (24.0%)	2.857	0.943	NS
	Primary	2 (8.0%)	4 (16.0%)	2 (8.0%)			
	Secondary	10 (40.0%)	9 (36.0%)	9 (36.0%)			
	University	8 (32.0%)	6 (24.0%)	7 (28.0%)			
	Postgraduate	2 (8.0%)	1 (4.0%)	1 (4.0%)			
Occupation	Work	8 (32.0%)	8 (32.0%)	8 (32.0%)	0.000	1.000	NS
	Not work (Housewife)	17 (68.0%)	17 (68.0%)	17 (68.0%)			

Table 1 continues

Table 1. Sociodemographic Data of the Studied Groups (N = 75). *(continued)*

		Control Group	Non-Genital Psoriasis	Genital Psoriasis	Test Value	P-Value	Significativity
		No. = 25	No. = 25	No. = 25			
Duration of marriage	<5 yrs	7 (28.0%)	7 (28.0%)	7 (28.0%)	1.851	0.933	NS
	5–<10 yrs	6 (24.0%)	4 (16.0%)	4 (16.0%)			
	10–20 yrs	3 (12.0%)	6 (24.0%)	6 (24.0%)			
	>20 yrs	9 (36.0%)	8 (32.0%)	8 (32.0%)			
Female genital mutilation:	Yes	21 (84.0%)	22 (88.0%)	22 (88.0%)	0.231	0.891	NS
	No	4 (16.0%)	3 (12.0%)	3 (12.0%)			
Duration of disease	Median (IQR)	-	7 (3 – 9)	5 (2 – 10)	0.371	0.711	NS
	Range	-	1 - 15	1 - 15			

BMI = Body Mass Index; IQR = interquartile range; NS = not significant; SD = standard deviation; yrs = years.

Table 2. Comparison between the PASI score in both genital and non-genital groups

		Control Group	Non-Genital Psoriasis	Genital Psoriasis	Test Value	P-Value	Significativity
		No. = 25	No. = 25	No. = 25			
PASI score	Mild	-	3 (12.0%)	0 (0.0%)	6.767	0.034	S
	Moderate	-	18 (72.0%)	14 (56.0%)			
	Severe	-	4 (16.0%)	11 (44.0%)			

PASI = Psoriasis Area and Severity Index; S = significant.

psoriasis, 18 (72.0%) cases of moderate psoriasis, and 4 (16.0%) cases of severe psoriasis. This difference was statistically significant ($P < 0.05$) (Table 2). In terms of FSFI, there was a highly statistically significant difference between the study groups. Approximately 24 females in the genital psoriasis group, 19 females in the non-genital psoriasis group, and 9 females in the control group exhibited sexual dysfunction (P value = 0.000). According to the FSFI, the total score in women with non-genital psoriasis was 23.4 (18 - 25.6), in women with genital psoriasis was 20.5 (13.5 - 23.3), and in the control group was 28.4 (28 - 29.2), respectively. This difference affected all domains (arousal, desire, orgasm, satisfaction, and pain) in genital psoriasis and non-genital psoriasis compared to the control group, and this result is highly significant (Table 3) (Figure 1). Additionally, as shown in (Table 4), (Table 5) & (Table 6)a highly significant negative correlation was observed between FSFI and DQLI the age of the patient as shown in Figure 2 , and the PASI score in the psoriasis group (P values = 0.000, 0.002, and 0.000, respectively), with correlation coefficients (r) of -0.894, -0.348, and -0.900, respectively. Furthermore, a significant negative correlation was found between FSFI and both the duration of disease and BMI in patients with non-genital psoriasis (P values = 0.040 and 0.002, respectively), with correlation coefficients of -0.303 and -0.380, respectively (Table 7) & (Table 8).

Conclusions

Psoriasis is a chronic inflammatory skin disease affecting approximately 2% to 3% of the population [7]. The lifelong nature of psoriasis treatment can significantly impact emotional, social, and physical well-being, ultimately affecting patients QoL (6). Patients with psoriasis often experience feelings of shame, inferiority, and stigma, which can lead to hesitations about starting a family, particularly among women with psoriasis. Additionally, the psychological, physiological, and social effects of psoriasis can negatively impact female sexual function [7]. Sexual dysfunction (SD) is prevalent in women with psoriasis, with studies reporting that 48.7% to 79.1% of them experience SD [13]. Risk factors associated with SD in psoriasis patients include disease severity, female sex, psoriatic arthritis, and age [14]. However, to date, no trials have compared the effects of vulvar and non-vulvar psoriasis on sexual function, female genital image, and dermatological quality of life within one gender. Additionally, only a limited number of studies have assessed the impact of psoriasis on sexual function and dermatological

Table 3. Comparison Between the Studied Groups Regarding FSFI Total and Sub-items Level Distribution

		Control Group	Non-Genital Psoriasis	Genital Psoriasis	Test Value	P-Value	Significativity
		No. = 25	No. = 25	No. = 25			
FSFI	Median (IQR)	28.4 (28 – 29.2)	23.4 (18 – 25.6)	20.5 (13.5 – 23.3)	38.836	0.000	HS
	Range	24.16 – 36	12 – 29	11.7 – 28.2			
FSFI groups	Normal	16 (64.0%)	6 (24.0%)	1 (4.0%)	21.948	0.000	HS
	Dysfunction	9 (36.0%)	19 (76.0%)	24 (96.0%)			
Desire	Median (IQR)	4.8 (4.8 – 5.4)	4.2 (3.6 – 4.8)	3.6 (1.8 – 4.2)	32.970	0.000	HS
	Range	3.6 – 6	1.2 – 5.4	1.2 – 4.8			
Arousal	Median (IQR)	4.8 (4.8 – 5.1)	3.6 (2.8 – 4.8)	2.8 (2.1 – 3.6)	33.131	0.000	HS
	Range	3.6 – 6	1.8 – 4.8	1.2 – 4.8			
Lubricant	Median (IQR)	5.4 (4.8 – 5.4)	4.2 (4 – 4.8)	4 (2.4 – 4.2)	36.295	0.000	HS
	Range	4.2 – 6	1.2 – 5.4	1 – 5.4			
Orgasm	Median (IQR)	5.2 (5.2 – 5.6)	4 (2.7 – 4.8)	2.7 (2 – 4)	32.293	0.000	HS
	Range	4 – 5.6	0.68 – 5.6	1.6 – 5.2			
Satisfaction	Median (IQR)	5.2 (4.8 – 5.2)	3.6 (2.8 – 4.8)	2.8 (1.6 – 3.6)	31.325	0.001	HS
	Range	3.6 – 6	1.2 – 5.2	1.2 – 5.2			
Pain	Median (IQR)	2.8 (2.8 – 3.6)	3.6 (3.2 – 4.4)	4 (3.6 – 4.4)	15.028	0.000	HS
	Range	2.8 – 4.4	1.2 – 4.4	1 – 4.4			
	Range	1 – 2	1 – 15	2 – 22			

FSFI = female sexual function index; HS = highly significant; IQR = interquartile range; NS = not significant.

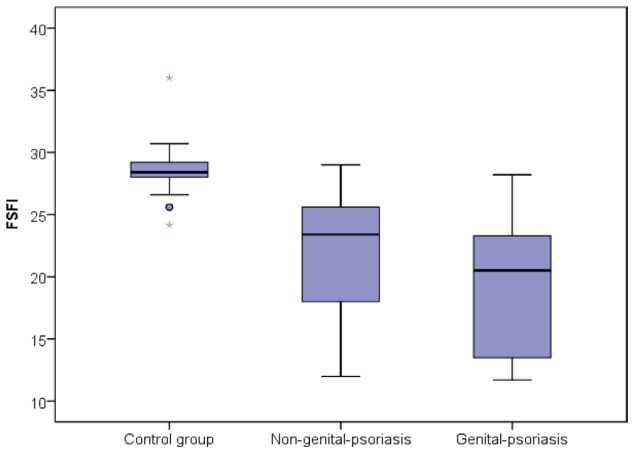

Figure 1. FSFI = Female Sexual Function Index.

QoL. Therefore, our study aimed to evaluate the effects of psoriasis affecting both genital and non-genital areas on sexual dysfunction, female genital image, dermatological QoL, and their relationship with disease severity in female patients.

In our study, we observed a highly statistically significant decrease in FSFI in psoriatic females, both with and without genital involvement, compared to healthy controls. This finding aligns with Molina-Leyva et al who found that the affected body parts play a crucial role in the development of SD [15]. Skin lesions on the genital areas and non-genital areas, such as thighs, abdomen, and back, were significantly associated with SD.

However, other studies, such as Meeuwis et al [16], have indicated that genital lesions alone may not directly impair sexual function but may cause sexual distress due to feelings of physical unattractiveness. The variation in these findings could be attributed to physical signs and symptoms, such as stinging, bleeding, desquamation, itching, as well as psychological factors like anxiety and joint involvement in psoriasis patients [17]. Itis worth noting that patients with genital psoriasis in our study had never used treatment for their genital lesions, including systemic treatment, and almost half had never discussed the presence of genital lesions with their physicians, indicating the presence of stigmatization, shyness, or fear of judgment that may hinder patients from seeking help [4].

Our study revealed a highly significant reduction in overall quality of life among psoriasis patients, both with and without genital involvement, compared to the control group. However, there was no significant difference in DLQI between psoriatic females with or without genital involvement. These findings align with Nazik et al who reported that quality of life was more negatively affected in the psoriasis group than in the control group [18]. However, they contrast with the findings of Kurd et al who suggested that the QoL impact of genital psoriasis is serious and that these patients experience higher levels of depression compared to those without genital involvement [19].

Several factors may contribute to the lower QoL in psoriasis patients. The chronic and recurring nature of the

Table 4. Comparison between the studied groups regarding DLQI and FGIS

		Control group	Non-genital psoriasis	Genital psoriasis			
		No. = 25	No. = 25	No. = 25	Test value	P-value	Sig.
DLQI	No impairment	19 (76.0%)	3 (12.0%)	0 (0.0%)	51.165*	0.000	HS
	Mild impairment	6 (24.0%)	3 (12.0%)	3 (12.0%)			
	Moderate	0 (0.0%)	11 (44.0%)	11 (44.0%)			
	Severe	0 (0.0%)	8 (32.0%)	11 (44.0%)			
	Extremely severe	0 (0.0%)	0 (0.0%)	0 (0.0%)			
FGIS	Median (IQR)	15 (14 – 16)	12 (10 – 13)	8 (4 – 10)	46.366‡	0.000	HS
	Range	12 – 16	8 – 16	4 – 12			
DLQI	Median (IQR)	1 (1 – 1)	7 (6 – 11)	10 (8 – 19)	44.967‡	0.000	HS
	Range	1 – 2	1 – 15	2 – 22			

DQLI = Dermatological quality life index; FSFI = female sexual function index.

Table 5. Post hoc analysis between studied groups

Post hoc analysis	Control group versus non-genital psoriasis	Control group versus genital psoriasis	Non-genital psoriasis versus genital psoriasis
DQLI	0.000	0.000	0.324
FSFI	0.000	0.000	0.014
FSFI groups	0.004	0.000	0.042
Desire	0.000	0.000	0.020
Arousal	0.000	0.000	0.017
Lubricant	0.000	0.000	0.009
Orgasm	0.000	0.000	0.064
Satisfaction	0.000	0.000	0.125
Pain	0.000	0.000	0.357
FGSIS	0.000	0.000	0.000

DQLI = Dermatological quality life index; FGSIS= female genital self-imagescale; FSFI = female sexual function index.

Table 6. Correlation of FSFI with DLQI, Age of the patients, duration of disease, PASI score and BMI among psoriasis groups

		Psoriasis group		Non genital psoriasis		Genital psoriasis	
		R	P	R	P	R	P
FSFI	DQLI	-0.894	0.000	-0.807	0.000	-0.651	0.000
FSFI	Age	-0.348	0.002	-0.443	0.027	-0.460*	0.021
FSFI	Duration of disease	-0.303	0.032	-0.413	0.040	-0.298	0.149
FSFI	PASI score	-0.900	0.000	-0.834	0.000	-0.888	0.000
FSFI	BMI	-0.380	0.001	-0.598	0.002	-0.261	0.207

BMI = body mass index; DQLI = Dermatological quality life index; FGSIS= female genital self-image scale; FSFI = female sexual function index; PASI = Psoriasis Area and Severity Index.

disease often leads to a sense of hopelessness regarding a cure. Moreover, many psoriasis patients face social and psychological challenges related to their condition, which can lead to feelings of humiliation in situations like swimming, intimate relationships, using public showers, or living in environments that lack privacy. Consequently, many patients feel the need to conceal their disease, further affecting their self-confidence [20].

Our study demonstrated significant negative correlations between FSFI and various factors, including the DLQI, age, PASI score, duration of disease, and BMI among psoriasis patients. These findings are in line with studies by Alariny et al and Kędra et al reported negative impacts of psoriasis on quality of life and sexual health [13,21]. Additionally, our study reported a significant negative correlation between FSFI and the age of the patient and duration of the disease, aligning with previous findings [18]. However, these results differ from those reported by Turel et al who found no significant relationship between age and sexual activity in psoriatic female patients [22].

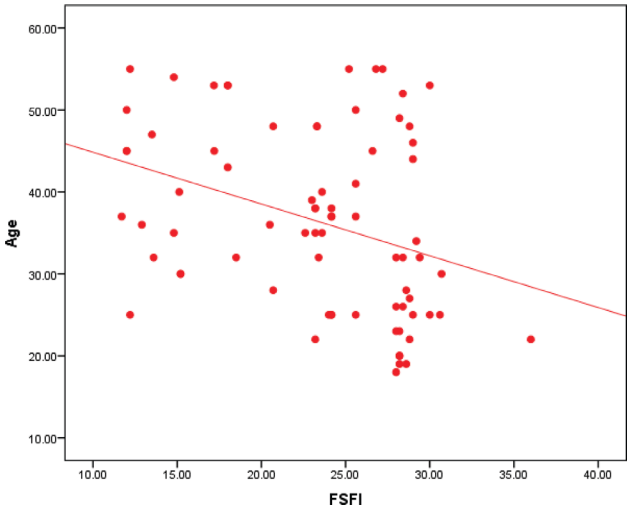

Figure 2. FSFI = Female Sexual Function Index.

Our findings revealed significant positive correlations between PASI score, age, and BMI among patients without genital psoriasis. This is consistent with Nazik et al, who reported positive correlations between PASI score, BMI, DLQI, sexual dysfunction, and the age of psoriatic patients [18]. They also found a significant relationship between increased BMI and waist size on one side and increased disease severity on the other side [23]. These findings contradict those of Sobhan and Farshchian, who found no significant difference in psoriatic patients based on BMI and disease severity [24]. It is important to note that Sompogna et al reported that higher illness severity occurred in younger psoriasis patients [25].

The relatively small sample size, and absence of determining causes of sexual dysfunction which could help in developing targeted interventions and treatments to address sexual health issues in this population are the main limitations of the study. We recommend further research with larger sample sizes to validate our results more robustly.

In conclusion, our study emphasizes the significant impact of psoriasis on sexual health, particularly among women with genital psoriasis, who experience higher levels of sexual distress compared to healthy individuals. It is essential to acknowledge the multifaceted effects of psoriasis on the physical, psychological, and emotional well-being of individuals.

Healthcare professionals should address these aspects when managing psoriasis patients, aiming to improve not only their skin condition but also their overall QoL and sexual well-being.

Table 7. Correlation of DLQI, with Age of the patients, duration of disease, PASI score and BMI among psoriasis groups

		Psoriasis group		Non genital psoriasis		Genital psoriasis	
		R	P	R	P	R	P
DQLI	Age	0.349	0.002	0.469	0.018	0.453	0.023
DQLI	Duration of disease	0.345	0.014	0.507	0.010	0.310	0.132
DQLI	PASI score	0.844	0.000	0.865	0.000	0.768	0.000
DQLI	BMI	0.418	0.000	0.723	0.000	0.315	0.125

BMI = body mass index; DQLI = Dermatological quality life index; PASI = Psoriasis Area and Severity Index.

Table 8. Correlation of PASI with Age of the patients, duration of disease and BMI among psoriasis groups

		Psoriasis group		Non genital psoriasis		Genital psoriasis	
		R	P	R	P	R	P
PASI	Age	0.442	0.001	0.538	0.006	0.390	0.054
PASI	Duration of disease	0.293	0.039	0.502	0.011	0.233	0.263
PASI	BMI	0.584	0.000	0.777	0.000	0.314	0.126

BMI = body mass index; PASI = Psoriasis Area and Severity Index.

References

1. Hong JJ, Mosca ML, Hadeler EK, Brownstone ND, Bhutani T, Liao WJ. Genital and Inverse/Intertriginous Psoriasis: An Updated Review of Therapies and Recommendations for Practical Management. *Dermatol Ther (Heidelb)*. 2021;11(3):833-844. DOI: 10.1007/s13555-021-00536-6. PMID: 33914293. PMCID: PMC8163914.
2. Dogan Y, Kiliç FA,Özçelik S. Anxiety, depression, and sexual dysfunction in patients with psoriasis. *Turk J Dermatol*. 2022; 16:62-9.
3. Duarte G, CalmonH, RadelG, Oliveira M. Psoriasis and sexual dysfunction: links, risks, and management challenges. *Psoriasis (Auckl)*. 2018; 8: 93-99. Doi:10.2147/PTT.S159916. PMID: 305744535.
4. Yang E, Beck K, Sanchez I, Koo J, Wilson Liao : The impact of genital psoriasis on quality of life: a systematic review. *Psoriasis (Auckl)*. 2018; 28; 8:41-47. doi: 10.2147/PTT.S169389. PMID: 30214891.
5. Khaled HN, El-Sabagh EA, Bazid HA. Female sexual dysfunction in patients with psoriasis and vitiligo: an Egyptian pilot study. *J Egypt Womens Dermatol Soc*. 2021; 18 (1):22-34. Doi:10.4103/JEWD.JEWD_51_205.
6. Maaty AS, Gomaa AH, Mohammed GF, Youssef IM, Eyada MM. Assessment of female sexual function in patients with psoriasis. *J Sex Med*. 2013; 10(6):1545-8. Doi:10.1111/jsm.12119. PMID: 23530657.7.
7. Nguyen HT, Ngo VTN, Pham NN, Dinh NH, Tran TNA. Sexual Dysfunction and Associated Factors in Women with Psoriasis. *Indian J Dermatol*. 2023; 68(1):121. Doi:10.4103/ijd.ijd_565_22. PMID: 37151233
8. Mrowietz U, Reich K. Psoriasis--new insights into pathogenesis and treatment. *Dtsch Arztebl Int*. 2009; 106(1-2):11-8. Doi: 10.3238/arztebl.2009.0011. PMID: 19564982.
9. EL-HANAFY G, MAGDI S, SAID E. Dermatology Life Quality Index Correlation with Different Demographic and Clinical Factors in Psoriasis Patients: A Hospital-Based Cross-Sectional Study. *Med.J.Cairo Univ.*2021; 89(1):243-250. Doi: 10.21608/mjcu.2021.15379810.
10. Anis TH, Gheit SA, Saied HS, Alkherbash SA. Arabic translation of Female Sexual Function Index and validation in an Egyptian population. *J Sex Med*. 2011; 8(12):3370-8.Doi: 10.1111/j.1743-6109.2011.02471.x. PMID: 21995610.
11. Mohammed GF, Hassan H. Validity and Reliability of the Arabic Version of the Female Genital Self-Image Scale. *J Sex Med*. 2014; 11(5):1193-200. Doi: 10.1111/jsm.12494. PMID: 24597498.
12. American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). American Psychiatric Publishing.
13. Alariny AF, Farid CI, Elweshahi HM, Abbood SS. Psychological and sexual consequences of psoriasis vulgaris on patients and their partners. *J Sex Med*. 2019; 16(12):1900-1911. Doi:10.1016/j.jsxm.2019.08.017. PMID: 31542353.
14. Molina-Leyva A, Jiménez-Moleón J, Naranjo-Sintes R, Ruiz-Carrascosa C. Sexual dysfunction in psoriasis: A systematic review. *J Eur Acad Dermatol Venereol*. 2015; 29(4):649-55. Doi: 10.1111/jdv.12845. PMID: 25424331
15. Molina-Leyva A, Almodovar-Real A, Carrascosa JC. Distribution pattern of psoriasis, anxiety and depression as possible causes of sexual dysfunction in patients with moderate to severe psoriasis. *An Bras Dermatol*. 2015; 90(3):338-45. Doi: 10.1590/abd1806-4841.20153254. PMID: 26131863.
16. Meeuwis KA, Hullu JA, Nieuwenhof HP. Quality of life and sexual health in patients with genital psoriasis. *Br J Dermatol*. 2011; 164(6):1247-55. Doi: 10.1111/j.1365-2133.2011.10249.x. PMID: 21332459.
17. Meeuwis KA, de Hullu JA, de Jager ME, Massuger LF, van de Kerkhof PC, van Rossum MM. Genital psoriasis: a questionnaire-based survey on a concealed skin disease in the Netherlands. *J Eur Acad Dermatol Venereol*. 2010 Dec; 24(12):1425-30. doi: 10.1111/j.1468-3083.2010.03663.x. PMID: 20384688.
18. Nazik H, Nazik S, Gul F. Body Image, Self-esteem, and Quality of Life in Patients with Psoriasis. *Indian Dermatol Online J*. 2017; 8(5):343-346. Doi: 10.4103/idoj.IDOJ_503_15. PMID: 28979867.
19. Kurd SK, Troxel AB, Crits-Christoph P, Gelfand JM. The risk of depression, anxiety, and suicidality in patients with psoriasis: a population-based cohort study. *Arch Dermatol*. 2010; 146(8):891-5. Doi: 10.1001/archdermatol.2010.186. PMID: 20713823.
20. Sendrasoa F, Razanakoto N, Ratovonjanahary V et al. "Quality of Life in Patients with Psoriasis Seen in the Department of Dermatology, Antananarivo, Madagascar". *Biomed Res Int*. 2020; 14; 2020:9292163. Doi:10.1155/2020/9292163. PMID: 33015185.
21. Kędra K, Janeczko K, Michalik A. Sexual Dysfunction in Women and Men with Psoriasis: A Cross-Sectional Questionnaire-Based Study. *Medicina (Kaunas)*. 2022; 58(10):1443. Doi: 10.3390/medicina58101443. PMID: 36295603
22. Rivera S, Flood A, Dykstra C, Herbenick D, DeMaria AL. Genital Self-Image, Sexual Function, and Quality of Life Among Individuals with Vulvar and Non-Vulvar Inflammatory Dermatoses. *J Dermatol*. 2006; 33(11):772-8. Doi:10.1111/j.1346-8138.2006.00179.x. PMID: 17073992.
23. Bardazzi F, Balestri R, Baldi E, Antonucci A, De Tommaso S, Patrizi A. Correlation between BMI and PASI in patients affected by moderate to severe psoriasis undergoing biological therapy. *Dermatol Ther*. 2010; 23 Suppl 1:S14-9. Doi: 10.1111/j.1529-8019.2009.01281.x. PMID: 20136916.24.
24. Sobhan M, Farshchian M. Associations between body mass index and severity of psoriasis. *Clin Cosmet Investig Dermatol*. 2017; 10: 493-498. Doi: 10.2147/CCID.S147236. PMID: 29200884.
25. Sampogna F, Sera F, Abeni D. Measures of clinical severity, quality of life and psichological distress in patients with psoriasis: a cluster analysis. *J Invest Dermatol*. 2004; 122(3):602-7. Doi: 10.1046/j.0022-202X.2003.09101.x. PMID: 15086541.