

Comparison of sexual function between male and female patients with psoriasis and those with psoriatic arthritis and its correlation with genital lesions

Comparación de la función sexual entre pacientes de ambos sexos con psoriasis y aquellos con artritis psoriásica y su correlación con lesiones genitales

Comparação da função sexual entre pacientes de ambos os sexos com psoríase e aqueles com artrite psoriásica e sua correlação com lesões genitais

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Abstract

The aim was to evaluate the sexual function of patients with psoriasis and psoriatic arthritis and its relationship with sex and the presence of genital lesions. This was an observational, analytical, cross-sectional study involving 120 patients (30 men and 30 women with psoriasis, and 30 men and 30 women with psoriatic arthritis) aged 18 to 83 years. Sexual function was assessed using the Sexual Quotient (SQ), Female Sexual Function Index (FSFI), and International Index of Erectile Function (IIEF) questionnaires. Mean scores were 18.05 for the IIEF, 16.78 for the FSFI, and 54.57 for the SQ, representing mild-to-moderate erectile dysfunction, sexual dysfunction, and sexual performance ranging from unfavorable to fair, respectively. Regarding the presence of genital lesions, the mean SQ was 55.85, compared to 53.82 in patients without genital lesions. There was a positive correlation between IIEF and SQ ($r = +0.77$) and between FSFI and SQ ($r = +0.83$). Sexual dysfunction was confirmed in psoriatic patients with and without arthritis, regardless of sex. However, the presence of genital lesions did not correlate with the degree of sexual dysfunction.

Descriptors: Psoriasis; Psoriatic Arthritis; Genital Psoriasis; Sexual Function; Sexual Quotient; Sexual Dysfunction.

Resumen

El objetivo fue evaluar la función sexual de pacientes con psoriasis y artritis psoriásica y su relación con el sexo y la presencia de lesiones genitales. Se realizó un estudio observacional, analítico y transversal con 120 pacientes (30 hombres y 30 mujeres con psoriasis y 30 hombres y 30 mujeres con artritis psoriásica) de entre 18 y 83 años de edad. La evaluación de la función sexual se llevó a cabo mediante los cuestionarios Círculo Sexual (QS), Índice de Función Sexual Femenina (FSFI) e Índice Internacional de Función Eréctil (IIFE). Las puntuaciones medias fueron 18,05 para el IIFE, 16,78 para el FSFI y 54,57 para el QS, lo que representa disfunción eréctil de leve a moderada, disfunción sexual y una función sexual con un desempeño de desfavorable a regular, respectivamente. En cuanto a la presencia de lesiones genitales, la media del QS fue de 55,85, frente a 53,82 en los pacientes sin lesiones genitales. Se observó una correlación positiva entre el IIFE y el QS ($r = +0,77$) y entre el FSFI y el QS ($r = +0,83$). Se confirmó la presencia de disfunción sexual en pacientes con psoriasis, con o sin artritis, independientemente del sexo. Sin embargo, la presencia de lesiones genitales no se correlacionó con el grado de disfunción sexual.

Descriptoros: Psoriasis; Artritis Psoriásica; Psoriasis Genital; Función Sexual; Cociente Sexual; Disfunción Sexual.

Resumo

Objetivou-se avaliar a função sexual de pacientes com psoríase e artrite psoriásica e sua relação com o sexo e a presença de lesões genitais. Estudo observacional, analítico e transversal com 120 pacientes (30 homens e 30 mulheres com psoríase e 30 homens e 30 mulheres com artrite psoriásica) com idades entre 18 e 83 anos. A avaliação da função sexual foi realizada por meio dos questionários Quociente Sexual (QS), Índice de Função Sexual Feminina (FSFI) e Índice Internacional de Função Erétil (IIFE). Os escores médios foram 18,05 para o IIFE, 16,78 para o FSFI e 54,57 para o QS, representando disfuncção erétil de leve a moderada, disfuncção sexual e função sexual com desempenho de desfavorável a regular, respectivamente. Em relação à presença de lesões genitais, a média do QS foi de 55,85 em comparação com 53,82 nos pacientes sem lesões genitais. Houve correlação positiva entre IIFE e QS ($r = +0,77$) e entre FSFI e QS ($r = +0,83$). A disfuncção sexual foi confirmada em pacientes psoriásicos com e sem artrite, independentemente do sexo. No entanto, a presença de lesões genitais não se correlacionou com o grau de disfuncção sexual.

Descriptoros: Psoríase; Artrite Psoriásica; Psoríase Genital; Função Sexual; Quociente Sexual; Disfuncção Sexual.



Introduction

Psoriasis (PsO) is a chronic, multisystemic, inflammatory, relapsing, and disfiguring disease associated with a growing list of psychological and organic comorbidities. It affects the skin, nails, scalp, and joints^{1,2}. The reported prevalence of psoriasis in the global population ranges from 0.09% to 11.43%, whereas its prevalence in Brazil is estimated at 1.3%³.

Psoriatic arthritis (PsA) is recognized as an inflammatory joint condition associated with cutaneous disease in the absence of rheumatoid factor. Its prevalence ranges from 0.02% to 0.42% in the general population and from 13.8% to 30% among individuals with psoriasis⁴.

Numerous psychological disorders and symptoms, in addition to depression, are associated with psoriatic disease, including feelings of anger, shame, and anxiety, which may lead to social isolation, sexual dysfunction, and reduced quality of life⁵⁻⁷.

Although common, sexual difficulties in these patients are rarely described in the literature^{8,9}. Several hypotheses have been proposed to explain this dysfunction, including the severity of the skin condition, the psychological effects of the disease, limitations resulting from joint and/or periarticular pain and inflammation, concerns about the impression made on sexual partners, and adverse effects of medications used for treatment^{5,8}.

According to the World Health Organization (WHO), sexual dysfunction affects 40.8% of patients with psoriasis. Duarte et al.³ reported in 2018 that its prevalence among women may reach 68%. However, the isolated presence of genital lesions was considered insufficient to explain such a high prevalence of sexual dysfunction.

Genital psoriatic lesions are characterized by thin, erythematous, shiny, well-demarcated plaques with periods of exacerbation and remission. They cause physical and emotional distress, including intense pruritus, burning sensations, dyspareunia, worsening symptoms after intercourse, and deterioration in sexual health and quality of life¹⁰. However, genital psoriasis is underdiagnosed because of the lack of medical inquiry and patients' difficulties in discussing the condition, resulting in inadequate treatment¹¹. This study aimed to assess sexual function in patients with psoriasis and psoriatic arthritis and its relationship with sex and the presence of genital lesions.

Methodology

This cross-sectional, observational, analytical study was conducted in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines, an international framework for reporting observational studies. A total of 120 patients with a clinical diagnosis of psoriasis or psoriatic arthritis who were followed at the outpatient clinic for cutaneous and joint diseases within the Dermatology Department of a university hospital between March 2019 and June 2021 were evaluated.

The sample size was calculated using Epi Info version 3.5.1. The confidence level was 95%, the statistical power was 80%, the sample size ratio was 1:1

(men/women), and the expected exposure frequency was 50/100,000. The resulting sample size was 30 participants per group: 30 men and 30 women with PsO and 30 men and 30 women with PsA, totaling 120 patients.

Participants were recruited consecutively according to their order of arrival for routine outpatient appointments. The inclusion criteria were age 18 years or older, either sex, and a diagnosis of psoriasis, with or without arthritis. Individuals with autoimmune diseases, decompensated systemic conditions (hepatic, renal, metabolic, or cardiac), cognitive impairment, or those who declined participation were excluded.

Sociodemographic, clinical, and lifestyle data were obtained using a structured instrument developed to characterize the study population. Information regarding diagnosis and treatment was collected from patients' medical records. Sexual function was assessed using the following questionnaires: the International Index of Erectile Function (IIEF), consisting of 15 questions grouped into five domains: erectile function, orgasmic function, sexual desire, intercourse satisfaction, and overall satisfaction. Based on the scores obtained in each domain, with lower scores indicating sexual dysfunction (SD), patients can be classified into the following categories of erectile dysfunction severity: none (26–30), mild (22–25), mild to moderate (17–21), moderate (11–16), and severe (6–10)¹²⁻¹⁴; the Female Sexual Function Index (FSFI), consisting of 19 questions assessing sexual function over the preceding four weeks, uses scores ranging from 0 to 5, with lower scores indicating poorer sexual function. The instrument assesses six domains of sexuality: desire, arousal, lubrication, orgasm, satisfaction, and pain.

The cutoff used for the total FSFI score was 26.55¹⁵⁻¹⁷; Male Sexual Quotient (SQ-M) and Female Sexual Quotient (SQ-F), developed and validated in Brazil, were also administered. These instruments comprise 10 self-administered questions written in accessible language and cover different functional and relational aspects relevant to sexual performance and satisfaction in both sexes. The SQ-M assesses physical and emotional components, ejaculatory control, confidence in and quality of erection, and personal and partner satisfaction with foreplay and intercourse. The SQ-F assesses desire, arousal, orgasm, and their psychophysical correlates. Total SQ-M and SQ-F scores range from 0 to 100. Higher scores indicate better sexual performance and satisfaction. Final scores are classified into the following categories of sexual performance: 0–20 points (poor to very poor), 22–40 points (poor to unfavorable), 42–60 points (unfavorable to fair), 62–80 points (fair to good), and 82–100 points (good to excellent)^{18,19}.

Although the IIEF and FSFI provide reliable data, these instruments assess only the preceding four weeks. We hypothesized that this temporal restriction could distort the findings or prevent the participation of individuals who had temporarily been sexually inactive or had no partner during that period. Therefore, the inclusion of the Sexual Quotient (SQ) was justified. The use of this validated instrument allowed a broader assessment of sexual performance and satisfaction over the preceding six months, thereby



preventing sample attrition and providing a more comprehensive assessment of patients' experiences¹²⁻¹⁹. All participants provided written informed consent. The study was approved by the Research Ethics Committee under approval No. 2,625,979.

Categorical variables were described using frequencies and/or percentages, whereas quantitative variables were described using means. Statistically significant differences were assessed using the chi-square test. Student's t-test was also used to compare quantitative means, and Pearson's correlation coefficient was used to assess the degree of correlation between two numerical variables.

There were no data losses or missing records for the variables investigated, resulting in a complete-case sample for all statistical analyses. The significance level was set at 5% ($p < 0.05$), and 95% confidence intervals (95% CIs) were calculated. The magnitude of associations and differences was assessed using effect sizes: the phi coefficient (ϕ) for the chi-square test, Cohen's d for Student's t-tests, and Pearson's r for correlations. The statistical software packages SPSS version 20 and SPHINX were used.

Results

The 120 patients included in this study were aged 18–83 years. Of these, 66 (55%) were between 51 and 70 years of age, with a mean age of 56.13 years ($SD = 13.93$); 54 (45%) identified as pardo (mixed-race); 67 (55.8%) had completed secondary education; 73 (60.8%) were married; and 72 (60%) were employed. The prevalence of genital involvement is presented in Table 1. Overall, only 44 patients (36.7%) had genital lesions.

Table 1. Prevalence of genital involvement in psoriasis and psoriatic arthritis: Chi-Square test. Rio de Janeiro, RJ, Brazil, 2019–2021 ($n=120$)

Genital Lesion	N	%	p-value
Psoriasis	25	41.7	0.257
Psoriatic arthritis	19	31.7	

Note: The association was not statistically significant ($\chi^2 = 1.29$; $df = 1$; $p = 0.257$; 95% CI: 28.1%–45.3%). The reported p-value of 25.57% indicates that there was no statistically significant association between the presence of genital lesions and the type of psoriatic disease, with a small effect size (phi coefficient, $\phi = -0.10$).

The assessments using the International Index of Erectile Function (IIEF) and the Female Sexual Function Index (FSFI) are presented in Table 2 (descriptive analysis). The Male Sexual Quotient (SQ-M) and Female Sexual Quotient (SQ-F) results are presented in Table 3.

Table 2 shows the pattern of sexual function by sex. The mean scores were 18.05 for the IIEF and 16.78 for the FSFI. Compared with the established reference values for these instruments, these scores indicate mild-to-moderate erectile dysfunction and female sexual dysfunction, respectively.

Table 3 presents the pattern of sexual function by sex based on the Sexual Quotient. The mean scores were 64.27 for the SQ-M, 44.87 for the SQ-F, and 54.57 for the

overall sample, corresponding to fair-to-good sexual performance among men and unfavorable-to-fair performance in the overall sample, respectively.

Table 2. Mean IIEF and FSFI scores among patients by sex. Rio de Janeiro, RJ, Brazil, 2019–2021

Sex	IIEF	FSFI
Male	18.05	-
Female	-	16.78
Total	18.05	16.78

Note: IIEF, International Index of Erectile Function: 17–21 (mild-to-moderate dysfunction); FSFI, Female Sexual Function Index: ≤ 26.5 (sexual dysfunction). The values represent the mean IIEF and FSFI scores, which can be compared with the reference values established for these instruments.

Table 3. Mean Sexual Quotient scores among patients by sex: Student's t-test. Rio de Janeiro, RJ, Brazil, 2019–2021 ($n=120$)

Sex	SQ
Male	64.27
Female	44.87
Total	54.57

Note: SQ, Sexual Quotient: 42–60 (unfavorable to fair); 62–80 (fair to good). According to Student's t-test, the difference between the mean SQ scores of men and women was highly statistically significant ($p < 0.001$; 95% CI for the difference: 9.07–29.73), with a medium-to-large effect size (Cohen's $d = 0.67$).

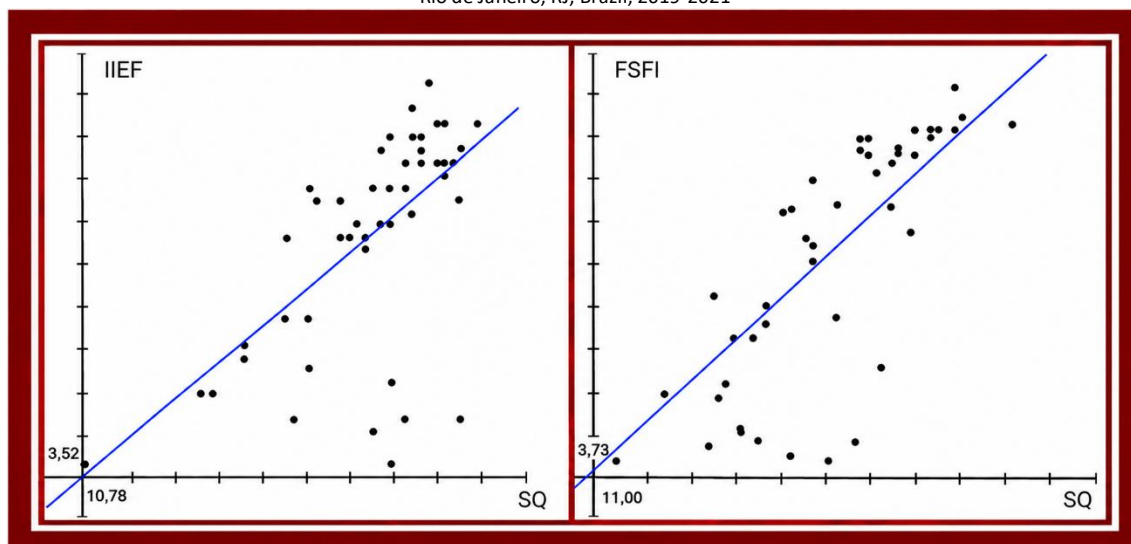
In Table 4, Sexual Quotient scores were examined in relation to sex and the presence of genital lesions. According to Student's t-test, no statistically significant association was found between sexual function and genital involvement. Mean SQ scores did not differ significantly according to the presence or absence of genital lesions. Nevertheless, the higher mean score (within the unfavorable-to-fair performance category) was observed among patients with genital lesions.

Table 4. Genital lesions and mean Sexual Quotient scores: Student's t-test. Rio de Janeiro, RJ, Brazil, 2019–2021 ($n=120$)

Genital lesions	SQ
No	53.82
Yes	55.86
Total	54.57

Note: SQ, Sexual Quotient: 42–60 (unfavorable to fair). According to Student's t-test, the difference was not statistically significant ($p > 0.05$; 95% CI for the difference: -12.41 to 8.33), indicating a negligible effect size (Cohen's $d \approx 0.07$) for the presence of genital lesions.

The Pearson correlation coefficients between the variables are presented in Figure 1. The correlation between the International Index of Erectile Function and the Sexual Quotient was positive and moderately strong ($r = +0.77$; 95% CI: 0.64–0.86), representing a large effect size. Similarly, the correlation between the quantitative variables Female Sexual Function Index and Sexual Quotient was positive and strong ($r = 0.83$; 95% CI: 0.73–0.90), indicating a very large effect size.



Note: SQ, Sexual Quotient; IIEF, International Index of Erectile Function; FSFI, Female Sexual Function Index.

Discussion

Few studies have focused on genital psoriasis and its implications for affected individuals and their relationships¹⁰.

Regarding the association between the presence of genital lesions and cutaneous or joint disease, no statistically significant association was found between the variables, indicating that the presence or absence of genital lesions was not dependent on the type of psoriatic disease. The prevalence of genital psoriasis in our study was lower than that reported in a recent study involving 262 participants, in which a high prevalence of current or previous genital psoriasis was identified (46.1%)¹¹.

When sexual function and performance were assessed using the International Index of Erectile Function and the Female Sexual Function Index, men presented with mild-to-moderate erectile dysfunction, whereas women presented with sexual dysfunction^{14,17}. The questionnaires used have cutoff scores established in healthy individuals, with values below the defined minimum considered abnormal. Previous studies involving patients with rheumatoid arthritis and psoriasis have demonstrated a higher risk of sexual dysfunction than that observed in healthy individuals^{5,12,20}. An investigation of the relationship between disease severity, psychosocial health, metabolic syndrome, and sexual health in 52 male patients with psoriasis also demonstrated a negative effect of the disease on male sexual function, with a higher incidence of erectile dysfunction among patients than among controls²¹.

Another study evaluated sexual dysfunction in 30 patients and its relationship with disease severity, finding that the mean FSFI score was significantly lower in the patient group than in the control group²².

The analysis of sexual performance using the Sexual Quotient showed better sexual performance among men (fair to good) than among women (unfavorable to fair), corroborating similar findings in a sample of 220 patients with psoriasis¹. These data reinforce the hypothesis that

women are more susceptible than men to the negative psychological and sexual consequences of psoriasis. This sex-related difference has also been described by other researchers, some of whom have identified female sex as a risk factor for sexual dysfunction in psoriasis¹.

Other studies have described the negative impact of psoriasis on sexual function in patients of both sexes, regardless of comorbidities and older age²³.

In the present study, although patients with genital psoriasis had a slightly higher SQ score (55.86), this score remained below the threshold for fair-to-good sexual performance (62–80). Mean Sexual Quotient scores did not differ according to the presence (55.86) or absence (53.82) of genital lesions, nor did they differ substantially from the overall mean SQ score (54.57)^{18,19}. Our findings are, to some extent, consistent with those of a study involving 487 patients with psoriasis that also used two instruments to assess sexual health in men and women. No significant difference in sexual function was found between men with and without genital lesions, whereas women with genital lesions experienced a significant deterioration in their sexual lives²⁴. According to a systematic review that included eight articles, sexual dysfunction was similarly distributed among women with and without genital lesions⁵.

A systematic review of 14 studies emphasized that patients with genital involvement experience greater sexual distress than those without genital involvement²⁵.

A recent study found that psoriatic lesions affecting the face, genital region, and hands were associated with sexual problems, although no significant differences were observed between men and women²⁶.

A review of 28 studies found that genital involvement was associated with sexual dysfunction in most investigations and was directly related to sexual avoidance and reduced sexual frequency. Although the genital region is a commonly affected site in psoriasis, with an estimated prevalence of genital involvement ranging from 33% to 63%, this condition may go unnoticed during consultations

because of embarrassment or a perceived lack of appropriateness in raising the subject, whether on the part of the patient or the healthcare professional⁸.

Although genital involvement is not routinely assessed by dermatologists and rheumatologists, genital psoriasis should be addressed regularly during clinical consultations. This approach is essential to prevent impairment of patients' sexual and mental health and to ensure more appropriate and targeted treatment^{27,28}. Golding suggests that sexual function assessment should be incorporated into routine outpatient care in dermatology and rheumatology²⁹.

The Sexual Quotient has been used to assess sexual function in kidney transplant recipients, individuals with urinary incontinence, menopausal women, studies measuring pain during sexual activity, and investigations of sexual quality of life in older adults, among other populations³⁰⁻³³. Recently, SQ was used in a study exclusively involving patients with PsA. This cross-sectional observational study included 12 men and 11 women and demonstrated significantly impaired sexual function based on FSFI scores and sexual dysfunction among men according to IIEF scores. However, the researchers found no correlation between SQ-F and FSFI scores or between SQ-M and IIEF scores³⁴.

The present study is the first to use the Sexual Quotient (SQ) to assess sexual function in individuals with psoriasis and psoriatic arthritis, identifying a novel positive correlation with the more comprehensive IIEF and FSFI scores. Given the sensitivity of this topic for both patients and healthcare professionals, the SQ is suggested as a useful assessment tool because it is brief, self-administered, written in accessible language, and validated in Brazil. It encompasses functional and relational aspects relevant to sexual performance and satisfaction in both sexes.

Many studies use the Dermatology Life Quality Index (DLQI) to assess sexual function because of its routine use in clinical practice, relying on a single item from this instrument. This approach may be useful for the initial screening of sexual difficulties. Conversely, although specific instruments such as the IIEF and FSFI provide more comprehensive information, they are lengthy and time-consuming questionnaires, which limits their application in daily clinical practice²³. This combined approach enables a broader assessment of sexuality and represents a novel investigation in this population. Accordingly, the present study highlights the Sexual Quotient as a feasible and effective alternative for the active assessment of sexual health by nursing professionals, thereby promoting comprehensive patient care.

Caring for individuals with psoriatic disease requires technical expertise and specialized scientific knowledge. In this context, nurses play a fundamental role in clinical management by providing support tailored to patients' needs, health education, and an emphasis on sustained treatment adherence³⁵⁻³⁷.

Comprehensively assessing patients by considering emotional and sexual aspects in addition to physical symptoms expands the potential for holistic care. This approach directly addresses the psychosocial impact of the disease and helps mitigate its negative effects on the lives of affected individuals.

The limitations identified included difficulties understanding some of the sexuality questionnaire items because of participants' low socioeconomic and educational levels. These difficulties were mitigated by using more accessible language. Another limitation was the lack of studies using the Sexual Quotient in patients with psoriatic disease. The findings may support further investigations involving larger populations.

Conclusion

This study confirmed the presence of sexual dysfunction in patients with psoriasis or psoriatic arthritis, regardless of sex. Men presented with mild erectile dysfunction and fair-to-good sexual performance, whereas women exhibited sexual dysfunction and unfavorable-to-fair sexual performance. The analysis demonstrated a significant difference between men and women, with more pronounced sexual difficulties among women. However, the presence of genital lesions was not correlated with the degree of sexual dysfunction, and no statistically significant association was found between the presence of genital lesions and the type of psoriatic disease, whether cutaneous or articular. The impact of psoriasis on sexual health may be associated with several factors; therefore, comprehensive patient assessment is recommended. These findings reinforce the importance of a multidisciplinary approach to the care of patients with psoriatic disease, including psychological and sexological support, to explore the underlying causes of sexual dysfunction and help reduce its impact.

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