

Evaluation of sexual functions between sufferers of chronic spontaneous urticaria and psoriasis

Assessment of sexual functions in chronic dermatological diseases

Mehmet Yunus Meydan¹, Ayşe Nilhan Atsü², Nazlı Caf¹, Zafer Türkoğlu¹
¹ Department of Dermatology, Başakşehir Çam and Sakura City Hospital
² Faculty of Health Sciences, İstanbul Kent University, İstanbul, Turkey

Abstract

Aim: Chronic dermatological diseases may have psychosocial effects such as sexual dysfunction. In this study, we aimed to evaluate the effects of chronic spontaneous urticaria (CSU) and psoriasis on sexual functions in comparison with healthy individuals.

Material and Method: Patients having psoriasis and CSU were enrolled. Healthy controls were obtained from volunteered patients applied for dermo-cosmetic product consultation. Thirty male and 30 female participants were included in every group. Beck Depression and Anxiety scales were administered to all participants. Female Sexual Function Index (FSFI) scale was applied to female participants and International Index of Erectile Function (IIEF) scale to males. Dermatology Life Quality Index (DLQI), Urticaria Activity Score of 7 (UAS7), and Urticaria Control Test (UCT) were applied to the patients belonging to CSU group. Data were analyzed with the IBM SPSS (Statistical Package for the Social Sciences) 22.0 program.

Results: Beck Anxiety scores did not differ between the groups ($p>0.005$). FSFI did not differ significantly between psoriasis and CSU groups ($p>0.005$), but it was significantly higher in healthy controls. IIEF did not differ between psoriasis and CSU groups. DLQI and UAS7 were negatively correlated with IIEF and FSFI sub-parameters ($p<0.01$).

Discussion: Our study is unique in evaluating sexual functions in CSU, psoriasis patients, and healthy individuals; therefore, adds to the literature. The psychosocial effects of chronic dermatoses such as CSU and psoriasis are not limited to depression, anxiety, and sleep disorders. Sexual functions should also be assessed and included in the treatment plan.

Keywords

Psoriasis, Chronic Urticaria, Sexual Dysfunction

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Corresponding Author: Nazlı Caf, Department of Dermatology, Olimpiyat Bulvarı Yolu, Başakşehir Çam and Sakura City Hospital, Başakşehir, İstanbul, Turkey.

E-mail: naslicaf@hotmail.com P: +90 212 909 60 00

Corresponding Author ORCID ID: <https://orcid.org/0000-0001-9364-9236>

Introduction

Urticaria (wheals) is defined as a vascular reaction in the skin presenting with erythematous plaques. Its classic symptom is severe itching but burning and stinging may occur. Urticarial plaques may be accompanied by angioedema [1,2]. If urticaria episode lasts longer than 6 weeks, it is called chronic urticaria. Chronic urticaria is divided into chronic inducible and spontaneous forms (=idiopathic) [1].

Body image may be influenced by skin lesions, and this may cause sexual dysfunctions [3]. Studies have reported that CSU patients, both males and females, have sexual dysfunction [4,5]. Psoriasis may lead to sexual dysfunction and 40-56% of patients experience sexual impairment [6].

Since skin is exposed to the environment, dermatological diseases affect self-confidence, and quality of life. Especially itching and chronic dermatoses may cause various psychiatric pathologies such as anxiety, depression and sleep disorders. It is important to be aware of these negative effects for holistic treatment [7,8].

Dermatology-specific scales include some questions about sexual life, they cannot fully evaluate sexual functions. Sexual functions have been investigated in many dermatological diseases, but there are no studies comparing CSU with psoriasis and healthy controls. The aim of this study is to compare sexual functions in patients who have CSU with psoriasis patients and healthy controls.

Material and Methods

The observational case-controlled study was conducted at Başakşehir Çam and Sakura City Hospital between March 15 and 15 May 2021. Ethics committee approval was obtained (Istanbul Kanuni Sultan Suleyman Training and Research Hospital Clinical Research Ethics Committee. Date:11/03/2021, Issue:2021.03.91).

Thirty female and 30 male patients were included in all three groups. Psoriasis and CSU patients were taken from follow-up outpatient clinics. Healthy controls were obtained from volunteered patients applied for dermo-cosmetic product consultation. Written informed consent was obtained from all participants.

Beck Depression and Beck Anxiety scales were applied to all participants. Urticaria Activity Score of 7 (UAS7), Urticaria Control Test (UCT) and Dermatology Life Quality Index (DLQI) were applied to CSU group. Psoriasis Area Severity Index (PASI) and DLQI scores of patients were calculated in psoriasis group. The Female Sexual Function Index (FSFI) was administered to females and the International Index of Erectile Function (IIEF) was applied to males in every group.

The inclusion and exclusion criteria were as follows:

Inclusion criteria: Being sexually active between the ages of 18-45, having regular menstrual cycles for female patients, patients who are able to take note of their symptoms on a daily basis.

Exclusion criteria: acute urticaria, urticarial vasculitis, isolated angioedema, women in pregnancy and lactation period, applying alternative treatments and diets up to 6 weeks before the study, alcohol dependence, illiteracy, being in menopause, systemic and/or psychiatric diseases that may affect sexual

functions, history of hysterectomy, active sexually transmitted disease.

Scales for the evaluation of sexual functions: Turkish validity studies of both indexes are present in the literature.

i)Female Sexual Function Index (FSFI)

The scale is a 19-item questionnaire developed as a multidimensional self-report tool to evaluate the sexual functioning in women within the last month. This questionnaire consists of questions in six domains, including desire, arousal, lubrication, orgasm, satisfaction, and pain, scored by patients' self-reports. The total score is also calculated [9].

ii)International Index of Erectile Function (IIEF)

The questionnaire consisted of 15 self-evaluation questions assessing the last four weeks. Six questions of this questionnaire are about erectile function, 2 questions about sexual desire, 2 questions about orgasmic function, 3 questions about sexual satisfaction and 2 questions about general satisfaction. Each subgroup is scored within itself in addition to the total score [10].

Results

Demographic, clinical and examination characteristics between groups

There was no significant difference between the groups in terms of age, gender, educational status, number of children, smoking, weight, and height ($p>0.005$) (Table 1).

No significant difference was found between the disease groups in terms of DLQI scores ($p>0.005$). Disease duration, family history, drug use rate were higher in psoriasis group compared to CSU group ($p=0.000$, $p=0.024$, $p=0.040$, respectively). The presence of triggering stress was higher in CSU group compared to psoriasis group ($p=0.000$).

Intragroup data of the CSU patients

The duration of attacks was $5.4 + 2.2$ (Median= 7.0, Min=0 Max=7) times/week, and 36.7% ($n=22$) of the CSU patients were accompanied by angioedema. The response of these patients to antihistamine was as follows: 48.3% ($n=29$) had no response, 45% ($n=27$) had partial response, and 6.7% ($n=4$) had a complete response. UAS7 scores were $26.2 + 14.0$ (Median= 28.0, Min=0 Max=44); UCT scores were $10.0 + 7.0$ (Median= 11.0, Min=0 Max=40).

Intragroup data of the psoriasis patients

PASI scores were $9.0 + 4.3$ (Median= 8.0, Min=3.2 Max=19.0). There was no genital involvement in 93.3% ($n= 56$). Four male patients had genital involvement.

Anxiety, depression, and sexual function data between groups

Beck Anxiety scores were not significantly different between the groups ($p>0.005$). A significant difference was found between the groups in terms of Beck Depression scores and was higher in CSU group ($p=0.034$).

All IIEF sub-parameters (erectile dysfunction ($p=0.002$), orgasmic function ($p=0.000$), sexual desire ($p=0.000$), sexual satisfaction ($p=0.000$), overall satisfaction ($p=0.000$) and the total score ($p= 0.000$)) were higher in the control group.

All FSFI sub-parameters (desire-related ($p=0.000$), arousal-related ($p=0.000$), lubrication-related ($p=0.000$), orgasm-related ($p=0.000$), general satisfaction ($p=0.000$), pain ($p=0.000$) and the total score were higher in the control group.

Post hoc analysis was performed to demonstrate the relationships between Beck Depression, IIEF and FSFI scores. No significant difference was found between the groups in terms of Beck Anxiety score ($p>0.005$). Beck Depression score was significantly higher in CSU group compared to controls ($p=0.009$).

Sub-parameters of IIEF and general total score did not differ significantly between CSU and psoriasis groups ($p>0.005$), all

the scores were higher in the control group ($p=0.015$, $p=0.015$; $p=0.000$, $p=0.000$; $p=0.000$, $p=0.000$; $p=0.000$, $p=0.000$; $p=0.000$, $p=0.000$; $p=0.000$, $p=0.000$ respectively).

The FSFI sub-parameters and total score scores did not differ significantly between psoriasis and CSU groups ($p>0.005$), but they were higher in healthy controls ($p=0.000$, $p=0.000$; $p=0.000$, $p=0.000$; $p=0.000$, $p=0.000$; $p=0.000$, $p=0.000$; $p=0.000$, $p=0.000$ respectively).

Table 1. Demographic characteristics of the groups

		Psoriasis		CSU			Control		p
		Mean.±s.d./n-%	Median	Mean.±s.d./n-%	Median	Mean.±s.d./n-%	Median		
Gender	Female	30	50%	30	50%	30	50%	1.000	
	Male	30	50%	30	50%	30	50%		
Age (Years)		32.7 ± 5.4	32.0	32.7 ± 8.3	34.0	32.3 ± 5.5	33.0	0.948	
Education Level	Primary	11	18.4%	15	25.0%	12	20.0%	0.085	
	Secondary	12	20.0%	15	25.0%	15	25.0%		
	High-School	23	38.3%	16	26.7%	10	16.7%		
	University	14	23.3%	14	23.3%	23	38.3%		
Number of children	0	23	38.3%	24	40.0%	37	61.7%	0.162	
	1	15	25.0%	16	26.7%	9	15.0%		
	2	13	21.7%	14	23.3%	10	16.7%		
	≥3	9	15.0%	6	10.0%	4	6.6%		
Smoking (packs/year)		21	35.0%	16	26.7%	20	33.3%	0.583	
Weight (Kg)		76.0 ± 14.0	75.0	76.0 ± 13.0	75.0	71.1 ± 14.1	70.0	0.094	
Height (cm)		168.0 ± 9.0	168.0	169.0 ± 8.9	168.0	170.0 ± 9.0	170.0	0.535	

Kruskal-Wallis /Chi-square test / Fisher's Exact test

Table 2. Relationship of male sexual functions with disease duration, DLQI, UAS7 and UCT in the CSU group

		IIEF erectile function	IIEF orgasmic function	IIEF sexual desire	IIEF intercourse satisfaction	IIEF overall satisfaction	IIEF Total Score
Disease duration	r	-0.014	0.070	0.144	0.183	0.069	0.075
	p	0.943	0.715	0.447	0.333	0.718	0.695
DLQI	r	-0.770**	-0.882**	-0.909**	-0.869**	-0.914**	-0.926**
	p	0.000	0.000	0.000	0.000	0.000	0.000
UAS7	r	-0.773**	-0.880**	-0.912**	-0.829**	-0.892**	-0.892**
	p	0.000	0.000	0.000	0.000	0.000	0.000
UCT	r	0.683**	0.774**	0.755**	0.788**	0.827**	0.818**
	p	0.000	0.000	0.000	0.000	0.000	0.000
Accompanying angioedema	r'	-0.280	-0.089	-0.197	-0.176	-0.117	-0.186
	p	0.134	0.642	0.296	0.353	0.537	0.326

Table 3. Relationship of female sexual functions with disease duration, DLQI, UAS7 and UCT in the CSU group

		FSFI desire	FSFI arousal	FSFI lubrication	FSFI orgasm	FSFI satisfaction	FSFI pain	FSFI Total Score
Disease duration	r	0.166	0.271	0.353	0.244	0.244	0.229	0.249
	p	0.381	0.147	0.056	0.193	0.194	0.224	0.185
DLQI	r	-0.903**	-0.936**	-0.871**	-0.890**	-0.921**	-0.844**	-0.923**
	p	0.000	0.000	0.000	0.000	0.000	0.000	0.000
UAS7	r	-0.814**	-0.850**	-0.792**	-0.821**	-0.834**	-0.802**	-0.840**
	p	0.000	0.000	0.000	0.000	0.000	0.000	0.000
UCT	r	0.836**	0.849**	0.781**	0.823**	0.854**	0.791**	0.849**
	p	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Accompanying angioedema	r'	0.151	0.054	0.065	0.110	0.082	0.125	0.100
	p	0.424	0.777	0.734	0.562	0.668	0.509	0.599

Correlation analyses

No correlation was observed between disease duration and IIEF sub-parameters in psoriasis group ($p > 0.005$). DLQI, PASI and genital involvement were negatively correlated with IIEF sub-parameters ($p < 0.01$).

There was no correlation between disease duration and FSFI sub-parameters in psoriasis group ($p > 0.005$). DLQI and PASI were negatively correlated with FSFI sub-parameters ($p < 0.01$).

No correlation was observed between disease duration, accompanying angioedema and IIEF sub-parameters in CSU group ($p > 0.005$). DLQI and UAS7 were negatively correlated with IIEF sub-parameters ($p < 0.01$). UCT was positively correlated with IIEF sub-parameters ($p < 0.01$) (Table 2).

No correlation was observed between disease duration, accompanying angioedema, and FSFI sub-parameters in CSU group ($p > 0.005$). DLQI and UAS7 were negatively correlated with FSFI sub-parameters ($p < 0.01$). UCT was positively correlated with FSFI sub-parameters ($p < 0.01$) (Table 3).

Discussion

Health is the totality of physical and mental health, and sexual health is also included in this definition.

In a study investigating sexual dysfunction and symptoms in CSU, mood disorders and sexual dysfunction were found to be higher in both male and female CSU patients compared to healthy controls, and IIEF and FSFI scores were negatively correlated with UAS7 [4]. In our study, DLQI and UAS7 were negatively correlated with IIEF sub-parameters in males. In females, a negative correlation was found between DLQI and UAS7 with FSFI sub-parameters. Thus, our results were in concordance with the current literature. In other words, parameters that assess sexual function are all affected in both male and female patients with CSU.

It was reported that the scores of UCT were associated with sexual dysfunction, which is more prominent in female urticaria patients compared to healthy controls. Moreover, the same study revealed that as the disease activity increases, sexual dysfunction also increases [5]. In our study, UCT was positively correlated with FSFI and IIEF sub-parameters, whereas UAS7 score was negatively correlated. As urticaria was controlled, a decrease in sexual dysfunction was observed. Thus, our results were evaluated in accordance with the current literature. However, there was no difference in sexual dysfunction between individuals having CSU and psoriasis. The fact that sexual dysfunction was statistically lower in the control group compared to the disease groups suggested that the disease groups evaluated in this study may cause similar effects on sexual function due to their chronic nature.

In a study evaluating sexual functions in women with psoriasis, it was reported that sexual desire, arousal and satisfaction decrease with severity of psoriasis [11]. In our study, PASI was negatively correlated with IIEF and FSFI sub-parameters. Since psoriasis is a disease that affects the appearance and may be located in visible areas, it is usual to cause social stigmatization, decrease in self-confidence, and affect sexual functions. Stigmatization was not evaluated in our study and further studies are recommended.

In a study conducted by Ermertcan et al., total IIEF score

indicating sexual dysfunction was significantly lower in men with psoriasis compared to healthy controls. In addition, orgasmic function was significantly reduced in psoriasis patients. However, no correlation was found between total IIEF score, PASI, and DLQI [12]. In our study, DLQI and PASI were negatively correlated with IIEF sub-parameters. In other words, we found that orgasmic function was also significantly affected like all other parameters.

Studies have reported that erectile dysfunction is higher in men with psoriasis, and this rate is 43.8%. [13, 14]. It has also been reported that this condition is independent of DLQI, duration of psoriasis, and genital involvement [14]. In a study by Goulding et al., no difference was found between healthy control and psoriasis groups considering erectile dysfunction [15]. Thus, in the current literature, the results of studies evaluating the sexual functions in men with psoriasis vary. In our study, genital involvement in male patients was found to be negatively correlated with all sub-parameters of IIEF. The small number of patients ($n:4$) with genital involvement in our study may have created this difference. Large-scale human studies are needed that only reveal the relationship.

In a study conducted by Alariny et al., in which depression, anxiety and sexual functions were evaluated in psoriasis patients and their partners, it was found that self-confidence was lower, and anxiety and depression were higher compared to healthy controls [16]. Although self-confidence was not evaluated in our study, depression was found to be higher CSU group compared to the other groups. However, no significant difference was found between the three groups in anxiety scores. The reason for the higher depressive scores in patients with CSU may be the sudden onset of the disease and the unpredictability of its course.

In a study by Ertaş et al., sexual dysfunction was higher in female patients with CSU accompanied by angioedema compared to the patients without angioedema [5]. In our study, however, no significant difference was observed between FSFI sub-parameters in patients with angioedema. Additional studies in which genital angioedema is specifically questioned and the severity of angioedema is evaluated will help to shed light on this issue.

In a study, in which sexual functions of both genders were evaluated in vitiligo and CSU patients, sexual desire and lubrication were lower in women with both vitiligo and urticaria compared to healthy controls. In addition, orgasm and satisfaction were found to be reduced in both diseases compared to controls. In male patients having vitiligo and CSU, although no significant difference was found in other sub-parameters, orgasm and satisfaction were lower compared to healthy controls. However, the intergroup levels of involvement of patients with vitiligo and CSU were not evaluated in this study. In addition, the Arizona Sexual Experience Scale (ASEX) scale was used instead of the IIEF and FSFI. However, in ASEX, similar to the scales we use, sexual desire, vaginal lubrication-penile erection, ability to reach orgasm and satisfaction from orgasm are evaluated [17]. In another study, the sexual disorders of patients with psoriasis and neurodermatitis were compared with healthy controls, and increased sexual dysfunction, including orgasmic function, was found in both

diseases compared to healthy controls [18]. In our study, sexual dysfunction was higher in both psoriasis and CSU patients compared to the control group, but there was no statistical difference between the two diseases.

There are some limitations in our study. The association with treatment types was not determined. Evaluations of other quality of life assessments in urticaria (CU-Q2oL and UAS31) were not questioned due to the possibility of prolonged contact time during COVID-19 pandemic. Besides, patients with inducible urticaria were not assessed.

Conclusion

Sexual dysfunction was detected in both sexes in psoriasis and CSU compared to healthy controls. There are many studies that strongly demonstrate sexual dysfunction in psoriasis but the number of studies is very few in CSU. This study revealed that CSU causes sexual dysfunction at least as much as psoriasis. It is very important to evaluate and treat sexual functions, which are a component of quality of life in chronic dermatological diseases.

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Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

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Conflict of interest

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