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Sexual dysfunction in psoriasis patients: study on the relationship between disease severity and degree of stress due to prosiasis

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ABSTRACT

Psoriasis is a chronic, systemic, and immune-mediated skin disease that can affect physical, psychological and social functions of patients leading to a significant impact on sexual dysfunction. The aim of study was to evaluate the relationship between disease severity and degree of stress with sexual dysfunction in psoriasis patients. This was an observational study using case control design. Subjects were psoriasis vulgaris patients who visited Squamous Division, Polyclinic of Department of Dermato-Venereology, Dr. Sardjito General Hospital/Faculty of Medicine Universitas Gadjah Mada, Yogyakarta. Disease severity was assessed using psoriasis area severity index (PASI), whereas sexual dysfunction was evaluated using arizona sexual experience scale (ASEX) and Psoriasis-related psychological stress was assessed using psoriasis life stress inventory (PLSI). Among 93 patients of psoriasis, 38 patients (40.8%) suffered from sexual dysfunction. Factors that influence the occurrence of sexual dysfunction in psoriasis patients were disease severity ($p = 0.00$), psoriasis-related stress ($p = 0.00$), disease onset ($p = 0.03$), age ($p = 0.04$) and joint pain ($p = 0.04$). In conclusion, disease severity and degree of stress are associated with sexual dysfunction on psoriasis patients.

ABSTRAK

Psoriasis merupakan penyakit kronis, sistemik, dan kelainan sistem imun kulit yang dapat mempengaruhi fungsi fisik, psikologi dan sosial penderita sehingga menyebabkan gangguan fungsi seksual yang signifikan. Penelitian ini merupakan penelitian observasional menggunakan rangcangan kasus kontrol. Subjek penelitian adalah penderita psoriasis vulgaris yang berkunjung ke Divisi Skuamosa, Poliklinik Bagian Kulit dan Kelamin, Rumah Sakit Umum Pusat Dr. Sardjito/ Fakultas Kedokteran, Universitas Gadjah Mada, Yogyakarta. Keparahan penyakit ditetapkan menggunakan *psoriasis area severity index* (PASI), sedangkan gangguan seksual dievaluasi menggunakan *arizona sexual experience scale* (ASEX) dan tingkat stres terkait psoriasis ditetapkan menggunakan *psoriasis life stress inventory* (PLSI). Diantaran 93 penderita psoriasis, 38 penderita (40,8%) mengalami gangguan fungsi seksual. Faktor yang mempengaruhi kejadian gangguan fungsi seksual adalah keparahan penyakit ($p = 0,00$), stres terkait psoriasis ($p = 0,00$), munculnya penyakit ($p = 0,03$), umur ($p = 0,04$) dan nyeri sendi ($p = 0,04$). Dari penelitian ini dapat disimpulkan, keparahan penyakit dan derajat stres berkaitan dengan gangguan seksual pada penderita psoriasis.

Keywords: psoriasis - sexual dysfunction - psoriasis area severity index - arizona sexual experience scale - psoriasis life stress inventory

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INTRODUCTION

Psoriasis is a chronic, systemic, immune-mediated skin disease characterized by erythematous, scaly plaques that can itch and bleed.[1,2] The prevalence of psoriasis varies from country to country and by ethnic groups. It is estimated that the prevalence of psoriasis ranges from 0.5% to 4.6% worldwide. The reason for the geographic variation in prevalenve is still unknown.[3] The prevalence of psoriasis in Caucasian population is etimated to be 2-3%. In the United State, 2.1% among adult population are found to have psoriasis.[4] In the United Kingdom, 1.5% among 7.5 million patients who were registered with a general practitioner have psoriasis.[5]

The cause of psoriasis is not fully known. However, the evolving evidence suggests that psoriasis is a complex disorder caused by the interaction of multiple genes, the immune system, and environmental factors.[6,7] Recent studies have demonstrated that psoriasis has a significant negative impact on patients' quality of life as other chronic diseases such as cancer, arthritis, hypertension, heart disease, diabetes and depression.[2,8-10] Additional studies have also demonstrated that psoriasis has both social and psychological impacts on patients.[11-13]

One of the aspects related to quality of life that is affected by psoriasis is the sexual dysfunction. Psoriasis is commonly associated with low self-esteem, dissatisfaction with relationships, depression, and suicidal thoughts leading to the decrease of sexual activities and desire.[14-17] It was reported that 38-50% patients with psoriasis have sexual problems.[11,12,15] However, this sexual problems is not often considered by clinicians. This study was conducted to evaluate the correlation between the disease or illness severity and degree of stress due to psoriasis with sexual dysfunction among the outpatients of Department of Dermato-Venereology, Dr. Sardjito General Hospital/Faculty of Medicine, Universitas Gadjah Mada, Yogyakarta.

MATERIALS AND METHODS

Study population

This was an observational study using case control design. Subjects were recruited from psoriasis vulgaris patients visiting Squamous Division, Polyclinic of Department of Dermato-Venereology, Dr. Sardjito General Hospital, Yogyakarta and fulfilled the inclusion and exclusion criteria. The inclusion creteria were patients with plaque type psoriasis, aged 18-55 years old, good marriage status, sexually active, understood well Indonesian language and agreed to join the study by signing an informed consent. The exclusion criteria were patients with history of antidepressants consumption and suffering other chronic diseases. Protocol of the study has been approved by the Health Research Ethics Committee of the Faculty of Medicine, Universitas Gadjah Mada, Yogyakarta.

Disease severity measurements

Detailed dermatological examination and documentation of disease severity was conducted by a dermatologist using psoriasis area severity index (PASI).[17] PASI combined the assessment of the severity of lesions and the area of the body affected. The lesions of the skin were divided into erythema, infiltration and desquamation on a scale from 0 (none) to 4 (maximum). The area body affected included head, arms, trunk and legs on a percentage of affected area. PASI combined these two assessment into single score in the range 0 (no disease) to 72 (maximal disease).

Sexual dysfunction measurement

The presence or absence of sexual dysfunction was assessed using arizona sexual

experience scale (ASEX) developed by McGahuey *et al.*[18] This assessment was a self-report questionnaire administered by a clinician consisting of 5 items rated on a 6-point scale. Each item explored a particular aspect of sexuality namely 1) sexual drive, 2) arousal, 3) penile erection/vaginal lubrication, 4) ability to reach orgasm and 5) satisfaction from orgasm. Patient was considered to have sexual dysfunction if the total score was > 18 or a single item had score ≥ 5 or three items had score ≥4.

Psoriasis-related psychological stress measurement

Psoriasis-related psychological stress was assessed using psoriasis life stress inventory (PLSI) developed by Gupta and Gupta.[19] The PLSI used was a 15-item questionnaire rated on a 4-point scale providing a total score in the range from 0 to 45. Patient was considered to have high stress associated to psoriais if the total score was ≥ 10 and patient was considered to have low stress associated to psoriasie if the total score was <10.

Statistical analysis

Univariate analysis was conducted to evaluate variations in the frequency distribution of subjects. Bivariate analysis using Chi-square and Spearman's was conducted to evaluate the relationship between the independent variables with one dependent variable.

RESULTS

A total of 93 patients with psoriasis vulgaris were enrolled in this study. The characteristic of patients is presented in TABLE 1. Mean of patients age was 37.85 ± 7.90 years ranging from 20 to 54 years. The majority of patients' education (46.2%) were Senior High School. Range of PASI score, duration of illness and age at onset of illness were 0.8-28.8, 1-20 years, and 19-45 years old, respectively.

TABLE 1. Characteristics of subjects. Data are presented as mean±SD, frequency (percent) or range

Variable	Value
Age (year)	37.85 ± 7.90
Sex (n or %)	
• Male	46 (49.5)
• Female	47 (50.5)
Education (n or %)	
• Primary school	2 (2.1)
• Secondary school	18 (19.3)
• High school	43 (46.2)
• University	24 (25.8)
PASI score (range)	0.8 - 28.8
Duration of illness (year)	1 - 20
Age at onset (year)	19 - 45

Among 93 patients with psoriasis vulgaris enrolled in this study, 38 patients (40.8%) suffered from sexual dysfunction. The relationship between sex, genital lesion and joint pain with the occurrence of sexual dysfunction is presented in TABLE 2. Sex and genital lesion were not associated with sexual dysfunction (p=0.610 and p=0.169), whereas joint pain was associated with the occurrence of sexual dysfunction (p=0.043). Patients with joint pain experienced more sexual dysfunction.

The relationship between age, onset, duration of illness, PASI and PLSI score with the occurrence of sexual dysfunction is presented in TABLE 3. Duration of illness was not associated with the occurrence of sexual dysfunction (p=0.10). However, age (p=0.04) and onset of illness (p=0.03) were associated with the occurrence of sexual dysfuntion. Psoriasis patients with early onset and younger age had higher risk of sexual dysfunction. Furthermore, the relationship of PASI and PLSI scores with the occurrence of sexual dysfunction was also observed (p=0.00). Sexual dysfunction was more observed in patients with higher stress and higher illness severity.

TABLE 2. Relationship between sex, genital lession and joint pain with the occurrence of sexual dysfunction

Variable	Sexual dysfunction n (%)	Normal sexual function n (%)	p
Sex			
• Male	20 (43.5)	26 (56.5)	0.610
• Female	18 (38.3)	29 (61.7)	
Genital lesion			
• Yes	9 (56.3)	7 (43.8)	0.169
• No	29 (37.7)	48 (62.3)	
Joint pain			
• Yes	14 (58.3)	10 (41.7)	0.043
• No	24 (34.8)	45 (65.2)	

TABLE 3. Relationship between age, onset, duration of illness, PASI and PLSI scores with the occurrence of sexual dysfunction. Data are presented as mean ± SD

Variable	Sexual dysfunction (n=38)	Normal sexual function (n=55)	p
Age	35.5 ± 6.8	39.7 ± 8.2	0.04
Duration of illness	5.8 ± 2.9	7.1 ± 3.6	0.10
Onset	29.2 ± 5.6	32.6 ± 7.8	0.03
PASI	17.3 ± 26.6	10.5 ± 14.6	0.00
PLSI	15.6 ± 4.3	10.3 ± 5.0	0.00

No relationship between age (p=0.24) and disease onset (p=0.22) with disease severity (PASI score) was observed in this study (TABLE 4).

TABLE 4. Relationship between age and onset of disease with PASI score

Variable	PASI score	p
Age (year)		
• < 40	17.4	0.24
• = 40	10.7	
On Set (year)		
• < 40	10.4	0.22
• = 40	9.8	

DISCUSSION

Many studies have demonstrated that psoriasis has a significant negative impact on the patient's quality of life such as sexual dysfunction.[14-17] This study found that 40.8% of psoriasis patients had sexual dysfunction. The occurrence of sexual dysfunction on psoriasis patients has been reported by some authors with similar results. In United States, the occurrence of sexual dysfunction among psoriasis patients was 40.8%[15] while other study conducted by Young[12] reported that 38.0% of psoriasis patients had sexual dysfunction. Ginsburg and Link[20] also found that 30-70% psoriasis patients had sexual dysfunction.

Joint pain was associated with the occurrence of sexual dysfunction in this study. There are more patients with joint pain who experienced sexual dysfunction compared to patients with no joint pain. Similar result had been reported by Gupta and Gupta[15] that showed that joint pain caused sexual dysfunction on psoriasis patients. Joint pain is the main noncutaneus condition related with psoriasis.[21] It may cause difficulties in doing sexual activity on psoriasis patients.

This study also found that age, onset of ilness, illness severity and stress were associated with the occurence of sexual dysfunction. Psoriasis patients with early onset and younger age had higher risk of sexual dysfunction. Moreover, sexual dysfunction on psoriasis patients were more observed in patients with higher stress and higher illness severity.

Henseler and Christhopers[23] and Sampogna *et al*.[24] reported that the higher illness severity occured in the younger age of psoriasis patients. It may cause higher occurence of sexual dysfunction in younger patients than older patients. It was found in this study that the younger patients had the higher disease severity (PASI score of 17.4) compared to the older patients (PASI score of 10.7) (TABLE 4). However, the difference was not significant. The association between the disease severity (PASI) and the occurrence of sexual dysfunction on psoriasis patients is still a controversy. Ramsay and O'reagen[14] and Sompogna *et al.*[19] are some who agreed and reported that the disease severity is associated with sexual dysfunction in psoriasis patients. In contrast, Fortune *et al.*[24] found that the association between the disease severity with sexual dysfunction was not observed. The sexual dysfunction on psoriasis patients may be caused by patients' depression or stress.[25] The occurrence of depression or high stress on psoriasis patients has been reported, as the PLSI showed a significant correlation between clinical extent of psoriasis and other measures of psychological distress.[13,26]

CONCLUSION

In conclusion, sexual dysfunction occurs in 40.8% psoriasis patients who visited Squamous Division, Polyclinic of Department of Dermato-Venereology, Dr. Sardjito General Hospital, Yogyakarta. The sexual dysfunction is associated with age, onset of ilness, illness severity and degree of stress on psoriasis patients.

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