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ORIGINAL ARTICLE

Evaluation of personality disorders using the structured clinical interview for DSM-5 personality disorders, quality of life, and disease activity in patients with systemic lupus erythematosus

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ABSTRACT

Objectives: This study aims to determine the frequency of personality disorders in patients with systemic lupus erythematosus (SLE) and healthy volunteers and to compare SLE patients with and without personality disorders in terms of quality of life (QoL) and other clinical and laboratory findings.

Patients and methods: Between January 2021 and March 2021, a total of 64 patients (17 males, 47 females; mean age: 42.9±10.8 years; range, 21 to 62 years) who were diagnosed with SLE and 68 age- and sex-matched healthy volunteers (20 males, 48 females; mean age: 40.9±10.6 years; range, 21 to 65 years) without any known disease were included. The Nottingham Health Profile (NHP) was filled in to evaluate the QoL for all participants. For the diagnosis of personality disorder, the Structured Clinical Interview For DSM-5 Personality Disorders (SCID-5PD) form was used. Clinical and laboratory findings of patients with SLE were noted and disease activity index (SLEDAI) was calculated. Clinical and laboratory variables that may affect personality disorder were evaluated.

Results: The prevalence of personality disorder in SLE patients was significantly higher than the control group (39.1% *vs.* 11.8%, respectively; p<0.001). In terms of the subgroups of personality disorders detected in SLE, only the prevalence of obsessive-compulsive personality disorder was significantly higher than the control group (26.6% *vs.* 10.3%, respectively; p=0.015). The frequency of personality disorder increased, as the education level decreased, the duration of SLE disease increased, and with antiphospholipid autoantibodies positivity in patients with SLE (p<0.05). The mean NHP total score was 126.1±55.1 in SLE patients with personality disorder and 62.9±43.8 in patients without personality disorder, indicating that the QoL of SLE patients with personality disorder was worse than those without personality disorder (p<0.001).

Conclusion: The frequency of personality disorder in SLE seems to be higher than in the control group. Quality of life is adversely affected in SLE patients with personality disorders. Therefore, clinicians should be alert for personality disorders that may accompany SLE and fight with personality disorder with early diagnosis and optimal treatment.

Keywords: DSM-5, personality disorder, quality of life, systemic lupus erythematosus.

Systemic lupus erythematosus (SLE) is a chronic autoimmune disease. Although 90% of patients are women of childbearing age, it can affect individuals of all ages, races and sexes.[1] Due to the extreme heterogeneity of the disease, some researchers have suggested that SLE is a syndrome rather than a disease.[2]

It is a very colorful disease in a wide spectrum, ranging from mild skin and musculoskeletal involvement to severe neurological, renal, and cardiac involvement. Although neuropsychiatric involvements and frequencies of SLE have been well researched in the literature, the frequency of personality disorders and their effect on disease

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activation, laboratory findings and quality of life (QoL) are still not well known. The number of literature data on this subject is limited.

Personality disorders cause enduring patterns of inner experience and behavior that deviate from the expectations of society, are pervasive, inflexible and stable over time, and lead to distress or impairment.[3] Personality disorders include deviations in cognition, affect, interpersonal functioning, and/or impulse control.[4]

Personality disorders are handled in three groups in the Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-V) Personality Disorders (SCID-5 PD). Cluster A (paranoid personality disorder, schizoid personality disorder, schizotypal personality disorder), cluster B (borderline personality disorder, narcissistic personality disorder, antisocial personality disorder, histrionic personality disorder,) cluster C (obsessive-compulsive personality disorder, avoidant personality disorder, dependent personality disorder).[5]

Personality disorders are common in the general population. A new assessment based on 13 studies conducted in the United States and Europe reported prevalence ranging from 3.9% to 15.5%.[6] Similar to other serious mental disorders, life expectancy of patients is also shortened in personality disorders.[7] It has also been proven that if there is a personality disorder accompanying Axis 1 disorders, patients leave treatment more and benefit less from treatment.[8]

In the present study, we aimed to investigate the frequency of personality disorders in patients with SLE and volunteers and to compare SLE patients with and without personality disorders in terms of QoL and other clinical and laboratory findings.

PATIENTS AND METHODS

This single-center, case-control study was conducted at Karabük Training and Research Hospital, Department of Rheumatology between January 1st, 2021 and March 1st, 2021. A total of 64 patients (17 males, 47 females; mean age: 42.9±10.8 years; range, 21 to 62 years) who were diagnosed with SLE according to the SLE classification criteria (2019 European League Against Rheumatism [EULAR]/American College of Rheumatology [ACR] classification criteria)[9] and 68 age- and sex-matched healthy volunteers (20 males, 48 females; mean age: 40.9±10.6 years; range, 21 to 65 years) without any known disease (no previous diagnosis of rheumatological disease including SLE or psychiatric disease) were included in the study. Volunteers and all SLE patients who were followed in our clinic and fulfilled inclusion criteria and whom we could reach between the specified dates were enrolled. Those with comorbid conditions such as thyroid diseases, parathyroid diseases, adrenal diseases, pituitary diseases, and infectious conditions that may cause psychiatric symptoms were excluded. Psychiatric interviews were conducted with volunteer patients and all patients who met the inclusion criteria were included.

Sociodemographic characteristics of all participants (age, sex, number of siblings, smoking, substance and alcohol use, presence of psychiatric illness, and family history of SLE) were recorded. The Systemic Lupus Erythematosus Disease Activity Index (SLEDAI) and clinical findings were also recorded in SLE patients. The higher the SLEDAI score, the higher the disease activity.[10] Clinical and laboratory findings recorded included disease duration (months), disease-related skin findings (chronic cutaneous lupus, acute cutaneous lupus, oral or nasal ulcer, alopecia, etc.), joint findings (arthralgia/arthritis etc.), serositis (pericardial or pleural), renal findings (proteinuria and/or hematuria), neurological findings (seizure, psychosis, mononeuritis, etc.), hematological findings (hemolytic anemia, leukopenia, lymphopenia, thrombocytopenia), serological examinations (antinuclear antibody [ANA], anti-double-stranded deoxyribonucleic acid [anti-dsDNA], anti-ribosomal antibody, anti-phospholipid antibody (lupus anti-coagulant immunoglobulin [Ig] A, IgG, or IgM, anti-beta2glycoprotein IgA, IgG, or IgM, anti-cardiolipin antibody IgA, IgG, or IgM), and complement levels], sedimentation (mm/h) and C-reactive protein (CRP, mg/L), and steroid usage.

The cut-off values of all serological tests were accepted as the values determined in the 2019 SLE criteria.[9]

Table 1. Comparison of SLE patients and the control group in terms of sociodemographic characteristics and quality of life scores

	SLE group (n=64)					Control group (n=68)					
	n	%	Mean±SD	Median	Min-Max	n	%	Mean±SD	Median	Min-Max	*p*
Age (year)			42.9±10.8					40.9±10.6			0.292*
BMI (kg/m^2)			27.5±5.5					25.9±4.1			0.076*
Number of siblings				4	2-8				4	1-8	0.926†
Sex											0.716‡
Male	17	26.6				20	29.4				
Female	47	73.4				48	70.6				
Marital status											0.111‡
Married	58	90.6				55	80.9				
Single	6	9.4				13	19.1				
Occupation											0.107¶
Yes	59	92.2				67	98.5				
No	5	7.8				1	1.5				
Education											0.642‡
Primary school	35	54.7				33	48.5				
High school	16	25				22	32.4				
University	13	20.3				13	19.1				
Previous history of psychiatric disease	44	68.8				4	5.9				<0.001¶
SLE in the family history	15	23.4				1	1.5				<0.001¶
Smoking	19	29.7				15	22.1				0.972‡
Alcohol usage	3	4.7				0	0				0.481¶
NHP pain				9.5	0-39.8				5.8	0-39.8	0.002†
NHP emotional reaction				10.1	0-49.3				7.15	0-40.0	<0.001†
NHP sleep				16.1	0-49.0				0	0-24.3	0.015†
NHP social isolation				16.0	0-44.5				0	0-38.5	0.001†
NHP physical activity				9.3	0-31.9				0	0-22.5	0.023†
NHP energy				24	0-63.2				0	0-63.2	<0.001†
NHP total			87.6±57.3					46.0±40.8			<0.001*

SD: Standard deviation; SLE: Systemic lupus erythematosus; BMI: Body mass index; NHP: Nottingham Health Profile; * Student t test; † Mann Whitney U test; ‡ Pearson chi-square test; ¶ Fisher exact test; Significance level p<0.05.

Questionnaires

The SCID-5 PD form was used to detect personality disorder.[5] The Turkish version of Nottingham Health Profile (NHP) was used to evaluate the QoL. It has subsections titled physical mobility, pain, sleep, emotional reactions, social isolation and energy. Each section is scored between 0 and 100. An increasing score indicates poor health.[11]

The sociodemographic evaluation form and clinical data form of all participants were filled out by a single rheumatologist and a number was assigned to each patient. The patients were referred to the psychiatry department with only this number. The psychiatrist researcher filled in the assigned number on the SCID-5 PD form. The psychiatrist investigator was blinded to the sociodemographic evaluation form and clinical data form of the patients, and the rheumatologist to the SCID-5 PD form.

Statistical analysis

Statistical analysis was performed using the IBM SPSS version 26.0 software (IBM Corp., Armonk, NY, USA). Descriptive data were expressed in mean ± standard deviation (SD), median (min-max) or number and frequency, where applicable. The Kolmogorov-Smirnov test was used to analyze whether the data were normally distributed or not. The Student t-test was used to compare normally distributed data, while the Mann-Whitney U test was used for non-normally distributed data. The Pearson chi-square test and Fisher exact test were used to analyze categorical data. The effects of variables which may be associated with personality disorder in patients with SLE, such as age, sex, marital status, occupation, education, smoking, alcohol use, duration of SLE disease, family history of SLE, skin finding, ulcer, joint involvement, serositis, renal involvement, neurological involvement, hematological involvement, ANA positivity, ds-DNA positivity, anti-phospholipid antibody positivity, anti-ribosomal phosphate antibody positivity, low complement, sedimentation and CRP level, steroid use, SLE disease activity were evaluated by logistic regression analysis. The significance of the coefficients was determined using the Wald test. Only the results of the variables that were found to be associated with personality disorder were included. A p value of <0.05 was considered statistically significant.

RESULTS

A total of 132 participants (64 SLE patients and 68 volunteers) participated in the study. There was no significant difference in the sex between the SLE patients and the control group (p=0.716). None of the participants had substance abuse.

Among 64 SLE patients included in the study, there were 33 (51.6%) patients with skin involvement, 14 (21.9%) patients with oral and/or nasal ulcer, 48 (75%) patients with joint involvement, 12 (18.8%) patients with renal involvement, 10 (15.6%) patients with neurological involvement, and 12 (18.8%) patients with hematological involvement.

Table 2. Comparison of SLE patients and the control group in terms of personality disorders detected by SCID-5 PD

	SLE patients (n=64)		Control group (n=68)		
	n	%	n	%	*p*
Personality disorder detected total	25	39.1	8	11.8	**<0.001***
A Cluster					
Paranoid personality disorder detected	3	4.7	1	1.5	0.354†
Schizotypal personality disorder detected	2	3.1	0	0	0.233†
B Cluster					
Histrionic personality disorder detected	3	4.7	0	0	0.111†
C Cluster					
Obsessive-compulsive personality disorder detected	17	26.6	7	10.3	**0.015***
Avoidant personality disorder detected	2	3.1	0	0	0.233†

SLE: Systemic Lupus Erythematosus; SCID-5 PD: The Structured Clinical Interview For DSM-5 Personality Disorders; * Pearson chi-square test; † Fisher exact test; Significance level p<0.05.

The mean disease duration of the patients with SLE was 71.9±54.7 months, the median SLEDAI score was 3 (range, 0 to 8), the median sedimentation value was 12.5 (range, 7 to 71), and the median CRP value was 1.2 (range, 0.2 to 36.9) mg/L. Among the patients with SLE, there were 47 (73.4%) patients using steroids.

The number of patients with positive ANA test was 60 (93.8%), with positive anti-dsDNA test was 37 (57.8%), number of patients with low complement level was 3 (4.7%), patients with any positive anti-phospholipid antibody was 17 (26.6%), and number of patients with positive anti-ribosomal antibody was 15 (23.4%).

Table 3. Sociodemographic and clinical characteristics of SLE patients with and without personality disorders

	With personality disorder (n=25)					Without personality disorder (n=39)				
	n	%	Mean±SD	Median	Min-Max	n	%	Mean±SD	Median	Min-Max
Age (year)			40.1±11.8					44.7±9.8		
Sex										
Male	5	20				12	30.8			
Female	20	80				27	69.2			
Marital status										
Married	21	84				37	94.9			
Single	4	16				2	5.1			
Occupation										
Yes	24	96				35	89.7			
No	1	4.0				4	10.3			
Education										
Primary school	10	40				25	64.1			
High school	7	28				9	23.1			
University	8	32				5	12.8			
SLE in the family history	8	32				7	17.9			
Smoking	8	32				11	28.2			
Alcohol usage	0	0				3	7.7			
SLE disease duration (month)			101.6±60.6					52.8±41.0		
Sedimentation (mm/h)				15	7-69				12	7-71
CRP (mg/L)				1.16	0.2-37.0				1.7	0.2-25
SLEDAI				4	0-8				0	0-6
Disease related skin findings	13	52				20	51.3			
Oral or nasal ulcers	6	76				8	20.5			
Joint involvement	17	68				31	79.5			
Renal involvement	7	28				5	12.8			
Neurological involvement	4	16				6	15.4			
Hematological involvement	5	20				7	17.9			
Patient number using corticosteroid	17	68				30	76.9			
Patient number with positive ANA	22	88				38	97.4			
Patient number with positive anti-dsDNA	19	76				18	46.2			
Patient number with low complement level	3	12				0	0			
Patient number with positive anti-phospholipid antibody	9	36				8	20.5			
Patient number with positive Anti-ribosomal antibody	9	36				6	15.4			

SLE: Systemic lupus erythematosus; CRP: C-reactive protein; SLEDAI: Systemic Lupus Erythematosus Disease Activity Index; ANA: Anti-nuclear antibody, Anti-dsDNA: Anti- double stranded deoxyribonucleic acid antibody.

Table 4. Comparison of Nottingham Health Profile subscores of patients with and without personality disorder in SLE patients and control group

	With personality disorder (n=25)			Without personality disorder (n=39)			
SLE patients	Mean±SD	Median	Min-Max	Mean±SD	Median	Min-Max	*p*
NHP pain		12.9	0-39.8		5.8	0-35.7	0.160*
NHP emotional reaction		16.2	0-49.3		9.3	0-31.7	0.002*
NHP sleep		22.0	0-49.0		7.2	0-27.3	<0.001*
NHP social isolation		19.4	0-41.4		0	0-44.5	0.010*
NHP physical activity		9.3	0-31.9		9.3	0-22.5	0.395*
NHP energy		24	0-63.2		0	0-39.2	0.002*
NHP total	126.1±55.1			62.9±43.8			<0.001†
	With personality disorder (n=8)			Without personality disorder (n=60)			
Control group	Mean±SD	Median	Min-Max	Mean±SD	Median	Min-Max	*p*
NHP pain		12.8	0-39.8		5.8	0-35.7	0.194*
NHP emotional reaction		15.1	0-40.0		7.1	0-30.2	0.004*
NHP sleep		21.7	0-34.3		0	0-27.3	0.030*
NHP social isolation		19.7	0-39.0		0	0-22.5	<0.001*
NHP physical activity		9.3	0-21.3		0	0-22.5	0.128*
NHP energy		12	0-63.2		0	0-36.8	0.230*
NHP total	100.6±46.5			38.7±34.3			<0.001†

SLE: Systemic lupus erythematosus; SD: Standard deviation; NHP: Nottingham Health Profile; * Mann-Whitney U test; † Student t test; Significance level p<0.05.

Table 1 shows the comparison of SLE patients and the control group in terms of sociodemographic characteristics and QoL scores.

None of the patients diagnosed with personality disorder during this study had this diagnosis before. Twenty-five (39.1%) and eight (11.8%) of the patients in the SLE and control groups, respectively had personality disorder. The prevalence of personality disorder in patients with SLE was statistically significantly higher than the control group (p<0.001). Table 2 shows the comparison of SLE and the control group in terms of personality disorders detected by SCID-5 PD.

Table 3 shows the sociodemographic and clinical characteristics of those SLE patients with and without personality disorder. The frequency of personality disorder increased, as the education level decreased, the duration of SLE disease increased, and with antiphospholipid autoantibodies positivity in patients with SLE (p=0.006, p<0.001, and p=0.013, respectively). In addition, the frequency of obsessive-compulsive personality disorder increased with the increasing age in patients with SLE and with the joint involvement and steroid use (p=0.019, p=0.001, and p=0.006, respectively).

Table 4 shows the comparison of NHP subscores of patients with and without personality disorder in SLE patients and control group.

DISCUSSION

In our study, we found personality disorder in 39.1% of patients with SLE. Among the personality disorder subgroups, only the frequency of obsessive-compulsive personality disorder was significantly higher than the control group. None of the patients diagnosed with personality disorder during this study had this diagnosis before. In patients with SLE accompanied by personality disorder, all QoL (emotional reaction, sleep, social isolation, energy and total) scores, except for pain and physical activity subscores were worse than patients without personality disorder.

We found that the frequency of personality disorder in patients with SLE increased, as the education level decreased, the duration of SLE disease increased, and with antiphospholipid autoantibodies positivity and also the frequency of obsessive-compulsive personality disorder in patients with SLE increased with the increasing age, with the joint involvement and steroid use. To the best of our knowledge, there is no study comparing clinical findings of SLE patients with and without personality disorder in the literature.

A total of 11.8% of the participants in the control group had personality disorder. In epidemiological studies conducted in the general population, the prevalence of personality disorder was found between 3.9% and 15.5%.[6] The result of our study is consistent with the literature. In addition, in the literature, the prevalence of personality disorder in SLE patients has been reported between 35.6% and 38%, similar to the result of our study (39.1%).[12,13]

In the study conducted by Uguz et al.[12] to determine the frequency of personality disorders in patients with SLE, the Structured Clinical Interview for DSM, Revised Third Edition Personality Disorders (SCID-II), which is the earlier than the method we used, was used and the frequency of personality disorder was found to be 35.6%. Although we determined all personality disorder subgroups, we detected in SLE patients higher than the control group, only the increased frequency of obsessive-compulsive personality disorder reached statistical significance. Jalenques et al.[13] did not find the prevalence of obsessive-compulsive personality disorder in skin-restricted lupus patients different from the control group, which may be due to the fact that only those with skin-restricted lupus were included in their study. Similar to our findings, Uguz et al.[12] found the prevalence of obsessive-compulsive personality disorder higher in patients with SLE than the control group.

In our study, we found that sex, marital status, occupation, family history of SLE, smoking and alcohol use had no effect on personality disorders in individuals with and without SLE. Similar to our study, Jalenques et al.[13] found no significant difference in the prevalence of personality disorders between two sexes. Although the studies conducted on general population reported a higher prevalence of smoking, alcohol and substance use among people with personality disorder,[14,15] we found no study in the literature that investigates the alcohol use and smoking in SLE patients with and without personality disorder.

In our study, similar to the literature, we found the QoL worse in SLE patients.[16,17] Also, in our study, all NHP subscores, except for pain and physical activity in patients with SLE accompanied by personality disorder were higher than those without personality disorder. Uguz et al.[18] examined the effect of personality disorder on the QoL in rheumatological diseases including rheumatoid arthritis, SLE and fibromyalgia syndrome, and they found that psychological health and social relations scale scores, which are subgroups of the World Health Organization Quality of Life Assessment-Brief (WHOQOL), were significantly lower in rheumatological patients with personality disorder than in patients without personality disorder.

In our study, personality disorder seems to be associated with prolonged disease duration, low education status, and positivity for antiphospholipid autoantibodies. Anti-phospholipid antibodies have been detected more frequently in lupus patients with neuropsychiatric involvement, and it has been reported that these antibodies may also play a role in the etiopathogenesis.[19] In the literature, there is no study evaluating the duration of illness and education level in patients with SLE with and without personality disorder. In our opinion, having a disease that may have chronic and severe systemic involvement and being exposed to this disease for a long time may play a role in the development of personality disorders. It has been reported that patients with personality disorders are also negatively affected in their academic life.[20] Our study is the first to evaluate the educational status of patients with SLE with and without personality disorder.

In our study, we found that the frequency of obsessive-compulsive personality disorder in patients with SLE increased with increasing age, joint involvement, and steroid use. As the age increases, the risk of developing a personality

disorder may increase as the stress factors to which one is exposed throughout life increase. Joint involvement in patients with SLE may increase the perception of severity of the disease. This finding indicates that, as a result of the deteriorated QoL, the patient's risk of developing obsessive-compulsive personality disorder may increase in an effort to maintain his own level of QoL. Steroid use in patients with SLE is also related to disease activity and may negatively affect patients' perception of disease severity. In addition, although psychosis is associated with high-dose steroid use, we believe that steroid use is a factor that should be considered in terms of personality disorder development.[21]

The main limitation of our study is that it was conducted with a small sample and using data from a single center. The strengths of our study are that it is the first study evaluating disease activity, systemic clinical involvement, QoL and disease-specific autoantibodies in patients with SLE with personality disorder. Another strength is that, in order to eliminate the bias in the study, the psychiatrist researcher made the SCID-5 PD assessment blindly to which group the participant entered.

In conclusion, the frequency of personality disorder in SLE seems to be higher than in the control group. Quality of life is adversely affected in SLE patients with personality disorders. Therefore, we believe that clinicians should be alert for personality disorders that may accompany SLE and fight with personality disorder with early diagnosis and optimal treatment.

Ethics Committee Approval: The study protocol was approved by the Karabük University Faculty of Medicine Ethics Committee (No: E-77192459-050.99-3206). The study was conducted in accordance with the principles of the Declaration of Helsinki.

Patient Consent for Publication: A written informed consent was obtained from each patient.

Data Sharing Statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

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