Acta Clin Croat 2025; 64:419-427

doi: 10.20471/acc.2025.64.03.02

Original Scientific Paper

DEPRESSIVE AND ANXIETY SYMPTOMS IN PSORIATIC ARTHRITIS PATIENTS – A CROSS-SECTIONAL STUDY

Kristina Kovač Durmiš[1,2], Mislav Pap[1], Ivan Jurak[3], Marina Boban[2,4] and Porin Perić[1,2]

[1]Department of Rheumatology and Rehabilitation, Zagreb University Hospital Center, Zagreb, Croatia;
[2]School of Medicine, University of Zagreb, Zagreb, Croatia;
[3]University of Applied Health Sciences, Zagreb, Croatia;
[4]Department of Neurology, Zagreb University Hospital Center, Zagreb, Croatia

SUMMARY – The purpose of the research was to assess depression and anxiety in patients with psoriatic arthritis (PsA). Patients with PsA (N=67) and healthy controls (N=69) were consecutively enrolled. Beck Depression Inventory-II (BDI-II) and State-Trait Anxiety Inventory (STAI) were used to screen for psychological symptoms. Tender and swollen joint count (TJC, SJC), VAS pain and disease activity, DAPSA, HAQ and FACIT-Fatigue were used for PsA evaluation. Psoriasis was assessed with the Psoriasis Area and Severity Index (PASI), Body Surface Area (BSA), and Dermatology Life Quality Index (DLQI). The prevalence of depression and anxiety and their correlation with disease-related parameters were calculated. A higher prevalence of depressive symptoms was found in PsA group compared to controls (22.4% *vs*. 5.8%, OR=4.64, 95% CI 1.37-20.36). There was no significant difference between the groups in the prevalence of anxiety. Depression scores correlated positively with TJC, VAS pain, DAPSA and HAQ, and negatively with FACIT-Fatigue. Additionally, depression positively correlated with DLQI but not with PASI and BSA. In conclusion, depression symptoms occur more frequently in PsA patients and are associated with activity and functional status of the musculoskeletal disease. Association of the psychological symptoms with fatigue and quality of life in psoriasis was demonstrated.

Keywords: *Psoriatic arthritis; Depression; Anxiety; Disease activity; Fatigue*

Introduction

Psoriatic arthritis (PsA) is a chronic inflammatory systemic rheumatic disease associated with psoriasis, equally prevalent in both genders. Around 20% of psoriasis patients tend to develop PsA[1]. Psoriatic disease is characterized by clinical features such as peripheral arthritis, dactylitis, enthesitis, sacroiliitis, and extra-articular manifestations such as uveitis and inflammatory bowel disease, in addition to skin and nail disease. Typical symptoms in patients with PsA

Correspondence to: *Kristina Kovač Durmiš, MD*, Department of Rheumatology and Rehabilitation, Zagreb University Hospital Center, Kišpatićeva 12, HR-10000 Zagreb, Croatia
e-mail: kristinakovacdurmis@gmail.com

Received May 23, 2023, accepted June 1, 2023

include pain, morning stiffness, fatigue, functional impairment of varying degrees, and discomfort caused by psoriatic skin lesions. Both PsA and psoriasis are associated with multiple comorbidities such as hypertension, diabetes, metabolic syndrome, atherosclerosis, malignancy, and psychiatric disorders, notably depression and anxiety. These comorbid diseases, together with musculoskeletal and cutaneous manifestations, contribute to a decreased quality of life.

Previous research indicates that mental disorders, including depression and anxiety, are more frequent in PsA patients than in the general population, with a pooled prevalence proportion of 17% for depression and 19% for anxiety[2]. These psychological conditions are more commonly observed in patients with PsA than in those with psoriasis alone, and are associated with clinical indicators of joint disease severity[3]. Despite this, the majority of patients exhibiting associated psychological symptoms are neither diagnosed with a specific disorder nor receive pharmacological treatment. Impaired health-related quality of life is common in PsA patients and is linked with disease activity, functional status, fatigue, and psychological symptoms. Depression in particular is seen as a significant factor contributing to reduced work productivity and treatment non-adherence[4,5]. While multiple studies highlight the substantial burden of psychological comorbidity in PsA, it is believed that the manifestation of depression varies across regions and cultures due to differing societal norms. To our best knowledge, published data examining depression and anxiety in Croatian patients with PsA are limited. The aim of this investigation was to assess the prevalence of depressive and anxiety symptoms in PsA patients and to explore the association of these symptoms with joint and skin disease-related factors.

Subjects and Methods

Patients diagnosed with PsA according to the Classification criteria of Psoriatic Arthritis (CASPAR) and control subjects without PsA and psoriasis were consecutively included in a cross-sectional study[6]. The study was conducted at the Department of Rheumatology and Rehabilitation, Zagreb University Hospital Center (UHC) from March 2021 until April 2023. The primary inclusion criterion was age 18 years or older with a minimum of 8 years of formal education. Exclusion criteria were concomitant fibromyalgia, cognitive disorder, epilepsy, central nervous system neoplasm or infection, severe congestive heart failure (New York Heart Association Functional Class IV), acute severe infection, other chronic inflammatory disease, diagnosis and/or pharmacological treatment of psychiatric disorder (depression, anxiety, schizophrenia, bipolar affective disorder, substance abuse with the exception of caffeine and nicotine use), and pregnancy. An additional exclusion criterion for control group was current systemic use of glucocorticoids.

Medical history, sociodemographic data (years of formal education, romantic relationship status) and anthropometric data (weight, height, waist and hip circumference) were collected after obtaining written informed consent. All participants completed the Croatian version of the Functional Assessment Chronic Illness Therapy-Fatigue questionnaire (FACIT-Fatigue) and indicated pain intensity on a 10-cm visual analog scale (VAS)[7]. In PsA patients, swollen joint count (SJC, 0-66), tender joint count (TJC, 0-68), patient and physician global disease activity on VAS (0-10 cm), Health Assessment Questionnaire (HAQ), and Disease Activity in PSoriatic Arthritis score (DAPSA) were documented[8]. Based on the DAPSA score, patients were classified as being in remission (DAPSA ≤4) or having low (>4 and ≤14), moderate (>14 and ≤28), or high disease activity (>28)[9]. A venous blood sample was drawn from PsA patients for C-reactive protein (CRP) testing to calculate DAPSA.

Psoriasis severity was assessed by Psoriasis Area and Severity Index (PASI), Body Surface Area (BSA), and Dermatology Life Quality Index (DLQI)[10-12]. PASI is a composite index that combines the effect of body area affected with erythema, desquamation, and induration extent and ranges from 0 (no psoriasis) to 72. Mild psoriasis was defined as PASI ≤10. BSA evaluates the percentage of skin surface affected by psoriatic lesions, whereas DLQI estimates the effect of psoriasis on physical, psychological, and social aspects of everyday life.

Depression was evaluated using the Beck Depression Inventory-II (BDI-II), a questionnaire widely used for assessing depressive symptoms in everyday clinical practice and research[13]. It consists of 21 questions, each

scored from 0 to 3. The result is the sum of individual scores, ranging from 0 to 63, where a higher score indicates more severe depression. According to data from a validation study of BDI-II in a Croatian population, participants with the score of 16 and more were categorized as having significant (at least mild) depression[14].

Anxiety was measured by the State-Trait Anxiety Inventory (STAI), Y form[15]. The questionnaire has two subscales, i.e., State Anxiety Scale (STAI-S) and Trait Anxiety Scale (STAI-T). STAI-S assesses current and transient level of anxiety ("how do you feel right now"), whereas STAI-T estimates a relatively stable and persistent individual level of anxiety ("how do you feel generally"). Each scale is scored separately with a range from 20 (no anxiety) to 80 (most severe anxiety). Cut-off scores indicating clinically significant anxiety were established at 38.5 for STAI-S and 45.5 for STAI-T[16].

The research protocol was approved by the Ethics Committee of the Zagreb UHC and School of Medicine, Zagreb. Investigators were granted a license to use the above-mentioned questionnaires in this not-for-profit study. The study was conducted in accordance with the Helsinki Declaration.

Statistics

Before selecting appropriate statistical test, the normality of data was assessed using visual inspection of histograms, Q-Q plots, and using the Shapiro-Wilk test. The results indicated that normality could not be

Table 1. Descriptive sample parameters

		PsA (N=67)	Control (N=69)	p
Age	Mean (SD)	51.8 (12.4)	52.6 (15.0)	0.806[a]
	Median [Min, Max]	51.0 [24.0, 73.0]	51.0 [20.0, 79.0]	
Gender	Male	41 (61.2%)	36 (52.2%)	0.374[b]
	Female	26 (38.8%)	33 (47.8%)	
Years of education	Mean (SD)	13.5 (2.54)	13.8 (2.09)	0.401[a]
	Median [Min, Max]	12.0 [8.00, 19.0]	14.0 [11.0, 21.0]	
Relationship status	Single	14 (20.9%)	10 (14.5%)	0.462[c]
	Dating, not living together	5 (7.5%)	3 (4.3%)	
	Cohabitation or marriage	48 (71.6%)	56 (81.2%)	
Weight [kg]	Mean (SD)	85.3 (15.9)	87.3 (19.4)	0.615[a]
	Median [Min, Max]	84.0 [58.0, 124]	84.0 [54.0, 135]	
Height [cm]	Mean (SD)	173 (8.23)	173 (8.80)	0.889[a]
	Median [Min, Max]	174 [159, 192]	174 [156, 192]	
BMI [kg/m^2]	Mean (SD)	28.3 (4.34)	28.9 (5.48)	0.807[a]
	Median [Min, Max]	28.1 [19.7, 40.4]	27.8 [18.7, 47.8]	
Waist circumference [cm]	Mean (SD)	97.3 (13.0)	95.7 (16.1)	
	Median [Min, Max]	96.0 [68.0, 129]	95.0 [64.0, 138]	
Hip circumference [cm]	Mean (SD)	105 (6.99)	108 (9.40)	0.102[a]
	Median [Min, Max]	105 [93.0, 125]	107 [90.0, 139]	
FACIT-Fatigue	Mean (SD)	33.7 (12)	39.8 (7.9)	**0.004[a]**
	Median [Min, Max]	38.0 [8.0, 52.0]	42.0 [20, 52.0]	
Pain [VAS]	Mean (SD)	4.41 (2.78)	3.59 (2.72)	0.307
	Median [Min, Max]	4.20 [0, 10.0]	3.30 [0, 10.0]	

[a]Mann-Whitney U test; [b]χ^2-test; [c]Fisher exact test; PsA = psoriatic arthritis; SD = standard deviation; p = p value; BMI = body mass index; FACIT-Fatigue = Functional Assessment Chronic Illness Therapy-Fatigue questionnaire; VAS = visual analog scale

assumed, and thus, the use of non-parametric tests was deemed necessary, and the Mann-Whitney U test was employed to compare differences between the two groups. For categorical data, either the χ^2-test or Fisher exact test was applied, depending on the sample size and distribution of data. Strength of association or Fisher exact test was calculated using odds ratio (OR) with 95% confidence intervals (CI). The χ^2-test was used to determine if there was a significant association between two categorical variables, whereas Fisher exact test was employed when the observed frequencies in the contingency table were less than 5. To investigate the relationships among clinical parameters in the PsA group, Spearman's correlation coefficient was employed.

Results

Characteristics of the study population

The study included a total of 136 participants, 67 in the PsA group and 69 in the control group. All participants were Caucasian, with a slight male majority in both groups. Most of the participants were either married or cohabitating. There was no significant difference in pain intensity, sociodemographic and anthropometric characteristics between the groups. The only statically significant difference noted were lower FACIT-Fatigue scores in the PsA group. Table 1 displays descriptive parameters of the sample divided by groups, and results of statistical tests for differences between the groups.

Patients with PsA had a median joint disease duration of 84 months and median skin disease duration of 228 months. Twenty (29.9%) patients were undergoing treatment with biological therapy and one was receiving apremilast at the time of assessment. The PsA patients were equally distributed among low, moderate and highly active joint disease categories according to the DAPSA score, while about 12% were in remission. The vast majority of PsA patients had mild psoriasis. Further descriptive clinical parameters of the PsA group are presented in Table 2.

Assessment of depression and anxiety outcomes

A higher prevalence of depression was found in the PsA group (Table 3). The OR of 4.64 with 95% CI of 1.37 to 20.36 indicated a significant association

Table 2. Clinical features in patients with PsA

Clinical variable	PsA (N=67)
Tender joint count	
Mean (SD)	8.15 (9.73)
Median [Min, Max]	5.00 [0, 45.0]
Swollen joint count	
Mean (SD)	4.06 (5.72)
Median [Min, Max]	1.00 [0, 24.0]
Disease activity [VAS]	
Mean (SD)	4.94 (3.03)
Median [Min, Max]	4.60 [0, 10.0]
CRP	
Mean (SD)	7.03 (10.0)
Median [Min, Max]	3.10 [1.00, 55.2]
DAPSA	
Mean (SD)	22.3 (18.0)
Median [Min, Max]	16.7 [0.100, 68.2]
Missing	1 (1.5%)
HAQ	
Mean (SD)	0.90 (0.69)
Median [Min, Max]	0.88 [0, 2.13]
DAPSA disease activity	
Remission	8 (11.9%)
Low	19 (28.4%)
Moderate	19 (28.4%)
High	19 (28.4%)
Missing	1 (1.5%)
PASI	
Mean (SD)	2.68 (3.35)
Median [Min, Max]	1.40 [0, 15.0]
BSA	
Mean (SD)	1.75 (2.59)
Median [Min, Max]	1.00 [0, 14.0]
DLQI	
Mean (SD)	4.69 (5.61)
Median [Min, Max]	2.00 [0, 24.0]

PsA = psoriatic arthritis; VAS = visual analog scale; CRP = C-reactive protein; DAPSA = Disease Activity in Psoriatic Arthritis; HAQ = Health Assessment Questionnaire; PASI = Psoriasis Area and Severity Index; BSA = body surface area; DLQI = Dermatological Quality of Life Index

between the PsA group and depression. In this case, the odds of depression occurring in the PsA group were approximately 4.64 times higher than in the control group. However, the wide CI ranging from 1.37 to 20.36 suggested a degree of uncertainty regarding the precise strength of this association. The prevalence of anxiety in the PsA group appeared higher compared to the control group, especially for STAI-T scale, but p values remained above the 0.05 significance level (Table 3).

Table 3. Descriptive depression and anxiety parameters in PsA and control group

		PsA (N=67)	Control (N=69)	p
Depression (BDI-II)	Yes	15 (22.4%)	4 (5.8%)	0.006[a]
	No	52 (77.6%)	65 (94.2%)	
Anxiety (STAI-S)	Yes	25 (37.3%)	19 (27.5%)	0.301[b]
	No	42 (62.7%)	50 (72.5%)	
Anxiety (STAI-T)	Yes	20 (29.9%)	10 (14.5%)	0.051[b]
	No	47 (70.1%)	59 (85.5%)	

[a]Fisher exact test; [b]χ^2-test; PsA = psoriatic arthritis; BDI-II = Beck Depression Inventory-II; STAI-S = State-Trait Anxiety Inventory, State scale; STAI-T = State-Trait Anxiety Inventory, Trait scale

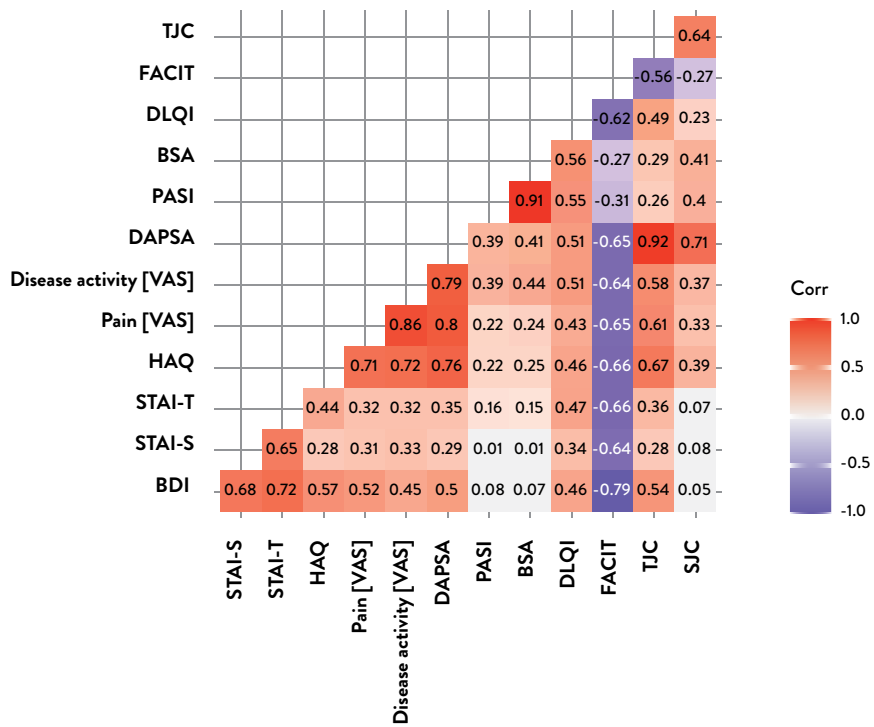

Fig. 1. Correlogram of clinical parameters in PsA group (Spearman's correlation coefficient).

Note: magnitude and direction of correlation is color coded, numbers represent Spearman's correlation coefficient, and crossed out cells are statistically nonsignificant.
BDI = Beck Depression Inventory-II; STAI-S = State-Trait Anxiety Inventory, State scale; STAI-T = State-Trait Anxiety Inventory, Trait scale; HAQ = Health Assessment Questionnaire; VAS = visual analog scale; DAPSA = Disease Activity in PSoriatic Arthritis; PASI = Psoriasis Area and Severity Index; BSA = body surface area; DLQI = Dermatological Quality of Life Index; FACIT-Fatigue = Functional Assessment Chronic Illness Therapy-Fatigue questionnaire; TJC = tender joint count; SJC = swollen joint count

Correlation analysis findings

A moderate positive correlation between depression scores and TJC, VAS pain intensity, VAS patient disease activity, DAPSA, and HAQ was observed in the PsA group. However, there was no correlation between SJC and depression level. As regards the skin disease status, a positive correlation between depression and DLQI was noted. Interestingly, PASI and BSA highly correlated with each other (r=0.94) but showed little correlation with other clinical parameters. The level of fatigue showed a moderate correlation with almost all clinical parameters of musculoskeletal disease and depression and anxiety scores. Furthermore, a moderate positive correlation between BDI-II and STAI was confirmed (Fig. 1).

Discussion

The main goal of this study was to assess psychological symptoms in patients with PsA. We found an increased prevalence of depressive symptoms in the observed PsA group (22.4%) compared to healthy controls (5.8%). Although a trend of higher STAI-T scores in the PsA group was noted, the difference did not reach clinical or statistical significance. We identified a moderate positive correlation between depression scores and clinical parameters of PsA and psoriasis. These results are mostly consistent with earlier observations, which have revealed that psychological comorbidities in PsA are highly prevalent and contribute to quality of life deterioration[4,17].

Our findings were similar to those reported by McDonough *et al.*, revealing a very similar prevalence of depressive symptoms in examined PsA patients (22.4% *vs.* 22.2%)[3]. Moreover, a significant level of depression was observed despite low PASI scores in both studies. Another study found depression in 24.2% of patients with mild psoriasis (median PASI 3.0), and more prevalent PsA in a subgroup of those classified as depressed[18]. Our study clearly showed a significant association between PsA and depression, but the wide CI observed suggested some uncertainty about the precise strength of the association. This could be due to a limited sample size or variability of the data collected.

The literature reports on a strong relationship between PsA and anxiety. Contrary to expectations, this study did not find a significant difference in the prevalence of anxiety between the PsA and control groups. This may have been due to the selected cut-off scores used for discriminating patients with anxiety. Namely, they were adopted from a validation study that was not conducted on rheumatology patients. Another potential explanation might be a relatively high prevalence of anxiety detected in the control group (14.5% and 27.3% for STAI-S and STAI-T scores, respectively). In comparison, the adjusted prevalence of anxiety disorders in the general population for Euro/Anglo cultures is 10.4%[19]. Recent research found the prevalence of anxiety to be 19% in the PsA cohort, but there was no control group for comparison[20]. Additionally, some studies failed to demonstrate significant difference in the prevalence of depression and anxiety in patients with PsA compared to those with psoriasis alone[21].

Another finding in our study was that depression scores positively correlated with TJC, but not with SJC. These results are similar to those reported by Gialouri *et al.* who noted correlation between improvement in depression scores and changes in TJC, but not in objective parameters of disease activity such as SJC, ESR and CRP[20]. Consistent with our findings, several studies have shown a positive correlation between depression and musculoskeletal disease activity and functional status in patients with PsA. De Lorenzis *et al.* found more frequently higher HAQ and DAPSA scores in PsA patients who were depressed[22]. In a previous study of 306 patients with PsA, disability, pain, fatigue, and inflamed joint count were associated with depression and anxiety[3]. Similarly, a medium strength positive correlation between depressive symptoms and pain and disease activity was noticed in axial spondyloarthritis[23]. Inflammatory arthritides carry a substantial psychosocial burden due to chronic pain and fatigue, functional limitations, comorbid diseases, decreased work productivity, and reduced overall quality of life[24,25].

A few studies assessing fatigue in patients with PsA found fatigue to correlate with anxiety and depression, but not with parameters of musculoskeletal disease activity[2,26]. On the contrary, our data suggest an association of fatigue with psychological symptoms (depression, anxiety), as well as DAPSA, TJC, SJC and HAQ. A cross-sectional study assessing fatigue in 101 patients with PsA found a correlation between FACIT-Fatigue score and quality of life index, functional

status (HAQ), anxiety, depression, and PASI. No association of fatigue and clinical parameters of musculoskeletal disease activity was observed[26].

The data from our study indicate a positive correlation between depression scores and DLQI. Likewise, a large multicenter research on depression in psoriasis demonstrated higher PASI and DLQI in individuals with at least mild depression[18]. It is known that psoriasis can significantly affect physical appearance and lead to poor self-image, low self-esteem, anxiety and depression. A study on psoriasis patients in Croatia in which anxiety, depression, and quality of life were assessed in comparison to skin disease severity revealed increased mean scores for BDI-II and STAI (compared to literature data on the general population)[27]. A positive correlation between PASI score and anxiety and depression is reported. We failed to identify a statistical association of depression and anxiety with parameters of cutaneous disease activity (PASI, BSA). One of the potential explanations for this could be the fact that the majority of patients had mild psoriasis with median PASI 1.4 and BSA 1.0. Also, due to its nature as a subjective patient-reported measure, DLQI is more likely to be influenced by psychological status and associated with self-reported psychological indices such as BDI-II and STAI.

Our study had several limitations. Firstly, there was a possibility of selection bias since most patients with PsA were recruited from a tertiary healthcare center, although patients with a broad range of disease duration and activity are treated there. Secondly, assessment of depression and anxiety was based on screening rather than diagnostic tools. Depression and anxiety have a complex pathogenesis, diverse clinical presentation, and they can also be a symptom of numerous psychiatric and somatic conditions. Moreover, BDI-II and STAI are exclusively subjective measures and no objective assessment of symptom severity can be made. Thirdly, the prevalence of psychiatric manifestation in PsA might have been underestimated as patients with an established psychiatric disorder were not included in the study. Lastly, the study could be limited by the relatively small sample.

In conclusion, we demonstrated an increased prevalence of depressive symptoms in the examined PsA population and an association with disease activity, function, fatigue, and psoriasis-related quality of life. A control group enhanced the power of the study and helped control the potential confounding factors as no difference between the groups was observed in sociodemographic (age, years of formal education, romantic relationship status) and anthropometric characteristics (BMI). Moreover, pain intensity did not differ between the groups either, possibly due to the relatively low median pain intensity in the PsA group. Additionally, the control group included participants of all age groups and it was expected that a certain proportion of them would feel pain due to different underlying conditions. Exclusion criteria additionally decreased the risk of bias and contributed to elimination of the potential confounders such as psoriasis in the control group, fibromyalgia, and others.

This work contributes to the existing knowledge of comorbid diseases in PsA by providing real-life data locally, as it is a unique comprehensive investigation of psychological symptoms in PsA patients in Croatia. Periodic evaluation, early detection of depressive and anxiety symptoms, and appropriate management of such patients should be integrated into standard rheumatology care practices.

References

1. Alinaghi F, Calov M, Kristensen LE, Gladman DD, Coates LC, Jullien D, *et al*. Prevalence of psoriatic arthritis in patients with psoriasis: a systematic review and meta-analysis of observational and clinical studies. J Am Acad Dermatol. 2019;80(1):251-65 e19. DOI: 10.1016/j.jaad.2018.06.027.
2. Haugeberg G, Hoff M, Kavanaugh A, Michelsen B. Psoriatic arthritis: exploring the occurrence of sleep disturbances, fatigue, and depression and their correlates. Arthritis Res Ther. 2020;22(1):198. DOI: 10.1186/s13075-020-02294-w.
3. McDonough E, Ayearst R, Eder L, Chandran V, Rosen CF, Thavaneswaran A, *et al*. Depression and anxiety in psoriatic disease: prevalence and associated factors. J Rheumatol. 2014;41(5):887-96. DOI: 10.3899/jrheum.130797.
4. Zhao SS, Robertson S, Reich T, Harrison NL, Moots RJ, Goodson NJ. Prevalence and impact of comorbidities in axial spondyloarthritis: systematic review and meta-analysis. Rheumatology (Oxford). 2020;59(Suppl 4):iv47-iv57. DOI: 10.1093/rheumatology/keaa246.
5. Vangeli E, Bakhshi S, Baker A, Fisher A, Bucknor D, Mrowietz U, *et al*. A systematic review of factors associated with non-

adherence to treatment for immune-mediated inflammatory diseases. Adv Ther. 2015;32(11):983-1028. DOI: 10.1007/s12325-015-0256-7.

6. Taylor W, Gladman D, Helliwell P, Marchesoni A, Mease P, Mielants H, *et al.* Classification criteria for psoriatic arthritis: development of new criteria from a large international study. Arthritis Rheum. 2006;54(8):2665-73. DOI: 10.1002/art.21972.
7. Cella D, Yount S, Sorensen M, Chartash E, Sengupta N, Grober J. Validation of the Functional Assessment of Chronic Illness Therapy Fatigue Scale relative to other instrumentation in patients with rheumatoid arthritis. J Rheumatol. 2005;32(5):811-9.
8. Fries JF, Spitz P, Kraines RG, Holman HR. Measurement of patient outcome in arthritis. Arthritis Rheum. 1980;23(2):137-45. DOI: 10.1002/art.1780230202.
9. Schoels MM, Aletaha D, Alasti F, Smolen JS. Disease activity in psoriatic arthritis (PsA): defining remission and treatment success using the DAPSA score. Ann Rheum Dis. 2016;75(5):811-8. DOI: 10.1136/annrheumdis-2015-207507.
10. Fredriksson T, Pettersson U. Severe psoriasis – oral therapy with a new retinoid. Dermatologica. 1978;157(4):238-44. DOI: 10.1159/000250839.
11. Ramsay B, Lawrence CM. Measurement of involved surface area in patients with psoriasis. Br J Dermatol. 1991;124(6):565-70. DOI: 10.1111/j.1365-2133.1991.tb04952.x.
12. Finlay AY, Khan GK. Dermatology Life Quality Index (DLQI) – a simple practical measure for routine clinical use. Clin Exp Dermatol. 1994;19(3):210-6. DOI: 10.1111/j.1365-2230.1994.tb01167.x.
13. Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. An inventory for measuring depression. Arch Gen Psychiatry. 1961;4:561-71. DOI: 10.1001/archpsyc.1961.01710120031004.
14. Jaksic N, Ivezic E, Jokic-Begic N, Suranyi Z, Stojanovic-Spehar S. Factorial and diagnostic validity of the Beck Depression Inventory-II (BDI-II) in Croatian primary health care. J Clin Psychol Med Settings. 2013;20(3):311-22. DOI: 10.1007/s10880-013-9363-2.
15. Spielberger CD GR, Lushene PR, Vagg PR, Jacobs GA. Manual for the State-Trait Anxiety Inventory. Palo Alto, California: Consulting Psychologists Press Inc.; 1983.
16. Stojanović NM, Randjelović PJ, Nikolić G, Stojiljković N, Ilić S, Stoiljković B, Radulović NS. Reliability and validity of the Spielberger's State-Trait Anxiety Inventory (STAI) in Serbian university student and psychiatric non-psychotic outpatient populations. Acta Fac Med Naiss. 2020;37:149-59. DOI: 10.5937/afmnai37-25011.
17. Zusman EZ, Howren AM, Park JYE, Dutz J, De Vera MA. Epidemiology of depression and anxiety in patients with psoriatic arthritis: a systematic review and meta-analysis. Semin Arthritis Rheum. 2020;50(6):1481-8. DOI: 10.1016/j.semarthrit.2020.02.001.
18. Gerdes S, Wilsmann-Theis D, Celis D, Kromer C, Mossner R. Two questions may be enough – screening for depression in patients with psoriasis: a multicenter study. J Dtsch Dermatol Ges. 2020;18(10):1115-25. DOI: 10.1111/ddg.14203.
19. Baxter AJ, Scott KM, Vos T, Whiteford HA. Global prevalence of anxiety disorders: a systematic review and meta-regression. Psychol Med. 2013;43(5):897-910. DOI: 10.1017/S003329171200147X.
20. Gialouri CG, Evangelatos G, Zhao S, Kouna K, Karamanakos A, Iliopoulos A, *et al.* Depression and anxiety in a real-world psoriatic arthritis longitudinal study: should we focus more on patients' perception. Clin Exp Rheumatol. 2023;41(1):159-65. DOI: 10.55563/clinexprheumatol/8qxo80.
21. Husted JA, Thavaneswaran A, Chandran V, Eder L, Rosen CF, Cook RJ, *et al.* Cardiovascular and other comorbidities in patients with psoriatic arthritis: a comparison with patients with psoriasis. Arthritis Care Res (Hoboken). 2011;63(12):1729-35. DOI: 10.1002/acr.20627.
22. De Lorenzis E, Natalello G, Bruno D, Tanti G, Magurano MR, Lucchetti D, *et al.* Psoriatic arthritis and depressive symptoms: does systemic inflammation play a role? Clin Rheumatol. 2021;40(5):1893-902. DOI: 10.1007/s10067-020-05417-5.
23. Milutinovic S, Veljkovic K, Zlatanovic M, Radunovic G, Damjanov N. Depression/anxiety symptoms in axial spondyloarthritis and psoriatic arthritis patients in Serbia: a pilot study. Rheumatol Int. 2019;39(9):1595-605. DOI: 10.1007/s00296-019-04376-8.
24. Husted JA, Thavaneswaran A, Chandran V, Gladman DD. Incremental effects of comorbidity on quality of life in patients with psoriatic arthritis. J Rheumatol. 2013;40(8):1349-56. DOI: 10.3899/jrheum.121500.
25. Martinec R, Pinjatela R, Balen D. Quality of life in patients with rheumatoid arthritis – a preliminary study. Acta Clin Croat. 2019;58(1):157-66. DOI: 10.20471/acc.2019.58.01.20.
26. Carneiro C, Chaves M, Verardino G, Frade AP, Coscarelli PG, Bianchi WA, *et al.* Evaluation of fatigue and its correlation with quality of life index, anxiety symptoms, depression and activity of disease in patients with psoriatic arthritis. Clin Cosmet Investig Dermatol. 2017;10:155-63. DOI: 10.2147/CCID.S124886.
27. Bulat V, Situm M, Delas Azdajic M, Lovric I, Dediol I. Study on the impact of psoriasis on quality of life: psychological, social and financial implications. Psychiatr Danub. 2020;32(Suppl 4):553-61.

Sažetak

SIMPTOMI ANKSIOZNOSTI I DEPRESIJE U BOLESNIKA SA PSORIJATIČNIM ARTRITISOM – PRESJEČNO ISTRAŽIVANJE

K. Kovač Durmiš, M. Pap, I. Jurak, M. Boban i *P. Perić*

Svrha istraživanja bila je procijeniti depresiju i anksioznost u bolesnika sa psorijatičnim artritisom (PsA). U istraživanje su uključeni uzastopni bolesnici sa PsA (N=67) i zdravi ispitanici (N=69). Za probir psiholoških simptoma primijenjeni su Beckov inventar depresije II. (BDI-II) i Upitnik anksioznosti kao stanja i osobine ličnosti (STAI). Broj bolnih i otečenih zglobova (TJC, SJC), VAS boli i aktivnosti bolesti, DAPSA, HAQ i FACIT-Fatigue primijenjeni su za procjenu PsA. Psorijaza je procijenjena pomoću zbroja PASI (*Psoriasis Area and Severity Index*), indeksa zahvaćenosti površine tijela psorijazom (*Body Surface Area*, BSA) i kvalitete života (*Dermatological Quality of Life Index*, DLQI). Izračunata je učestalost depresije i anksioznosti te korelacija s čimbenicima povezanim sa psorijatičnom bolešću. Utvrđena je veća učestalost simptoma depresije u skupini bolesnika sa PsA u odnosu na kontrolnu skupinu (22,4% nasuprot 5,8%, OR=4,64, 95% CI 1,37-20,36). Nije bilo razlike u učestalosti anksioznih simptoma. Depresija je pozitivno korelirala s TCJ, VAS boli, DAPSA, HAQ, DLQI i negativno s FACIT-Fatigue, ali ne s PASI i BSA. Simptomi depresije javljaju se češće u bolesnika sa PsA i povezani su s aktivnošću i funkcionalnim statusom bolesti. Nađena je povezanost psiholoških simptoma s umorom i kvalitetom života kod psorijaze.

Ključne riječi: *Psorijatični artritis; Depresija; Anksioznost; Aktivnost bolesti; Umor*