

## ANALYSIS OF PSYCHOPATHOLOGICAL TRAITS IN PSORIATIC PATIENTS

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### SUMMARY

*Psoriasis vulgaris is a multifactorial, heterogeneous disease that is associated with problems in skin image and feelings of shame and stigmatization. The aim of this study was to analyze psychopathological traits in patients with psoriasis and a comparative group. A total of 254 dermatological patients participated in the study: 124 patients with confirmed diagnoses of psoriasis vulgaris and 130 patients with melanocytic and non-melanocytic nevi on covered parts of the body. Psychometrically mensural and standardized instruments were used in the study: list of general data, appendix of disease data, Beck Depression Inventory test, State-Trait Anxiety Inventory, Measure of psychological stress and Eysenck's Personal Questionnaire. There is a significant statistical difference in the result of psychometric tests between the study groups. Patients with psoriasis have more severe symptoms of depression, more physical symptoms of anxiety and higher results on the anxiety scale as a state and as a trait  $p=0.000$ . Eysenck's personal questionnaire showed higher results on the psychoticism scale  $p=0.000$  and lower results on the extraversion scale  $p=0.035$  among psoriatic patients.*

**Key words:** psoriasis vulgaris - psychopathological traits – depression – anxiety – stress - psychoticism

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### INTRODUCTION

Psoriasis vulgaris is a chronic and immunologically based inflammatory disease of skin (Christophers et al. 2009). It is marked by keratotic proliferation along with abnormal keratotic differentiation and with CD8+ T-cell inflammatory infiltrates in the dermis and CD4+T-cell infiltrates in the epidermis. Environmental factors are a necessary trigger for the clinical expression of the disease – trigger factors (Lipozencic et al. 2008). The prevalence of psoriasis in Europe is 3-5% while in Croatia it is 1-1.5%. In some ethnic minorities the occurrence of psoriasis is quite low, while among the Australian Aborigines and natives of Southern America it is extremely rare (Green et al. 1984, Convit et al. 1962, Barišić-Druško et al. 1989). Type I psoriasis appears early, typically before age 40, has a strong familial inheritance and correlation with HLA antigens. Type II psoriasis has a later onset, typically after age 40, has a weak correlation with HLA antigens and with rare familial occurrence. (Hensler et al. 1985, Swanbeck et al. 1985). Psoriasis is associated with a variety of psychological problems including poor self-esteem, depression, anxiety, sexual dysfunction and suicidal ideation (Russo et al. 2004, Griffiths et al. 2001). A person suffering from psoriasis is viewed as an integral structure of mind and body, a combination of psychical and somatic in constant interrelationship, and thus we include psoriasis into a category of skin diseases with influences on psychosomatic factors. Psoriasis has a large impact on the lives of patients, and common

psychological and social relational problems can be seen in these patients (Poot et al. 2007).

The aim of this study was to analyze psychopathological and personality traits in patients with psoriasis and a comparative group. Patients with psoriasis differed from the control group in all measures of psychological status and in some measures of personality traits.

### MATERIALS AND METHODS

#### Patients

There were 254 patients in total, and the study was undertaken at the Department of Dermatology and Venerology, University Hospital Mostar, in collaboration with the University Hospital 'Sestre Milosrdnice' in Zagreb. Of the 254 patients in the study, 124 had psoriasis and the remaining 130 patients comprised the control group who were being treated for melanocytic and non-melanocytic nevi. The patients age range was from 18 to 65 years. The average age of the patient groups was 43 years. 140 patients were female (55%) while 114 (45%) were male. Patients in the test group were excluded if they were under 18 years of age, had any severe mental or physical illness, and did not have a diagnosis of psoriasis confirmed by a dermatologist (including histological confirmation). Eligible patients were recruited into the study only after giving written consent. Ethical approval was granted by the Institutional Review Board and the study was carried out in compliance with the Declaration of Helsinki

guidelines. The use of psychological instruments in both groups of patients were applied by a clinical psychologist, and the clinical and control group of patients filled out the same questionnaires. To encompass the variables thought relevant to the connection of psychopathological traits and psoriatic patients, we applied the following instruments: list of general data, list of disease data, BDI, STAI-O, STAI-S, MPS and EPQ (Spilberger 1998, Beck et al. 1961, Eysenck & Eysenck 1994).

### Statistical analysis

All statistical analyses were performed under SPSS, version 17.0 for Windows software. The tests used were descriptive statistics (mean value, standard deviation), t-test for independent samples, ANOVA-test, and Pearson's correlation test. The statistically significant difference amounted to  $p < 0.05$ .

## RESULTS

### Comparison of psoriatic and control group patients

For the statistical analysis and comparison of psoriatic patients with a group of patients with melanocytic and non-melanocytic nevi on covered body parts I used descriptive statistical analysis: t-test for independent samples, with appropriate degrees of freedom and significant difference levels. Depression test scores of the psoriatic group of patients compared with the control group were the following:  $M=9.00$  for the psoriatic group and  $M=2.45$  for the control group, t-test values amounted to 6.419, degree of freedom 252, and the value of the significant difference level  $p=0.000$ . The comparison of the physical anxiety symptoms test resulted in  $M=43.12$  for the psoriatic group and  $M=20.38$  for the control group, t-test equaled 4.650, degree of freedom 252, and the significant difference level  $p=0.000$ . The test scores of anxiety as a state amounted to  $M=39.82$  for the psoriatic group and  $M=29.24$  for the control group of patients, t-test equaled

5.432, degree of freedom 248 and the significant difference level  $p=0.000$ . The test scores of anxiety as a trait test were  $M=37.45$  for psoriatic group and  $M=29.77$  for the control group, t-test equaled 4.385, degree of freedom 248 and the significant difference level  $p=0.000$ . Patients with psoriasis and the respondents in the control group differed in all measures of psychological status and some measures of personality traits. Psoriatic patients had more severe depressive symptoms, more physical anxiety symptoms and higher scores on the anxiety scale as a state and personality trait.

Personality trait test scores for the EPQ-P, psychoticism scale were as follows: mean  $M=3.28$  for the psoriatic patients while  $M=2.30$  for the control group, t-test value at 3.907, corresponding degree of freedom 172, and the significant difference level  $p=0.000$ . Test scores for epq-e, Eysenck's questionnaire for the extroversion scale, were: mean  $M=8.49$  for the psoriatic patients,  $M=9.46$  for the control group, t-test 2.130, degree of freedom 170, and the significant difference level  $p=0.035$ . Test scores for neuroticism scale, EPQ-N, were the following: mean  $M=3.62$  for the psoriatic patients and  $M=2.84$  for the control group, t-test value 1.529, degree of freedom 171, and the significant difference level  $p=0.128$ . The mean which I acquired by descriptive statistics for the psoriatic group of patients amounted to  $M=5.71$  for the lying scale, while for the control group it amounted to  $M=5.70$ . The degree of freedom for the same scale was 169 and the significant difference level  $p=0.119$ . The two groups also differed in personality traits. In psoriatic patients the psychoticism value was more strongly expressed, with t-test values at 3.907 and significant difference level  $p=0.000$ , and less for extroversion, with t-test values at 2.130 and significant difference level  $p=0.035$ , compared with the control group of patients. These results tell us that psoriatic patients are more frequently lonely, care less for other people, get into trouble more often, have a harder time fitting into the environment, and can sometimes be aggressive and insensitive. This is supported by higher test scores on the psychoticism

**Table 1.** The comparison of psoriatic and control group patients in all measures of psychological status and measures of personality traits

Test	Psoriatic patients M	Comparative group M	t	df	p
BDI	9.00	2.45	6.419	252	0.000
MPS	43.12	20.38	4.650	252	0.000
STAI-S	39.82	29.24	5.432	248	0.000
STAI-O	37.45	29.77	4.385	247	0.000
EPQ-P	2.38	2.30	3.907	172	0.000
EPQ-E	8.49	9.46	-2.130	170	0.035
EPQ-N	3.62	2.84	1.529	171	0.128
EPQ-L	5.71	5.70	-1.380	169	0.119

M: mean values; t-test values; df: degree of freedom; p: statistically significant difference

**Table 2.** Statistical analysis of personality traits with different measures of psychological status of psoriatic patients

Eysenck's test		BDI	MPS	STAI-S	STAI-O
EPQ-P	Pearson's coefficient	-0.025	-0.037	-0.050	-0.022
EP-E	Pearson's coefficient	0.255*	-0.196	-0.272**	-0.283**
EPQ-N	Pearson's coefficient	0.308**	0.312**	0.342**	0.368**
EPQ-L	Pearson's coefficient	-0.220*	-0.187	-0.265*	-0.275**

\*\*statistically significant difference  $p < 0.05$

scale,  $M=3.28$ , t-test values at 3.907, degree of freedom 172 and  $p=0.000$ . They are also less sociable and prefer activities like reading or working alone. This is also supported by lower test scores on the extroversion scale,  $M=8.49$ , t-test values 2.130, degree of freedom 170 and  $p=0.035$ . All results were shown in a table 1.

### Correlation of personality traits and psychological status in psoriatic patients

Results treated as Pearson's correlation coefficient for Eysenck's personality test on the psychoticism scale for depression test amounted to 0.025. For the physical anxiety test it amounted to 0.037, for anxiety as a state 0.050, while the value of Pearson's coefficient for anxiety as a trait amounted 0.022. Results treated as Pearson's correlation coefficient for Eysenck's personality test on the extraversion scale for depression test amounted to 0.255, for the physical anxiety test 0.196, for anxiety as a state 0.272, while the value of Pearson's coefficient for anxiety as a trait amounted 0.283.

Results treated as Pearson's correlation coefficient for Eysenck's personality test on the neuroticism scale for depression test amounted to 0.308, for the physical anxiety test it amounted to 0.312, for anxiety as a state 0.342, and the value of Pearson's coefficient for anxiety as a trait amounted 0.368. Results treated as Pearson's correlation coefficient for Eysenck's personality test on the extraversion scale for depression test amounted to 0.220, for the physical anxiety test 0.187, for anxiety as a state 0.265, while the value of Pearson's coefficient for anxiety as a trait amounted 0.275.

In psoriatic patients, their personality traits are interconnected with their psychological status. Extroversion is negatively connected with depression, anxiety as a state and a trait; extroverted patients had less symptoms of depression. The result I calculated as Pearson's correlation coefficient amounted to 0.255 on the BDI for extroversion scale. Less expressed anxiety as a state and trait on the STAI-S extroversion scale amounted 0.272 while for state as a trait it was 0.283. Neuroticism is connected with depression, the measure of physical symptoms of anxiety and anxiety as a state and trait.

Higher scores on the neuroticism scale are associated with a larger number of depressive symptoms. Pearson's coefficient for BDI on the neuroticism scale amounted to 0.308, as well as a larger number of

physical anxiety symptoms which amounted to 0.312 and a higher result of anxiety as a state and trait. The score for STAI-S anxiety were 0.342 and for STAI-O 0.368.

Higher scores on the lying scale are associated with a lower number of depression symptoms. The BDI amounted to 0.220, as well as lower results on the anxiety scale as a state and trait which are 0.265 and 0.275. All results are shown in the table 2.

### DISCUSSION

Psoriasis is a psychosomatic disease and a primary dermatological disease with a secondary psychiatric disorder (Koo et al. 2001). Our results show that the psoriatic patients had more prominent symptoms of depression, anxiety as a personality trait and state, higher measures of psychological stress, and higher results on the psychoticism scale. Patients with psoriasis and the respondents in the control group differed in all measures of psychological status and in some measures of personality traits. Psoriatic patients had more severe depressive symptoms, more symptoms of physical anxiety and higher scores on the anxiety scale as a state and personality trait. Statistically significant correlations were found between clinical group and comparative groups  $p=0.000$ .

An extensive study in Great Britain with almost a million respondents indicated that psoriatic patients are more likely to have depression, anxiety and suicidal thoughts. Younger male patients are also more inclined towards suicide and suicide attempts. A total of 146,042 patients with mild psoriasis, 3,956 patients with severe psoriasis, and 766,950 patients without psoriasis were included in the study. The latter were divided into five control groups chosen from the same clinics and on the basis of similar medical records. The study found 10,400 diagnosis of depression, 7,100 diagnosis of anxiety and 350 diagnoses of suicide (Kurd et al. 2010).

Psoriatic patients can have lowered self-respect, higher anxiety, depression and various pronounced forms of psychopathological traits. Psychological reactions of patients with psoriasis are equivalent or more severe than reactions of other patients with chronic diseases, e.g. coronary diseases or diabetes (Richards et al. 2001). The body and mind always act together so one can only take a proper position towards

a person and his or her disease if psychological disorders are given an equal amount of attention as are physical ones. Finlay in particular has highlighted the psychological status of dermatological patients in his works (Finaly & Coles 1995).

Basavaraj et al investigated correlations between the severity of the disease, itching and manifestations of psoriatic changes on the genital area, and neither itching nor severity of the disease were found to affect the quality of life and do not have to be interrelated with psychopathological qualities, self-respect, anxiety or the sexuality of psoriatic patients. (Basavaraj et al. 2011, Meeuwis et al. 2011).

The results of this study indicate that it is necessary to monitor clinical parameters, and to use psychometric instruments to reveal and monitor depression and anxiety for successful treatment and prevention of psychiatric disorders in dermatological patients with psoriasis (Parfianowicz et al. 2010, Hayes & Koo 2010). All this is corroborated by newer studies as well.

## CONCLUSION

Our results indicate that psoriatic patients compared to patients in the control group with melanocytic and non-melanocytic nevi differed in all measures of psychological status and in some measures of personality traits. Psoriatic patients had more pronounced symptoms of depression, more physical symptoms of anxiety, and higher scores on the anxiety scale as a state and trait. Regarding personality traits, psoriatic patients had more pronounced psychoticism and less extroversion. Higher scores on the neuroticism scale were associated with more pronounced symptoms of depression.

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**Conflict of interest :** None to declare.

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