Russian Psychological Journal, 2020, Vol. 17, No. 1, 15–26. **doi**: 10.21702/rpj.2020.1.2

UDC 159.9.072 **doi**: 10.21702/rpj.2020.1.2 ***Original research article***

Parameters of the Subjective Pattern of Disease in Rheumatoid Patients

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Abstract

Introduction. A patient's subjective pattern of disease (SPD) is considered both as a result of his/her adjustment to disease and as an instrument of personal self-regulation in disease. Modern clinical psychology actively investigates this psychological construct, which expands available knowledge obtained in the process of determining psychological factors of the treatment process. The present study appears to be the first that examines rheumatoid patients using a SPD multilevel model, which focuses on illness perceptions and coping with it.

Methods. The study sample consisted of 80 patients with rheumatic diseases aged 18–52 years, 50 % of whom were patients with rheumatoid arthritis (RA) and 50 % of whom were patients with systemic lupus erythematosus (SLE). The study used the following techniques for assessing the structure and content of various levels of the subjective pattern of disease: (a) the Symptoms Check-List-90-Revised (SCL-90-R), (b) the Brief Inventory of Illness Perceptions, and (c) the technique for psychological assessment of coping with stressful and problematic events.

Results. In the comparison groups, significant differences were observed on the scales of illness perceptions ('illness understanding', 'course of illness', 'control of illness', 'control of treatment'), the scales of coping behavior ('search for social support', 'acceptance of responsibility'), and the scales of 'somatization', 'depression', and 'anxiety'. The correlations indicate associations among the parameters of various levels of the subjective pattern of disease in patients in both groups.

Discussion. The parameters of the subjective pattern of disease in patients with systemic lupus erythematosus indicate their desire to recognize and overcome uncertainty and unpredictability of their disease. However, this does not reduce their emotional involvement in the problem. The subjective pattern of disease in patients with rheumatoid arthritis is characterized by a worse understanding and control of disease, as well as by emotion-focused coping strategies aimed at distancing from anxiety-related experiences associated with their disease.

Keywords

rheumatic diseases, rheumatoid arthritis, systemic lupus erythematosus, subjective pattern of disease, illness perceptions, coping behavior, coping, personality adjustment, self-regulation, patient psychology

Russian Psychological Journal, 2020, Vol. 17, No. 1, 15–26. **doi**: 10.21702/rpj.2020.1.2

Highlights

- Rheumatic diseases represent a universal model for the psychological study of adjustment to chronic diseases.
- Both groups of patients have similar indices of the SPD sensory level, which may be explained by a multisystem and diffuse course of rheumatic diseases.
- Indices of the SPD emotional level indicate a high level of readiness for an anxious-phobic response among patients with SLE.
- Associations between the SPD cognitive and behavioral levels indicate the following: (a) Subjective perceptions of SLE patients is focused on illness understanding, its course, and control. (b) Coping of RA patients is characterized by ignoring coping resources and a low level of control of illness.

For citation
Yaltonskii, V. M., Abrosimov, I. N., Andrushkevich, T. D., & Shashurina, E. M. (2020). Parameters of the subjective pattern of disease in rheumatoid patients. *Rossiiskii psikhologicheskii zhurnal (Russian Psychological Journal)*, *17*(1), 15–26. doi: 10.21702/rpj.2020.1.2

Received: January 30, 2020
Revision received: March 7, 2020
Accepted: March 11, 2020

Introduction

Rheumatic diseases are of particular interest to modern clinical psychology, being both a conventional and still promising subject for research. First, this may be explained by a mixed and understudied etiology of this nosological group, which does not exclude the role of psychological factors in the onset and aggravation of collagenosis (Vorob'eva, Aseeva, Solov'ev, Koilubaeva, & Glukhova, 2019). For example, considering rheumatoid arthritis along with neurodermatitis, duodenal ulcer, and other diseases in terms of the so-called 'holy seven' psychosomatic diseases (Alpysova & Subbota, 2017) has become traditional. On the other hand, rheumatic diseases manifest themselves with diffuse symptoms in multiple organs, which often do not have a vivid manifestation and are accompanied with painful and constraining bodily sensations for a long period of life. Therefore, rheumatic diseases represent a clear model of chronic somatic disease, which implies a special type of personal adjustment to disease and limitations (including social and psychological) in functioning associated with it (Grekhov et al., 2009).

Increasingly, the process of adjustment to disease is associated with such psychological and integrative constructs as the subjective pattern of disease (Vasserman, Chugunov, & Shchelkova, 2019), patient compliance (Abrosimov & Yaltonskii, 2018), and the quality of life (Mesnikova & Senyuta, 2016). Studying these clinical and psychological characteristics in rheumatoid patients is important for expanding our knowledge of depressive disorders and other comorbid psychopathological disorders of the affective spectrum (Marchenko, Seravina, Kovalevskaya, Vel'tishchev, & Lisitsyna, 2009). And finally, despite the successes and achievements of modern high-tech medicine (Solov'ev, Mesnyankina, & Aseeva, 2019), some rheumatic diseases remain widespread among the general population, which makes them some kind of everyday occurrences (Berezina, 2011). At the same time, their poorly localized and implicit initial symptoms remain without proper regard. All this is caused by the fact that monitoring, timely and adequate treatment of rheumatic diseases remains

insufficient among the population (Khamitov, Khismetova, Goremykina, Tanysheva, & Kotlyar, 2019). Therefore, studies in this field are very important (Begun & Borshchuk, 2013).

Illness perceptions (Yaltonskii & Abrosimov, 2011) and disease-related coping behavior (Kudryashova, Saraikin, & Ivanov, 2017) are key clinical and psychological constructs that modern clinical psychology considers as determining the nature and results of personal self-regulation in disease. Along with bodily and emotional experience Russian researchers most often consider these characteristics in terms of the subjective pattern of disease associated with an individual's self-regulation in disease (Rasskazova, 2012). The subjective pattern of disease (SPD) consist of the following levels: (a) sensory – intraceptive experience associated with disease and its treatment, (b) emotional – affective content of disease-related experiences, (c) intellectual – cognitive representations of disease, ideas about its causes and consequences, and (d) motivational – an individual's actions to overcome disease or to adjust to it. Currently, there is a lack of integrative psychological studies involving rheumatoid patients that concentrate on the subjective pattern of disease, the role of illness perceptions, and disease-related coping behaviour.

The aim of this study is to investigate the multi-level structure of the subjective pattern of disease in patients with rheumatoid arthritis and systemic lupus erythematosus.

Research objectives were as follows: (1) to assess the characteristics of the SPD sensory and emotional levels, (2) to describe structural characteristics of the SPD cognitive and motivational levels, and (3) to analyze the associations among the SPD parameters.

Methods

The study sample consisted of 80 patients of V. A. Nasonova Research Institute of Rheumatology. Comparison groups were as follows: (1) the RA group – 40 patients with rheumatoid arthritis (3 males) and (2) the SLE group – 40 patients with systemic lupus erythematosus (5 males). The mean age of the study participants was 34.00 ± 17.46 years.

The characteristics of the SPD sensory and emotional levels were measured using the 'somatization', 'anxiety', and 'depression' scales of the Symptoms Check-List-90-Revised (SCL-90-R) (Tarabrina, 2001). The Brief Inventory of Illness Perceptions was used to describe the structural characteristics of the SPD cognitive level (Yaltonskii, Moskovchenko, Sirota, & Yaltonskaya, 2017). The structural characteristics of the SPD motivational level were measured using the technique for psychological assessment of coping with stressful and problematic events (Vasserman et al., 2019). The SPSS, a statistical package software version 20, was used for data processing. For statistical analysis the Mann–Whitney U-Test and Spearman correlation tests were used.

Results

The compared groups of patients had no statistically significant differences in the SPD sensory and emotional levels on the 'somatization' scale. Moreover, the values of this scale exceeded the normative values in both groups (SLE – 1.67 ± 0.71; RA – 1.50 ± 0.58; normative values – 0.69 ± 0.65), which indicates a high probability of distress in patients, which is associated with internal bodily experience of disease and its treatment. The values of the 'depression' scale do not exceed the normative interval in both groups (SLE – 1.23 ± 0.61; RA – 1.10 ± 0.68; normative values – 0.68 ± 0.59). This suggests a moderate degree of depressive experiences and their cognitive and somatic correlates. Statistically significant differences between the two groups were observed on the anxiety scale ($p = 0.001$). This parameter exceeded the normative value

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in the group of patients with systemic lupus erythematosus (SLE – 1.30 ± 0.80; normative values – 0.58 ± 0.53), which indicates the presence of anxiety, as well as its cognitive components, including the feeling danger under uncertainty. Figure 1 shows the results of this stage of the study in more detail.

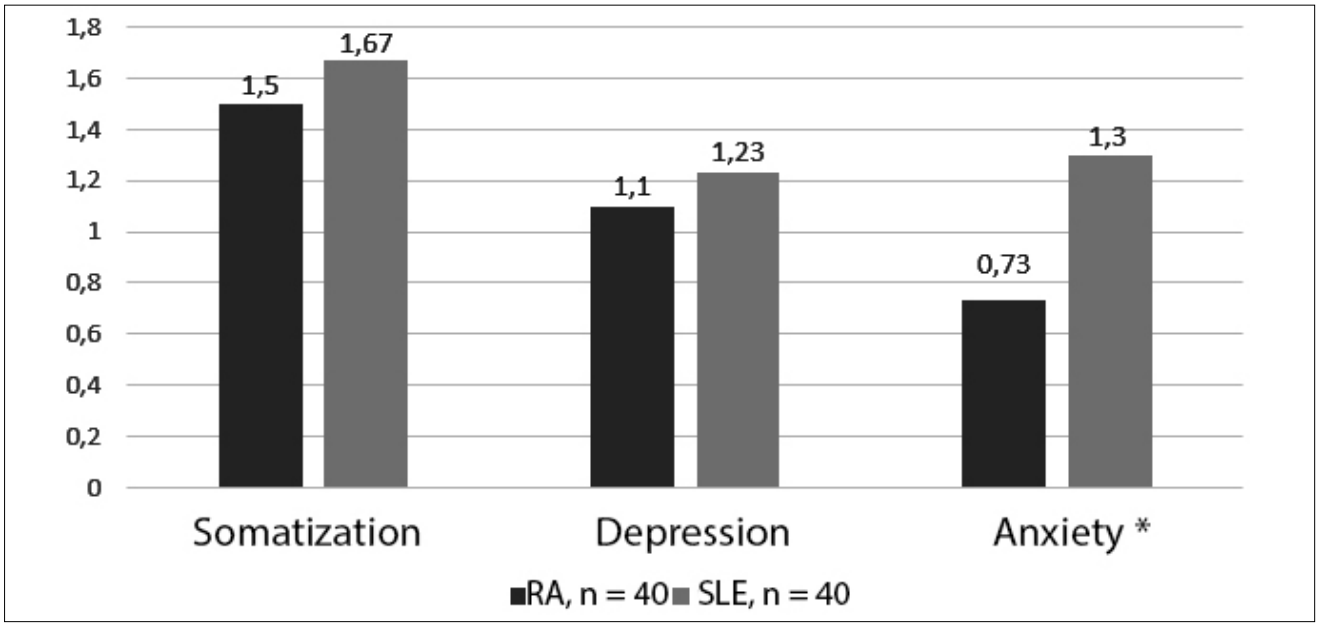

Figure 1. Comparative analysis of the SPD sensory and emotional levels in the compared groups by the Mann–Whitney U-Test, n = 80

*Legend: * – scales with statistically significant differences, $p \leq 0.05$.*

The study of the SPD cognitive level showed that the compared nosological groups had structural differences in illness perceptions. The RA patients represent rheumatoid arthritis as a long-term illness with well-recognized symptoms. Patients with systemic lupus erythematosus are also concerned with their disease and its course. However, they understand it better. We observed statistically significant differences between the compared groups on the scales of 'course of illness', 'control of illness', and 'control of treatment'. Table 1 shows the results of this stage in more detail.

Coping strategies of 'flight/avoidance' and 'search for social support' were the most pronounced characteristics of the SPD motivational level in both groups. In doing so, the 'distancing' strategy was leading in the RA group; the 'problem solving planning' strategy was leading in the SLE group. We should note that all characteristics of coping behavior did not exceed the normative data in both groups. This indicates their moderate realization, which generally improves adaptive functioning (Vasserman et al., 2019). We also observed statistically significant differences between the two groups on the scales of 'search for social support' (SLE – 51.44 ± 9.49; RA – 48.20 ± 8.47; $p = 0.49$) and 'acceptance of responsibility' (SLE – 48.90 ± 10.18; RA – 44.25 ± 12.61; $p = 0.46$). These characteristics were more pronounced in the SLE group. Figure 2 shows the results of this stage of the study in more detail.

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Table 1
Significant differences in the RA and the SLE groups by the Mann–Whitney U-Test, n = 80

Illness perceptions	SLE n = 40 Me ± SD	RA n = 40 Me ± SD	Significance of differences, P
Consequences of illness	6,72 ± 2,66	7,17 ± 2,54	
Course of illness	8,80 ± 2,43	7,57 ± 3,25	p = 0,011
Control of illness	6,53 ± 2,29	5,42 ± 2,84	p = 0,049
Control of treatment	6,91 ± 2,39	5,77 ± 2,82	p = 0,018
Identification	6,74 ± 2,45	7,45 ± 2,56	
Concern	7,43 ± 2,70	8,12 ± 2,57	
Illness understanding	7,53 ± 2,69	6,05 ± 3,27	p = 0,019
Emotional response	6,45 ± 2,94	6,85 ± 2,51	
Threat	45,16 ± 10,70	48,82 ± 11,64	

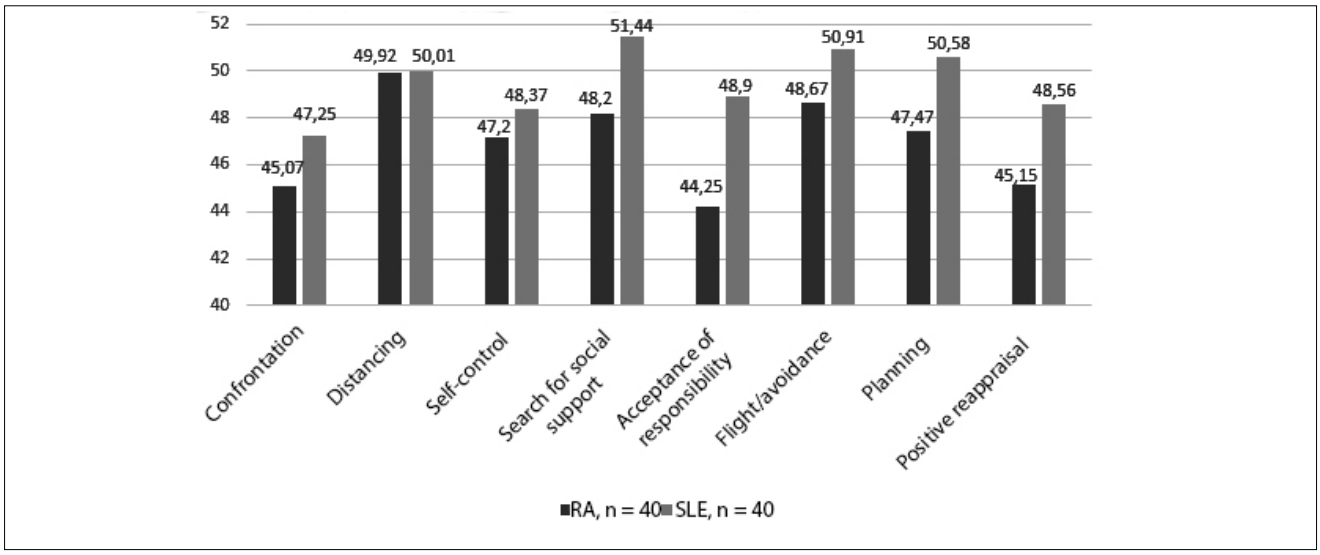

Figure 2. Comparative analysis of coping behavior in the compared groups by the Mann–Whitney U-Test, n = 80

*Legend: * – scales with statistically significant differences, p ≤ 0.05.*

The correlation analysis showed associations among the parameters of the subjective pattern of disease in the two comparison groups. Multiple positive correlations between characteristics of illness perceptions and the parameters of the SPD sensory, emotional, and motivational levels were found in the group of patients with rheumatoid arthritis. Fewer positive and negative correlations between the parameters were found in the group of patients with systemic lupus erythematosus. Therefore, illness perceptions exhibit a trend to correlate with the SPD emotional level in this group. Table 2 shows the results of the correlation analysis in more detail.

Table 2
Correlation analysis of the SPD parameters in each group, Spearman's correlation coefficient

	Rheumatoid arthritis, n = 40					
	Consequences of illness	Course of illness	Identification	Concern	Emotional response	Threat
Somatization	r = 0,494, p = 0,001	r = 0,340, p = 0,032	r = 0,455, p = 0,003	r = 0,378, p = 0,016	r = 0,510, p = 0,001	r = 0,649, p = 0,001
Depression	r = 0,318, p = 0,045	r = 0,331, p = 0,037			r = 0,314, p = 0,049	r = 0,324, p = 0,041
Anxiety	r = 0,344, p = 0,030					r = 0,320, p = 0,044

	Confrontation	Search for social support	Flight/ avoidance	Planning
Consequences of illness	r = 0,351, p = 0,026			
Control of illness		r = 0,433, p = 0,005		
Anxiety			r = 0,397, p = 0,011	r = –0,350, p = 0,027
Systemic lupus erythematosus, n = 40				
	Concern	Illness understanding	Emotional response	Threat
Distancing		r = –0,363, p = 0,009		
Depression	r = 0,363, p = 0,009		r = 0,438, p = 0,001	r = 0,416, p = 0,001
Anxiety			r = 0,361, p = 0,009	r = 0,343, p = 0,030

Discussion

Departing from a multi-level model of the SPD in rheumatoid patients, this study expands our knowledge of this psychological construct. In particular, it seems important to describe the characteristics of the SPD sensory level, which is insufficiently covered in psychological literature. Both groups of patients with rheumatoid arthritis and systemic lupus erythematosus demonstrate the presence of distress in the context of existing bodily or sensory experience of disease (Tsvetkova, 2012). Both diseases are characterized by an unpredictable non-linear dynamics with remission and relapse periods, as well as body manifestations that are unclear or invisible at the initial stage (Kulik, Barzilovich, & Minchenko, 2012). This increases the level of personal uncertainty (Lifintseva, Derkach, & Shtolde, 2018) and affects the quality of life and other characteristics of personal adjustment to disease (Yaltonskii & Abrosimov, 2014). The absence of significant differences indicates the similarity of the diffuse internal bodily (including proprioceptive) experience among the patients of both groups, despite the existing clinical specifics of these diseases. However, the development and differentiation of the sensory level may be considered as a core factor that underlies the SPD consistency (Vasilenko & Mangushev, 2018). This, in turn, determines the importance of taking this parameter into account for psychocorrection of rheumatoid patients.

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As a rule, rheumatoid patients have high dysfunctional indices of the parameters of affective spectrum disorders (Lisitsina et al., 2018). The findings of this study indicate moderate levels of depressive feelings and contrasting trends in the indices of anxiety at the SPD emotional level in both groups. Compared to patients with rheumatoid arthritis, patients with systemic lupus erythematosus are characterized by greater willingness to anxious behaviors towards possible and unpredictable dangers of their disease. According to the biopsychosocial model, often used in modern clinical psychology, these results may be explained by various factors, including sociocultural ones (Neznanov, Kotsyubinskii, & Mazo, 2018). As mentioned above, rheumatoid arthritis, which is perceived as everyday occurrences, as well as the high level of uncertainty of systemic lupus erythematosus, its unclear image for the patients themselves and their environment (Vorob'eva & Aseeva, 2017) may play an important role in the emotional response to disease.

Our findings are consistent with the following results of Nowicka-Sauer et al. (2018): the less SLE patients know about their disease, the higher the levels of anxiety, depression, sleep quality, and pain perceptions are. Moreover, most middle-aged patients have negative illness perceptions, which also increase the probability of increased level of anxiety and pain perceptions (Ulus et al., 2017).

However, the findings of the study of illness perceptions as a factor of the SPD cognitive level contradict the above-stated thesis. Compared to patients with rheumatoid arthritis, the SLE patients are characterized by better understanding of their disease and its long course, as well as higher subjective control of it. Moreover, as we have already noted, SLE is a chronic disease, which is difficult to correct, with remission and relapse periods (Yen & Singh, 2018). Other studies devoted to perceptions of chronic systemic diseases (Karademas et al., 2008) suggests that differences between subjective perceptions and objective realization of some SPD parameters may be a possible reason for this. Patients with recurrent disease, which is rare in the population and introduces a high level of uncertainty in everyday life (such as SLE) need to make more effort to understand and control it (Pakhale et al., 2015). Meanwhile, when patients attempt to understand the mechanisms of their disease and its exacerbation, they comprehend disease severity; although being an instrument of self-regulation, the attempts to control it remain constrained and have a short-term effect. These factors may explain high anxiety scores described above.

The negative correlation between 'distancing' copying and illness understanding in the group of patients with SLE partially confirms this assumption and indicates that they concentrate on emotional experiences associated with disease under a better understanding of its mechanisms.

Findings of the study of coping behavior indicate that it is more effective in the group with systemic lupus erythematosus. Patients from both groups use various moderate coping strategies, which modern authors consider as the adaptive flexibility of defensive coping behavior (Mc Hugh, Mc Feeters, Boyda, & O'Neill, 2016). However, in the RA group, strategies for seeking social support and assuming responsibility are less pronounced, which may reduce the effectiveness of adaptation attempts. Therefore, the lack of motivation (both external and internal) to comply with prescriptions is the leading negative phenomena; this may decrease adherence to treatment (Brijs, Arat, Westhovens, Lenaerts, & De Langhe, 2019). Such forms of stress response as avoidance and confrontation are also highly expressed in this group.

In the group of patients with rheumatoid arthritis correlations indicate a tendency to use external resources to control disease, as well as to use an avoidant behavior style to reduce anxiety, which can lead to a decrease in personal adjustment to disease (Li, He, Wang, & Wang, 2019).

Our findings expand the results obtained by Akhmedova and Shchelkova (2008). The authors found out that compared to the patients with an acute and objectively life-threatening cancer, patients with rheumatoid arthritis use less effective coping strategies. However, the focus changes when comparing this nosological group with other rheumatic diseases. Once again, this speaks in favour of relativity of adaptive copings, which requires an integrated approach to their study.

Generally speaking, the subjective pattern of disease in rheumatoid patients remains an important subject for psychological research. Studying its parameters and associations with processes of personal self-regulation in disease expands the existing theoretical and methodological knowledge of adjustment to disease, as well as targets for psychodiagnostics and psychocorrection. Moreover, qualitative analysis of disease cognitive representations, the content of its personal meaning in a patient's life appears to be most important.

Conclusions:

1. The clinical dynamics of rheumatic diseases is often non-linear and multisystem. This leads to an increase in the level of uncertainty in the disease conditions, which determines a diffuse structure of the SPD sensory level in both groups, as well as a high readiness for anxiety-related response in the group of patients with systemic lupus erythematosus.
2. Compared to patients with systemic lupus erythematosus, the cognitive and motivational levels of the subjective pattern of disease in patients with rheumatoid arthritis are characterized by a lack of understanding of the mechanisms and dynamics of their disease; they also use copying strategies, focused on emotions rather than on solving actual problems.
3. In the group of patients with rheumatoid arthritis, the established correlations indicate an association between illness perceptions and its diffuse bodily image, as well as between avoiding coping strategy and anxiety-related response. In the group of patients with systemic lupus erythematosus, the established correlations indicate an association between illness perceptions and negative emotional experiences.

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No conflict of interest