

Learned helplessness and its associations with illness perception, depression and anxiety among patients with systemic lupus erythematosus

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Summary Background. Systemic lupus erythematosus (SLE) is a chronic, multi-organ disease that significantly impacts patients' psychological functioning. Learned helplessness (LH) and illness perception have been proven to influence patients' emotional and physical state and treatment adherence.

Objectives. The study is aimed at exploring learned helplessness and its relationship with illness perception, depression and anxiety among patients with SLE.

Material and methods. The participants were 59 outpatients diagnosed with SLE (55 women, mean age: 45.0 ± 11.7 years; mean SLE duration 11.1 years). The Rheumatology Helplessness Index (RHI), Brief Illness Perception Questionnaire (B-IPQ), Hospital Anxiety and Depression Scale (HADS) were used. A structured interview and a review of medical files were used to gather clinical and socio-demographic data.

Results. Learned helplessness was significantly positively correlated with the illness perception total score ($r = 0.609$), as well as illness consequences ($r = 0.432$), identity ($r = 0.385$), concern ($r = 0.473$) and emotional response ($r = 0.543$). Depression and anxiety levels were also significantly correlated with LH ($r = 0.588$ and $r = 0.472$, respectively). No significant associations were observed between LH and age, age at diagnosis, duration of the disease, disease activity, gender, education and employment status.

Conclusions. 1. In patients with SLE, learned helplessness is related to experiencing more severe consequences and symptoms of SLE, as well as more intense concerns and negative emotions related to the disease. 2. Psychotherapeutic intervention aimed at patient empowerment and modification of negative cognitions seems vital in order to diminish negative psychological functioning. 3. Treatment and self-management aimed at better symptoms control and minimizing the consequences of illness may contribute to less negative cognitive and emotional illness representations.

Key words: systemic lupus erythematosus, learned helplessness, illness perception, depression, anxiety.

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Background

Of current interest in health psychology are cognitive factors influencing patients' health behaviors. One of these is learned helplessness (LH), which is conceptualized as an attributional style in which the person believes that bad events are global, stable and beyond control. Such an explanatory style often leads to passiveness when experiencing a problem because of the person's belief of having no control over it and the expectation of no success in the future [1–3]. It has been proven that learned helplessness determines patients' behaviors when facing a chronic disease, since they feel they have little control over it and experience no hope in fighting the symptoms of the illness, and thus a passive coping style may occur [2, 4, 5]. Research concerning LH among patients with rheumatologic diseases revealed that learned helplessness is connected with a poorer quality of life and functional impairment, more severe physical symptoms and higher distress and may be related to noncompliance, poorer health and increased morbidity and mortality [2–7].

Another important theory explaining the associations between cognitive factors and health behaviors is the Common Sense Model (CSM) [8, 9]. Illness perception – a core psychological construct of CSM – is defined as cognitive and emotional representations of health threat that patients actively create when facing an illness or symptoms. Cognitive dimensions of illness perception include patients' beliefs about the *cause*, *consequences* (the impact of an illness on patients' lives), *timeline* (the belief of how long an illness will last), *identity* (the number of symptoms related to an illness) and *controllability* (the perceived personal and treatment-related control over an illness) of the illness. Studies to date have revealed that illness perception influences patients' emotional state, coping strategies, treatment choices, as well as treatment outcomes [8, 9]. Both learned helplessness and illness perception are modifiable factors [4, 9]. The awareness of their relationships can be helpful in choosing a proper multidisciplinary approach and designing a tailored intervention that could improve the patients' quality of life and illness outcomes [10].



Objectives

The purpose of the present study is to explore the relationship between learned helplessness and chosen psychological, clinical and socio-demographic factors in patients with SLE. To our best knowledge, our study is the first to explore the associations between LH and illness perception among patients with SLE.

Material and methods

The participants were 59 patients (55 women, 93.2%) of an outpatient rheumatology clinic diagnosed with SLE. The median age was 45.0 ± 11.7 years, and the disease duration median was 11 years. The median score on the SLEDAI disease activity index was 4 points. The characteristics of the patients are shown in Table 1.

Characteristic	Value
Sex, n (%)	
Females	55 (93.2)
Males	4 (6.8)
Age, years; mean (± SD)	45.0 (11.7)
Age at diagnosis, years; mean (± SD)	33.9 (10.7)
Education, years; mean (± SD)	14.1 (3.9)
Disease duration, years; median (min–max)	11.0 (1–33)
SLEDAI score; median (min–max)	4.0 (0–9)

Learned helplessness related to illness was assessed using the Rheumatology Helplessness Index (RHI) [6], which contains 15 items. Respondents were asked to indicate their acceptance of an item on a 4-point Likert scale. The scores range from 15 to 60 points. The higher the score, the higher the level of LH [6]. The usefulness of RHI among patients with rheumatic diseases has been proven in several studies [4–6]. The reliability of the Polish version of RHI was established in a group of 128 rheumatology patients. The Cronbach α coefficient was 0.76. Illness perception was assessed using the Brief Illness Perception Questionnaire (B-IPQ) [11]. The Cronbach α coefficient of the Polish version of B-IPQ, established in our previous study among patients with chronic conditions, was 0.74 [12]. The Hospital Anxiety and Depression Scale (HADS) contains 7 questions assessing anxiety and an additional 7 assessing depressive symptoms. The maximum score on each subscale is 21 points. Higher scores indicate more severe anxiety/depression [13].

A structured interview and a review of medical files were used to gather clinical (disease duration, disease activity evaluated on the basis of the SELENA–SLEDAI index (Safety of Estrogen in Lupus Erythematosus National Assessment – Systemic Lupus Erythematosus Disease Activity Index)) [14] and socio-demographic data. The present study obtained the approval of the Independent Bioethics Commission for Research of Medical University in Gdansk.

All the statistical analyses were performed using Statistica12 software. The Shapiro–Wilk test of normality was used. Variables are presented as means with standard deviation (SD), as well as median, minimum and maximum values. Correlations were examined using Spearman’s correlation coefficient. The t-Student test and Mann–Whitney U test were used to compare the patient groups. A statistical significance of 0.05 was used.

Results

The results are presented in Table 2. Accordingly, the learned helplessness median score was 36 points. Median of B-IPQ total score was 43 points. The two highest scores on B-IPQ were ob-

served in the *timeline* (median 10 points) and *treatment control* (median 8 points) dimensions. The level of anxiety was higher than the level of depression (8 and 5 points, respectively).

Variable	Mean (± SD)	Median (min–max)
Learned helplessness	35.71 (4.61)	36 (25–45)
Illness perception total score	44.0 (8.45)	43 (12–58)
Consequences	5.9 (2.51)	6 (0–10)
Timeline	9.9 (1.73)	10 (0–10)
Personal control	6.46 (2.23)	6 (2–10)
Treatment control	7.81 (2.10)	8 (2–10)
Identity	6.47 (2.59)	7 (1–10)
Concern	6.53 (2.47)	7 (0–10)
Understanding	6.42 (2.49)	6 (1–10)
Emotional response	6.54 (2.58)	7 (0–10)
Depression	5.24 (4.15)	5 (0–15)
Anxiety	8.1 (4.36)	8 (0–17)

The main purpose of the current study was to explore potential associations between illness-related learned helplessness and the studied variables. Statistically significant positive correlations were observed between LH and the illness perception total score ($r = 0.609$), illness *consequences* ($r = 0.432$), *identity* ($r = 0.385$), *concern* ($r = 0.473$) and *emotional response* ($r = 0.543$). The level of depression and anxiety was also significantly correlated with LH ($r = 0.588$ and $r = 0.472$, respectively). No significant correlations were found between age, age at diagnosis, duration of the disease and its activity as well as education (Table 3). The LH level was not related to occupational status and gender ($p = 0.746$ and 0.239 , respectively) (data not shown).

Variables	Correlation coefficients
Age	-0.027
Disease duration	-0.022
Age at diagnosis	0.031
SLEDAI score	0.160
Education	0.000
Illness perception total score	0.609*
Consequences	0.432*
Timeline	0.033
Personal control	-0.184
Treatment control	-0.128
Identity	0.385*
Concern	0.473*
Understanding	0.085
Emotional response	0.544*
Depression	0.588*
Anxiety	0.472*

* Statistically significant, $p \leq 0.05$; Spearman’s correlation coefficient.

Discussion

The present study revealed that a more intense feeling of helplessness was related to negative illness perceptions, both

cognitive and emotional. Among the cognitive dimensions of illness perception, *identity* and *consequences* were significantly related to LH. *Identity* is defined as the number of symptoms experienced by patients that they associate with an illness, while *consequences* refers to the patient's beliefs of the extent to which an illness impacts his/her life in its various domains [8, 9, 11]. In the present study, we observed that a higher level of helplessness was related to more illness-related symptoms and more severe consequences of the illness. To the best of our knowledge, no study to date has explored the correlations between LH and illness perception, which makes direct comparisons of the results impossible. However, similar conclusions can be derived from other studies involving SLE patients. Moldovan et al. [15] reported that LH was related to illness symptoms and consequences, such as pain severity and self-reported general health status. Engle et al. [5] also noted that more helpless patients experienced more pain and more difficulties in daily activities as a consequence of the illness. Greater functional impairment was also noted among high helpless patients with SLE in comparison with low helpless individuals by Stein et al. [16].

As expected, in the current study, more helpless patients felt more concerned and attributed more negative emotions directly to their SLE. Illness-related helplessness was also associated with higher levels of depression and anxiety. Our findings are in accordance with the theoretical framework of LH, as well as with results obtained in other studies involving patients with rheumatic diseases [2, 6, 15]. A significant relationship between distress and LH was also noted in patients with SLE by Engle et al. [5]. Similar associations between anxiety and depression, measured using HADS, and learned helplessness among patients with rheumatoid arthritis were also noted by Lindroth et al. [3]. Palomino et al. [17] observed an analogous association in patients with fibromyalgia. The strength of the correlations noted in the current study suggests that in SLE, cognitive factors, such as learned helplessness, may be similarly closely related both to general distress and illness-related negative emotional preoccupation. More comprehensive investigations explaining the direction of the causal relationship between the phenomena would be of great interest.

Surprisingly, in our study, LH was not significantly related to *treatment control*. One possible explanation of this result is that the median score of treatment related controllability was high (8 points), reflecting high patient-perceived treatment effectiveness. It is noteworthy that a tendency of negative association between cure/controllability and LH occurred, which means that higher controllability might be related to lower helplessness. Lower internal locus of control among more helpless patients with SLE was previously observed [6].

It is also worth mentioning that in the studied group of SLE patients, anxiety symptoms were more severe than depressive symptoms, which is in accordance with our previous observa-

tions from the research involving a group of patients with chronic diseases involving SLE [18].

The present study revealed no significant relationship between the objective SLE activity index and LH level. Similarly, Moldovan et al. [15] found that LH was not associated with the SLE activity assessed by a physician. These results and observed connections between pain and LH suggest that objective factors may be of less importance than patients' subjective experiencing of symptoms. Thus, it seems clear that psychological factors, both emotional and cognitive, play a significant role in the experiencing of a disease.

The significant constraint of the present study is the limited group of patients involved in our study, thus a generalization of the results should be made with caution. The cross-sectional nature of our research does not allow one to explain the causal relationship between the studied phenomena. However, our study proved the importance of specific cognitions that may be related with the multidimensional experiencing of an illness. Such explorations are of great usefulness while creating tailored psychological interventions for individuals with chronic illnesses such as SLE, the importance of which has been emphasized by many authors [10, 17, 19]. Such intervention may favorably affect various dimensions of the patients' functioning, since psychological factors are related to physical functioning and disease activity. Lindroth et al. suggested that if patients' complaints are mediated by psychological factors, such as depression, anxiety and helplessness, pharmacological treatment itself might not be fully effective [3]. Moreover, both cognitions and emotions are suggested to be important determinants of treatment adherence [16, 20], as well as increased morbidity and mortality in patients with rheumatic diseases [2, 7, 10, 19]. In light of the results from our and other authors' studies, what seems vital is psychological intervention in conjunction with effective treatment and self-management, focused on better control of symptoms and diminishing the negative consequences of SLE symptoms.

Conclusions

1. In patients with SLE, learned helplessness is related to experiencing more severe consequences and symptoms of SLE, as well as more intense concerns and negative emotions related to the disease.
2. Psychotherapeutic intervention aimed at patient empowerment and modification of negative illness perception seems vital in order to diminished negative psychological functioning.
3. Treatment and self-management aimed at better symptoms control and minimizing illness consequences may contribute to less negative cognitive and emotional illness representations.

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References

1. Bhat A, Zimmer C, DeWalt D, et al. The role of helplessness, outcome expectation for exercise and literacy in predicting disability and symptoms in older adults with arthritis. *Patient Educ Couns* 2010; 81: 73–78, doi: 10.1016/j.pec.2009.12.004.
2. Kamen L, Seligman MEP. *Explanatory style and health*. *Curr Psychol Res Rev* 1987; 6: 207–218.
3. Lindroth Y, Strombeck B, Brossner M, et al. Learned helplessness and its correlations to impairment, pain, anxiety and depression in rheumatoid arthritis. *Scand J Rheumatol* 1994; 23: 299–304.
4. Camacho EM, Verstappen SMM, Chipping J, et al. Learned helplessness predicts functional disability, pain and fatigue in patients with recent-onset inflammatory polyarthritis. *Rheumatology* 2003; 52(7): 1233–1238, doi: 10.1093/rheumatology/kes434.
5. Engle EW, Callahan LF, Pincus T, et al. Learned helplessness is systemic lupus erythematosus: analysis using the Rheumatology Attitudes Index. *Arthritis Rheum* 1990; 33(2): 281–286.
6. Nicassio PM, Wallston KA, Callahan LF, et al. The measurement of helplessness in rheumatoid arthritis: the development of the Arthritis Helplessness Index. *J Rheumatol* 1985; 12: 462–467.

7. Callahan L, Cordray D, Wells G, et al. Formal education and five year mortality in rheumatoid arthritis: mediation by helplessness scale score. *Arthritis Care Res* 1996; 9: 463–472.
8. Hagger MS, Orbel S. A meta-analytic review of the common-sense model of illness representation. *Psychol Health* 2003; 18(2): 141–184.
9. Petrie KJ, Weinman J. Patients' perception of their illness: the dynamo of volition in health care. *Curr Dir Psychol Sci* 2012; 21(1): 60–65.
10. Alarcon GS, Calvo-Alen J, McGwin Jr G, et al. Systemic lupus erythematosus in a multiethnic cohort: LUMINA XXXV. Predictive factors of high disease activity over time. *Ann Rheum Dis* 2006; 65: 1168–1174.
11. Broadbent E, Petrie KJ, Main J, et al. The Brief Illness Perception Questionnaire. *J Psychosom Res* 2006; 60: 631–637, doi: 10.1016/j.jpsychores.2005.10.020.
12. Nowicka-Sauer K, Banaszkiwicz D, Staśkiewicz I, et al. Illness perception in Polish patients with chronic diseases: psychometric properties of the Brief Illness Perception Questionnaire. *J Health Psychol* 2015; 21(8): 1739–1749, doi: <https://doi.org/10.1177/1359105314565826>.
13. Zigmond AS, Snaith RP. The Hospital Anxiety and Depression Scale. *Acta Psychiatr Scand* 1983; 67: 361–370.
14. Petri M, Kim MY, Kalunian KC, et al. OC-SELENA Trial. Combined oral contraceptives in women with systemic lupus erythematosus. *N Engl J Med* 2005; 353(24): 2550–2558.
15. Moldovan I, Katsaros E, Carr FN, et al. The patients reported outcomes (PATROL) study: role of depression in health-related quality of life in a Southern California lupus cohort. *Lupus* 2011; 20: 1285–1292.
16. Stein MJ, Wallston KA, Nicassio P, et al. Correlates of clinical classification schema for the arthritis helplessness subscale. *Arthritis Rheum* 1988; 31(7): 876–881.
17. Palomino RA, Nicassio PM, Greenberg MA, et al. Helplessness and loss as mediators between pain and depressive symptoms in fibromyalgia. *Pain* 2007; 129: 185–194.
18. Nowicka-Sauer K, Pietrzykowska M, Staśkiewicz I, et al. Lęk u pacjentów z chorobami przewlekłymi: istotny a marginalizowany problem. *Fam Med Prim Care Rev* 2015; 17(2): 120–123 (in Polish).
19. Carr FN, Nicassio PM, Ishimori ML, et al. Depression predicts self-reported diseases activity in systemic lupus erythematosus. *Lupus* 2011; 20: 80–84.
20. Dalebout GMN, Broadbent E, McQueen F, et al. Intentional and unintentional treatment nonadherence in patients with systemic lupus erythematosus. *Arthritis Care Res* 2011; 63(3): 342–350.

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