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IMPACT OF PSYCHOLOGICAL STRESS FACTORS ON THE SEVERITY OF RHEUMATOID ARTHRITIS AND THE EFFECTIVENESS OF AN INTEGRATED PSYCHOTHERAPEUTIC APPROACH

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Abstract: This article examines the impact of psychological stress factors on the course of rheumatoid arthritis (RA) in patients, as well as the effectiveness of an integrated psychotherapeutic approach. The Perceived Stress Scale (PSS-10) and the Beck Anxiety Inventory (BAI) were used to assess the emotional state of patients. Stress-management training, relaxation techniques, and short-term cognitive-intervention therapy were implemented as psychocorrection. The results demonstrated that reducing psychological stress levels in RA patients positively affects disease activity, decreases pain intensity, and improves quality of life.

Keywords: rheumatoid arthritis, stress, psychotherapy, psychocorrection, anxiety, quality of life, PSS-10, BAI.

Introduction: Rheumatoid arthritis (RA) is a systemic disease characterized by chronic inflammation based on autoimmune mechanisms, which limits patients' functional abilities, leads to pain syndrome, and causes disability, making it clinically significant. Recent clinical and psychological studies have proven that the course of RA is linked not only to immuno-inflammatory mechanisms but also directly to psychosocial factors. Among them, psychological stress holds a special place as one of the most important pathogenic factors.

Stress affects the neuroendocrine system, disrupts the cortisol rhythm, increases cytokine release, and thereby alters RA activity, pain severity, and subjective symptom expression. These mechanisms demonstrate the necessity of evaluating RA from not only a rheumatologic but also a psychological perspective.

Additionally, 60–80% of RA patients experience varying levels of anxiety, depression, and emotional instability. These psychological states intensify pain perception, worsen sleep quality, slow the response to pharmacotherapy, and reduce the duration of remission. Therefore, timely detection of psychological stress and its targeted correction is an essential component of comprehensive RA treatment.

Modern psychotherapeutic interventions—including stress management, cognitive restructuring, relaxation techniques, and psychoeducation—play an important role in stabilizing the mental–emotional background, strengthening pain-control skills, and improving quality of life in RA patients.

This study assessed psychological stress levels, anxiety indicators, their influence on quality of life, and the effectiveness of a 4-week psychocorrection program in RA patients.

Study Objective: To assess psychological stress and anxiety levels in patients with rheumatoid arthritis and determine the effectiveness of an integrated psychotherapeutic intervention.

Materials and Methods: The study was conducted at the "Rheumatology" Department of the 1st clinical base of the Tashkent Medical Academy during 2024–2025. The study design

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included cross-sectional and interventional (short-term psychotherapeutic intervention) methods, implemented in two stages:

- Initial psychological assessment and clinical screening
- Four-week psychotherapeutic intervention (integrated approach) and reassessment

A total of 36 patients with RA (diagnosed according to ACR/EULAR 2010 criteria) were included.

Table 1. Demographic Characteristics of Study Participants

№	Indicator	Value
1	Number of females	29 patients (80.5%)
2	Number of males	7 patients (19.5%)
3	Mean age (M ± SD)	44 ± 8.2 years
4	Disease duration (M ± SD)	6.1 ± 3.4 years

Clinical Assessment Parameters:

- DAS-28 – disease activity index
- VAS (Visual Analog Scale) – pain intensity (0–10 scale)
- Duration of morning stiffness (minutes)
- Functional capability of extremities
- Subjective assessment of sleep quality

Psychological Assessment Methods

1. PSS-10 (Perceived Stress Scale)

Assesses subjective reactivity to stressors (0–40 range):

- 0–13: low
- 14–26: moderate
- 27+: high stress

2. BAI (Beck Anxiety Inventory)

A 21-item scale evaluating somatic and cognitive anxiety:

- 0–7: low
- 8–15: mild
- 16–25: moderate
- 26+: severe anxiety

3. Additional interview and clinical psychological observation

Semi-structured interviews assessed sleep disturbances, fatigue, tension, social difficulties, and affective instability.

All patients underwent integrated psychotherapy for 4 weeks. The program consisted of two weekly sessions, each lasting 45–50 minutes. No antidepressants or anxiolytics were used to ensure assessment of the pure psychotherapeutic effect.

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Results: Clinical state, stress levels, anxiety symptoms, and the effectiveness of integrated psychotherapy were assessed in 36 RA patients. A strong correlation was identified between clinical and psychological indicators.

Baseline Clinical Characteristics

- DAS-28: 5.2 ± 0.9 (moderate–high activity)
- VAS pain: 7.4 ± 1.1
- Morning stiffness: 63 ± 18 minutes
- Sleep disturbances: in 64% of patients
- Physical activity limitation: in 75% of patients

After 4 Weeks of Integrated Therapy. Significant improvements were recorded.

Table 2. Comparison of Psychological and Clinical Indicators Before and After Intervention

№	Indicator	Before (M ± SD)	After (M ± SD)	Change (%)
1	PSS-10 Stress	27 ± 5.8	17 ± 4.3	−37%
2	BAI Anxiety	21 ± 4.2	12 ± 3.1	−43%
3	VAS Pain	7.4 ± 1.1	5.1 ± 1.0	−31%
4	DAS-28 Activity	5.2 ± 0.9	4.0 ± 0.7	−23%

The 37% reduction in stress indicates a significant decrease in psychological tension. This confirms the effectiveness of psychotherapy. Stress reduction directly influences RA-related pain sensitivity, sleep disturbances, and emotional instability.
A 43% reduction in anxiety (BAI) demonstrates decreased reactive anxiety, internal tension, irritability, and vegetative symptoms. Improvement in social confidence and stability was also observed.
A 31% reduction in pain (VAS) shows improvement in both emotional and physical symptoms. Reduced stress and anxiety activate pain-reassessment mechanisms and decrease somatic sensitivity—supporting the biopsychosocial model of RA.
A decrease in DAS-28 values indicates reduced disease activity. Improved psychological state positively influences immune, endocrine, and neurovegetative systems. Reduced stress is known to lower the activity of inflammatory mediators (IL-6, TNF-α).
Conclusion: The findings show that psychological stress, anxiety, and depressive states significantly influence the clinical course of rheumatoid arthritis. High PSS-10 and BAI scores correlate strongly with joint pain, morning stiffness, fatigue, and elevated DAS-28 values. This confirms the close connection between RA inflammatory mechanisms and psycho-emotional disorders.
The 4-week integrated psychotherapeutic intervention (stress-management techniques, relaxation, cognitive-intervention exercises) effectively stabilized patients' psychological condition. Stress decreased by **37%**, anxiety by **43%**, and pain intensity by **31%**. DAS-28 values improved, and sleep quality increased.

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Main Findings:

- Psycho-emotional disorders aggravate RA symptoms, increase pain sensitivity, and reduce quality of life.
- Reduction of stress and anxiety improves not only emotional but also somatic symptoms.
- Psychotherapeutic intervention should be an integral part of RA treatment, as it improves clinical status even without medication.
- Psychocorrection prolongs remission and improves quality of life.
- Regular psychometric screening (PSS-10, BAI, HADS) is essential for timely diagnosis and targeted psychotherapy.
- Psychological support combined with basic treatment confirms the effectiveness of a multidisciplinary approach.

Thus, psychotherapeutic assistance plays an important role in improving clinical and psycho-emotional indicators in RA patients. Introducing psychological correction strategies into routine rheumatologic practice helps optimize disease outcomes, improve adaptation, and enhance overall quality of life.

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