Psychocorrection of psychic and psychopathological disorders in rheumatologic pathology

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Materials and methods. A total of 124 persons were examined, the average age was 39.5 years; 99 patients with rheumatologic pathology were included in the main group in randomization period. The first group included 48 patients with acute/chronic rheumatic fever (R), and the second group included 51 patients with rheumatoid arthritis (RA). 25 patients with rheumatologic pathology had no mental disorders, so they were not randomized. Clinical and pathopsychological methods were used to identify different levels of psychopathology according to the International Classification of Diseases, 10th revision. Psychodiagnostic methods were used to study patients' psychopathological characteristics: the M. Luscher test – to study and evaluate the patients’ individual and emotional state (Sobchik L., 2002); color test of relationships – to study the emotional components of patient’s attitude towards significant others and oneself, based on the test of color selection of M. Luscher (Bazhin E. F, Elkind A. M, 1985); the Cattell questionnaire – to identify the individual characteristics (16 PF, form A), the self-esteem scale of T. Dembo and S. J. Rubinstein (Bleyher V. M, Crook I. V, 1986) – for the assessment of critical thinking skills. Individual psychocorrection complexes included the Jacobson’s muscle relaxation methods and autogenic training, self-regulation techniques, emotional relaxation, attention switching.

Results. The features of psychopathological symptoms were revealed depending on the patients’ age and duration of pathological process. The psychopathological states were studied according to the following headings of the ICD-10: organic asthenic disorder, agoraphobia, mild cognitive disorder, organic personality disorder, mixed anxiety-depression disorder, adjustment disorder, other responses to severe stress, somatof orm disorder, neurasthenia, chronic pain syndrome associated with significant psychosocial dysfunction. Psychopathological components of such disorders as emotional-affective and patient’s emotional attitude towards significant others and the somatic disease, as well as a personality structure and self-esteem were examined. Based on the clinical, psychic and psychopathological features obtained, the diagnostic and psychocorrection system for the defined psychological and personality traits in patients with rheumatologic pathology.

Conclusions. In all the patients with rheumatologic pathology, the features of psychic and psychopathological changes associated with the nosology have been revealed. Performing the psychocorrection training sessions with the adaptive skills development has helped to reduce the existing psychological problems severity in the majority of patients (68.0 % of cases). The significant influence of psychocorrection on the psychic and somatic condition has been observed both in improving the patients’ health and lowering the mental disorders severity. The effectiveness of follow-up correction has been confirmed in 76.0 % of patients, a significant improvement – in 28.0 % and a moderate improvement – in 48.0 % of patients.
Результати. Виявлені особливості клініко-психопатологічних проявів залежно від тривалості хворобливого процесу та віку хворих, виділені патологічні стани згідно з рубриками МКБ-10: органічний астеничний розлад, агорафобія, льготний компле- тивний органічний розлад, органічний розлад особистості, змішаний тривожний і депресивний розлад, розлад адаптації, інші реакції на тяжкий стрес, команофобії розлади, неврастенія, хронічний більовий особистісний синдром. Дослідити патопсихологічні складові цих розладів: емоційно-афективні порушення, зокрема емоційні компоненти ставлення хворих до значущого для них оточення, соматичного захворювання, особистісна структура, самооцінка. На підставі отриманих клініко-психопатологічних і патопсихологічних особливостей розроблено система психокорекції виявленнях порушень у хворих з істотною патологією, що спрямована на нормалізацію емоційно-афективного стану, когнітивних порушен, поведінкових, особистісних відхилен.

Висновки. У пацієнтів із ревматичною патологією встановлені психічні та патопсихологічні зміни, що мають відмінності, пов’язані з нозологією. Використання тренінгів з психокорекції зі створенням адаптивних навичок дало можливість у більшості пацієнтів зменшити прояви психічних порушень, подолати наявні психологічні проблеми, поліпшити самот- тичний стан, поліпшити якість життя.

Психокорекція психічних і патопсихологічних порушень при ревматичної патології

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Ревматична патологія є одним з найбільш актуальних проблем сучасної медицини в зв'язку з впливом заболювання даної групи на якість життя пацієнтів, приводить до інвалідизації. Психопатологічне середовище супроводжує ревматичну патологію весь хід хвороби. Це викликає необхідність розробки комплексної системи психокорекції порушень психічного характеру, пов’язаних з ревматичною патологією.

Матеріали и методы. Обстежено 124 пацієнта з середнім віком 39,5 року; 99 пацієнтів з ревматичною патологією були включені в основну групу в період рандомізації. Перша група включала 48 пацієнтів з острого/хронічного ревматичного процесу (РЛЖ), друга – 51 пацієнта з ревматоїдним артритом (РА). У 25 пацієнтів з ревматичною патологією не діагностували психічні наслідки, тому вони не були рандомізовані. Клинопсихопатологічний метод дозволяє для виявлення різних рівнів психології згідно МКБ-10. Фізіопсихічні функції, якими виконували для встановлення патопсихологічних характеристик пацієнтів: тест Люшера – для визначення і суті змін емоційно-афективного стану; прогнозування характеру психопатологічної структури у надмірно навантажених пацієнтах (Собчик Л., 2002); руховий тест – для визначення місцевих реакцій на мову та поведінку пацієнта; тест Стоуні (Stone T., 1985); тест Кеттела – для визначення структури, самооцінки і оцінки идей та фантазій пацієнта (Form A); шкала самооцінки Т. Дембо і С. Дж. Рутенберга (Ruttenburg, 2006) – для визначення характеру мовних реакцій пацієнта, особливостей структури і оцінок ідей та фантазій у надмірно навантажених пацієнтах.

Результати. Установлені особливості клініко-психопатологічних проявів в залежності від тривалості болезнетворного процесу та віку хворих, виділені патологічні стани згідно з рубриками МКБ-10: органічне астеничне розладо, агорафобія, льготне комплікативне органічне розладо, органічне розладо речовини, змішане тривожне і депресивне розладо, розлад адаптації, інші реакції на тяжкий стрес, команофобії розлади, неврастенія, хронічний більовий особистісний синдром. Існує група особливостей психопатологічних проявів хвороби, які визначають характер хвороби в групі пацієнтів.

Висновки. Для ревматологічних станів встановлені специфічні особливості, які визначають характер хвороби в групі пацієнтів.

Key words: rheumatic pathology, psychological disturbances, psychokorrection.

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personality characteristics should be considered when programming the psychocorrection care [17, 18].

However, until quite recently, the results of psychodiagnostic procedures for mental disorders in patients with rheumatologic diseases were not sufficiently covered in the literature available, so these issues need special appropriate attention for clarification, identifying reasonable approaches to correction of the disorders and rehabilitation in patients with this disease.

**Aim**

To develop a psychocorrection complex for disorders, based on system analysis of clinical, psychic and psychopathological features of patients with rheumatologic pathology; to study the mental disorders in patients with acute/chronic rheumatic fever and rheumatoid arthritis; to trace the origin of the emotional disorders; to assess the nature of interpersonal communication emotional components in patients; to detect and examine the typological features of the personality structure; to identify the characteristics of self-esteem in patients with various forms of rheumatic disease; to develop a care system for patients with rheumatic diseases using psycho-techniques to optimize the treatment process.

**Materials and methods**

The study was conducted in compliance with the common principles of bioethics on the basis of patients’ informed consent at the Rheumatologic Department. A total of 124 persons were examined, the average age was 39.5 years; 99 patients with rheumatologic pathology were included in the main group in randomization period. The first group included 48 patients with acute/chronic rheumatic fever (R), and the second group included 51 patients with rheumatoid arthritis (RA). 25 patients with rheumatologic pathology had no mental disorders, so they were not randomized. A comparison group consisted of 20 healthy individuals who had no psychiatric or other disorders. A 6-month follow-up study was conducted to assess the effectiveness of functioning in patients. The contingent of persons examined was homogeneous in all baseline indicators that allowed considering the study results as representative of the general population.

Social and demographic methods were used to study such characteristics as age, social standing, marital status, and so on. Anamnestic method was used to study a personal and family history, presence of stressful factors and probability of developing neuropsychiatric diseases. Clinical and pathopsychological methods were used to identify different levels of psychopathology according to the International Classification of Diseases, 10th revision. Psychodiagnostic methods were used to study patients’ psychopathological characteristics: M. Luscher test – to study and evaluate the patients’ individual and emotional state (Bobchik L., 2002); color test of relationships – to study the typological features of the personality structure; to identify the characteristics of self-esteem in patients with various forms of rheumatic disease; to develop a care system for patients with rheumatic diseases using psycho-techniques to optimize the treatment process.

Organic mental disorders, personality traits, and neurotic disorders were diagnosed in RA patients. Asthenic disorders (7.8 %) were also found fairly frequently. Organic mental disorders, personality traits, and neurotic disorders were diagnosed in RA patients. Asthenic disorders (8.3 %) dominated in the structure of residual-organic mental disorders; mild organic cognitive impairment (4.2 %) and the organic personality disorder (2.1 %) were also observed. Neurasthenia (14.6 %), generalized anxiety disorders, mixed anxiety-depression disorders (8.3 %), adjustment disorders (6.3 %) and other responses to severe stress (14.6 %) as well as somatoform disorders (6.3 %) were observed in the spectrum of neurotic disorders. Personality traits were associated with chronic pain syndrome (25.0 %).

This study also estimated the influence of age at the disease onset and its duration on clinical and psychopathological manifestations. Early-onset R seriously affected the emotional state of patients (P < 0.05); a longer duration of the disease was significantly associated with clinical manifestations of the psychogenic situations (r = 0.332), anxious personality disorders (r = 0.314), and dysphoria proneness (r = 0.293), more pronounced pathological denial of illness (r = 0.308), Memory impairment (r = 0.306), learning difficulties (r = 0.278), exhaustion syndrome (r = 0.291, P < 0.05) worsened with the disease progression. The autonomic symptoms were more severe in

**Results**

Analysis of the main socio-demographic characteristics of the patients with R showed that the average age of the disease onset was 19.5 ± 1.71 years; 19.6 % of patients were married. Almost all the patients had a disability status: 37 people (72.6 %) – third degree disability, 9 patients (17.7 %) – second degree and 4 of examined patients (7.9 %) – first degree disability. 1 person had no a disability status (1.9 %).

It was found that 45.8 % of patients were married; the average age of the disease onset was 32.5 ± 1.50 years in RA group. As in the case of R group, almost all the patients also had a disability status: 13 people (27.1 %) – third degree disability, 20 patients (41.7 %) – second degree, and 13 patients (27.1 %) – first degree disability. Two of them (4.2 %) were not assigned any disability category. Significant differences in terms of the age of the disease onset were revealed. So R (group 1) manifested much earlier than RA (group 2), 19.5 ± 1.7 years and 32.5 ± 1.5 years, P < 0.001, respectively.

The presence of a number of psychopathological states (according to the ICD-10) was detected by certain disorders based on the identified symptoms. Mixed anxiety-depression disorders (21.6 %), generalized anxiety disorder (17.6 %), somatoform (13.7 %), and adjustment disorders (11.8 %) were more common in patients with R. The states of residual-organic origin in the form of mild cognitive impairment and personality traits (9.8 %) as well as organic asthenic disorders (7.8 %) were also found fairly frequently. Organic mental disorders, personality traits, and neurotic disorders were diagnosed in RA patients. Asthenic disorders (8.3 %) dominated in the structure of residual-organic mental disorders; mild organic cognitive impairment (4.2 %) and the organic personality disorder (2.1 %) were also observed. Neurasthenia (14.6 %), generalized anxiety disorders, mixed anxiety-depression disorders (8.3 %), adjustment disorders (6.3 %) and other responses to severe stress (14.6 %) as well as somatoform disorders (6.3 %) were observed in the spectrum of neurotic disorders. Personality traits were associated with chronic pain syndrome (25.0 %).

Mathematical statistics methods included the Student’s t-test, the Fisher’s exact test, the Pearson’s correlation coefficient, the Spearman’s rank correlation coefficient, the linear regression equation, the analysis of variance, and the multivariate analysis [19,20].
the early stages of RA ($r = -0.446, P < 0.01$) and significantly decreased with the disease duration along with increasing susceptibility to intense self-analysis ($r = 0.432, P < 0.01$), exactingness to others ($r = 0.411$), help-seeking behavior ($r = 0.377, P < 0.05$).

The Cattell questionnaire results allowed determining the profiles of personality traits in both groups of patients (Fig. 1) that were similar, suggesting that R and RA result in abnormal changes of a personality structure. These were more commonly related to low intelligence and creative performance (factor B), suspicion (L) and anxiety (O) proneness, and excessive conservatism (Q1). However, significant differences caused by the nosology were found when comparing the groups by selected average 16PF scores. Thus, patients with RA were significantly less stable emotionally compared to the patients with R (factor C, $P < 0.01$). The same pattern was observed by the factor G (the indicator “rule-consciousness” was significantly lower in the second group, $P < 0.01$), and the factor L (the second group patients were more suspicious). At the same time, the conformism was more characteristic for the second group patients (factor Q2, $P < 0.05$).

Thus, the Cattell test confirmed certain personality and affective response changes with nosology-specific differences in patients with rheumatologic diseases.

The association between patients’ psychological features and age based on birthdate, age at onset of the disease and its duration was found when comparing the results of clinical data using a correlation analysis. It was found that older examined patients with RA were more likely to have low scores on factor Q1 (in the direction of “rigidity”) ($r = -0.369$), and factor Q2 ($r = -0.370$) (in the direction of “dependency”). That matched the clinical manifestations of group dependency in these patients. The patients exhibited a commitment to narratives, standards, principles and traditions coupled with doubts as to new ideas and denial of a need for changes. The characteristics associated with the age at the disease onset were defined in RA patients. It was found that the older age at the disease onset, the higher factor L ($r = 0.560; P < 0.001$) and the lower scores on factor Q1 ($r = -0.435; P < 0.05$) indicating that the patients were rigid and highly suspicious. They became more jealous, avoiding, increasingly pensive and querulous with the disease progression. Moreover, the patients demonstrated an overt arrogance, centeredness and self-confidence. An increase in factor E ($r = 0.372; P < 0.05$) was indicative of a sense of superiority, high handedness, grandiosity and diminished empathic capacities in the patients. All of these abnormalities were detected in the majority of examined patients with increasing disease duration. At the same time, factor N was decreased meaning a lack of self-awareness and inability to judge others’ social behaviors.

Longer disease duration appeared to significantly aggravate such symptoms as apathy, uncaring, laziness, social amotivation as well as a lower level of life satisfaction (factor Q4) ($r = -0.316$) in patients with R ($P < 0.01$).

The M. Luscher color test helped to objectify the emotional and affective state of the patients. Based on the test results, rating and ranking of certain colors differed significantly between the patients of both groups (Table 1).

So, patients with R as their own “existential state” chose the color pair 04 that was interpreted as an inner tension, significant stress, and a tendency to develop pessimism. The analysis of color choice preferences in RA patients revealed the color pair 46 in the first table that was a projective sign of emotional exhaustion, imperative bodily...
need of being welcomed in a favorable environment and problem avoidance behavior. The patients of both groups consistently (in the first and second tables) choose blue color at the end of a choice as indicator anxiety, stress, and dissatisfaction. An anxiety index and Shiposh coefficient of autonomic balance (C) were calculated for the groups based on the colored squares selections. Anxiety index and negative compensation in the first choice was equally high in both groups, A = 3. The C also increased towards tension cognitive state, and this trend was particularly pronounced in RA patients. The emotional state of the examined patients was characterized by great variety, mood swings and paradoxical features were not uncommon as demonstrated by W.

Other psychological characteristics of the patients were identified using the color test of relations (CTR). Analyzing an emotional valences hierarchy between groups of patients with R and RA for similarities and differences showed the rank correlation coefficient rs = 0.767, so the structure of emotional valences was similar.

The results of self-esteem study by means of the Dembo-Rubinstein method showed significant intergroup differences in its structure since the rank correlation coefficient rs = 0.187; P > 0.05. These data represented entirely different trends of self-esteem for patients with R and RA. All the patients suffering from rheumatologic pathology presented with abnormalities, common and distinguishing, nosology-specific, characteristics.

According to the literature database [1,4,5], it might be in range of doing something about psychological care and psychocorrection based on identified psychopathological and clinical disorders in order to improve psychosocial correction and adaptation of patients in a holistic manner. Each patient underwent psychocorrection complex, which consisted of several parts: psychodiagnostical – to assess a psychological status, signs and factors which needed to be corrected; psychocorrection – to improve the psychological and mental health aimed at relieving anxiety and hypochondria, fostering a desire to cooperate in the treatment process, and promoting confidence in treatment success; part of psychotherapy included specific training on how to use techniques of muscle relaxation, self-control, combating pain; evaluation of psychocorrection efficacy based on an assessment of positive behavioral manifestations, changes in self-esteem, overcoming intrinsic patients' difficulties given the sufficient prolongation of the psychological modalities, a 6-month dynamic disease monitoring and follow-up to assess the correction of behavioral disorders, self-esteem, and adequacy of response to reinitiating therapy.

**Discussion**

The psychocorrectional measures used have helped to improve the regulatory psychic functions, emotional self-control and self-regulation, and develop abilities to adequately respond to changes that happen in life and, if necessary, to be adaptable to various conditions in the environment with enhanced social and micro-social adjustment. We used legislative and non-legislative forms of remedial actions. The work organized in such a manner contributed to the psychological wellbeing normalization and regulation of emotional stress, as well as mental hygiene and proper implementation of entire therapeutic complexes. Individual psychological correction was based on the insight into personal characteristics, experience, attitudes, relationships and interactions with the surrounding world, and a patient’s emotional state. Goals, objectives, methods and stages of psychocorrection for each person were formulated taking into account features of rational attitude of patients to their illness. Using the appropriate correction techniques resulted in changed illness cognitions and improved empathy in the therapeutic process. The psychocorrection program for all the patients included the Jacobson’s muscle relaxation methods, muscle tension-relieving exercises, mind-body therapies and affirmation, attention switching. Using various forms of mindset training helped most patients to develop adaptive skills (68.0 % of cases).

Based on medical evidence [4,8,10], an assessment of patient personality traits enabled an individual approach to right decision making on models and techniques of correction, and capability to predict the effectiveness of such assistance. It has been found that the effectiveness of psychocorrection was higher in patients who had pedantic, pragmatic, ambitious and diligence types of accentuations owing to thorough implementation of the recommendations and also self-education, autogenous training, self-hypnosis and relaxation easily learning skills as well as optimal exercises and physical therapy (P < 0.05). Training methods of self-regulation helped to control pain easier and improve the motor performance within 2.5–3 months (12–15 sessions) allowing for more structural psychological defense mechanisms over a long period of time. Furthermore, upon the treatment, patients reported normalized psychomotorial state, decreased anxiety, and improved sleep. In general, the mental and somatic status of patients benefited significantly from the psychological correction as evidenced by patients’ health improvements, reduction in mental and psychological disorders. Psychocorrection efficiency was positive in 76.0 % of patients, significantly improved – in 28.0 % and moderately improved – in 48.0 % of patients over the 6-month follow-up period. Thus, significant positive effects of different methods of psychocorrection make it an integral part of a comprehensive rehabilitation of patients with rheumatologic pathology.

So, depression, depressed mood, fears, apprehensiveness, pessimistic mood, sleep disturbances, emotional incontinence, anxiety, anhedonia, inability to relax, lack of interests, perceived inability to cope with a situation, loss of appetite, hypochondriacal beliefs in the spectrum of emotional and affective disorders dominated in patients with R. The following manifestations of emotional and affective disorders prevailed in RA patients: fears, anticipation of anxiety, depression, depressed mood, pessimism, emotional incontinence, worrying, perceived inability to cope with a situation, inability to relax, anger attacks, aggression. It was revealed that early onset of R significantly affected the emotional state of patients since there was an association between clinical and psychopathological manifestations and disease duration: the disease course was longer, the clinical manifestations of the disease and psychogenic symptoms were interlinked more closely, anxiety was more pronounced along with irascibility prone-ness and pathological denial of illness. Memory loss and learning difficulties worsened with the disease progression.
The autonomic symptoms were more severe in the early stages and significantly decreased with the disease duration in RA along with increasing susceptibility to intense self-analysis, exactingness to the others and help-seeking behavior. The structure of personality traits in patients with RA and R changed similarly and was characterized by low intelligence and creative performance (factor B), increased suspicion (L) and anxiety (O) and the tendency to excessive conservatism (Q1). But comparison between groups revealed differences caused by the nosology. The characteristics associated with age and underlying disease manifestations were determined in RA patients: the older age at the disease onset, the higher factor L by the Cattell questionnaire combined with the lower scores on factor Q1 indicating that the patients were rigid and highly suspicious. The longer duration of R was accompanied by a commitment to narratives, standards, principles and traditions coupled with doubts as to new ideas and denial of a need for changes (Q1), apathy, uncaring, laziness, social amotivation as well as a lower level of life satisfaction (Q4). The emotional sphere analysis showed that patients with R often experienced an inner tension, significant stress and tended to be pessimistic while there were signs of emotional exhaustion, imperative bodily need of being welcomed and problem avoidance behavior in RA patients. The symptoms of anxiety, stress, and dissatisfaction were defined in patients with rheumatologic pathology; the index of anxiety and negative compensation was high and amounted to A = 3; psychoemotional overtension, increased C, especially in RA patients, due to excessive stress and anxiety was found; the CTR score was indicative of disregard to “disease” concept carrying a negative connotation. Profiles of self-esteem demonstrated significantly different structure in the compared groups: RA patients tended to overstate the parameter “clever” to a greater extent than R patients; they considered themselves as more communicative and active, significantly better assessed own mood than R patients. But there were significant differences in self-esteem parameter “independent” confirming the problem of social dependence and a lack of self-sufficiency in RA patients.

Conclusions

1. In all the patients with rheumatologic pathology, the features of psychic and psychopathological changes associated with the nosology have been revealed.
2. Performing the psycho correction training sessions with the adaptive skills development has helped to reduce the existing psychological problems severity in the majority of patients (68.0 % of cases).
3. The significant influence of psycho correction on the psychic and somatic condition has been observed both in improving the patients’ health and lowering the mental disorders severity.
4. The effectiveness of follow-up correction has been confirmed in 76.0 % of patients, a significant improvement – in 28.0 % and a moderate improvement – in 48.0 % of patients.

Conflicts of interest: authors have no conflict of interest to declare.

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