THE EFFECTIVENESS OF THE DEVELOPED PROGRAM FOR THE REHABILITATION OF PATIENTS WITH ANXIETY-DEPRESSIVE DISORDERS OF ORGANIC GENESIS WITH SLEEP DISTURBANCES

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Abstract

The greatest comorbidity of sleep disorders is observed with anxiety-depressive disorders. A bi-directional relationship was revealed between them, which indicates their ability to aggravate each other's course and influence the treatment process. Dyssomnia can persist even after elimination of the primary disease and increase the risk of recurrence in the future. Therefore, the treatment of anxiety-depressive disorders requires special attention to the correction of sleep disorders. The aim of the study was to evaluate the effectiveness of the developed complex, phased differentiated rehabilitation program, based on the analysis of the dynamics of psychopathological phenomena and the indicator of the quality of life of patients suffering from anxiety-depressive disorders of organic

genesis with sleep disorders. The study was carried out using the clinical and psychopathological method supplemented by the hospital scale HADS, the Ch.Morin insomnia severity index, the psychometric scale of asthenic state, the J. Mezzich integrative life quality indicator, descriptive and analytical statistics methods. To achieve this goal, 60 patients with anxiety-depressive disorders of organic genesis and sleep disorders were studied, which were divided into 2 groups depending on the therapy used. The results show that patients who were treated according to the developed comprehensive program, the compensation of anxiety-depressive symptoms and sleep stabilization were more intensive and the results of the indicators were better compared with the control group. Furthermore, the indicator of the life quality of the main group was higher in comparison with the control group. Hence, the results of the study demonstrate the effectiveness of the comprehensive rehabilitation program developed by us in the treatment of patients with anxiety-depressive disorders of organic genesis with sleep disorders.

Keywords: anxiety disorders, depression, quality of life, sleep disorders, treatment.

Sleep disorders are a common complaint in patients with anxiety and depressive disorders. It was previously assumed that sleep problems would be resolved with successful treatment of the primary disorder. Currently, comorbid insomnia is viewed as an independent health problem that requires separate treatment[9].

A number of studies have found a two-way relationship between anxiety-depressive disorders and sleep disturbances. A clear dependence of the disease severity on concomitant sleep disorders has been shown, and the role of pathological anxiety in sleep disorders has been demonstrated. In addition, sleep disorders dramatically impair the level of social functioning and the quality of life in general[1,2,5,8].

The drug therapy objective is to eliminate anxiety-depressive symptoms and the formation of an "artificial" cycle "sleep-wakefulness"[5].

However, given the high importance of psychological factors in the formation and anxiety-depressive disorders maintenance, it is necessary to give preference to the use of psychotherapy methods.

Earlier studies have shown that psychotherapy improves sleep as effectively as drug therapy. However, in this case, the effect of drugs aimed at compensating for sleep disorders often ends almost immediately after the completion of the treatment course. Meanwhile the results of the normalization of the hibernation mode are saved in the future. Besides, psychotherapy does not cause the addiction and side effects that are often seen with the use of hypnotics[2].

The aim of the study: to evaluate the effectiveness of the developed complex phased differentiated rehabilitation program, based on the dynamics of psychopathological phenomena analysis and the life quality indicator of patients suffering from anxiety-depressive disorders of organic genesis with sleep disorders.

Materials and research methods.

60 patients with anxiety-depressive disorders of organic genesis with sleep disorders were studied. Among the nosological forms that were included in the study were organic anxiety disorder and organic emotionally labile disorder. The diagnoses were made according to the criteria of the 10th revision of the International Classification of Diseases.

Depending on the treatment regimen, the patients were divided into two groups. In the main group (G1), patients underwent therapy aimed at treating the underlying disease, as well as the correction of sleep disorders directly in accordance with the proposed complex phased differentiated rehabilitation program. In the control group (G2), patients underwent treatment focused on the elimination of the underlying mental disorder in accordance with the standards of clinical protocols. The assignment into groups was random.

Each patient was examined 4 times: 1 examination - initial examination at the beginning of treatment; 2nd examination - 2 weeks after the start of treatment; 3rd examination - one month after the start of treatment; 4th examination - 3 months after the start of treatment.

Methods: clinical and psychopathological method supplemented by the index of severity of insomnia (Insomnia Severity Index Ch. Morin)[10], psychometric scale of asthenic state (SAS), the hospital Anxiety and Depression Scale[7], integrative indicator of the life quality J. Mezzich[4], methods of descriptive and analytical statistics[3,6].

Statistical processing of the research results was carried out using a personal computer using Microsoft Excel software (Microsoft Office 2016 Professional Plus, Open License 67528927), STATISTICA 6.1 (StatSoftInc., SN № AGAR909E415822FA).

Description of a comprehensive phased differentiated rehabilitation program:

The main objectives of the program were: 1. elimination of psychopathological symptoms; 2. correction of dyssomnic disorders; 3. the formation of self-control skills; 4. understanding and acceptance of one's own emotional manifestations, reducing fixation on the disease; 5. creating positive attitudes, improving the quality of interpersonal communication; 6. formation of adaptive behavioral strategies and improvement of resistance to stressful situations; 7. restoration of the patient's quality of life.

The stages of the program are presented in table 1

Table 1

Stages of a comprehensive differentiated rehabilitation program

Stages	Methods of exposure
1. diagnostic	1.initial interview with the patient 2.psychometric method 3.psychoeducational work 4.Rational psychotherapy
2. psychoeducational	Psychoeducational work
3. treatment and correction	1.drug therapy 2.Personal-oriented psychotherapy 3.Cognitive behavioral therapy techniques 4.Sleep correction methods 5.Relaxation techniques 6.family counseling
4. convalescence (control score)	1.supporting drug therapy 2.methods of psychotherapy 3.psychrometric method

At the first stage, based on the diagnostic criteria of ICD-10 by analyzing anamnestic data, an initial interview with a patient, using the appropriate psychometric scales, a clinical-anamnestic and clinical-psychopathological classification of the mental state was carried out with the identification of leading syndromes.

Also, psychoeducational work with the patient began, the purpose of which was to improve understanding of his condition and reduce prejudice towards himself and the immediate environment. The necessary conditions were created for the formation of a supportive and trusting relationship between the patient and the doctor.

At the second stage, which included psychoeducational work, informing patients about the symptoms, options for the course of the disease, the treatment process, the effectiveness of therapy, the mechanisms of action of psychotropic drugs, possible side effects, prognosis; identified situations that can lead to a deterioration in the mental state; the mechanisms of sleep disturbance, the role of social support were explained; an explanation of the need to observe sleep hygiene, as well as the need for constant communication with the doctor throughout the entire treatment process.

Treatment and correction stage was to provide comprehensive treatment of mental disorder on an outpatient basis. Mental state control continued using psychometric scales. If necessary, additional specific diagnostic or therapeutic measures were taken.

At this stage, the selection of the appropriate drug therapy took place, which included antidepressants, anxiolytics, in some cases, small doses of atypical antipsychotics and normotimics. Nootropic and neurometabolic drugs were also prescribed.

Psychotherapeutic activities:

Patients underwent a course of personality-oriented therapy, which makes it possible to work out three spheres of personality (cognitive, emotional and behavioral), with the help and support of the therapist, to identify causal relationships between internal psychological conflict and existing mental illness, to recognize distorted beliefs that bring suffering and change them, learn to recognize and express your emotions and experiences, accept your emotional reactions without devaluation, reconstruct your experiences with the help of a therapist, overcome maladaptive forms of behavior and response in a problem situation, form more adaptive strategies of behavior, as well as get positive reinforcement of new experiences.

The therapeutic effect of personality-oriented psychotherapy is based on confrontation, which helps the patient to face himself, his internal conflicts and maladaptive attitudes, which are reflected in behavioral and emotional responses. The psychotherapist performs feedback, reflecting the psychological reality of the patient.

Additionally, certain techniques of cognitive-behavioral therapy were used, which made it possible to identify and change maladaptive attitudes arising in the present moment, as well as exact specific situations in which they arise without affecting deep intrapersonal structures. Techniques were used such as analysis of connections, formation and testing of hypotheses, applied relaxation, exposure, methods of modeling and training communications, planning positive events and recording the events of the day, imaginal technique, redistribution, etc.

Correction of sleep disorders is one of the main tasks of a comprehensive approach to the treatment of patients with anxiety-depressive disorders of organic genesis.

An important place in the correction of sleep disorders is occupied by the observance of the rules of sleep hygiene, including preparing the conditions for sleep, regular exercise, maintaining a diet, walking before going to bed in the fresh air, etc.

Compliance with sleep hygiene allows the patient to change the stereotypes of behavior, which makes it possible to improve the quality of sleep already at this stage. In addition, the patient learns, with the help of the therapist, to identify possible causes of poor sleep and to change them. You can also offer to keep a "sleep diary" for some time, which the patient fills out on his own every day, which allows you to identify and analyze the patterns leading to sleep disturbance.

Stimulus control was chosen among the methods of sleep correction, which allows you to learn to fall asleep faster and maintain sleep at night. This method is also based on the association of a sleeping place only

with sleep or sex. In the bedroom, the patient should not read books, work, watch TV, listen to music, etc. The patient is asked to go to sleep only when he begins to feel significant drowsiness. Moreover, if within 15-20 minutes he cannot fall asleep, then the patient is invited to get out of bed, go to another room and do something (for example, wash the dishes, read a book, etc.) until he feels sleepy again. This process can be repeated. However, the morning awakening should be at the same time and it is necessary to exclude sleep during the day.

Imagination exercises were also used, the patient was asked to imagine images that soothe him while falling asleep, for example, to imagine himself relaxed in water, when immersed in water, etc. Imagination exercises were selected individually.

In addition, in order to reduce the level of internal stress and anxiety, patients underwent auto-training sessions (Schultz auto-training) 3 times a week for 1.5 months. Classes were held in groups, in a special room, where conditions for the training were created.

Since the support of the close environment is very important for the patient, if necessary, appropriate family counseling was carried out, aimed at explaining the patient's condition in the immediate environment, explaining the need for support. Also, in the event of conflict situations, together with the psychotherapist, measures were taken to identify the causes of the conflict, ways to resolve and emotional experience of the participants in the conflict situation.

The main course of psychotherapeutic sessions took place over 4 weeks, the standard session took place in the form of individual work for 45 minutes. The frequency of the main part was 3 times a week. Subsequently, within 1 month with a frequency of 2 times a week. Subsequent supportive psychotherapeutic work was carried out for 1 month with a frequency of 1 time per week. In total, patients underwent 24-26 sessions.

At the fourth stage (convalescence) a control assessment of the patient's mental state was carried out. Diagnostic measures were in full, as at stage 1. Psychopharmacotherapy, as a rule, was supportive.

Results and its discussion.

In both groups, women predominated - in the main group (G1) they accounted for 86.7%, and in the control group (G2) - 83.3%. Marital status was dominated by patients who were married (G1 - 56.7%, in G2 - 83.3%). There were also no statistically significant differences between the groups in terms of education level (patients with higher education prevailed - in G1 - 83.3%, in G2 - 93.3%) and urban residents predominated in both groups by place of residence. Average age in G1 - 52.5 (40.0; 59.0) years, and in G2 - 53.0 (43.0; 57.0) years, without statistically significant differences between them ($p = 0.756$).

The results of the initial examination and in the dynamics of treatment are presented in table 2.

Table 2.

Research results using psychometric scales in the dynamics of treatment

	Group 1	Group 2	p
1st examination (before treatment)			
Hospital Anxiety and Depression Scale (HADS) Me scores (25%; 75%)			
Anxiety level	12,0 (11,0; 13,0)	15,0 (14,0;16,0)	p < 0,001
Depression level	11,0 (10,0; 11,0)	12,0 (11,0; 12,0)	p >0,05
Insomnia severity index Ch. Morin scores Me (25%; 75%)			
General	21,0 (19,0; 21,0)	20,0 (18,0; 21,0)	p >0,05
Scale of asthenic state (SAS) Me (25%; 75%)			
SAS	99,0 (96,0; 102,0)	101,5 (99,0; 104,0)	p >0,05
Integrative indicator of life quality (J. Mezzich's)			
Integrative indicator based on self-assessment data	2,9 (2,5; 3,7)	3,0 (2,8; 3,6)	p>0,05
Integrative indicator according to the doctor's assessment	3,5 (2,7; 3,7)	3,2 (3,0; 3.7)	p>0,05
2 weeks after the start of treatment (2nd examination)			
Hospital Anxiety and Depression Scale (HADS) Me scores (25%; 75%)			
Anxiety level	10,0 (9,0; 10,0)	11,0 (11,0; 12,0)	p < 0,001
Depression level	8,0 (8,0; 9,0)	10,0 (9,0; 11,0)	p<0,001
Insomnia severity index Ch. Morin scores Me (25%; 75%)			
General	12,0 (12,0; 13,0)	13,0 (12,0; 14,0)	p >0,05
Scale of asthenic state (SAS) Me (25%; 75%)			
SAS	80,0 (78,0; 88,0)	85,5 (81,0; 89,0)	p >0,05
Integrative indicator of life quality (J. Mezzich's)			
Integrative indicator based on self-assessment data	4,8 (4,3; 5,0)	4,4 (4,0; 4,9)	p >0,05
Integrative indicator according to the doctor's assessment	4,9 (4,4; 5,1)	4,45 (4,0; 4,9)	p >0,05

1 month after the start of treatment (3rd examination)			
Hospital Anxiety and Depression Scale (HADS) Me scores (25%; 75%)			
Anxiety level	6,0 (6,0; 7,0)	8,0 (7,0; 8,0)	p=0,002
Depression level	4,0 (4,0; 5,0)	5,0 (5,0; 6,0)	p=0,012
Insomnia severity index Ch. Morin scores Me (25%; 75%)			
General	5,5 (3,5; 6,0)	7,0 (6,0; 8,0)	p < 0,001
Scale of asthenic state (SAS) Me (25%; 75%)			
SAS	55,0 (52,0; 69,0)	73,0 (63,0; 74,0)	p >0,05
Integrative indicator of life quality (J. Mezzich's)			
Integrative indicator based on self-assessment data	7,0 (6,85; 7,1)	6,2 (6,0; 6,5)	p=0,006
Integrative indicator according to the doctor's assessment	7,5 (7,0; 7,2)	6,4 (6,0; 6,7)	p=0,007
3 months after the start of treatment (4th examination)			
Hospital Anxiety and Depression Scale (HADS) Me scores (25%; 75%)			
Anxiety level	4,0 (2,0; 4,0)	5,0 (4,0; 6,0)	p=0,004
Depression level	3,0 (2,0; 4,0)	4,0 (3,0; 5,0)	p=0,034
Insomnia severity index Ch. Morin scores Me (25%; 75%)			
General	2,0 (2,0; 3,0)	5,0 (4,0; 6,0)	p < 0,001
Scale of asthenic state (SAS) Me (25%; 75%)			
SAS	41,0 (40,0; 48,0)	51,0 (48,0; 54,0)	p=0,002
Integrative indicator of life quality (J. Mezzich's)			
Integrative indicator based on self-assessment data	8,0 (8,0; 8,2)	7,4 (7,2; 7,9)	p=0,001
Integrative indicator according to the doctor's assessment	8,0 (8,0; 8,2)	7,7 (7,5; 8,0)	p=0,002

Analyzing the data obtained, it was revealed that the level of anxiety according to the Hospital Anxiety and Depression Scale (HADS) corresponds to the clinically expressed level, while statistically significant differences were found between the groups (p<0.001). In G2, this indicator was higher (Me 15.0 points, interquartile range 14.0 - 16.0 points), in comparison with G1 (Me 12.0 points, interquartile range 11.0 - 13.0 points).

The level of depression in both groups was clinically significant, with no statistically significant differences between the groups.

As early as 2 weeks after the start of treatment, the indicators of anxiety and depression HADS in the main group were statistically significantly better than in the control group (p<0.001).

The same trend was observed 1 month and 3 months after the start of treatment. At the same time, in G1, the absence of clinical manifestations of anxiety and depression was noted already after 1 month from the start of treatment, in comparison with G2, where the anxiety indicator remained at the level of subclinical anxiety. At the 4th examination (after 3 months) in both groups, clinical manifestations of anxiety and depression were absent, but in the main group the indicators were statistically significantly better (p<0.05).

Insomnia severity score according to ISI Ch. Morin at initial examination in both groups corresponded to clinically significant insomnia. There were no statistically significant differences between the groups.

In dynamics, after 2 weeks from the start of treatment, the index of severity of insomnia in most of the

examined was defined as insignificant insomnia. There were no statistically significant differences between the groups, however, there was a more intense decrease in the severity of insomnia in the main group, in comparison with the control group, which indicated the advantage of the comprehensive program.

After 1 and 3 months from the start of treatment, the indicators of G1 were determined statistically significantly better than those of G2 (p <0.05).

After 3 months of treatment, the insomnia severity index in the main group decreased on average by 18.0 (16.0; 19.0) points, which significantly exceeded (p <0.001) the corresponding indicator in the control group - 15.0 (13.0; 17.0) points.

As for the severity of asthenia in the study groups, it was higher in the 1st survey in the control group, the same situation was observed in the future.

A month after treatment, the scores on the SAS in G2 remained higher, however, at the 3rd examination, 76.7% of patients in the G2 had moderately expressed asthenia, and at the 4th, the majority (53.3%) had no asthenic disorders.

In all study groups, a statistically significant decrease in the characteristics of the severity of asthenic disorders was achieved (p <0.001). The best decrease in indicators was achieved in G1 compared to G2, respectively: during the survey period by 46.84% compared to the initial median value in G1 and 49.75% - in G2. At the 4th examination, statistically significant lower mean values of asthenia were revealed in patients with G1 compared with those at G2: 41.0 (40.0; 48.0) and 51.0 (48.0; 54.0) points, respectively (p = 0.002).

1 month after the start of treatment (3rd examination)		
Hospital Anxiety and Depression Scale (HADS) Me scores (25%; 75%)		
Anxiety level	6,0 (6,0; 7,0)	8,0 (7,0; 8,0)	$p=0,002$
Depression level	4,0 (4,0; 5,0)	5,0 (5,0; 6,0)	$p=0,012$
Insomnia severity index Ch. Morin scores Me (25%; 75%)		
General	5,5 (3,5; 6,0)	7,0 (6,0; 8,0)	$p < 0,001$
Scale of asthenic state (SAS) Me (25%; 75%)		
SAS	55,0 (52,0; 69,0)	73,0 (63,0; 74,0)	$p > 0,05$
Integrative indicator of life quality (J. Mezzich's)		
Integrative indicator based on self-assessment data	7,0 (6,85; 7,1)	6,2 (6,0; 6,5)	$p=0,006$
Integrative indicator according to the doctor's assessment	7,5 (7,0; 7,2)	6,4 (6,0; 6,7)	$p=0,007$
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Analyzing the data obtained, it was revealed that the level of anxiety according to the Hospital Anxiety and Depression Scale (HADS) corresponds to the clinically expressed level, while statistically significant differences were found between the groups ($p<0.001$). In G2, this indicator was higher (Me 15.0 points, interquartile range 14.0 - 16.0 points), in comparison with G1 (Me 12.0 points, interquartile range 11.0 - 13.0 points).

The level of depression in both groups was clinically significant, with no statistically significant differences between the groups.

As early as 2 weeks after the start of treatment, the indicators of anxiety and depression HADS in the main group were statistically significantly better than in the control group ($p<0.001$).

The same trend was observed 1 month and 3 months after the start of treatment. At the same time, in G1, the absence of clinical manifestations of anxiety and depression was noted already after 1 month from the start of treatment, in comparison with G2, where the anxiety indicator remained at the level of subclinical anxiety. At the 4th examination (after 3 months) in both groups, clinical manifestations of anxiety and depression were absent, but in the main group the indicators were statistically significantly better ($p<0.05$).

Insomnia severity score according to ISI Ch. Morin at initial examination in both groups corresponded to clinically significant insomnia. There were no statistically significant differences between the groups.

In dynamics, after 2 weeks from the start of treatment, the index of severity of insomnia in most of the examined was defined as insignificant insomnia. There were no statistically significant differences between the groups, however, there was a more intense decrease in the severity of insomnia in the main group, in comparison with the control group, which indicated the advantage of the comprehensive program.

After 1 and 3 months from the start of treatment, the indicators of G1 were determined statistically significantly better than those of G2 ($p < 0.05$).

After 3 months of treatment, the insomnia severity index in the main group decreased on average by 18.0 (16.0; 19.0) points, which significantly exceeded ($p < 0.001$) the corresponding indicator in the control group - 15.0 (13.0; 17.0) points.

As for the severity of asthenia in the study groups, it was higher in the 1st survey in the control group, the same situation was observed in the future.

A month after treatment, the scores on the SAS in G2 remained higher, however, at the 3rd examination, 76.7% of patients in the G2 had moderately expressed asthenia, and at the 4th, the majority (53.3%) had no asthenic disorders.

In all study groups, a statistically significant decrease in the characteristics of the severity of asthenic disorders was achieved ($p < 0.001$). The best decrease in indicators was achieved in G1 compared to G2, respectively: during the survey period by 46.84% compared to the initial median value in G1 and 49.75% - in G2. At the 4th examination, statistically significant lower mean values of asthenia were revealed in patients with G1 compared with those at G2: 41.0 (40.0; 48.0) and 51.0 (48.0; 54.0) points, respectively ($p = 0.002$).

This testifies in favor of the complex stage-by-stage differentiated rehabilitation program used in the main group.

The integrative indicator of the quality of life at the initial examination in both groups corresponded to a low level. In dynamics, after 3 months from the start of treatment, the indicators of the quality of life were within a high level, both in the opinion of the surveyed and the doctors. However, it was noticed that the number of patients with a high quality of life in the main group was higher (90%) in comparison with the control group (80%).

Conclusions.

1. The results of the study show that in patients who were treated according to the developed comprehensive program, the level of anxiety and depression decreased faster and the indicators were better in comparison with the control group.

2. It was found that the average score of the insomnia severity index decreased more intensively in the main group already after 2 weeks from the start of treatment, and this advantage was traced throughout the therapy.

3. In both groups, a statistically significant decrease in asthenic symptoms was observed, however, in the main group, an improvement in the indicator was noted faster than in the control group.

4. A more significant effect on improving the quality of life of patients after treatment with a complex program in comparison with the standard treatment approach was traced on the basis of comparing the dynamics of the quality of life indicator between groups, where in the main group the improvement in the quality of life was more intense and was higher.

5. Thus, the results of the study demonstrate the effectiveness of the developed by us complex differentiated rehabilitation program for patients with anxiety-depressive disorders of organic genesis with sleep disorders.

The authors declare no conflicts of interest.

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