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Psychocorrection Of Health, Activity and Mood of Patients with Coronary Artery Disease at The Stage of Sanatorium Therapy.

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ABSTRACT

The article presents the original study of psychocorrection of health, activity and mood (HAM) of patients with coronary artery disease (CAD), also known as ischemic heart disease (IHD), at the stage of sanatorium therapy. The research was conducted at the "Kisegach Sanatorium LLC", the Chelyabinsk Region, oriented on the recovery of cardiac patients under respective conditions. Research methods included psychognostic methodology of differential self-esteem of the functional state named "HAM Test" (V.A. Doskin, N.A. Lavrent'eva, V.B. Sharai and M.P. Miroshnikov), observation method (L.A. Regush), art therapy methods (A.I. Kopytin), and mathematical-statistical analysis methods such as calculation of the Wilcoxon signed-rank test. Data processing was conducted using Statistic 6.0 software package. The logic of material presentation is dictated by the work purpose aiming at the following: to present program for psychological correction of health, activity and mood (HAM) in patients with coronary artery disease at the stage of sanatorium therapy, to investigate the nature and severity of psychological destructions in HAM and to carry out timely correction, to prevent and eliminate mental changes, and to create the conditions for psychological adaptation of human to real-life situation altered by disease. The authors present the Program of psychological correction of health, activity and mood in patients diagnosed with coronary artery disease at the stage of sanatorium therapy, describing the objectives of all remedial measures. The complex of all remedial measures for rehabilitation of patients with coronary artery disease involves three types of curative services - medical, psychological, and physical. The identified principles of a unified strategy and rehabilitation management include stage-by-stage approach, succession, continuity, comprehensiveness, and customization.

Keywords: psychocorrection, rehabilitation principles, health, activity, mood, patients with coronary artery disease, rehabilitation, sanatorium therapy.

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THE URGENCY OF THE PROBLEM

Health, activity and mood (hereafter HAM) in patients with coronary artery disease can be described due to diverse manifestations. For example, the quality of central, nervous, respiratory, cardiovascular, locomotor and endocrine systems operation, as well as the quality of the various mental processes (perception, attention, memory, thinking), and changes in the emotional-volitional sphere [7, 8, 9, 13, 15, 21, 24] can be considered indicative when detecting HAM specificity.

The health, activity and mood are characterized by type of quantified indicators ratio and natural tendencies in their time course [10]. Cardiac disease most often is chronic stress, which creates physiological and psychological trauma, which affects usual mode of human life [1, 4, 25].

Cardiac disease limits human activities and opportunities that leads to psychotic misadaption, reduces social functioning and causes destructive personality changes in emotional, intellectual and volitional spheres, associated with awareness, experience and attitude toward the disease.

The scope of needs and motivations changes as well, leading to rearrangement of the hierarchy of motives based on the principle of their subordination to a new sense-making motive of preserving life and restoring health. Health, activity and mood in patients suffering from coronary artery disease in critical situations are poor or diseased [2, 6, 22].

Above mentioned underscores the extreme urgency of the development and implementation of programs on psychological correction of HAM in patients with coronary artery disease at the stage of sanatorium therapy [3, 5, 11, 19, 23, 26], able to create conditions for psychological adaptation of human to the real-life situation altered by disease.

Work objective. The work aims at presenting the program on psychological correction of HAM in patients with coronary artery disease at the stage of sanatorium therapy, as well as investigating the nature and severity of psychological destructions in HAM, carrying out timely correction, preventing and eliminating mental changes, and providing a background for psychological adaptation of human to the real-life situation altered by disease.

MATERIALS AND METHODS

Research base and sample characteristic. The research was conducted at the "Kisegach Sanatorium LLC", situated in the Chelyabinsk Region, which is oriented on the recovery of cardiac patients under respective conditions. These conditions include, first, the environment (efficient organization of the rehabilitation process to maximize the recovery of patients with coronary artery disease); second, the mandatory implementation of all rehabilitation programs; and third, compliance with the sanatorium regime. A random sample included 30 men and women aged 34 to 59 years undergoing rehabilitation treatment at the "Kisegach Sanatorium LLC" during 14 days. Patients were undergoing the sanatorium therapy after inpatient care. The groups were formed based on indicators such as blood pressure, body weight and locomotor activity. Group members consisted of both men and women, characterized as inactive patients with unstable health and low mood, skeptical of the rehabilitation program.

In the study we used psychognostic methodology of differential self-esteem of the functional state named "HAM Test" (V.A. Doskin, N.A. Lavrent'eva, V.B. Sharai and M.P. Miroshnikov), observation method (L.A. Regush), art therapy methods (A.I. Kopytin), and mathematical-statistical analysis methods such as calculation of the Wilcoxon signed-rank test. Data processing was conducted using Statistic 6.0 software package.

The rehabilitation program of CAD patients, based on the recommendations of the experts [12, 16, 17] and accounting for the individual criteria of health, activity and mood of cardiac profile patients at the stage of sanatorium therapy [27] is presented in Table 1.

Table 1. The program for psychological correction of health, activity and mood in patients with coronary artery disease at the stage of sanatorium therapy.

No.	Hold activities	Periodicity
1	Input control using HAM methodology	Monday of the 1 st , Friday of the 2 nd week
2	Individual interviews with participants	Every day except Sunday
3	Intermediate HAM psychodiagnostics	Every day except Sunday
4	A set of physical therapy	Every day except Saturday and Sunday
5	Intermediate HAM psychodiagnostics	Every day except Saturday and Sunday
6	Healthy walking	Every day except Sunday
7	Intermediate HAM psychodiagnostics	Every day except Sunday
8	Conducting autogenic training (AT-1 complex according to I. Schultz)	Wednesday of the 1 st week Wednesday of the 2 nd week
9	Intermediate HAM psychodiagnostics	Wednesday of the 1 st week Wednesday of the 2 nd week
10	Group conversations dedicated to a healthy lifestyle	Friday of the 1 st week Friday of the 2 nd week
11	Intermediate HAM psychodiagnostics	Friday of the 1 st week Friday of the 2 nd week
12	Morning gymnastics	Every day except Sunday
13	Intermediate HAM psychodiagnostics	Every day except Sunday
14	Walking tour	Saturday of the 1 st and 2 nd weeks
15	Intermediate HAM psychodiagnostics	Saturday of the 1 st and 2 nd weeks
16	Drawing mood using the "Mandala" technique	Monday of the 1 st week Thursday of the 2 nd week
17	Intermediate HAM psychodiagnostics	Monday of the 1 st week Thursday of the 2 nd week
18	Reflection of the rehabilitation participants through discussion and writing cinquain after the tour	Saturday of the 1 st and 2 nd week
19	Intermediate HAM psychodiagnostics	Saturday of the 1 st and 2 nd week
20	Final check using HAM methodology	Saturday of the 2 nd week

Each interaction with patient has its own specific tasks [9, 14, 18, 9, 20].

Motion activity aims to improve blood flow in the body, reduce the likelihood of blood clots formation, regulate blood pressure, fill the body with oxygen, and strengthen the skeletal muscles.

Individual conversations are conducted to explain patient the benefits of rehabilitation measures, talk about the importance of reducing risk factors, reveal the peculiarities of the motion state, explain the feasibility of the return to work.

Group conversations are conducted to convey information about a healthy lifestyle and a balanced diet, reveal the influence of negative emotions on health, discuss the attitude of a person to himself and to the world around him, discuss the methods of restoring health through self-actualization and communion with nature.

Art therapy aims at teaching patient to analyze his inner feeling, express feelings and emotions, compare the status before and after participation in the art therapy.

Auto-training aims at learning patient to shift attention, restore health, reduce or eliminate ailment, learn to keep the body adapting for recovery.

Progressive muscle relaxation aims to teach patient self-awareness of muscle sensations at tension and relaxation, and self-control of muscle tension in stressful situations.

Self-massage aims to improve blood circulation, relieve muscle tension or headache, and contribute to the improvement of the functional state of the nervous system.

Walking tours aim to explore the attractions of the area, learn to analyze the influence of nature on health, activity and mood.

RESULTS AND DISCUSSION

Study outcomes of health in CAD patients at the stage of sanatorium therapy were as follows: at the start of rehabilitation, before and after exercise load the indicators corresponded to 26 and 37%, respectively, while after rehabilitation these figures have increased up to 63 and 82%, respectively.

Study outcomes of activity in CAD patients at the stage of sanatorium therapy prior to rehabilitation before and after exercise load corresponded to 21.4 and 33%, respectively, while after rehabilitation these figures have increased up to 56 and 73%, respectively.

Study outcomes of mood in CAD patients at the stage of sanatorium therapy prior to rehabilitation before and after exercise load corresponded to 39 and 45%, respectively, while after rehabilitation these figures have increased up to 80 and 92%, respectively.

After conducted rehabilitation, self-esteem of patients' sensations, expressed in the points of the health scale, increased by 37% before load and by 45% after load. With regard to activity scale, similar figures increased by 34.6% before load and by 40% after load). Indicators according to mood scale increased as well – by 41% before load and by 47% after load.

To determine correlation between the obtained results on HAM psychocorrection and the conducted program we used Wilcoxon signed-rank test.

Formulate the assumptions:

- H_0 (null hypothesis) – the intensity of shifts towards the increase of HAM level does not exceed the intensity of shifts towards its reduction;
- H_1 (alternative hypothesis) – the intensity of shifts towards the increase of HAM level exceeds the intensity of shifts towards its reduction;

The total sum of ranks equals 190.

The calculated amount of ranks:

$$\sum (R_i) = \frac{N \times (N + 1)}{2} = \frac{19 \times (19 + 1)}{2} = \frac{380}{2} = 190$$

The result: $T_{emp} = 16.5$

Critical values of T at $n=15$

$T_{cr.0.05}=30$; $T_{cr.0.01}=19$

The distribution of critical values of the Wilcoxon signed-rank test on the axis of significance using HAM methodology is presented in Fig. 1.

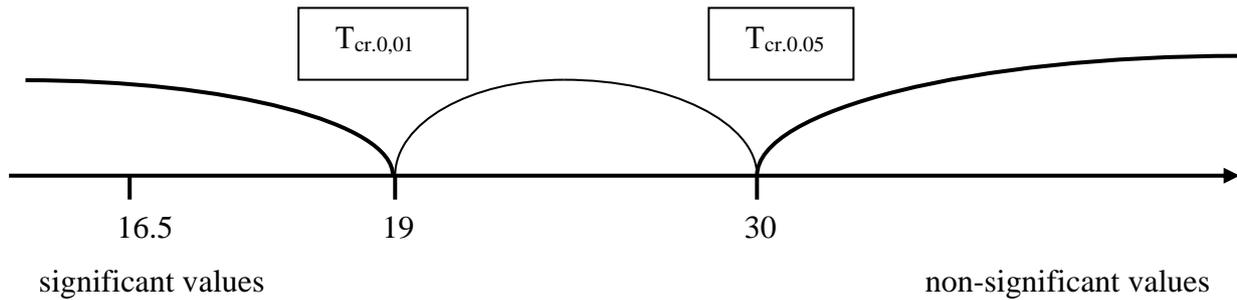


Fig. 1. The distribution of critical values of the Wilcoxon signed-rank test on the axis of significance using HAM methodology

Because in Fig.1, T_{emp} is within the zone of significant values, we accept H_1 , i.e. the intensity of shifts towards the increase of HAM level exceeds the intensity of shifts towards its reduction.

Thus, it is confirmed that the HAM level after fulfillment of the program has increased.

CONCLUSIONS

Care bundle for rehabilitation of patients with CAD includes three types of measures (medical, psychological, and physical).

1. *Medical measures.* The objective of medical measures is to restore and develop the physiological functions of the patient, identify compensation abilities for involvement into active and independent life. The solution of these problems is based on medical therapy, physiotherapy, therapeutic nutrition, remedial gymnastics, psychotherapy, and corrective surgical interference.
2. *Psychological rehabilitation* is implemented in the course of activities targeted to timely prevention of mental disorders at conscious and active contribution of the patient. This activity is associated with the restructuring of the perceptions of the patient about the disease, a better understanding of the nature of the disease, changing misconceptions and misapprehensions.
3. *Physical measures.* The goal of physical measures is to improve the ability of a patient to undertake everyday physical load to a satisfactory level.

All types of rehabilitation undergo three stages within the structure of the general rehabilitation measures: hospital stage, ambulatory (outpatient) stage, and sanatorium stage.

Implementation of stage-by-stage approach in the course of rehabilitation significantly improves the recovery effect.

Significant improvement of the health, activity and mood in patients with coronary artery disease can be reached at the stage of sanatorium rehabilitation.

Most complete HAM correction can be carried out in the framework of a single strategy and tactics of rehabilitation measures in accordance with its basic principles (stage-by-stage approach, succession, continuity, comprehensiveness, and customization).

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