

USE OF MENTAL TRAINING IN THE REHABILITATION OF PERSONS AFTER ACUTE MYOCARDIAL INFARCTION

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The normalization of psychoemotional states, especially in the patients suffering from cardiovascular diseases is one of the most important components of therapy and the pledge of its successful outcome [3].

At present the correlation of psychoemotional states alterations with ischemic heart diseases and arterial hypertension is considered to be proved [7]. The correlation between the depression and obstruction of coronary vessels is angiographically corroborated [8]. According to the data of employees-men Rotterdam investigation before the development of myocardial infarction (MI) the patients showed the sense of sorrow, apathy, fatigue and some other symptoms of depression. By the results of the investigations carried out at Montreal Institute of Heart more than 50% of the patients suffering from MI manifested various forms of depression disorders [3]. In this case according to the data of Killip they had reliable more often ventricular extrasystoly which was the main reason of sudden death during the subsequent 18 months. In the given group the risk of cardiac death was 6.5 times higher than in other patients. In spite of the fact that the correlation of MI and psychoemotional state is considered to be established, it is still unknown whether MI is the reason of worsening the psychoemotional state, or on the contrary the latter favours its development.

In connection with the above-stated the necessity of the correction of patients psychoemotional state seems to be indispensable.

For this purpose we used mental training (MT), which is a variety of heterosuggestion. It was elaborated by professor L.-E. Unestahl in Sweden in 1982 and it was primordialy destined for sport of higher achievements. In 1992 at Sports Medicine Department of Saint-Petersburg Research Institute of Physical Culture under the leadership of professor P. Bundzen there created the Russian modified version [1]. In the course of complex investigations there revealed a positive effect of MT in the athletes who had some phenomena of physical overstrain myocardium dystrophy and arterial hypertension [2]. In this connection the attempt of using MT in the rehabilitation of the subjects suffering from MI is well grounded.

Methods

There examined three groups of patients (at the same age) from Saint-Petersburg Marinsky hospital who were diagnosed as having MI and who did not have any complications by the moment of the beginning of mental training.

In the first group (1 GR, n = 11) during 10 days after MI in addition of standard therapy there started listening to verbal-musical programmes of MT that included some habits of teaching muscular and psychical relaxation and the visualization of a positive image. The patients listened to the programmes through earphones staying in the ward 3-5 times per week at the interval from 15 to 17 hours for three weeks. In other days at the same time they were recommended to relax without assistance. The programme changed every week.

In the second group (2 GR, n = 10) the musical accompaniment of the programmes-relaxing music was listened. The persons from the third group 3 GR, n = 10) received a medicamental treatment only. In all the patients the medicamental therapy was carried out traditionally; it included heparin, nitrates, lidocain, polarizing mixture. To evaluate the psychoemotional status the test "Profiles of mood states" [5] was used; the patients filled it prior to the beginning of psychotherapy and then every week; the hypnability was evaluated by the scale worked out at Kharkov Research Institute for Neurology and Psychiatry [6]. Before and after the listening of each audio-programme the patients subjectively assessed their state of health by 10-mark scale; they retold in detail about their mood and feelings and discussed the listened programmes with the physician. The dynamics of pain syndrome was also evaluated. The two-month catamnesis was gathered.

Results

The statistical processing was carried out with using the two-tailed t-criterion in modifications for bound and non-bound extracts. In connection with the discharge the number of those who were examined was somewhat diminishing, and by the end of the third week from the beginning of the investigation 2 persons remained in the first group and 4 patients in the second one, as well as in the third group, therefore the mathematical analysis of the given section was not conducted.

All the patients associate the development of MI with a great psychical stress (divorce, death of relatives, etc).

The subjects in the groups did not differ by the average level of hypnability among them, and patients with a low hypnability were absent in the groups. None of the patients had the hypnability less than 4 marks according to the 12-mark scale.

As a rule the listening of the programme by the persons of the first and the second groups was accompanied by some improvement of the state of health by 1 mark average ($p < 0.05$).

Prior to the beginning of MT there are no statistical differences of the indices of psychoemotional state (PS) by the test POMS in the groups. A week later there observes a significant decrease of the average level of anxiety, depression, fatigue; there appears a tendency to reducing the average level of aggression and the average level of vigor increases (Table 5-1).

At the end of the second week the revealed regularities remain. The average levels of anxiety, depression, tiredness, confusion and the total index remain low, while the level of vigor remains heightened comparative the initial one (Table 5-1).

In group 2 only a reliable decrease of the average level of anxiety is observed by the end of the second week. The other psychological indices do not change (Table 5-2). In group 3 during all the time of the observation not only reliable dynamics of some indices of psychoemotional status was marked (Table 5-3).

Two months later three patients of group 1 kept performing MT independently, one of them completely refused to take nitrates (see below an extract from the case history) and two of them considerably decreased the taken dose.

"The patient S. (56 years old) entered the cardioreanimation section of Marinsky hospital with some complaints of intensive sternalgia that lasted for a few hours. For the first time the pleuralgia appeared 2 weeks before entering the hospital when he was leaving the house, but then, inside it passed. Later on the bouts repeated several times. He did not address the doctors and tried to take analgin. An especially strong bout appeared on the day of hospitalization without any obvious reasons. Cold perspiration and weakness accompanied the pains. The team of ECG diagnosed acute, penetrating myocardial infarction in the field of posterior wall.

Three days later of the hospitalization the patient was moved from the cardioreanimation section to common ward. The mental training began in the fourth day. On this day the patient did not objectively complain of any pains. His general state was satisfactory. After listening to the programme he noted some improvement of his general state of health.

Table 5-1

Dynamics of the indices of psychoemotional status
in the 1st group

	Prior to psychotherapy, M±s (n = 11)	At the end of the 1 st week, M±s (n = 11)	At the end of the 2 nd week, M±s (n = 9)	Level of sign.	
				1 st week	2 nd week
Anxiety	55±12	48±10	48±11	p < 0.05	p < 0.04
Depression	57±14	48±7	49±11	p < 0.03	p < 0.05
Aggression	55±11	49±9	49±12	p = 0.1	p = 0.1
Vigor	47±7	53±9	53±7	p < 0.04	p < 0.02
Fatigue	57±12	47±8	46±8	p < 0.03	p < 0.02
Confusion	56±12	47±8	47±10	p < 0.02	p < 0.02
Total	57±12	47±8	48±10	p < 0.02	p < 0.03