

CORRECTION OF PSYCHO-EMOTIONAL STATE OF ATHLETES PLAYING SPORTS WITH THE CONSEQUENCES OF INJURIES OF THE LOWER EXTREMITIES

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Annotation. *Purpose:* development of techniques for using factors of psychological support for the recovery of athletes playing sports after injuries of the lower extremities. *Material:* The study involved 44 sportsmen. During 2008 - 2013 years was recorded 558 injuries. *Results:* The results psychodiagnosis injured athletes procedure K. Leonhard additions to copyright. Recommended approaches such psychological rehabilitation: gaining an understanding of real prospects athlete restore lost functions; mobilization will athlete to actively participate in the rehabilitation process; help in facing traumatized and need opportunities to participate in training-competitive process. *Conclusions:* The proposed package of measures for psychological support provided athletes decrease recovery times for 1 - 3 weeks and return to training-competitive process.

Keywords: physical, rehabilitation, methodology, psychophysical, tests.

Introduction

Recent years quantity of works, supporting application of psychological means in sports has significantly grown [1, 7], but psychological influence is rarely used in process of physical rehabilitation (PR) after sport traumas. Appropriate researches are published in special medical literature and are not available for coaches. Alongside with anatomical, ecological and other physical factors, psychological pre-conditions are rather significant in trauma-hazard situations and with rehabilitation of traumatized sportsman. Recent researches witness that with treatment of sport traumas it is necessary to pay more attention to individual psychological features of sportsman [2, 4, 11]. Statistical data for several recent years prove constant increasing of traumatism among workable population [9, 10, 12]. From 60% to 72% of traumatized persons are students of sport perfection groups of team kinds of sports. In spite of appropriate training in every of the mentioned sports risk of traumas still remains to be high.

In students' teams there is no individual approach to controlling of loads and fulfillment of techniques. It results in overtiredness and over-tension, especially in competition period that, in its turn, results in traumas.

Injuring of lower limbs is, as a rule, psycho-traumatic factor because of sharp restriction of mobility and freedom of movements, pain, change in family relations, professional functioning, impossibility to participate in trainings and competitions. Problems, which appear as a result of traumas, often cause sportsman's depression and passivity, complicate rehabilitation process. Organism of traumatized person responds to trauma by general and local responses to injure, which are called traumatic disease (TD). Nearly all traumatized sportsmen have TD at the beginning of rehabilitation process. Except the above mentioned factors there exist psychological ones, which also cause traumas and include different features of a personality. Among personality's characteristics, connected with sport traumas, specialists regard negative emotional state, behavioral responses, stresses.

Purpose, tasks of the work, material and methods

The purpose of the work is working out of effective methodic of psychological maintenance factors for sportsmen's rehabilitation – representatives of team kinds of sports, after traumas of lower limbs as well as evaluation of psychological maintenance's efficiency (meaning programs for sportsmen with lower limbs' injures).

The tasks of the research:

- Generalization of experience of psychological maintenance's application in rehabilitation of sportsmen with lower limbs' traumas;
- Working out of psychological maintenance program for the a.m. sportsmen in complex with other PR means.;
- Estimation of efficiency of traumatized sportsmen's psychological maintenance.

Organization and methods of the research:

For testing of efficiency of the offered psychological maintenance program for the a.m. sportsmen we invited basketball players of combined teams of Zhytomir state technological university (ZhSTU) and Zhytomir automobile college (ZhAC), whose lower limbs were traumatized in period 2008-2013. After graduation from ZhAC most of graduates entered ZhSTU and became members of combined teams of this HEE. In experiment sportsmen of all years of study participated, that is why their age was not considered by the authors. At the beginning of the research we systemized all traumatic situations in both groups of sportsmen: in ZhSTU group there were 23 sportsmen, in group of college – 21 sportsmen with traumas, received in training-competition process. As per quantity of the received traumas the groups were rather different: in ZhSTU we registered 196 traumas and in ZhAC – 362. Character and localization of traumas were as follows: in general they were abrasions and bruises (58.6%); second place was taken by open sores –

17.4%, and the third by quantity required specialized medical aid and effective PR measures (injures of joints and fractures).

In our researches, for the described period, there were 2 such traumas in ZhSTU and 4 in ZhAC. The authors connect this fact with better physical fitness's indicators of ZhSTU sportsmen. Besides, we detected that with increasing of training's duration quantity of traumas reduces. The traumatized sportsmen of ZhSTU received psychological maintenance in compliance with worked out program and sportsmen of ZhAC were rehabilitated traditionally. ZhSTU sportsmen returned to trainings by 1 – 3 weeks earlier. After receiving of trauma no sportsman stopped attending basketball trainings at all, while in ZhAC there were 7 cases, when students gave up basketball. After entering ZhSTU basketball players start to receive psychological maintenance as per authors' PR program. From 2008 up to the present time psychological maintenance has been remaining efficient, helps for traumatized basketball player to successfully overcome trauma's after-effects and return to training-competition process.

Psychological maintenance of the traumatized shall be started since early stages of rehabilitation. With it main tasks of rehabilitation are:

- Sportsman's understanding of actual prospects of lost functions' rehabilitation;
- Mobilization of sportsman's will for active participation in rehabilitation process;
- Assistance for the traumatized to understand need and possibility of participation in competition-training process, preservation of good relations in family, even is there are steady restrictions of functions and ability to move.

For solution of the listed tasks we used the following methods of research: theoretical analysis and generalization of literature sources, pedagogic methods, clinical methods of psychological state's examination, psycho-emotional testing [13], methods of mathematical statistics. Results, obtained in these methods of research are delivered more specifically in [6, 14].

Results of the researches and their discussion

Correction of psycho-emotional state includes: explanation, emotional influence, didactic and rhetorical questions. The basis of influence on psycho-emotional sphere of the traumatized is correct sportsmen's understanding of character and reasons of traumas and prognosis of its treatment. Functioning of traumatized person in the process of physical rehabilitation is constantly oriented on positive results. It facilitates formation of adequate attitude to own disease. In talk with sportsman mechanisms of positive influence of physical loads on injured muscles and organism in general are explained.

Communicating with the traumatized, the authors clearly determine measures for further recovering, overcoming of pain [3,15], explanation of ways to full recovery and do not stress heaviness of trauma, difficulties, which sportsman will meet in the future. It is necessary to constantly stress on active participation of the traumatized in the process of treatment.

In rehabilitation process the authors offer to apply methodic by B. Crook, O. Kuts [8] for formation of optimistic hopes concerning own condition and further opportunities. With every positive change of physical condition the authors convince sportsman in his ability to achieve positive result in treatment of his trauma.

Lower limbs' traumas of sportsmen of team kinds of sports significantly influence on their psycho-motor functioning and psycho-emotional sphere. Psycho-motor potentials of most of traumatized sportsmen reduce.

The authors evaluate psychological maintenance by two directions:

- Psycho-motor abilities of the traumatized;
- Psycho-emotional state of the traumatized.

The worked out forms of documents permit to evaluate changes of sportsmen's psycho-emotional state as a result of PR. Characteristics of motion potentials of the traumatized sportsmen are received by the authors in compliance with recommendation [6]. Evaluation of psycho-motor potentials shall be fulfilled as per table 1.

Home tasks of the traumatized include exercises for stretching, power training (including on authors' simulator) [6], and special exercises, developed by the authors for the heaviest traumas [6].

Table 1.

Evaluation of psycho-motor potentials of traumatized sportsmen

Motion potentials	Condition	Points
Impossibility	Not understanding of task or physical impossibility of fulfillment	
Difficulties	Weak understanding, owing to: <ul style="list-style-type: none"> - Unfamiliar character of movements; - Pain; - Defects of memory, rough mistakes in fulfillment of task. 	
Practical norm	Understanding of task, but: <ul style="list-style-type: none"> - Confused fulfillment; - Unsatisfactory fulfillment of certain exercise, which cause pain or discomfort. 	
Independence	Absolute understanding, independent fulfillment with especially responsible attitude (sometimes with improvisations).	

Notesa: for it.1 – 0 points; for it.2 – 1 point; for practical norm – 2 points; for independent fulfillment of exercise – 3 points.

The authors recommend to carry out evaluation of psycho-emotional state with the help of test –“HOSPITAL ANXIETY AND DEPRESSION SCALE” by D.Wade, which consists of 14 questions: in it odd questions (1, 3, 5, 7, 9, 11) compose sub-scale of anxiety and even (2, 4, 6, 8, 10, 12, 14) – subscale of depression. Every question implies 4 variants of answers, which reflect gradation of symptoms, coded with increasing of their heaviness: from 0 (absent) to 3 (maximally expressed). The sum of points is calculated separately for subscale of anxiety and for subscale of depression. They mark out the following limits of points' totals for every subscale: 0-7 points – norm; 8-10 points – sub-clinically expressed anxiety-depression; 11 points and more – clinically expressed anxiety and depression. For correction of psycho-emotional state of the traumatized the authors used special breathing exercises.

Quantitative characteristic of psycho-emotional testing results of sportsmen with lower limbs' traumas is schematically shown in fig.1.

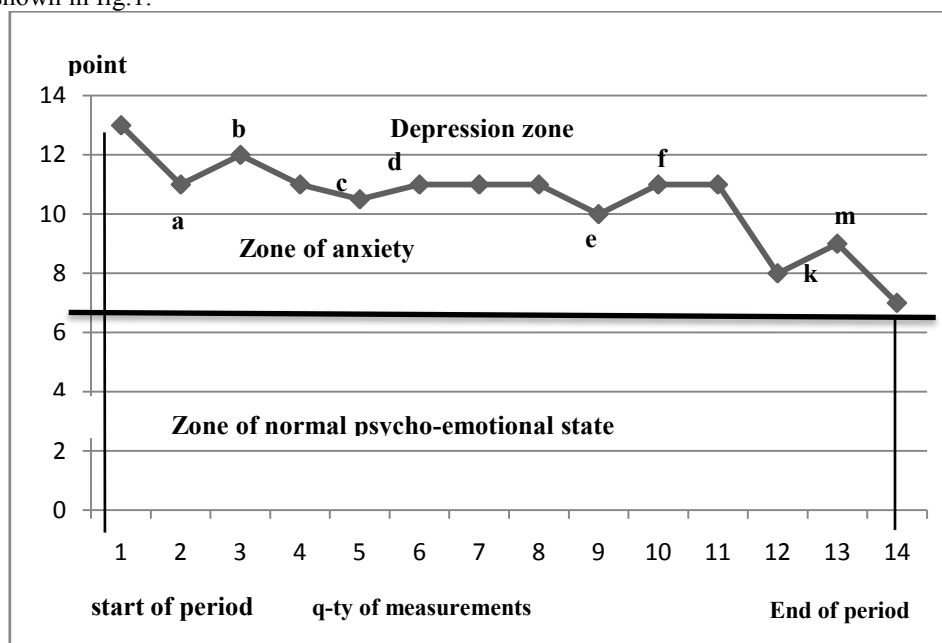


Fig.1. Diagram of testing of traumatized sportsman's psycho-emotional state

With increasing of sportsman's clinically expressed anxiety and depression (>11 points) the traumatized needs combined psychologist's and rehabilitation specialist's, coach's and other members of team aid.

Reduction of abnormalities in psycho-emotional sphere and normalization of sportsman's psychological state witness about success of rehabilitation specialist, coach and collective in psycho-emotional maintenance. Negative results with single increasing of depression state (parts a-b, c-d, e-f, k-m on diagram) witness about mistakes in PR process and shall be immediately analyzed and corrected [5].

For receiving of confident results it is recommended to apply the worked out by the authors methodic of psychological testing. It is necessary to clearly formulate conditions of its conducting. Only accurate fulfillment of the requirements can ensure positive general result of rehabilitation. It is possible under the following conditions:

- calm, adequate attitude of psycho-therapy specialist, PR specialist, coach and members of team to every traumatized sportsman;
- individual approach to every traumatized sportsman;
- creation of friendly atmosphere at individual trainings, talks and meetings;
- serious answering every question and serious fulfillment of every exercise or requirement;
- reasonable estimation of own general condition and state of abnormality after every session.

The received results of traumatized sportsmen's psycho-diagnostic (by K. Leongard's methodic with authors' supplements, given in table 2) can be also rather important.

Estimating own impressions of traumatized sportsman's condition after personal meeting or after questioning of team members, coach can offer the sportsman to answer only some of items of the table.

Table 2.

Characteristics of different sides of traumatized sportsmen's personalities

Code	State	Points			
		0	1	2	3
A	Sad or depressed				
B	Trouble of the future				
C	Hopes for sport future				
D	Actions				
E	Results of work				
F	Self-satisfaction				
G	Attitude to pain				
H	Thoughts about suicide				
I	Crying				
J	Nervousness				
K	Taking decision				
L	Wish to re-start trainings				
M	Self-appraisal of own appearance				
N	Attitude to work				
O	Attitude to people				
P	Sleeping				
Q	Tiredness				
R	Appetite				
S	Weight for recent month				
T	Sexual interest				
U	Care of own health				
Mean value of psychic state					

Comparing resulting points with previous answers to analogous questions it is easy to make conclusion about presence or absence of positive changes in psychological state of the traumatized. Points' result, in this case, is sufficiently informative and calculations are simple and do not require complex formulas and expensive equipment.

For choice and usage of certain questions of the table it is very important to apply correct approach to individual features of everybody, i.e. to training and competition experience, will qualities, features of character.

Conclusions:

Psychological health's condition and its physical components are interconnected and closely interdependent. Under influence of psycho-emotional state's correction indicators of psycho-motor potentials of the tested traumatized sportsmen manifested significant positive changes; motion inabilities, caused by not understanding of task, were eliminated as well as physical impossibility to fulfill movements; sportsmen did not meet difficulties of unfamiliar movements. By 31.3% quantity of sportsmen, who felt pain, decreased and by 30.% - quantity of sportsmen, who felt pain owing to unsatisfactory fulfillment of certain exercise. Analysis of psycho-emotional state witnessed that among traumatized sportsmen the quantity of those with reduced level of anxiety and depression reduced or came to norm ($P < 0.01$). Repeated examination showed that quantity of persons with sub-clinical form of anxiety reduced and quantity of persons with clinical form – came to zero ($P < 0.01$).

The applied by the authors complex of measures on sportsmen's psychological maintenance in PR after lower limbs' traumas ensured reduction of rehabilitation period by 1-3 weeks with returning to training – competition functioning. The prospects of the researches imply searching of other individual methods of psychological maintenance in PR programs for traumatized sportsmen, for improvement of their speed-power qualities and normalization of their psycho-emotional state.

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