

## Research Article



## Innovative Methods to Increase Health Efficiency of Training Exercises in Sports

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### ABSTRACT

The present paper studies the essence of the syndrome of evolutionary (developmental) advance in the context of physical education and sports in the Republic of Kazakhstan. Currently, this question is particularly relevant, given the considerable gap between the amount of physical activity and scientifically justified standards in the educational system in Kazakhstan, which reduces the efficiency of training exercises. In the course of the study, from 2011 to 2014, the authors carried out an analysis of domestic and foreign literature, a survey and observation of sportsmen, medical and biological control, as well as the mathematical processing of the obtained results. The authors identify the causes of the occurrence of the syndrome of evolutionary advance in sportsmen and define the main methods to eliminate it.

**Keywords:** wellness, training exercises, physical culture and sports, the syndrome of evolutionary (developmental) advance.

### INTRODUCTION

Health and a healthy lifestyle play a special role in the development strategy of Kazakhstan. The recuperation program of the Republic of Kazakhstan noted that the education system is faced with a particularly difficult situation: the volume of training sessions are 3-4 times lower than scientifically based standards. The main direction of recuperation by means of physical culture and sports is in improving the training sessions with students and supporting the creative initiative, independence and initiative in the choice of means of outdoor activities.

The problem of physical culture and sports in a higher education institution stems from the need to prepare robust, physically fit and efficient specialists of modern production who know how to organize their own physical training, to determine their health status and the level of the capacity of human organism and to improve psycho-physical readiness for the upcoming working activity.

However, considering the role and place of physical culture in the educational process, we are faced with the enhanced negative trends in the student's education and sports, the increased growth of disease among students, the deterioration of the level of physical fitness of university entrants, poor physical fitness of students which does not conform to the regulatory physical preparedness. These facts give rise to the legitimate concern of public authorities. All this led to the adoption of a number of measures to reform the system of physical education of the population, and especially of young people. The need to reform a healthy lifestyle by means of physical culture is pointed out in the message of the President to the people entitled "Kazakhstan-2030".

The specific directions to address these issues are listed in such documents as "The concept of the development of

physical culture in the education system and a program of physical training of students of the Republic of Kazakhstan" (1992), "Program of recuperation of the population of the Republic of Kazakhstan by means of physical culture and sports" (1997), "State program for the development of physical culture and sports of the Republic of Kazakhstan for 2001-2005" (2001), "Law of the Republic of Kazakhstan on Physical Culture and Sports" (1999).

For example, the Concept of the development of physical culture emphasizes that there is a need to proceed with the development of various blocks of training programs on physical education of young students, teaching aids and guidelines to ensure the introduction of new criteria for the effectiveness of physical education.

The *working hypothesis* of this article is that the results of the research are expected to be the basis for the elaboration of recommendations that will ensure an increase in the health-improving efficiency of sports training activities through the correction and elimination of the syndrome of evolutionary (developmental) advance in the system of physical education and sports on the basis of the certification card of students-wrestlers.

The *purpose of this research* is to increase the health-improving efficiency of sports training activities through the correction and elimination of the constituents of the syndrome of evolutionary advance for qualified sportsmen – students-fighters of different styles.

*The objectives of the research are as follows:*

1. To determine the importance of the correction and elimination of the syndrome of evolutionary advance for sports efficiency in the system of physical education and sports.



2. To study the reasons for the manifestations of the syndrome of evolutionary advance in the system of physical education and sports.

3. To identify the ways and methods of the elimination of the syndrome of evolutionary advance in the system of physical education and sports.

4. To experimentally elaborate a correctional program of health-improving activities for the elimination of the syndrome of evolutionary advance and to assess its effectiveness.

The *methodological and theoretical basis* for the research is Law of the Republic of Kazakhstan dated July 14, 2014 "On Physical Culture and Sports", the modern concept of the theory of physical culture and sports; theory of health-improving orientation and comprehensiveness; cooperation pedagogy works by Lesgaft, P.F., Matveev, L.P., Vydrin, V.M., Ponomarev, I.I., Hrushev, S.V., Agevets, V.U., Amosov, N.M., Balsevich, V.V., Borodikhin, V.A. and Nurlybekova, A.B.

## METHODS

1. Analytical review of domestic and foreign scientific works.

2. Generalization of trainers' work experience and sportsmen training through interviews, questionnaires, teacher observations, analysis of sportsmen training plans and scoresheets.

3. Laboratory experiment, comprising the pedagogical control tests through certification cards.

4. Natural pedagogical experiments (preliminary and main).

5. Medical and biological control, including heart rate, apnea, blood pressure, ECG.

6. Methods of mathematical processing of research materials.

### Research design

Pedagogical research, preliminary and main parts of the study were carried out during the period from 2001 to 2005. This period was conditionally divided into 3 main logically interconnected stages.

In the first stage (September 2011 - April 2012) there was examined and analyzed scientific and methodological literature on the researched topic. The results of this analysis were used to determine the working hypothesis, to set a purpose and objectives of the study.

The second stage (May 2013 - April 2014) included a preliminary pedagogical observation and pedagogical experiment, which were carried out at the place of training camps of the national wrestling team of Pavlodar region during official competitions. The research has been conducted in the preparatory and competitive periods of a year cycle of the qualified wrestlers' preparation (1 category, Candidate for Master of Sport). All participants

of the preliminary experiment underwent a superficial and deep examination in the regional sports clinic, and were under constant medical supervision during their stay at the training camp.

The third stage (main natural pedagogical experiment) was carried out at the training wrestling camps in 2014-2015. The investigations were carried out at several stages of preparation of the qualified wrestlers (1-2 categories, Candidate for Master of Sport). Thirty sportsmen were involved in the experiment, who were divided into homogeneous experimental and control groups of 15 people each.

At the beginning of the main pedagogical experiment there were conducted pedagogical control tests and obtained data from medical and biological control in the experimental and control groups. The state of each participant was identified. The results revealed the syndrome of evolutionary advance in both groups, i.e. the level of physical qualities and functional performance did not match their qualifications.

During the main pedagogical experiment, the control group had a conventional system of training and the experimental group was trained according to the elaborated correctional system with a view to eliminate the syndrome of evolutionary advance through health-improving efficiency of trainings, which would ensure high sports performance. In this regard, the dynamics of sports results in important competitions was studied.

## RESULTS AND DISCUSSION

The actual material, collected in the course of our study, reflects the real possibilities of increasing the health-improving efficiency and implements the fundamental principles of the existing system of physical culture. As is known, this system provides the all-round improvement of students.

Under our experimental conditions, it received convincing evidence. It is noteworthy that the increase in the investigated properties and qualities of the groups kept pace with the improvement of the traditionally significant morphological, functional, dynamometric and other aspects of their training. There is a common opinion that one of the general aspects of the modern system of physical culture is its health-improving influence on students. This aspect is also represented in the relevant indicators of the conducted experimental work. This is evidenced by the results of the functional indicators.

The results of the literature review, questionnaires and natural pedagogical experiments show that the growth of wrestlers' sports mastery is largely dependent on the correction and elimination of the syndrome of evolutionary advance in the system of physical education and sports, which increases the health-improving efficiency of training sessions and contributes to high sports performance in wrestling. This was the basis for our research.



Based on the analysis of literature, theoretical and empirical work, this research proved the essence of the syndrome of evolutionary advance in the system of physical education and sports. The syndrome of evolutionary advance is an artificial 'whipping', especially like doping, of the intellectual and physical formation of human. Artificial stimulants, harmful and waste products, unbalanced ideas, food addiction and drugs, the fear of hunger, sexual illiteracy and alcoholism act as a means of 'whipping'. The dangerous stimulants are also most pharmaceutical products of traditional and nontraditional or national and traditional medicine, and finally, the exercises of the hypertrophied scale and intensity, regardless of the biological and chronological age of the individual.

The correction and elimination of the syndrome of evolutionary advance in the system of physical education and sports in our experiment were directly related to the increase in the health-improving efficiency of classes or training sessions (of the training process). The preparation of the experimental group was corrected, and each person was studied. Performance test results of the experimental and control groups showed the effectiveness of the correction and elimination of the syndrome of evolutionary advance in the system of physical education and sports. As a result of the program (certification card), both groups of the preliminary experiment achieved the correction and elimination of the syndrome of evolutionary advance in physical education and sports (or increase in health-improving efficiency). But in the experimental group, this effect was more significant, and it was confirmed when analyzing the performance tests. The growth of the indicators of physical qualities for both the control and experimental groups can be explained by the fact that wrestling promotes the development of physical qualities.

Data from literature analysis, questionnaire and oral interviews, preliminary natural pedagogical experiment were confirmed by the results of the main natural pedagogical experiment.

Pedagogical observations of trainers and experts, their analyses of the competitive activity of the wrestlers under consideration give reason to believe that the targeted correction and elimination of the syndrome of evolutionary advance in the system is one of the most effective ways to improve wrestlers' sports mastery.

On the basis of the research, one can state that the resources system, the correction of the training process and the increased intensive workload contribute to the improvement and preservation of high efficiency and capacity in the competitive activity of wrestlers.

However, it should be noted that they cannot be justified if a sportsman does not have a sufficient level of general and special physical fitness. They should be used only at the stage of the highest sports mastery to achieve high sports results.

The results obtained in the course of pedagogical experiments demonstrate that if the overall level of physical quality increases, then the sports results shown by the experimental group during the experiment do not always match the level of their development. This statement could be considered as regular, as far as the results, shown in the competition, depend not only on the level of the development of physical qualities, but also on other factors (e.g., psychological stability). The criteria for assessing the effectiveness of the correction were the coefficients of the health-improving efficiency of student-sportsmen. The experimental group of wrestlers showed more of an improvement than the control group.

Summarizing the results of the pedagogical experiment, one can state that the suggested system of the correction and elimination of the syndrome of evolutionary advance in the system of physical education and sports with an individual approach allows for significantly better athletic performance of sportsmen in a year cycle of preparation.

## CONCLUSION

The materials of the conducted researches, the established scientific principles and facts allow to make the following conclusions and to give practical recommendations on the use of the means and methods of the correction and elimination of the syndrome of evolutionary advance in the system of physical education and sports in the wrestlers' training process.

Based on the theoretical and experimental studies carried out from the perspective of a systematic approach, we can draw the following general conclusions:

1. The correction and elimination of the syndrome of evolutionary advance in the system of physical education and sports contribute to the health-improving efficiency of training sessions in wrestling.
2. The reasons for the manifestation of the syndrome of evolutionary advance in the system of physical education and sports are the neglecting of the fundamental principles of the training process and the whole system of physical training as a part of general culture; mechanical serration; addiction to a narrow set of means; 'whipping' and omission of a variety of factors of the national and common world culture; imperfection of the educational status as the ability to solve various problems in life contingencies; absence of the wrestling school, interdisciplinary connections, self-control, self-education, self-knowledge, sports cooperation pedagogy and an adaptive period during the transition of youth to adult sports.
3. The means of 'whipping' of the syndrome of evolutionary advance in the system of physical education and sports are artificial stimulants, harmful and waste products, unbalanced ideas, food addiction and drugs, the fear of hunger, sexual illiteracy and alcoholism. The dangerous stimulants are most pharmaceutical products of traditional and nontraditional or national and



traditional medicine, and finally, the exercises of the hypertrophied scale and intensity, regardless of the biological and chronological age of the individual.

4. The main means and methods of eliminating the syndrome of evolutionary advance in the system of physical education and sports are as follows:

- testing by a five-level system of the training and educational processes;
- determination of the health-improving efficiency according to the formula suggested by V.A.

$$O\mathcal{E} = \frac{K}{\Phi} \square 1$$

Borodikhina (coefficient: ).

- exercises of the five-level system of the training and educational processes through a certification card;
- interdisciplinary communication (swimming, basketball, gymnastics, ski training);
- certification cards of the student-sportsman;
- compliance with the basic principles of the training process (scientific character, health-improving orientation, comprehensiveness and application in the transfer of sports training to labor activity);
- comprehensive environmental provision of training sessions on the basis of the algorithm of the health-improving efficiency;

- control and correction in eliminating the syndrome of evolutionary advance by ECG.

5. The pedagogical experiment showed that the use of the special correctional program for the elimination of the syndrome of evolutionary advance significantly contributes to improving the effectiveness of sports training sessions.

6. The medical examination did not reveal any negative impact of the experimental studies on the health of persons under consideration.

Functional disorders of the cardiovascular system associated with the use of physical pressure were not observed. This once again emphasizes the possibility of their use for the full and harmonious upbringing of wrestlers and students-sportsmen.

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