

Evaluation of the Educational Programs Effectiveness for the Prevention of Health Risk Factors and Anti-Doping Rule Violations Among the Younger Generation

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Abstract—The article Antipova E., Badrak, K. and Antipov, V. "Evaluating the effectiveness of educational programs prevention of health and anti-doping rule risk factors violations among the younger generation" considers the problem of health risk factors primary prevention among children, adolescents and young adults and cases of doping in young athletes sports through the implementation of educational programs. The purpose of this study is to determine a unified approach to the development or selection of health risk factors prevention existing means, the starting position of which are the criteria for the effectiveness and evaluation of the educational program. The authors have developed educational preventive programs for schoolchildren and young athletes, defined the criteria for the effectiveness of these programs. The developments have been tested and put into practice. The evidence base allows us to speak about the reliability of the educational preventive programs effectiveness proposed assessment.

Keywords—*health risk factors; hygienic literacy; educational competences; educational programs; efficiency assessment*

I. INTRODUCTION

According to the world health organization, 71% of all deaths worldwide are caused by noncommunicable diseases (NCDS), the development and progression of which is due to the influence of social, behavioral, biological and genetic risk factors (FR) and environmental factors. One of the important directions in solving the problem of health preservation, prevention and control of NCDS is to increase health literacy

of the population as a whole, where the basis is information and educational programs for target groups of the population [9, p. 5-6].

II. LITERATURE REVIEW

The analysis of statistical data showed that during 15 years (2000-2015) in Russia, the health of school-age children deteriorated, the growth of the number of adolescents 15-17 years, consisting under dispensary supervision, increased by 18.5% [4, p. 4].

In the lifestyle of schoolchildren there is a high prevalence of health risk factors: low physical activity, insufficient sleep duration, alcohol and tobacco consumption [8, p. 33]. And the majority of schoolchildren who use tobacco products, according to the who global survey, already have signs of tobacco dependence. Among schoolchildren in Moscow, the proportion of smokers with signs of dependence was 70.7%. Among children and adolescents, the consumption of e-cigarettes and vaporizers is increasing. If the average share of consumers of electronic cigarettes in the country is 8.5%, in Moscow this figure is 14.5% [5, p. 58]. The problem of bad habits has no borders. Thus, a representative survey of 16-year-old Norwegian athletes and students revealed that 18% of respondents smoke; 36.5% of young athletes admitted to drinking alcohol, and 1.2% - to the use of prohibited drugs [3, p. 22].

Research suggests that low hygiene literacy and behavioral risk factors are highly prevalent among middle-and high-school-age children. At the same time, 75% of

schoolchildren have a clearly overestimated self-esteem of the level of their own hygienic literacy, considering it sufficient to preserve health. And with age, this assessment does not change significantly. The current situation requires improving the content of educational preventive programs, increasing their effectiveness [7, p. 36-38]; it is necessary to develop criteria for the effectiveness of implemented means of health risk factors pedagogical prevention [12, p. 46].

The study of the epidemiological situation of HSR, risk factors of population health, demographic situation allowed to determine the long-term systemic challenges posed to modern society:

- the spread of drug abuse in the adolescent and youth environment;
- changes in the psycho-emotional sphere of a person, loss of health, early disability and mortality in working and reproductive age;
- aggressive manifestations, criminal behavior of adolescents and youth; criminalization of society as a whole;
- deterioration of the nation gene pool.

If we consider the sports sphere of activity, the challenge to society is the violation of anti-doping rules by young athletes. As practice shows, the above problems are solved through the acquisition of school-age children and young athletes of key educational competencies on health risk factors and the dangers of doping in sports on the basis of educational prevention programs development.

The purpose of this study is to find ways to improve the effectiveness of school-age children health risk factors primary (pedagogical) prevention and prevention of anti-doping rule violations by young athletes.

Research problem:

1. To identify common criteria for the effectiveness of educational prevention programs for primary prevention of risk factors for school-age children and prevention of anti-doping rule violations by young athletes.
2. To develop and test the methodology for evaluating the effectiveness of educational preventive programs.

Prevention of bad habits is more focused on the fight against drugs, as the greatest risk factor to which adolescents and young people are exposed. We have conducted analysis of a number of foreign anti-drug programs. In these programs the following directions are traced:

- primary prevention of drug addiction among children and adolescents of school age;
- work with and in the families of students;
- work with difficult teenagers;
- antisteroid program for high school students involved in bodybuilding;
- secondary and tertiary prevention with drug users;
- a program that encourages healthy living;

- prevention of drug-dependent children and adolescents [1, pp. 68-69].

For example, in the Republic of Turkey, a drug and drug abuse monitoring Centre is functioning in the drug control department of the national police. At the same time, the Ministry of national education of Turkey is directly responsible for the implementation of universal drug prevention in Turkish schools. Diverse methods of prevention are used: Advisory support, seminars, discussion forums and conferences. School counseling centers carry out preventive programs aimed at the family [6, pp. 154-155].

It is noteworthy that anti-drug programs are not opposed to each other, but complement each other. The variability of programs is one of the features of the fight against drugs and drug addiction abroad. If the program produces positive results, it exists, and its implementation is supported by the state, local authorities and / or public organizations. In Russia, about 40% of programs have foreign analogues and are mainly focused on primary prevention of drug addiction. It is possible to compare preventive programs among themselves only on realization of their ultimate goal as they are developed for age groups with different classification of age periodization. In drug addiction prevention programs, the educational component is not emphasized, almost none of the programs, except for those implemented in St. Petersburg in 2012, are called educational [1, p. 59-60].

According to N. E. Khabibova, efficiency is the ratio of the result and the cost of its implementation. Establishing an assessment of the preventive programs effectiveness is problematic, because the effect is too multifaceted and time-consuming. At the same time, the criteria for assessing the effectiveness of preventive programs can be considered coverage of participants; changing their awareness of the drugs dangers, attitudes to drugs and psychoactive substances; changing behavior, attitudes, changes in communication [12,13].

In recent years, as evidenced by the analysis of foreign experience, the practice of using economic incentives aimed at the formation of a healthy lifestyle [11, p.36] is becoming more and more common. However, most studies note that economic incentives are less effective in programs designed to change an individual's complex behaviors, i.e. behaviors regarding risk factors for chronic diseases. A number of authors note that the effect of incentives is not supported in the long term [10, p. 24]. In addition, economic incentives cannot replace the educational competencies that school-age children and young people need to choose behaviors and consciously lead healthy lifestyles.

III. RESEARCH METHODOLOGY

The main research methods were analysis and generalization of literary sources, sociological survey (questionnaire), pedagogical design (modeling), testing, evaluation, natural forming, pedagogical experiment.

The research was conducted on the basis of the St. Petersburg research Institute of physical culture. In the pedagogical experiment and approbation of the bad habits primary prevention educational program, 29 young men and

20 girls of students of the secondary school 10th grades, who made up experimental and control groups, took part. The volume of the experimental educational program was 68 hours. In pedagogical experiment and approbation of the anti-doping rules violation prevention educational program 40 athletes-wrestlers at the age of 16-18 years, having I-III sports categories and training in sports school "Athlete" took part. The volume of the experimental program is 24 hours [2, p. 14].

IV. RESULTS

We have determined the criteria for the effectiveness of educational programs for the health of children prevention of risk factors, adolescents and youth and anti-doping rule violations among young athletes.

As the criteria of the educational program for the prevention of health risk factors were changes in the following key educational competencies in the field of healthy lifestyle and physical culture: educational, informational, communicative, General cultural, personal self-improvement and value-semantic.

Educational competence included the following concepts: human health; conditions and methods of health preservation; bad habits; social importance of physical culture. The change of competencies was assessed on a 5-point scale. Estimates of each group (experimental and control, boys-girls) were summarized, the average score of the group was determined, the comparison of indicators "before" and "after" the pedagogical experiment was carried out.

Information competence had two components: the ability to find information on a given problem and the ability to analyze and summarize the information received and prepare a report on its basis.

The average scores of the two indicators on a 5-point scale in the experimental groups were summed "before" and "after" the pedagogical experiment.

Communicative competence in the experimental groups was assessed on the ability of students to convey to the audience the knowledge about health risk factors caused by bad habits, the benefits of physical activity and a healthy lifestyle. Communicative competence had two components: evaluation of 10-minute messages of students on the topic "human health for the individual and society" and evaluation of 10-minute messages of students in grades 5-6. The assessment of communicative competencies on a 5-point scale in the EG included: presentation of the report and its presentation, audience attention, answers to questions.

General cultural competencies were determined by testing after a pedagogical experiment. The topics covered the history of national and world sports; the history of the ancient and modern Olympic games, Olympism and the Olympic movement; trends in the development of modern sports: high-performance sports, Olympic sports, extreme sports, paralympic and adaptive sports. By analogy with the above-mentioned educational competencies in experimental and control groups of boys and girls of the 10th grades, the average score was determined on a 5-point scale.

Competence of personal self-improvement were also evaluated in points "before" and "after" the pedagogical experiment on two criteria: self-assessment of knowledge about bad habits and healthy lifestyle; self-assessment of the ability to resist bad habits. The average score was determined by each criterion.

Value-semantic competence included subjective assessment of students on the use of alcohol, tobacco and drugs. The percentage of subjects with positive dynamics after the pedagogical experiment was calculated, the indicators of the experimental and control groups were compared.

In the experimental group, young men had positive changes in educational competencies (80.0%), information (60.0% - the ability to find the necessary information and 80.0% - to represent it), communicative (60.0%), General cultural (73.3%), personal self-improvement (66.7%), value-semantic (33.3% - smoking, 6.7% - alcohol and 6.7% - drug use). The reliability of differences with the background (control) group was obtained by educational and general cultural competencies, as well as by the competencies of personal self-improvement. In the experimental group of girls there were also positive changes in all components of competencies; especially increased competence of personal self-improvement (75.0% - self-assessment of knowledge about bad habits and 91.7% - self-assessment of the ability to resist them), communicative (75.0%) and general cultural (75.0%). The reliability of differences with the background (control) group was noted for General cultural competencies [1, pp. 186-210].

The criteria for the effectiveness of the anti-doping program were:

- the level of young athletes knowledge about the dangers of doping;
- reduction of positive attitude to doping among young athletes.

During the testing of the educational program, the number of young athletes who consider the use of doping acceptable for achieving high sports results decreased by 25% ($p \leq 0.05$); by 30% ($p \leq 0.05$), the number of athletes convinced that it is impossible to achieve high results without doping decreased. In addition to the subjective assessment of the pedagogical experiment participants attitude to doping, an objective assessment was obtained. Knowledge testing (10 questions on the subject of the educational program) showed that the number of correct answers in the final control was 90%, which is 35% higher compared to the control group [2, p. 14-15].

The proposed development of the educational programs effectiveness evaluation can be used in domestic and international practice of health risk primary prevention factors and anti-doping rule violations among the younger generation. The practical implementation of the study results (which is confirmed by the acts of implementation) indicates the adequacy of the main scientific proposals for the primary prevention of health risk factors among students of I-XI classes in secondary school, as well as the prevention of doping and anti-doping rule violations by young athletes. The

overall assessment of the educational preventive program effectiveness consists of a subjective (questionnaire) and objective assessment (testing) of key educational competencies. This allows to compare programs and make a decision on their implementation in a particular educational organization.

V. DISCUSSION

Most of the evidence of the educational prevention programs effectiveness evaluation is based on the conduct of natural shaping experiments, which allows us to speak about the reliability of the results.

VI. CONCLUSION

Evaluation of the preventive programs effectiveness will allow to choose the best option for the development of children, adolescents and youth key educational competencies on health risk factors, conscious rejection of bad habits and healthy lifestyles. Assessing the effectiveness of anti-doping programs will ensure that young athletes develop educational competencies in the field of anti-doping rules compliance and consciously refuse to violate them.

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