

SUBSTANTIATION OF EFFECTIVENESS OF TRAININGS ON HEALTH RELATED METHODIC FOR STUDENTS WITH WEAKENED MOTOR FITNESS

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Abstract. *Purpose:* to work out methodic, facilitating successful conduct of health related trainings of students with weakened motor (physical) fitness. *Material:* in the research 47 students with weakened motor fitness participated. Analysis of indicators of morbidity frequency and duration was carried out on the base of medical records' studying during all academic year. Experimental methodic consisted of three chapters: execution of specifically selected Hatha yoga static postures, breathing exercises and boxing techniques. Breathing exercises were grouped in four complexes. Every complex was fulfilled during 6 trainings, after each of them the next followed. *Results:* it was found that frequency and duration of diseases statistically confidently decreased in academic year. It was shown that formation of healthy life style skills statistically confidently improved. *Conclusions:* we have determined: increased students' interest to physical culture practicing; reduction of frequency and duration of diseases; higher level of formation of healthy life style skills.

Key words: students, health improvement, methodic, diseases, fitness.

Introduction

Health related measures, reduced as usual to formation of body health – increase of functional fitness, resistance to colds, corrections of muscular skeletal apparatus and some other aspects,- were always paid rather close attention to [2]. Alongside with it there are the data, saying that it is practically impossible to selectively improve physiological aspects of health in isolation from psychic and social-moral health [21]. It complies with law of “relative independence of adaptation”, which says: high adaptability to one factor does not result in the same adaptability to other factors (and on the contrary: such adaptability can restrict adaptation due to organism's physiological-morphological characteristics). Therefore, for motor, psychic and social-moral components of health it is necessary to build certain academic programs, which can critically differ from each other [20]. Up to the present time the law of “relatively independent adaptation” has not found its proper place in learning educational process of educational establishments. It is especially important to consider this law in educational system of higher educational establishments, where students already have serious deviations in health, acquired in school years [3].

Rising of students' motivation for physical culture – sport activity is regarded as one of priority directions of educational process perfection in HEE [5, 15, 24]. A number of factors, influencing on attitude to physical culture has been found. It was determined that the most significant for development of students and youth's physical culture were: rising of youth's interest to physical culture practicing [16, 22]; effective administrating of youth's physical education and physical training [14, 18]; orientation of students' physical education of formation of healthy life style [17, 23].

Purpose, tasks of the work, material and methods

The purpose of the work: is to work out methodic, facilitating successful conduct of health related trainings of students with weakened motor (physical) fitness.

In the research 47 students of higher educational establishments with weakened motor fitness participated.

When planning academic program for experimental group we considered recommendations of methodic literature on formation of training process for students with weakened motor functioning.

Results of the research

The conducted by us complex researches on determination of students' social-moral health features revealed some important laws. We found correlation between the level of some motor qualities and socially significant features of students. Analysis of final results of students' fitness showed that the worked out experimental program facilitated more effective development of nearly all indicators.

Positive points of the experimental methodic is the fact that at the end of pedagogic experiment the students' studied indicators demonstrated statistically confident improvement: quantity and duration of diseases reduced; students' interest to physical culture practicing and level of healthy life style skills increased.

It can be explained by the fact that trainings with elements of boxing permits to make training of new motor skills more interesting, emotional; it shortens period of mastering of new material. Thus, it increases effectiveness of students' mastering discipline "Physical culture".

1. Determination of diseases' frequency and duration

Indicators of frequency and duration of diseases were studied on the base of medical records' analysis during academic year. We considered the quantity of diseases (see table 1) their duration (quantity of days – see table 2) during academic year.

Initial data of quantity and duration of diseases were taken by results of previous year.

Table 1. Quantity of diseases ($M \pm m$, %)

Testing		Differences	Confidence of differences	
Initial	Final		t	p
52.1 ± 3.8	41.8 ± 3.3	10.3	2.05	< 0.05

Quantity of diseases in academic year is statistically confident ($p < 0.05$) below. Duration of diseases (in days) was as follows (see table 2).

Table 2. Duration of diseases (in days) ($M \pm m$, %)

Testing		Differences	Confidence of differences	
Initial	Final		t	p
113.2 ± 3.7	98.7 ± 4.8	14.5	2.39	< 0.05

Analysis of comparative data showed that students, who were trained by experimental methodic with application of boxing elements were more resistant to different diseases: by quantity of cases and by duration of diseases ($p < 0.05$).

2. Formation of healthy life style skills

Final data (received in pedagogic experiment) showed statistically confident increase ($p < 0.05$) of healthy life style skills' formation level (see table 3).

Table 3. Indicators of healthy life style skills' level, conv. units ($M \pm m$)

Testing		Differences	Confidence of differences	
Initial	Final		t	p
40.3 ± 8.0	65.4 ± 8.2	25.1	2.19	< 0.05

Analysis of the received data showed that application of health related methodic with boxing techniques permits to significantly increase level of healthy life style skills' formation in students with weakened motor fitness.

3. Assessment of interest to trainings

As our researches showed, initial interest of students with weakened motor fitness to physical culture and sports practicing did not exceed values, close to 3.77 points (by five-point scale).

After pedagogic experiment we found confident ($p < 0.05$) data of interest increase in students with weakened motor fitness (see table 4).

Table 4. Indicators of level of interest (points) to trainings in students of control and experimental groups at the end of pedagogic experiment ($M \pm m$)

Testing		Differences	Confidence of differences	
Initial	Final		t	p
3.77 \pm 0.1	4.09 \pm 0.1	0.32	2.26	< 0.05

Such positive results permit to state that interest of students to trainings can be formed for relatively short period of time (one academic year).

Discussion

At present the problem of physical education system's perfection, health strengthening and protection in period of students' studying in HEE is noticeably actualized. This system requires new scientific approaches and methodically substantiated solutions.

To day's attention of specialists to this problem to large extent is conditioned by intensive increasing of a number of negative tendencies, which accompany students' physical education. It is confirmed by the fact that the question about "aggressiveness of educational medium" has never been so acute; students' health indicators have never been so low; such low physical condition and motor fitness indicators have never been registered [10, 25–27].

Analysis of published literature showed that at present time individual features of students' physical condition, health, motor fitness, personality's characteristics (motives, strivings, self-confidence and so on) have been elucidated rather sparingly [13–17]. **The limit of such data seriously hinders the process of students' professional adaptation in educational medium.**

We assumed that the problems, which are faced by pedagogues and coaches in sphere of students' physical education, can be corrected with means and methods of boxing. As it was found traditional physical education system in state higher educational establishments can not realize to the fullest extent the tasks of students' motivation for physical culture activity. It is connected with absence of scientifically substantiated conception of physical education formation [11–13, 19].

The fulfilled in this direction scientific and methodic work permitted, in the whole, to rather effectively organize learning regime in higher school, to level the acuteness of problem of organism's overloading in conditions of educational process, to maintain students' workability in relatively optimal frames. The distinctive features of our research are the following:

1. We have developed the system of complex improvement of students' with weakened motor fitness indicators.

Experimental methodic consisted of three parts: execution of specially selected statics postures (asanas) of Hatha yoga system, breathing training and boxing techniques.

Breathing exercises were grouped in four complexes. Every complex was fulfilled during 6 trainings, after each of them the next followed.

Boxing part included main techniques: movements, straight and side punches, uppercuts, defenses.

2. We have worked out methodic of usage of complex system for improvement of students' with weakened motor fitness indicators.

All static exercises were fulfilled consequently one after other. After fulfillment of exercises students had passive rest in lying position.

Breathing exercises were fulfilled after Hatha yoga static postures in position sitting on heels.

Conclusions

Thus, content of auxiliary (health related) physical culture training implies some knowledge, skills and abilities, which should be mastered by students. Prevailing orientation of such trainings is orientation on health

related, developing and general recreational tasks. With it formation of physical, psychic and social-moral health should be of preference as well as personality-oriented approach to system of individual choice of physical culture means. Application of non traditional health related means, like Hatha yoga, will be highly effective in system of students' physical education. It is also important to use the principle of versatility. It permits to use knowledge and means of auxiliary health related physical culture in different regions of country and for students with different levels of physical culture literacy and fitness [4, 6–10].

The conducted pedagogic experiment with students, who have weakened motor fitness, showed the following:

1. Frequency and duration of diseases during academic year confidently ($p < 0.05$) reduced accordingly from 52.1 ± 3.8 to 41.8 ± 3.3 ; and from 113.2 ± 3.7 to 98.7 ± 4.8 days.
2. Formation of healthy life style skills statistically confidently ($p < 0.05$) increased from 40.3 ± 8.0 to 65.4 ± 8.2 convenient units.
3. After pedagogic experiment interest for physical culture trainings confidently increased ($p < 0.05$) from 3.77 ± 0.1 to 4.09 ± 0.1 points.
4. The experimental methodic is effective and has specificity – increase of interest to physical; culture trainings by students on the base of the following: reduction of frequency and duration of diseases; conscious and firm skills of healthy life style.

Conflict of interests

The authors declare that there is no conflict of interests.

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