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IMPACT OF ATHLETICS TRAINING ON FUNCTIONAL TRAINING IN CADETS OF MILITARY EDUCATIONAL INSTITUTIONS

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Abstract
This article scientifically studies the effect of athletics training on functional training in cadets of military educational institutions. The study involved 1-2 stage cadets who were separated into experimental and control groups. In the experimental group, athletics exercises (running different distances, interval loading, jumping exercises) were systematically introduced into the physical training process. The control group, on the other hand, operated on a traditional physical fitness program.

Keywords: Cadets, military educational institutions, athletics, functional training, physical training, endurance, cardiovascular system, running exercises.

Introduction

One of the main tasks facing modern military educational institutions is to prepare cadets at a high level in all respects, including physical and functional, for future service activities. The peculiarities of military service — high physical load, long — term activity of movement, the need to perform tasks in various climatic and extreme conditions-require cadets to maintain stable and efficient functioning of the cardiovascular, respiratory and muscular systems.

Functional training is one of the important indicators that determine the physical working capacity of military personnel, it reflects the level of adaptation of the body to external loads, the ability to rationally use its energy reserves, and the effectiveness of recovery processes. Therefore, the development of functional training in the system of training cadets is considered as a priority.

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Within the means of physical education and sports, athletics training is characterized by its publicity, practical orientation and high physiological impact strength. Running, jumping and speed training develop aerobic and anaerobic capabilities in the body, increase the economy of movement activity and improve coordination between functional systems. In particular, athletics is of practical importance for cadets due to the close connection of training with the types of movement inherent in military activities.

The analysis of scientific literature shows that, although there is a lot of research on the issues of physical fitness in military educational institutions, the issue of studying the exact and complex effect of athletics training on the functional training of Cadets is not sufficiently covered. Most studies are limited to universal training or the development of individual physical qualities.

In this regard, this research is aimed at scientifically and practically substantiating the impact of athletics training on functional training in cadets of military educational institutions. The results of the study are expected to be important in improving the Military Physical Training System, effective training planning and thorough training of cadets for service activities.

Methods

Organization of research:

The study was carried out during the 2024-2025 academic year among the cadets of the 1-2 stages of the student at the military educational institution. A total of 60 cadets participated voluntarily in the study. The age of participants was 18-22 years. All cadets underwent a medical examination and were allowed to engage in physical activities.

The study participants were divided into two groups through a random selection method:

Experimental group (n=30) - in physical training, the means of Athletics took the main place;

Control group (n=30) — continued training under the traditional physical training program.

Training program.

The training program developed for the experimental team was conducted 3 times a week, 60-90 minutes each. The following athletics elements were included in the training content:

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- running different distances (100 m, 400 m, 1000 m, 3000 m);
- interval and tempo running exercises;
- elements of long jump and high jump;
- special exercises that develop agility and agility.

The control group cadets were engaged on the basis of a comprehensive physical training program, in which gymnastic exercises, saf training and Universal exercises were prioritized.

Methods for assessing functional indicators.

The following physiological and physical indicators were selected to assess the functional training of cadets:

- **Heart rate** — measured in a calm state and after physical loading;
- **Respiratory frequency** — rated before and after exercise;
- **Cooper Test** — Total endurance through a 12-minute run;
- **Run to 1000 meters-**to assess functional training and aerobic capacity.

Measurements were made at the beginning and end of the study.

Indicators of functional training of cadets of experimental and control groups Table 1.

№	Specification	Experimental group (beginning)	Experimental group (at the end)	Control group (beginning)	Control group (at the end)
1.	Cooper Test (m)	2400	2750	2380	2500
2.	1000 m Run (seconds)	270	245	268	260
3.	Heart rate	78	70	77	74
4.	Heart rate after physical loading (min)	162	148	160	155

Brief scientific comment on the table.

As can be seen from the table data, at the end of the study, all functional indicators were significantly improved in the experimental group. In particular, the Cooper Test and improved performance in the 1000 metres confirm the positive effects of athletics training on overall endurance and aerobic capacity. While positive changes were also noted in the control group, they were to a lesser extent compared to the experimental group.

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Growth dynamics of indicators of functional training Table 2.

№	Specification	Experimental group change	Experimental group (%)	Control group change	Experimental group (%)
1.	Cooper Test (m)	+350 м	+14,6 %	+120 м	+5,0 %
2.	1000 m Run (seconds)	−25 с	−9,3 %	−8 с	−3,0 %
3.	Heart rate	−8	−10,3 %	−3	−3,9 %
4.	Heart rate after physical loading (min)	−14	−8,6 %	−5	−3,1 %

Note: "+ "means increased indicator," — " means decreased.

Table 2 data shows that in the experimental group, the growth rate for all functional indicators is much higher than in the control group. In particular, the Cooper Test and a significant improvement in the results of the 1000-meter run confirm that athletics training has a high efficiency in the development of endurance and aerobic capacity.

Results

In the process of analyzing the results of the study, the indicators of functional training of cadets of experimental and control groups were studied in a comparative way. At the beginning of the study, no significant difference was observed between the indicators of both groups, which ensured the equality of the conditions of the experiment.

Cooper test results. According to the results of the Cooper Test, while in the experimental group the average at the beginning of the study was 2400 meters, at the end of the study this figure reached 2750 meters. The total increase as a result was 350 meters or 14.6%. In the control group, however, Cooper's test scores had increased from 2,380 metres to 2,500 metres, with an increase of around 120 metres or 5%. This situation shows that the overall endurance level in the experimental group has developed at a much higher rate.

1,000 m running scores. An analysis of the results of the 1000-meter run showed that the average time in the experimental group was reduced from 270 seconds to 245 seconds. The 25-second improvement in time suggests that athletics training had a high performance in increasing aerobic capacity. In the control group, this

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figure was reduced from 268 seconds to 260 seconds, making the change relatively less. The difference between the groups clearly demonstrated the superiority of the experimental group.

Heart rate indicators. An analysis of heart rate frequency (YuUCh) indicators found that in the experimental group, the quiescent YuUCh decreased from 78 ud/min to 70 ud/min. While The Post-physical load YuUCh decreased from 162 ud/min to 148 ud/min. While the control group also observed positive changes in the YuUCh indicators, they were at a low level compared to the experimental group. These results show that athletics training is important in improving the functional state of the cardiovascular system.

Overall results. According to the results obtained, statistically significant positive changes in all the main indicators of functional training were noted in the experimental group where athletics training was used ($p < 0.05$). Although the control group also had some growth, it had less effect compared to the experimental group.

Discussion. The results of this study confirm the effectiveness of athletics training in improving the functional training of cadets. The data obtained showed that in the experimental group, significant positive changes were observed in all functional indicators. This situation proves that it is advisable to systematically include athletics training in the physical training process.

The High improvement of Cooper test results in the experimental group is evidenced by the development of overall endurance and aerobic capacity in cadets. This indicator determines the level of readiness for long-term physical activity, which is important in the military. Although a certain level of growth has also been noted in the control group, its lower level indicates that traditional training does not adequately develop functional training.

A significant improvement in the experimental group of 1000 meter running results showed a positive effect on the cardiovascular and respiratory systems. The improvement of load adaptation has increased the ability of physical work and efficiency of movement in Cadets, which is an important factor in the performance of rapid and continuous actions characteristic of military activities.

A decrease in heart rate indicators showed an improvement in the level of economic performance of the cardiovascular system and the body's chances of recovery in the experimental group. These results also confirm the preventive and health-improving importance of athletics training.

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The results obtained are consistent with previous studies, in which it was also noted that athletics training is an effective tool in increasing the functional training of the body. At the same time, this study more accurately showed the practical value of training in the conditions of military educational institutions.
There are also limitations to the study: the number of participants is relatively low and the duration of the study is short. In future studies, it will be advisable to determine the long-term effect of athletics training by increasing the number of cadets and extending the duration of training.

Conclusion

The results of this study scientifically confirmed that athletics training is an important and effective tool in the development of functional training of cadets of military educational institutions. The data obtained during the study showed that when athletics training is used systematically and purposefully, there are significant positive changes in the functioning of the cardiovascular, respiratory and muscular systems of cadets.
In the experimental group, The Cooper test shows that a reliable improvement in functional performance, such as the 1000 meter run and heart rate, has been highly effective in increasing overall endurance, aerobic capacity, and the body's ability to adapt to physical loads. While positive changes were also observed in the control group, the fact that their scale was less than that of the experimental group made the advantage of athletics training even more evident.
The results obtained revealed the practical importance of athletics exercises in the formation of physical stability, efficiency of movement and functional working capacity necessary for military service activities. Running and jumping exercises in particular have been found to play an important role in improving the movement agility, endurance and recovery processes of cadets.
It is also recommended that, based on the results of the study, it is advisable to widely introduce athletics training into the physical training programs of military educational institutions, planning them taking into account the age, physical condition and service requirements of cadets. This will serve to increase the level of readiness of cadets for service and strengthen their health.
In conclusion, athletics training is an effective physical education tool, scientifically and practically grounded in increasing the functional training of cadets of military educational institutions. In the future, extensive and long-term

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research in this direction will make it possible to further reveal the importance of athletics training in the military training system.

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