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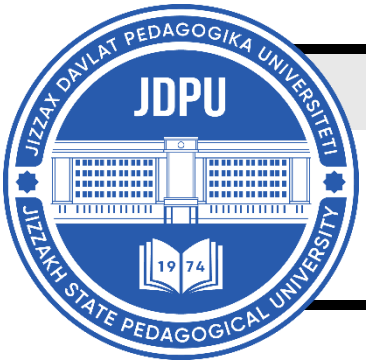


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# IMPROVING THE COORDINATION ABILITIES AND TECHNICAL-TACTICAL MOVEMENTS EFFECTIVENESS OF ATHLETES ENGAGED IN KURASH

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## ABOUT ARTICLE

**Key words:** anthropometry, combat sports, kurash, referees, physical performance, physical development, functional indicators, functional capabilities.

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**Abstract:** This article provides information on the development of coordination abilities and the improvement of technical-tactical movements of athletes engaged in kurash. It discusses how training, specific to this sport, can lead to not only quantitative changes in the components of an athlete's body mass but also modifications in the overall constitution of the athlete, particularly in children and adolescents. Taking these aspects into account, this study aims to analyze the formation and differentiation of somatotypes within a single specialization, specifically in various types of kurash. The study examines the anthropometric indicators of representatives of different kurash styles.

## Introduction

Currently, due to the well-defined policy pursued in the field of physical education and sports in our Republic, increasing attention is being paid to the further development of this sector. "We always take pride in our athletes who contribute to enhancing the reputation and prestige of our Republic in international arenas." In the context of increasing competition in national and international kurash tournaments, obtaining objective information about athletes'

preparation levels and establishing a systematic approach to kurash training remains a pressing issue, as many aspects lack established criteria.

Analyzing the preparation process for kurash competitions, selecting methodological approaches tailored to the individual characteristics of athletes, applying appropriate training programs, evaluating competition performance indicators, and utilizing specialized sports equipment to enhance physical and technical-tactical preparation have not been sufficiently explored in research [S. Adilov]. Given this, the study of coordination abilities and the effectiveness of technical-tactical movements based on the analysis of competition activities in kurash is of great relevance for our scientific research.

Efforts are being made to popularize, develop, and promote our national sport—kurash—which embodies the traditions of courage, bravery, and patriotism passed down from generation to generation. This includes organizing prestigious international tournaments, modernizing infrastructure and material-technical resources, improving the supply of sports equipment and attire, expanding production in this area, and enhancing the training of qualified personnel, coaches, and referees.

Preserving and transmitting the rich traditions and values of kurash to future generations, strengthening its role on the global stage as a brand of Uzbek sports, fostering youth interest in national sports, and encouraging patriotism are among today's urgent tasks. Creating the necessary conditions for people of all ages, particularly young individuals and international communities, to engage in this sport is also a priority.

**Literature review**

Advanced tools for auxiliary physical training include exercises that, due to their kinematic and dynamic structure and neuromuscular tension characteristics, correspond to the main movements performed by wrestlers in competition. Such exercises include:

- Performing various wrestling techniques based on signals;
- Exercises using specialized training equipment;
- Practicing with wrestling mannequins [2;4;5].

The specialized physical preparation of a wrestler is aimed at developing movement qualities in strict accordance with the demands imposed by the competitive nature of the sport. Specialized physical training is primarily conducted on the wrestling mat and focuses on developing key movement skills. Therefore, competitive exercises that incorporate various levels of complexity are essential for specialized physical training. These complex exercises enhance the wrestler’s overall adaptation, such as performing throws with heavier opponents

or conducting training matches with changing partners. These exercises contribute to the development of different energy supply mechanisms, providing a comprehensive impact on the wrestler's training and simultaneously improving their physical and technical-tactical preparation [6;7;8;9].

All types of physical preparation are interconnected. Underestimating any aspect of physical training can ultimately hinder an athlete's progress. Hence, it is crucial to maintain an optimal balance between different types of physical preparation. The quantitative expression of this balance is not a fixed parameter but varies depending on the athlete's skill level, individual characteristics, training phase, and current physical condition.

**Research methodology**

The research employed a variety of methods, including analysis of scientific-methodological literature, pedagogical observations, pedagogical testing, instrumental methods, anthropometry, somatoscopy, morphobiomechanical approaches, pedagogical experiments, and statistical analysis.

**Analysis and results**

To assess the physical development of athletes, anthropometric studies were conducted. Standard equipment such as anthropometers, sliding calipers, calipers, and measuring tapes were used while strictly adhering to measurement protocols. The study analyzed the body structure characteristics of athletes engaged in international combat sports, comparing their body dimensions, head, neck, arms, and legs in terms of length, breadth, and circumference. The thickness of skinfolds was measured in four areas: subscapular, abdominal, upper rib, and posterior upper arm regions.

Table 1 presents the anthropometric indicators of international kurash athletes.(Here, the table with measurements and statistical data remains unchanged for accuracy.)

**Anthropometric Indicators of International Kurash Athletes (n=42)**

| Measurements | Parameters | Freestyle Wrestling (n=8) | Sambo (n=8) | Greco-Roman Wrestling (n=6) | Kurash (n=12) | Judo (n=8) |
|---|---|---|---|---|---|---|
| **Height** | M+m (sm) | 175,72±0,62 | 172,95±1,92 | 175,30±2,52 | 175,44±1,08 | 172,38±1,31 |
| | Std. deviation. | 7,05 | 9,04 | 8,39 | 4,57 | 5,85 |
| **Weight** | M+m (sm) | 69,72±0,96 | 70,53±2,31 | 69,60±2,89 | 67,83±1,88 | 67,44±1,30 |
| | Std. deviation | 11,04 | 10,83 | 9,60 | 7,99 | 5,82 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Chest Circumference** | M+m (sm) | 93,50±0,86 | 98,00±1,39 | 95,67±0,54 | 91,20±1,34 | 93,24±0,70 |
| | Std. deviation. | 9,89 | 6,54 | 1,80 | 5,67 | 3,15 |
| **Shoulder Length** | M+m (sm) | 34,16±0,28 | 32,80±0,36 | 34,67±1,12 | 34,14±0,36 | 33,30±0,40 |
| | Std. deviation | 3,24 | 1,69 | 3,73 | 1,55 | 1,79 |
| **Forearm Length** | M+m (sm) | 24,78±0,16 | 28,30±0,47 | 29,83±1,06 | 28,71±0,30 | 29,30±0,88 |
| | Std. deviation. | 1,80 | 2,19 | 3,53 | 1,28 | 3,95 |
| **Palm Length** | M+m (sm) | 21,85±0,86 | 21,00±0,36 | 20,50±0,60 | 21,71±0,50 | 20,70±0,27 |
| | Std. deviation | 9,90 | 1,67 | 1,98 | 2,12 | 1,19 |
| **Thigh Length** | M+m (sm) | 45,89±0,50 | 42,90±0,89 | 44,17±1,38 | 44,86±1,57 | 40,30±0,65 |
| | Std. deviation | 5,75 | 4,16 | 4,60 | 6,69 | 2,49 |
| **Calf Length** | M+m (sm) | 42,69±0,67 | 43,30±1,12 | 44,67±0,73 | 41,71±1,02 | 44,10±0,23 |
| | Std. deviation | 7,67 | 5,24 | 2,43 | 4,33 | 1,04 |
| **Shoulder Circumference** | M+m (sm) | 34,77±0,32 | 34,87±0,73 | 34,00±0,62 | 32,37±0,56 | 33,18±0,36 |
| | Std. deviation. | 3,67 | 3,42 | 2,07 | 2,38 | 1,60 |
| **Forearm Circumference** | M+m (sm) | 28,55±0,38 | 29,78±0,37 | 26,80±0,29 | 27,20±0,38 | 27,63±0,25 |
| | Std. deviation | 4,34 | 1,75 | 0,98 | 1,60 | 1,11 |
| **Forearm Circumference** | M+m (sm) | 52,33±0,53 | 57,50±1,02 | 51,67±0,81 | 51,20±0,50 | 56,88±0,64 |
| | Std. deviation | 6,08 | 4,80 | 2,69 | 2,14 | 2,85 |

The results showed that total anthropometric measurements—body mass, chest circumference, and body size—varied significantly among athletes specializing in different types of kurash. The greatest variation in chest circumference was observed among freestyle wrestlers, followed by sambo athletes and kurash practitioners. In contrast, the lowest variability was found in Greco-Roman wrestlers and judokas. Moderate variability was detected in shoulder and calf lengths, as well as in the circumferences of shoulders, thighs, and calves, whereas minimal variation was noted in hand, wrist, palm, leg, and thigh lengths.

The distribution of general, specialized, and technical-tactical training over the course of a year is detailed in Table 2.

(Again, the table is maintained in its original numerical format for clarity.)

**Distribution of UGT, SGT, and TTT in the Training Process of the Experimental Group Throughout the Year (%)**

| Training Types | Months | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | September | October | November | December | January | February | March | April | May | June | July | August |
| UJT | 47,5 | 32,5 | 6 | 32,5 | 48 | 42,5 | 32,5 | 7,5 | 40 | 48,75 | 32,5 | 6 |
| MJT | 38,75 | 41,25 | 26 | 35 | 37 | 42,5 | 41,25 | 27,5 | 35 | 40 | 41,25 | 26 |
| TTT | 13,75 | 26,25 | 68 | 32,5 | 15 | 15 | 26,25 | 65 | 25 | 11,25 | 26,25 | 68 |
| % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

From the data, we observe that training loads were adjusted month by month based on the annual training cycle and competitive schedule. For example, technical-tactical training was significantly emphasized in November and August due to planned competitions, while general physical training was prioritized in months requiring endurance development. As seen in the table, in September, general physical training (UGT) was planned at 47.5%, special physical training (SGT) at 38.75%, and technical-tactical training (TTT) at 13.75%. In October, these distributions were as follows: general physical training at 32.5%, special physical training at 41.25%, and technical-tactical training at 26.25%. During October, the proportion of special physical training was slightly higher compared to general physical training and technical-tactical training.

In November, general physical training was 6%, special physical training was 26%, and technical-tactical training was 68%. This is because a competition was scheduled during this period in accordance with the annual plan.

In December, general physical training was 32.5%, special physical training was 35%, and technical-tactical training was 32.5%.

In January, general physical training was 48%, special physical training was 37%, and technical-tactical training was 15%. From the given data, it is evident that technical-tactical training was scheduled at a lower percentage during this month.

In February, the distribution of training loads was planned as follows: general physical training at 42.5%, special physical training at 42.25%, and technical-tactical training at 15%.

In March, general physical training was 32.5%, special physical training was 41.25%, and technical-tactical training was 26.25%.

In April, the distribution was: general physical training at 7.5%, special physical training at 27.5%, and technical-tactical training at 65%.

In May, general physical training was 40%, special physical training was 35%, and technical-tactical training was 25%. During this month, more training hours were allocated to general physical training.

In June, general physical training was 48.75%, special physical training was 40%, and technical-tactical training was 11.25%.

In July, general physical training was 32.5%, special physical training was 41.25%, and technical-tactical training was 26.25%.

In August, general physical training was 6%, special physical training was 26%, and technical-tactical training was 68%. This period is considered the preparatory phase for athletes.

According to scientific literature, under the influence of physical loads, muscle fibers begin to engage at a moderate level, metabolic processes are not significantly affected, and the impact on the cardiovascular system is also moderate. The recovery processes occurring during this period are confirmed by these indicators.

**Conclusion**

The study demonstrated the effectiveness of a novel approach to planning the monthly training cycle. This new methodology allowed for the optimal structuring of weekly training cycles. Two groups of wrestlers were formed (experimental and control), both at a similar level in terms of physical, technical, and sports performance. However, training volume and intensity differed between the groups. In the experimental group, the quantitative aspects of training were significantly modified based on research findings.

To address the shortcomings in the preparation of highly qualified kurash athletes, surveys were conducted among experienced specialists and athletes, and their responses were analyzed. Additionally, pedagogical observations and self-monitoring methods were employed during training sessions.

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