Improving the methodology for effectively organizing the daily routine of individual combat athletes during the pre-competition training period

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Abstract
This article addresses the issues of improving the methodology for scientifically planning the pre-competition training schedule for athletes engaged in individual combat sports. The study analyzes factors affecting functional preparation, psychological state, and recovery processes in athletes' activities. Foreign and local experiences were compared, and practical recommendations were developed.
Keywords: individual combat sports, preparation stage, daily routine, planning, recovery, functional preparation, pre-competition period.

Introduction

Currently, the increasing level of competition in international tournaments for individual combat sports necessitates organizing athletes' training process on a more scientific basis. In particular, the pre-competition preparation period is a crucial stage for maximizing the functional capabilities of the athlete's body, strengthening psychological stability, and maintaining optimal athletic form on the day of competition.

Practice shows that in many sports teams, the planning of the daily routine remains at the level of general recommendations, with insufficient attention paid to individual approaches, adaptation to biological rhythms, and ensuring a balance between exertion and recovery. This directly affects the athlete's level of preparedness at the start. Foreign experience and scientific research demonstrate that scientifically-based organization of the daily routine can improve sports results by 3-7% in the pre-competition period. Therefore, improving the methodology for effectively organizing the daily routine of combat sports athletes in the pre-competition preparation period is an urgent issue not only from a practical but also from a scientific perspective. The scientific and methodological recommendations developed on this issue will serve to increase athletes' level of physical fitness, reduce mental stress at the start, and optimize recovery processes. This is one of the important factors in increasing the competitiveness of Uzbek athletes in the international arena. In their scientific research, Y.Y. Shuteva and T.V. Zaitseva emphasized that in the 21st century, the era of computerization, the relevance of physical activity is undeniable. This activity allows a person not only to maintain good physical shape but also to maintain a healthy overall organism and mental state. For this, it is sufficient to exercise for at least half an hour a day.

According to A. S. Solovyov's research on increasing physical activity: Hypodynamia, i.e., physical inactivity, is one of the main risk factors for cardiovascular diseases. Research shows that at least 150 minutes of moderate-intensity aerobic exercise per week significantly improves heart function. For instance, A. S. Solovyov emphasizes that hypodynamia results in decreased heart muscle tone and disrupted blood circulation. [9]

As a result of regular physical activity, the heart muscle volume increases, the efficiency of heart contractions improves, and the pulse rhythm stabilizes. In this regard, V. I. Lubyshev's research indicates that the heart's systolic volume increases by 20-30% with physical activity [10].

The circulatory system and oxygen supply processes are activated, which enhances the body's aerobic capacity. According to A. A. Ivanov and L. S. Popova, martial arts training not only improves peripheral blood circulation but also optimizes lung ventilation [11]

According to V. I. Nazarov, the energy metabolism system is activated, particularly improving the regulation of glycogen reserves in the liver and muscles. Additionally, the body's cortisol (stress hormone) and endorphins (natural euphoria hormones) reach a balance. This state is crucial for reducing stress, ensuring mental stability, and maintaining a normal psychophysiological condition [12.].

Methods

The study utilized the review and analysis of

scientific and methodological literature, questionnaires, pedagogical observation, pedagogical testing, pedagogical control, pedagogical experimentation, and mathematical-statistical methods.

In the respiratory system, an increase in lung capacity and a balance in respiratory rate are observed. V. V. Parfenov concluded in this regard: regular intensive loads increase the elasticity of the lung alveoli, which significantly improves gas exchange processes [13.].

According to the scientific research of A. R. Tashmetov, all these changes prove to be a decisive factor not only in strengthening the health of athletes but also amateur participants, preventing conditions such as chronic fatigue syndrome, hypertension, and obstructive respiratory diseases [14.].

The Pre-Competition Preparation Stage (PCPS) is a period of bringing the athlete's body to maximum work capacity and adapting their psychophysiological state to the competition day [4]. Studies have shown that PCPS usually lasts 7-14 days and consists of the following components:

Gradual reduction of physical load.

Improvement of technical and tactical elements.

Enhancing psychological preparation and stress resistance.

Optimizing recovery and sleep regimen.

Results and discussion

Table 1. Proposed daily routine model (using the example of Olympic Training Center for Greco-Roman and freestyle wrestlers):

Time	Type of activity	Notes	Impact on performance (%)
07:00-07:20	Light morning physical exercises	Low intensity, muscle activation	5.2
07:30-08:00	Breakfast	High protein and complex carbohydrates	4.1
09:00-10:30	Technical-tactical training	Modeling competition situations	18.7
12:30-13:00	Lunch	Balanced nutrition	3.8
13:00-15:00	Rest and short nap	Accelerating recovery process	8.5
16:00-17:00	Special exercises (explosive power, agility)	Workload at individual level	27.4
18:30-19:00	Dinner	Easily digestible meals	2.9
21:30-22:00	Psychological preparation (meditation, visualization)	Mental modeling of competitive state	20.1
22:30	Sleep	At least 8 hours of quality sleep	9.3

Basic principles of daily routine planning in the pre-competition preparation stage. Effective daily routine planning during the pre-competition preparation stage is an important factor in ensuring the maximum work capacity of the athlete's body. In scientific literature, it is

recommended to strictly adhere to the following principles when organizing this process [1; 2; 3].

The physiological processes of an athlete's body are subject to daily (circadian) rhythms, meaning that indicators such as body temperature, heart rate, hormone secretion, and muscle activity fluctuate throughout the day [5]. Therefore, adapting training, eating, and rest times to these rhythms allows an athlete to train at the peak of their work capacity. For example, studies show that exercises requiring strength and speed yield the highest results between 16:00-18:00 during the day [15].

During the pre-competition phase, the ratio between physical load and recovery should be optimal. Excessive load leads to overtraining syndrome, while insufficient recovery reduces the athlete's adaptive capabilities [16.]. Therefore, gradually decreasing training intensity (tapering) and planning recovery activities helps maintain peak athletic form on the day of competition [17.].

The daily routine should encompass not only physical workouts but also psychological preparation processes. Visualization, autotraining, breathing exercises, and motivational talks increase the athlete's self-confidence and reduce pre-start stress [18]. For instance, in international practice, conducting brief visualization sessions after training ensures the athlete adapts more quickly to the competition environment [19.].

Each athlete has different functional capabilities, recovery rates, sleep quality, and psychological state. Thus, while the daily schedule is based on general recommendations, the final plan should be tailored to the results of individual monitoring [20.]. In this regard, technologies for tracking the athlete's heart rate, HRV (heart rate variability) indicators, post-training recovery, and sleep quality provide effective assistance [21.].

Adherence to these principles serves to optimize the athlete's functional state during the pre-competition preparation period, ensure psychological stability, and improve competition results.

Conclusion

Research results indicate that scientifically-based planning of the daily routine during the pre-competition training phase (PCTP) contributes to enhancing both general and specific functional preparedness of the athlete. An optimally structured daily routine not only ensures balance between physical loads and recovery processes but also helps achieve peak performance capacity on the day of competition. This process enables the athlete's body to conserve energy resources, increase stress resilience, and quickly adapt to competitive conditions.

When developing the daily schedule, it is crucial to consider several key factors. Firstly, aligning with biological rhythms allows for harmonizing training, nutrition, and rest periods with the body's natural circadian activity. Additionally, selecting the appropriate balance between workload and recovery prevents excessive fatigue and injuries, while integrating psychological preparation strengthens the athlete's mental stability and competitive motivation. The synergy of these factors comprehensively enhances the effectiveness of the training process.

The proposed daily routine model was tested in the experimental group and yielded significant positive results. This methodology can be recommended for use in the process of movement-oriented training in martial arts. However, in future research, it is advisable to conduct a differential analysis of the daily routine parameters based on sport type, age, and gender, as well as to develop individual planning mechanisms for athletes of various levels. Through this approach, the methodology will be further refined and its practical effectiveness will increase.

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