

## OPTIMIZATION OF TRAINING PROCESS IN PRE-START FENCING TRAINING ON THE BASE OF OUT-OF-TRAINING MEANS' OF MOBILIZATION ORIENTATION APPLICATION

Lopatenko G.O.

Borys Grinchenko Kyiv University

**Abstract.** *Purpose:* to show effectiveness of out-of- training means of mobilization orientation in pre-start preparation of elite fencers. *Material:* in the research 12 elite sportsmen-fencers participated. *Results:* it was found that under influence of the worked out pre-start complex (during 15-18 minutes), comparing with traditional warming up (40 minutes) more expressed mobilization effect was registered. This effect also lasted longer time. Higher stimulating effects of pre-start complex are proved by confident differences in sportsmen's special workability ( $p < 0.05$ ). *Conclusions:* the achieved stimulating effects reduced duration of general warming up to twenty minutes. It permits to more rationally organize pre-start training of fencers in comparison with application of traditional means.

**Key words:** martial arts, fencing, preparation, out-of- training, means, competitions.

### Introduction

Strive for strictly balanced system of trainings and competition loads, rest, eating, means of workability restoration and stimulation, functional reserves mobilization is an important direction in perfection of modern training system [9, 13]. Development of this direction is connected with increasing of out-of-training and out-of-competitions factors' role: workability stimulation means in training system of sportsmen. It is also necessary to match them with content and orientation of competition functioning in every kind of sports [2, 3].

Realization of this direction of researches is rather important for fencing. Recent time in this kind of sports competitiveness has been increased; duels have become more tensed and dynamic. The existing pre-start training system does not always correspond to peculiarities of modern system of competitions conduct [5, 17, and 20]. Analysis of scientific-methodic and special literature showed that there was certain deficit of works, devoted to increase of special workability in direct preparation of sportsmen for competitions [10, 18, and 19].

In this connection, researches of existing sportsmen pre-start training system's perfection and its matching with specificities of competition functioning in fencing are of special importance.

### Purpose, tasks of the work, material and methods

*The purpose of the research* is to show effectiveness of not training means of mobilization orientation in pre-start preparation of elite fencers.

In the research elite male fencers participate ( $n=12$ , from them 6 were international master of sports of Ukraine of 18-24 years' age).

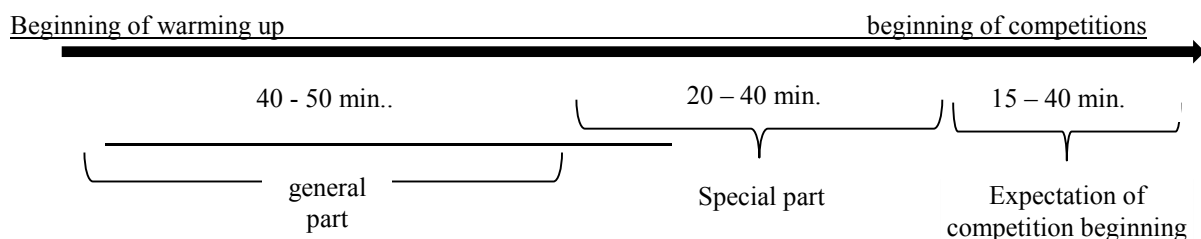
### Results of the research

Conditions of fencing competitions' conduct do not always permit to optimally realize pre-start warming up potential. Elite sportsmen face the fact that systems of competitions' conduct at national and international levels are substantially differ. These distinctions shall be considered when organizing direct preparation for competitions. For example: great number of national tournaments took not more than one day. Within this period sportsmen shall pass qualification stage, consisting of 6 duels (5 pricks in each); and stage of direct retirement. The stage of direct retirement consists of approximately the same quantity of duels (15 pricks in total). Exclusion is only tournament of the strongest Ukrainian fencers, which took two days. Analysis of competition functioning results of Ukrainian national combined team shows, that 90% of sportsmen practice only one general and special warming up just before qualification stage of competitions. At the same time most of international competitions have more complex structure. In stages of World Cup or tournaments of "Grand prize" series fencers have to compete during two days. The first day includes qualification stage. After it several duels follow (maximum three) by system of direct retirement. With it cases, when sportsmen's expectation of their duels can last for several hours, are rather often. In such case it is necessary to repeat special and general warming up. Analysis of competition functioning and many years' experience of performances at tournaments permit to say that traditional system of Ukrainian sportsmen's pre-start training can be sufficiently effective at domestic competitions. But it demonstrates significant disadvantages at international level.

These disadvantages are connected with not rational application of pre-start mobilization means. In its turn, it is connected with the fact that traditional pre-start warming up of Ukrainian fencers nearly does not differ from the used in training process. It is quite evident that constant application of monotonous warming up exercises does not result in required functional shifts in sportsman's organism. Besides, the existing system of pre-start impacts requires rather much time.

In this connection our research was devoted to seeking of such means of sportsmen's pre-start preparation's organization, which would permit to optimize pre-start warming up and ensure durable mobilization effects in various conditions of competition functioning.

For increasing of sportsmen's pre-start training effectiveness we worked out complex of out-of-training means of mobilization orientation. In the process of experimental complex's working out we considered specific features of competition functioning. Interval between warming up and main competition functioning seems to be exclusively important. As a rule total duration of warming up is from 60 to 90 minutes. With it duration of general part of the warming up is 40-50 minutes. Duration of interval between warming up end and main competition functioning beginning varies in wide range, depending on stage of competition: from 10-20 to 45-60 minutes (see fig. 1). Interval between warming up end and beginning of competition's qualification stage is usually from 15 to 25 minutes. With it sportsmen try to maximally approach the end of warming up to the start of competition functioning. It is connected with the fact that sportsman shall be present near the place of his duel 15 minutes before the beginning of competition. It is a requirement for the referees to check the presence of sportsman and the presence of appropriate signs on their equipment. Besides, qualification fight are not conducted simultaneously. That is why expectation of first duel can take in average 10-20 minutes.



**Fig. 1.** Specificities of fencers' pre-start warming up

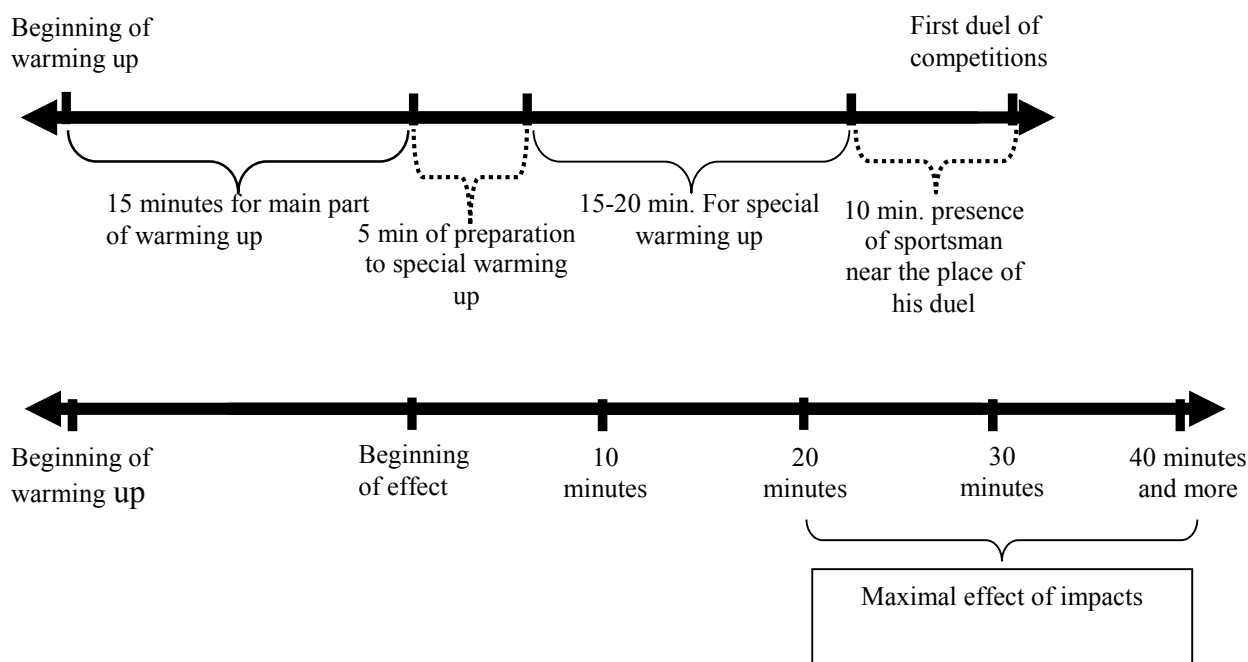
Duration of warming up effects depends to large extent on the character of fulfilled exercises, sportsman's fitness and his individual features. In competition of "A" category sportsmen shall wait in special "call room", for long period of time (25-30 min.) Then sportsmen will have to go to sports track and perform without additional warming up. In this connection means of pre-start training, permitting to maintain mobilization potential after warming up, are of great practical significance [2, 3].

The researches, conducted earlier [6, 7], showed that application of the worked out by us complex positively influences on functional indicators of sportsmen's organisms and permits to receive long lasted adaptation (mobilization) effect. Such approach seems to be exclusively important in conditions of non stable system of competitions on national and international levels.

Results of our research point that application of the worked out complex of pre-start impacts instead of warming up general part permits to substantially shorten warming up time in the whole. In its turn it permits to reduce physical tension level and preserve forces for further competition functioning.

In our research it is shown (fig.2) that the most effective application of pre-start impacts is 45 minutes before the beginning of competitions.

It is connected with the fact that under influence of the worked out pre-start complex (which took 15-18 minutes) in contrast to traditional warming up, taking 40 minutes, more expressed mobilization effect was registered.



**Fig.2.** Specific features of application of pre-start impacts' experimental complex

This effect continued longer time. It is proved by indicators, showing fencers' special workability: indicators of sportsmen's neuro-dynamic functions, of cardio-vascular system's response to endured load [6, 7, and 8]. Comparative analysis of the indicators before and after application of experimental pre-start impacts' complex showed confident improvement of simple and complex visual-motor reaction time ( $p < 0.05$ ), as well as confident increase of training impulse ( $p < 0.05$ ): indicator of "doze-effect" impact in response to the fulfilled work. Besides, we registered high subjective self assessment of sportsman's state: increased workability, high quickness, quick restoration after loaf in special warm up, feeling of freshness and wish to participate in competitions (combat readiness).

The presented data witness about positive influence of experimental complex on indicators, which are in the base of fencers' special workability. These indicators show at demand in further perfection of pre-start training system in this kind of sports.

### Discussion

The fulfilled research permitted to substantiate demand in further perfection of pre-start training system and purposefulness of experimental out-of-training means' complex application in variable conditions of elite sportsmen's competition functioning. The received results permit to say that the offered complex increases effectiveness of sportsmen's pre-start functioning. As a result – it increases organism's potentials for realization of existing functional potential. The received results witness about positive influence of experimental complex on organism's functional potentials of elite sportsmen.

The results of the research noticeably supplement theoretical ideas about specific features of pre-start preparation's organization for elite fencers at modern stage [11, 17, 19, and 20]. We also confirmed results of a number of authors about demand in complex and rational application of training and out-of-training means in system of sports training. Such approach results in increase of competition functioning effectiveness in the whole [2, 9, 13]. Besides, we supplemented theoretical principles concerning realization of elite sportsmen's functional potential in process of direct preparation for competitions [1, 4, 12, 14, 15, 16] as well as the data about modern approaches to optimization of elite sportsmen's pre-start training with the help of out-of-training means [10, 17, 19].

### Conclusions

1. Analysis of the results showed that modern system of pre-start training in fencing has a number of disadvantages and in most cases contradicts to modern competition system in fencing. It weakens possibility of organism's reserves realization and does not ensure optimal structure of competition functioning.

2. It was shown that the worked out complex of pre-start impacts positively influence on functional indicators of sportsmen's organisms. Maximal stimulating effect of experimental complex application is observed in period from tenth to thirties minute after application of the complex.

3. The achieved stimulating effects reduced duration of general warming up to twenty minutes. It permitted to more rationally organize pre-start training of elite fencers, comparing with traditional means usage.

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#### **Conflict of interests**

The author declares that there is no conflict of interests.

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**Information about the author:**

**Lopatenko G.O.;** <http://orcid.org/0000-0001-9223-248X>;  
[georgefenc@gmail.com](mailto:georgefenc@gmail.com); Borys Grinchenko Kyiv University;  
18/2 Bulvarno-Kudriavska Str, Kyiv, 04053, Ukraine.

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