

Quantitative Estimation of Competitive Activity of High Qualified Foil Fencers*National University of Physical Education and Sport of Ukraine (Kiev)*

Introduction. The problem of rising of the competitive activity efficiency is one of the main problems in general system of sport training [3, 6, 7].

In foil fencing this problem is still actual, because of many objective reasons, caused by the rising of concurrence at international arena and innovational introductions into rules of competition, particularly such as: change of technical parameters of signaling unit, video-refereeing, changing of rules of refereeing and also permanent perfection of sport equipment [2, 5].

However at the modern stage of foil fencing evolution the deficiency in scientifically-methodical proceedings in perfection of technique-tactical training of athletes which would be based on the objective information about the competitive actions of foil fencers, received on the basis of use of modern methods of registration and an estimation of their competitive activity, and also taking into account last changes in rules of competition is felt.

The purpose of research – to fulfill a quantitative estimation of technique-tactical actions of high qualified foil fencers in the conditions of competitive activity.

Research methods: the theoretical analysis and generalization of the special and scientifically-methodical literature, a video shooting, the analysis of competitive activity of fencers and methods of mathematical statistics.

Results of research and their discussion. In the research 70 bouts of a direct elimination round of following individual competitions of men foil fencers have been analyzed: The 2010 World Championship (Paris, France); Grand Prix-2010 (Venice, Italy); Grand Prix-2010 (Paris, France). The analysis of video-recordings of competitive bouts of high qualified foil fencers has allowed to receive quantitative indicators of volume (V), efficiency (E) and productivity (P) of the basic groups of fencing actions [1, 4, 7].

The analysis of technique-tactical actions of the best fencers in the world at the major competitions of a season has shown that attacks come to the forefront in competitive activity of high qualified foil fencers (fig. 1). Their volume is 53,2 % on the relation to all technique-tactical actions fixed in bouts and it is the greatest indicator among the main means of single combat. However the indicator of efficiency of attacks is smaller in comparison with defensive actions and counter-attacks and is equal 41,1 %, the indicator of productivity of this group of actions is equal 51,6 % and testifies to primary value of offensive actions in achievement of desirable result in a fight.

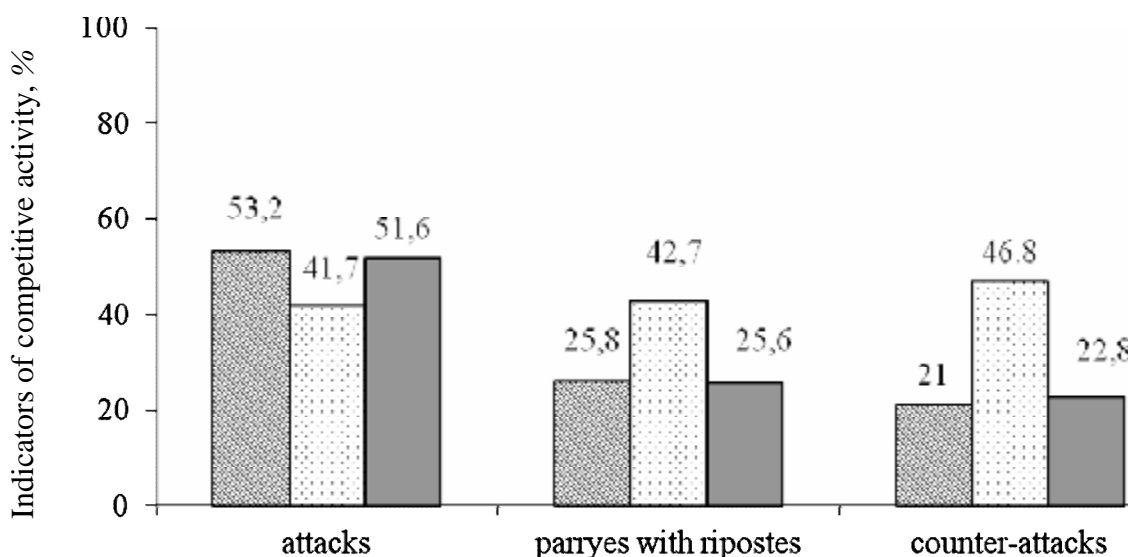


Fig. 1. Volume, efficiency and productivity of basic groups of technique-tactical actions of high-qualified foil fencers:

▨ – volume; ▩ – efficiency; ■ – productivity

Most often among offensive actions simple attacks ($V = 21,3\%$) with efficiency $43,6\%$ and productivity $21,6\%$, and also attacks with feint ($V = 15,3\%$) with efficiency 37% and productivity $13,2\%$ are applied. The greatest efficiency ($47,9\%$) have attacks with action to the weapon, however volume of application of such attacks is comparative low and is $9,8\%$. High reliability of attacks with action to the weapon speaks that the attacking athlete at battement or capture performance removes the weapon of the opponent, and makes more complicate to perform the defensive or counter-attacking actions.

In fights of high qualified foil fencers there parries with ripostes are frequent ($V = 25,8\%$). The indicator of efficiency of defensive actions a little higher, rather than attacking and is $42,7\%$. The fourth part of all hits are put after performance of parries, with ripostes, their productivity is $25,6\%$.

Simple direct parries with ripostes ($V = 15,9\%$) are more frequently applied among the defensive actions, and their efficiency is $40,1\%$. The fourth direct parry with riposte prevails by the volume ($10,3\%$) among them with efficiency $38,7\%$. But the most effective ($E = 52,1\%$) is the sixth parry with the subsequent riposte. Other direct parries, such as the first, the second and the ninth are used seldom enough and have low indicators of efficiency and productivity that underlines their auxiliary role in bouts.

Circular parries with ripostes are applied much less often ($V = 5,4\%$), however their efficiency is $7,1\%$ higher, than direct parries with ripostes' and makes $47,2\%$. The most popular ($V = 4,9\%$) and effective ($E = 47,4\%$) out of circular is the sixth parry with the riposte.

At the analysis of competitive activity it has been revealed that counter-ripostes also take place in bouts of high qualified foil fencers with volume ($5,4\%$), efficiency ($46,4\%$) and productivity ($4,9\%$). Among them the 4th counter-riposte is used more often, its volume is ($2,7\%$), however the most productive is the first counter-riposte ($P = 57,1\%$).

In comparison with attacking and defensive technique-tactical actions counter-attacks are the most effective ($E = 46,7\%$) that compensates small percent of their application ($V = 21\%$). Among counter-attacks the most widespread are stop hits ($V = 14,5\%$) with efficiency ($45,1\%$) and productivity ($15,1\%$), then follow the remises with volume (6%), efficiency (49%) and productivity ($6,9\%$).

The point in line position in bouts of foil fencers of high qualification is met only fragmentary ($0,5\%$), however this technique-tactical action has the greatest indicator of efficiency (70%) in comparison with other technique-tactical actions registered in research.

The fulfilled analysis of competitive activity also has shown that most widespread among the counter-attacks are the advanced stop hits ($V = 7,5\%$) with efficiency ($47,1\%$) and productivity ($8,2\%$).

Stop hits made with opposition and ducking have almost identical volumes of application – $3,4\%$ and $3,5\%$ accordingly, however stop hits made with opposition have the highest percent of efficiency – $48,6\%$ among the all kinds of counter-attacks. This fact, possibly, speaks that it is much easier and faster to offense the sector, which the opponent is going to finish attack to, using the blade, rather than to do it by means of various maneuvers and ducking by a trunk.

Conclusions. The modern arsenal of technique-tactical actions of the best foil fencers of the world differs the big variety of tricks and the actions adapted for specific features of each athlete. The statistical analysis of technical actions of high qualified athletes in seventy bouts has allowed to make generalizing conclusions.

Fencing bouts are characterized by an offensive orientation, the volume of offensive actions is $53,2\%$. Simple attacks and attacks with feints have advantage to what the volume of their application and high productivity testifies. Attacks with action to the weapon are characterized by high efficiency – $47,9\%$, but small volume, and it is possible to consider this kind of actions as a reserve for increase the productivity of competitive activity.

The second place on volume of application is occupied with parries with ripostes ($V = 25,8\%$) with productivity of $25,6\%$. The most used among them are the direct fourth and the sixth circular parry.

The most effective methods of counteraction to attacks, according to our researches, are the counter-attacks which efficiency reaches $46,8\%$. Among counter-attacks the most productive are stop hits ($15,1\%$) and remises ($6,9\%$). The point in line position is used seldom enough, however has the greatest indicator of efficiency (70%) in comparison with other technique-tactical actions fixed in research.

Prospects for Further Research in This Area. Improving the technique-tactical actions of foil fencers during the stage of specialized base training considering current tendencies of fencing.

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Annotations

The study is to define the use of the technique-tactical actions by the best fencers in the world at major events of the season what will identify current tendency of foil fencing. The task of work is to establish quantitative assessment for the technique-tactical actions of highly-skilled foil fencers in the main competition of season. The information on volume, efficiency and effectiveness of basic attacks, parries with ripostes and counter attacks of highly-skilled fencers. These results provide a basis for the development of programs of technique-tactical training in all phases of sports perfection.

Key words: *fencing, high qualified foil fencers, technique-tactical actions.*

Володимир Гамалій, Олена Шевчук, Андрій Бакум. Кількісний аналіз змагальної діяльності фехтувальників-рапіристів високої кваліфікації. *Роботу присвячено визначенню використання техніко-тактичних дій кращими рапіристами світу на основних змаганнях сезону, що дасть змогу виявити сучасні тенденції розвитку фехтування на рапірах. Завдання роботи полягає у визначенні кількісної оцінки техніко-тактичних дій фехтувальників високої кваліфікації на головних змаганнях сезону. Представлена інформація про об'єм, ефективність та результативність використання основних атак, захистів із відповідями й зустрічних нападів висококваліфікованими рапіристами. Отримані результати можуть стати підґрунтям для розробки програм техніко-тактичної підготовки на всіх етапах спортивного вдосконалення.*

Ключові слова: *фехтування, рапіристи високої кваліфікації, техніко-тактичні дії.*

Владимир Гамалий, Елена Шевчук, Андрей Бакум. Количественный анализ соревновательной деятельности фехтовальщиков-рапиристов высокой квалификации. *Работа посвящена определению использования технико-тактических действий лучшими рапиристами мира на основных соревнованиях сезона, что позволит выявить современные тенденции развития фехтования на рапирах. Задача работы состоит в определении количественной оценки технико-тактических действий фехтовальщиков высокой квалификации на главных соревнованиях сезона. Представлена информация об объёме, эффективности и результативности использования основных атак, защит с ответами и встречных нападений высококвалифицированными рапиристами. Полученные результаты могут стать основой для разработки программ технико-тактической подготовки на всех этапах спортивного совершенствования.*

Ключевые слова: *фехтование, рапиристы высокой квалификации, технико-тактические действия.*