

SPECIFIC FEATURES OF COMPETITION FUNCTIONING OF MARTIAL ARTS ELITE SPORTSMEN

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Abstract. *Purpose:* to study competition functioning of martial arts elite sportsmen. *Material:* we analyzed 33 competition duels, studied specific features of application of 917 technical tactic actions by sportsmen. We used analysis of video-records of competition duels at All-Ukrainian competitions. *Results:* it was found that modern martial arts are very dynamic kinds of sports. Victory is won usually by versatile sportsmen, who can quickly to reconstruct in the course of duel and successfully use strike and wrestling techniques. Most of duels are won by points. Most of sportsmen compete in standing position, preferring striking technique: straight punches in head and side kicks in torso. It was also found that when using wrestling techniques in standing position, sportsmen prefer different throws by legs' gripping. When fighting in lying position sportsmen are successful in holding and try to apply painful holds. *Conclusions:* results of our researches, providing observations of below described conditions, can be a basis for correction of training process; for choosing of means and methods for coaches and instructors of professional training in Armed Forces and law enforcement bodies.

Key words: hand combat, duel, martial arts, strikes, throws.

Introduction

Hand combat, at present stage of its development, is a part of professional training in Armed Forces and law enforcement bodies as well as kind of sports, which quickly develops [12, 14, and 19].

Modern hand combat is one of complex kinds of sports. It includes arsenal of many kinds of duels. Hand combat requires objective studying and determination of its specific features and tendencies. Without knowing these specificities and tendencies it is impossible to effectively control training process. If coach has only approximate knowledge of most important properties of modern hand combat development, he will not be able to correctly outline training tasks and formulate requirements to training process [1, 5, and 8].

According to literature sources [6, 16, and 23] effectiveness of training functioning is demonstrated at competitions. Exactly in heavy extreme conditions of competitions weak and strong sides of sportsmen's fitness become visibly. It is known that systemic analysis of sportsmen's competition functioning is an important mean of training process's control [2, 9, 17, 18, 21, 24].

The received in the research information, providing observations of below described conditions, can be a basis for correction of training process; for choosing of means and methods for coaches and instructors of professional training in Armed Forces and law enforcement bodies.

Purpose, tasks of the work, material and methods

The purpose of the work is to study competition functioning of martial arts elite sportsmen.

The tasks of the work: to find main tendencies of competition functioning, to study time characteristics, to determine efficiency, effectiveness and quality of technical tactic actions; to outline possible ways of training process's correction.

In our work we used theoretical analysis and generalization of special scientific-methodic literature, pedagogic observation, talks, generalization of specialists' advanced experience. For determination of competition functioning specific features analysis of video materials from All-Ukrainian martial arts competitions (2012-2015) was used. 33 competition duels of elite sportsmen were analyzed. Specific features of application of 917 technical tactic actions were studied.

Analysis was conducted by the following indicators: duration of duel in standing position and, separately, in lying position; distribution of time; classification by density, quantity, quality and content of technical-tactic actions (TTA).

Results of the researches have been presented in the form of matrix in Excel 2010 and were processed by methods of mathematical statistic with the help of software Statistica 6.

Results of the researches

In the course of the researches we analyzed 33 duels, in which sportsmen fulfilled 917 TTA. According to rules of competitions, for victory it was necessary to earn more quantity of points, fulfilling different TTA (throws, punches, kicks, holdings and so on).

Analysis of structure of victories showed that great majority of duels 85% were finished by victory by points. Only 15% – were early victories, won as a result of painful or choke techniques or powerful punch (kick) (knockout – inability of opponents to continue duel within not less than 10 seconds). Little quantity of early victories is explained by the fact that winning of “clear” victory in hand combat at competitions of elite level is rather difficult task. But just early victories make competitions spectacular and attract attention of fans.

Analysis of time characteristics of hand combat competition functioning showed that 70% of duel time sportsmen compete in standing position and 30% - in lying position. In standing positions sportsmen fulfill 93% TTA (from total quantity of all TTA). 84% of duel time sportsmen devote to striking techniques and only 16% of time – to wrestling. Low percentage (7%) of TTA in lying position is explained by peculiarities of competition rules. According to rules for TTA fulfillment, for wrestling TTA only 6 seconds are assigned. It is very little for realization of complex wrestling techniques.

Analysis of attacks' frequency (interval of attack – mean time between successful and unsuccessful attacks) showed that these indicators were 4.37 sec. and 11.97 sec. accordingly. It is known that quantity of TTA characterizes density of combat. Thus, modern hand to hand fighting is rather dynamic kind of sports.

But, with high density it should be noted that rather little percentage of TTA, which were successful and were assessed by referees (37%). It witnesses that sportsmen try to fulfill as many as possible TTA at the account of their efficiency.

For winning a victory over opponent it is permitted to use striking and wrestling techniques. Analysis of these techniques' application showed that in 73% of cases sportsmen used different punches and kicks and only in 27% - wrestling techniques. According to rules sportsmen can be held for not more than 5s sec. In our opinion it is too little for wrestling techniques.

Attention should also be paid to quantitative indicator of correlation of punches and kicks. Most often (73%) sportsmen use punches. Low percentage of kicks (27%) can be explained by specificities of hand combat: kicks below belt are not assessed by referees; kicks above belt require quick and accurate execution – any mistake permits for opponent to grip the leg and throw on back (three points mark). Probably this is an explanation of kicks' low efficiency (18%).

Analysis also showed: left arm punches were 51% and right arm - 49%; left leg kicks were 38% and right leg kicks - 62%.

In competition hand to hand duels it is permitted to punch in torso and in head. The received results witness that most of punches (88%) were in opponent's head and only 12% - in torso. It is explained by the fact that punches in head are assessed higher than punches in torso. Besides, fulfillment of accurate and powerful punch in head can bring early victory.

Analysis of kicks showed that 24% of them were directed to head, 54% - to torso and 22% to opponent's legs. Low indicators of kicks to head are explained by difficulty of their fulfillment. In case of kicks to legs – it is explained by absence of assessment of such kicks.

Attention should be paid to quantitative indicator of straight, side punches and punches from below correlation in elite sportsmen. The received results witness that in punching most sportsmen try to execute straight punches (53%), suitable for far distance. Insufficient application of side (43%) and from below (4%) punches is connected with manner of fighting at close distance. In most of situations at such distance sportsmen start fulfillment of wrestling techniques. In kicking, sportsmen mostly used side kicks (73%). It is connected with the fact that side kicks can be directed at different parts of body (head, legs and torso). Side kick can cause early victory, providing it is fulfilled correctly. Low indicators of straight (24%) and roundhouse (3%) kicks are results of restriction of fulfillment zone and specificities of these techniques.

Interesting data were obtained in analysis of wrestling techniques. For example 73% of TTA are connected with fulfillment of techniques in standing position. The received results permit to affirm that the most frequent techniques are different throws by gripping opponent with legs - 64%. Other techniques were rarer: throws over hip,

over back from position standing on knees 4%; catches and bends - 2%; cuttings - 5%; other - 14%. Such high percentage of throws by gripping opponent with legs is explained by minimal risk, by relatively simple fulfillment and possibility to earn high points with minimal energy losses for technique.

Analysis of wrestling in lying position proved that the most frequent are: holding (45%), painful (37%) and choking (18%) techniques. Attention should be paid to indicator of holdings' efficiency (57%), which witnesses that sportsmen excellently practice just this TTA.

Discussion

The conducted research significantly expands the data about martial arts sportsmen's competition functioning, which, unfortunately, are presented in scientific-methodic literature rather poorly.

Results of our work confirmed the data of literature sources [7, 10, and 20] that monitoring of competition functioning is an integral part of building of effective training process. Study of competition functioning is always important and methodic of sportsmen's training shall fully comply with requirements of competition functioning [4, 13, 22].

The conducted by us analysis showed that peculiar features of hand to hand combat include direct fighting of opponents, deficit of time for taking decision, a lot of distracting factors, inconvenient manner of refereeing and aggressive behavior of fans. Without knowing these peculiarities and trends it is impossible to effectively control training process.

Pedagogic observations over competition functioning of elite martial arts sportsmen proved that the most effective and frequent TTA are: straight punches in head, side kicks in torso, throws by gripping opponent with legs, holdings and painful techniques. In our opinion application of these techniques is conditioned by Rules of hand combat competitions. This is also opinion of a number of scientists [1, 4]. The authors noted that just rules of competitions influence on qualitative and quantitative indicators of sportsman's competition functioning.

It was found that usually victory is won by versatile sportsmen, who are able to quickly change tactic and successfully combine striking and wrestling techniques.

Materials of the researches, opinion of leading specialists, coaches and experts permit to say that in the nearest years training of elite sportsmen will be oriented on further universalizing of tactic, individual technique and increase of special and general fitness.

Providing correct consideration of peculiarities and trends of competition functioning it is possible to effectively control training process and correct choice of means and methods in professional training of Armed Forces and law enforcement bodies of Ukraine.

Conclusions

1. It was found that modern hand to hand combat is rather dynamic kind of sports. Виявлено, що сучасний рукопашний бій є дуже динамічним видом спорту. Usually victory is won by versatile sportsmen, who are able to quickly change tactic and successfully combine striking and wrestling techniques.

2. Most of duels are won by points. Significant time sportsmen compete in standing position and prefer striking techniques: straight punches in head and side kicks in torso.

3. It was determined that when applying wrestling techniques in standing position, sportsmen prefer throws by gripping opponent with legs. In lying position they prefer holdings and painful techniques.

Conflict of interests

The authors declare that there is no conflict of interests.

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