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ANALYSIS OF THE MAIN CAUSES OF INJURIES IN COMBAT SPORTS

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Annotatsiya. *Maqolada yakkakurash sport turlarida yuzaga keladigan shikastlanishlarning asosiy sabablari tahlil qilingan. Unda erkin kurash, yunon-rum, dzyudo, boks, taekvando bo'yicha O'zbekiston terma jamoalari a'zolari va nomzodlarni o'quv-mashg'ulot hamda musobaqa davrlarida tibbiy ko'rikdan o'tkazish materiallaridan foydalanilgan.*

Sportchilarga xos shikastlanishlarning oldini olish usullari izohlab berilgan.

Аннотация. *В статье анализируются основные причины травм, возникающих в единоборствах. Были использованы материалы медицинских осмотров членов и кандидатов в сборные команды Узбекистана по вольной борьбе, греко-римской борьбе, дзюдо, боксу, тхэквондо в учебно-тренировочный и соревновательный периоды.*

Разъясняются методы профилактики травм, характерных для спортсменов.

Annotation. *In the article data of the analysis of the main reasons for traumatism in combat sports are provided. When carrying out the real research materials of medical examination of athletes members of national teams of Uzbekistan and their next reserve according to the free style and Greco-roman wrestling, judo, boxing, taekvan-do before educational and training and competitive periods are used. Ways of prevention of sports traumatism are formulated.*

It is well known that there are various types of combat sports, which differ from one another to varying degrees in their competition rules. These range from non-contact to full-contact fights, including those that use various types of protective equipment and those that do not.

There are ongoing discussions about the injury rates of specific martial arts [1, 6]. After all, a victory by stoppage in martial arts competitions is defined as a knockout, a chokehold, or a submission hold, all of which involve pain or loss of consciousness. Unforeseen injuries among participants in martial arts competitions are often recorded. Therefore, to prevent injuries in combat sports, it is necessary to analyze any injuries that have occurred.

According to various sources, injuries in combat sports account for 2-5% to 8-11% of all injuries, including domestic, street, and occupational injuries [2, 4]. The discrepancies in the figures presented by different authors are apparently due to the fact that the rate of sports injuries depends both on the inherent risk of a particular sport and on the level of participation in that sport among the population surveyed. The more people who practice a particular type of martial art, the relatively higher the number of injuries. While cases of sports injuries are observed relatively infrequently, the growing number of athletes participating in sports means that the issues of combating sports injuries and developing preventive measures require close attention.

To normalize statistical differences in sports injury assessments, the number of injuries is usually calculated per 1,000 participants—this is the so-called incidence rate of injury [7].

Another way to determine the degree of injury risk in various sports is to calculate the number of injuries per 1,000 athlete-exposures. Foreign researchers most frequently cite this coefficient [5]. In 2007, the U.S. National Collegiate Athletic Association presented data on 182,000 injuries from over 1 million sports reports for the period from 1988 to 2004. Data from all sporting events during that period indicated that injury rates were higher in competitions (13.8 injuries per 1,000 athlete-exposures) than in practices (4.0 injuries per 1,000 athlete-exposures).

More than 50% of all injuries occur in the lower extremities, with the most common being ankle sprains, which account for approximately 15.0% of all injuries, followed by contusions and anterior cruciate ligament injuries at 7.0% [2,3].

According to the observations of other researchers, the injury incidence rate is 8.3% during the competitive period, 2.1% during training sessions, and 20.0% at training camps. This indicator varies significantly among different types of martial arts [2]. Data from a number of literary sources show that mild injuries account for 91.1%, moderate injuries for 7.8%, and severe injuries for 1.1% of all injuries [1].

According to the authors' observations, wrestling holds a leading position among various sports in terms of the number of severe injuries (on par with boxing). In other sports, moderate injuries are more prevalent. Severe injuries in wrestling account for over 50% of cases. This is because in freestyle and Greco-Roman wrestling, athletes are in close contact, and the nature of these sports involves forceful impact on the opponent. Of particular interest is the correlation between various injuries and chronic diseases of the musculoskeletal system that require long-term inpatient or outpatient treatment. Among acute injuries, damage to the knee joint meniscus and the capsuloligamentous apparatus of the joints are prominent. Chronic diseases include joint conditions (deforming arthrosis, diseases of the fat pads, chronic microtrauma to ligaments, tendinopathies, meniscopathies, bursitis, etc.). Combat sports athletes also frequently experience chronic diseases of the muscles and tendons (along their length and at the point of attachment to the bone—insertional tendinitis), as well as diseases of the periosteum and the spinal column, including spondylosis and spondyloarthrosis.

Regarding the location of injuries, athletes most frequently sustain injuries to the upper (38.6%) and lower extremities (28.7%), especially the joints (primarily the knee and ankle). Thus, the recorded observational data align with data from existing literature. In terms of head injuries, freestyle and Greco-Roman wrestlers have a lower incidence than athletes in boxing, judo, and taekwondo. Torso injuries account for 19.0% of injuries in freestyle and Greco-Roman wrestling.

Therefore, after reviewing and analyzing the statistical data on the injury rate and the location of these injuries on different parts of the body, it can be concluded that freestyle and Greco-Roman wrestling are quite high-risk sports.

To prevent the threat of injury during a training session or competition, it is necessary to strictly observe measures to reduce the risk of injury (using special sports equipment, adhering to the rules of combat, and having a coach present).

The main types of injuries in the competitive activities of combat sports athletes are categorized as follows:

– Sprains and dislocations of varying degrees (dislocations of fingers and toes, ligament sprains) – 42.7%;

– Concussions resulting from a knockout or knockdown – 18.6%;

– Various head injuries (cuts, contusions, scratches, cartilage fractures of the ear, jaw fractures and dislocations, nose fractures) – 15.1%;

– Contusions of varying degrees – 11.9%;

– Limb fractures of varying degrees (fractures of the arms, fingers, toes, and legs) – 2.3%.

These types of injuries largely depend on the specific combat sport and its competition rules. For example, in boxing, the risk of leg injury is significantly lower due to the absence of kicks and strikes to the legs, whereas in karate or taekwondo, these injuries are the most common.

An analysis of injury cases, their structure, and the organization of the training and competitive processes has allowed for the identification of the main causes of injuries among combat sports athletes:

– The absence of dividing athletes into age and weight categories, or too great a disparity within them. This is especially true for children's competitions, where physically advanced athletes may compete in the same category as younger opponents. Holding competitions without division into weight categories also significantly increases the risk of injury;

– An athlete's insufficient level of preparation for a given competition. It is not uncommon for athletes to compete in national and international events without going through qualifying competitions;

– An athlete's excessive level of preparation for a given competition. This refers to top-class athletes participating in city or district-level competitions where the skill level of other participants is too low to provide meaningful competition;

– Unintentional violation of competition rules. This is particularly relevant for combat sports with an excessive number of rules, where an accidental violation can lead to a serious injury;

– Intentional violation of competition rules. An athlete, disregarding the rules in order to win at all costs, deliberately violates them;

– An insufficient level of training among the officials officiating the competition, or their biased refereeing. This includes failure to stop a bout in a timely manner when one athlete has a clear advantage, and inadequate assessment of rule violations and actions by the judges;

– The competition venue's failure to meet safety requirements. This includes the lack of a safety zone around the competition area, failure to maintain the proper temperature at the venue, and the absence of qualified medical personnel at the event;

– Lack of necessary equipment. This includes the use of damaged or poor-quality equipment and the absence of protective gear.

Based on this, the following methods for preventing injuries among combat sports athletes can be proposed:

– a clear division of participants into age and weight categories;

– prohibiting insufficiently prepared athletes from being admitted to competitions;

– prohibiting high-level athletes from being admitted to low-level competitions;

– admitting only qualified judges to competitions;

– ensuring the competition venue complies with safety requirements and sanitary-hygienic standards;

– using various protective equipment approved for a particular type of combat sport (e.g., headgear, mouthguards, hand wraps, shin guards, gloves);

– admitting only athletes who have passed a medical examination and the necessary medical clearance to competitions.

Thus, injury prevention in combat sports is a set of organizational and methodological measures aimed at the continuous improvement of material and technical resources, enhancing training sessions and competitions, constantly raising the qualifications of coaching staff, and adhering to the principles of gradualness, cyclicality, and continuity in athlete training. These measures ensure a systematic increase in the athletes' level of physical and technical-tactical preparedness, their moral and volitional qualities, and the strengthening of their health.

Adherence to these methods will significantly reduce the level of injuries among combat sports athletes.

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