

Prevalence and Causes of Injuries in a Number of Women's Sports

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Abstract

The article presents the results of a study aimed at identifying the main causes and types of injuries, both during training and during the competitive period, among female athletes of different age groups involved in a number of types of modern women's sports. Injuries and injuries of the musculoskeletal system of athletes are considered, with the involvement of the bones, ligamentous-tendon and muscular apparatus of athletes in the traumatic process, primarily the girdle of the upper and lower extremities, the chest, various parts of the spine, as well as the soft tissues of the body. According to the results of the study, it was reliably established that among all types of sports injuries in athletes of the studied groups, sprains and dislocations prevail - 1108 cases, in 67.44% of female athletes, as well as soft tissue injuries of various parts of the body - 973 cases or 59.22% of all female athletes. There was also a history of bone fractures in various parts of the body, mainly in the upper and lower extremities - 25 cases, or 1.52% of all female athletes studied. Also, it was found that muscle pain of different localization was detected in 1525 (94.54%) of all athletes; joint pains of different localization (mainly in the knee, elbow, shoulder and ankle joints) - in 1478 (91.63%); pain in different parts of the spine (most often in the neck and lumbosacral) - in 1548 (95.97%) female athletes. According to extended interviews, the most common causes of injuries are etiological factors such as violation of basic safety requirements - in 1007 (61.29%); insufficient duration and volume of the warm-up, when performing the necessary set of exercises - in 804 (48.94%) athletes; lack of proper control on the part of the coach, when performing this or that technique/exercise 619 (37.68%) cases of injury to an female athlete. In addition, it was found that the greatest number of all types of injuries was recorded among young athletes with little sports experience.

Keywords: Sportswomen; Different Age Groups; Injuries; Fractures; Dislocations

Introduction

Modern women's sports of the highest achievements, in all its forms, requires athletes of various age groups, huge, and sometimes not always adequate for the female body, physical efforts, to achieve victory and achieve the desired result, both during training and competition [1-9]. Quite often, in the process of these efforts and striving to obtain the desired result, both young, beginners, and even elite athletes, receive various types, and degrees of difficulty,

injuries. A direct consequence of these injuries is the cessation of training and competitive activity, for different lengths of time and, even, to the complete cessation of sports and, unfortunately, disability [1-9].

Conducted by the author of the article, as well as by other researchers of this problem, indicate that, often, injuries received during training and competition are most often a direct result of failure to comply with basic safety requirements when performing

certain techniques or figures, in each of the sports. Also, the reason for the injuries received is the insufficient "warming up" of the athletes, at the initial stage of training, the vagueness/lack of conscientiousness when fulfilling the technical requirements of a particular sports technique, as well as insufficient coaching control over the detailed, scrupulous technical performance of each of the athletes, necessary sports elements, each, in its own kind of sport [1-9]. Sometimes, to our great regret, the combination of these reasons also leads to the occurrence of sports injuries in athletes, regardless of their age and the kind of sport they are engaged in [1-9].

Aim

The aim of our research is to study and analyze the prevalence of different types of sports injuries and their severity in athletes of different age groups, in a number of women's sports.

Material and Methods

In carrying out this research work, we used the method of in-depth literary-critical analysis of available scientific sources of information on the issue under study, using reference books, specialized periodicals, and Internet resources.

To conduct this study, we created the author's version of an anonymous questionnaire (Bugaevsky K.A., 2021 ©), consisting of 23 questions related to practicing topics or another kind of sport, as well as the presence/or absence of one or another type of injury and damage, throughout the entire period of sports/or this sport, by this athlete. Also, to clarify the necessary details of the study, we used the method of survey/extended interviewing of female athletes. After the completion of the study, the processing and analysis of the results were carried out.

Result and Discussion

In total, 1643 female athletes took part in the study. Of them: those who go in for playing sports (n = 245); different types of athletics (n = 274); weightlifting and athletic sports (n = 346); practicing gymnastics, acrobatics and dancing (n = 351); different types of single combats (n = 313); cycling (n = 114). Among them are athletes who train in different regions of Ukraine. In terms of age indicators, the athletes belonged to the youth and the first mature (reproductive) age. The average age of female athletes in the adolescent age group was 20.13 ± 0.79 years, in the first

reproductive (mature) age group - 24.33 ± 1.06 years. The terms for female athletes to practice their sports ranges from 4.5 years to 9 years for the CMS group, from 9 years or more for female athletes of the level of a master of sports. Sports qualifications of female athletes are presented as follows: I sports category - 807 (49.12%); masters of sports (MS) - 347 (21.12%) female athletes; Candidates for Master of Sports (CMS) - 489 (29.76%) female athletes.

After carrying out the necessary research - anonymous questioning and survey/extended interviews, we received the results, which are shown in table 1.

Indicator name	Sprains and dislocations	Soft tissue contusions	Fractures
Female athletes involved in team sports (n = 245)	147 (60,00%) sportswomen	91 (37,14%) sportswomen	3 (1,22%) sportswomen
Sportswomen engaged the athletics (n = 274)	173 (63,14%) sportswomen	48 (17,52%) sportswomen	4 (1,46%) sportswomen
Female athletes involved in weightlifting and athletic sports (n = 346)	289 (83,53%) sportswomen	176 (50,87%) sportswomen	9 (2,60%) sportswomen
Female athletes engaged in gymnastics, acrobatics and sports dancing (n = 351)	311 (88,60%) sportswomen	234 (66,67%) sportswomen	2 (0,57%) sportswomen
Sportswomen engaged in different types of martial arts (n = 313)	114 (36,42%) sportswomen	310 (99,04%) sportswomen	3 (0,96%) sportswomen
Sportswomen engaged in cycling sports (n = 114)	74 (64,91%) sportswomen	114 (100,00%) sportswomen	4 (3,51%) sportswomen

Table 1: Types of injuries received by female athletes.

The analysis of the results obtained, in each of the studied groups of athletes, convincingly showed that among all types of traumatic injuries in athletes, joint dislocations, sprains of the ligamentous apparatus of the upper or lower extremities and their sections (depending on sports specialization), as well as soft bruises dominate tissues of varying intensity and localization. Most often, these are fractures of different fingers on the upper and/or lower extremities, the radius in a typical place, the outer or inner ankle of one or another of the limbs, as well as the bones of the face, in contact martial arts, as well as ribs/ribs, with unsuccessful falls or bumps. Among the sprains, dislocations and injuries of the joints, damage to the knee/knee joints, as well as to the wrist and ankle joints, small joints of the hand and/or foot is dominant.

In total, in all studied groups of athletes, sprains and dislocations were 1108 cases, or they were identified in 67.44% of female

athletes. The total, total number of soft tissue injuries received both during training and during the competition period - 973 cases, or 59.22% of all female athletes. The number of obtained fractures of bones of various parts of the body, primarily of the upper and lower extremities - 25 cases, or 1.52% of the total number of female athletes studied. The most traumatic are such modern women's sports as weightlifting and athletic sports, various types of gymnastics and acrobatics, athletics and various types of martial arts. Among other traumatic factors, we have identified such as - muscle pain, pain in joints and bones, as well as pain in various parts of the spine, arising both during the period of performing a particular physical activity, and manifested during the rest period - outside the period training and competition.

The distribution of all these pathological groups among female athletes is presented in table 2, in % ratio.

Indicator name	Muscle pains of different localization	Joint pains of different localization	Pain in different parts of the spine
Female athletes involved in team sports (n = 245)	189 (77,14%) sportswomen	193 (78,78%) sportswomen	209 (85,31%) sportswomen
Sportswomen engaged the athletics (n = 274)	229 (83,58%) sportswomen	197 (71,90%) sportswomen	244 (89,05%) sportswomen
Female athletes involved in weightlifting and athletic sports (n = 346)	326 (94,22%) sportswomen	326 (94,22%) sportswomen	346 (100,00%) sportswomen
Female athletes engaged in gymnastics, acrobatics and sports dancing (n = 351)	351 (100,00%) sportswomen	337 (96,01%) sportswomen	342 (97,44%) sportswomen
Sportswomen engaged in different types of martial arts (n = 313)	313 (100,0%) sportswomen	311 (99,36%) sportswomen	293 93,61%) sportswomen
Sportswomen engaged in cycling sports (n = 114)	97 (85,09%) sportswomen	114 (100,00%) sportswomen	114 (100,00%) sportswomen

Table 2: Types of pain detected in athletes, in % ratio.

The analysis of the obtained results of the conducted questionnaires and extended interviewing of athletes of all studied groups convincingly showed that the overwhelming number of athletes, in all the types of modern women's sports, actively present such pathological manifestations as muscle pain of different localization - in 1525 (94.54%) of all athletes; joint pains of different localization (mainly in the knee, elbow, shoulder and ankle joints) - in 1478 (91.63%); pain in different parts of the spine (most often in the cervical and lumbosacral) - in 1548 (95.97%) female athletes.

Additionally, in the process of studying the etiological factors of the revealed sports injuries, it was found that, according to the survey/extended interviewing, the most common causes of injuries received are such etiological factors as violation of elementary safety requirements - in 1007 (61.29%); insufficient duration and volume of the warm-up, when performing the necessary set of exercises - in 804 (48.94%) athletes; lack of proper control on the part of the coach, when performing one or another technique/exercise 619 (37.68%) cases of injuries by female athletes.

Based on the purpose of our study, directly related to the study and analysis of the incidence of different types of sports injuries,

as well as determining their severity in female athletes of different age groups, we can make the following practical conclusions, which are presented below.

Conclusion

- The greatest number of sports injuries of varying severity, primarily associated with both a lack of compliance with safety techniques when performing various elements of sports techniques by female athletes, as well as with inadequate control of this process by all members of the coaching team of athletes, in all sports, which were studied in our study.
- In addition, our analysis of the causes of all types of injuries is insufficient in volume and time of the warm-up period, before performing the basic techniques and basic elements of the training and the process of participation in competitions and sports duels.
- Among athletes who have a high level of sports qualification and considerable practical experience in training and participation in many sports competitions of different levels of complexity, the number of injuries is extremely low and occurs very rarely.
- The greatest number of all types of injuries was recorded among young athletes with little sports experience.
- Analysis of the obtained frequency and variants of injuries of female athletes showed that the most traumatic sports are weightlifting and close to it athletic sports such as powerlifting and kettlebell lifting, all kinds of wrestling and martial arts, sports and rhythmic gymnastics, acrobatics, as well as cyclic sports.
- Relatively less traumatic in comparison to other sports considered in our study, but also, with a considerable number and different degrees of traumatization, are all playing sports.
- An analysis of the types of injuries received convincingly showed that the most common types of injuries received by female athletes are soft tissue contusions, sprains and dislocations of small joints of the upper and lower extremities (in the vast majority of fingers and feet). At the same time, serious injuries in the form of fractures of limbs and other skeletal bones of female athletes are very rare, in all sports disciplines.

Conflict of Interest

I have no conflict of interest.

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