

Occurrence of Injuries Among Female Athletes in Different Sports: Their Causes and Types

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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.

Keywords: sportswomen; different age groups; injuries; fractures; dislocation; sprains; bruises; upper and lower limb girdles

Introduction

Modern women's sport of the highest achievements, in all its forms, requires athletes of different age groups, huge, and sometimes not always adequate for the female body, physical effort to achieve victory and obtain the desired result, both during training and competition [1-9]. Quite often, in the process of these efforts and the desire to get the desired result, both young, beginners, and even elite athletes receive injuries of various types and degrees of complexity. A direct consequence of these injuries is the cessation of training and competitive activity, for various lengths of time, and even to the complete cessation of sports, as well as, unfortunately, disability [1-9]. The data conducted by the author of the article, as well as by other researchers of this problem, indicate that, often, injuries received during training and competitions are most often a direct consequence of non-compliance with elementary safety requirements when performing certain technical methods / elements or figures, in each of the sports. Also, the cause of the resulting injuries is insufficient "warm-up" / warm-up of athletes at the initial stage of training, fuzziness / inconsistency in 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 female athletes, necessary sports elements, each, in its own sport [1-9]. [1-9]. Sometimes, unfortunately, the combination of these reasons also leads to the occurrence of sports injuries among athletes, regardless of their age, and the sport they practice.

Aim of study

The purpose of this study 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

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 a particular sport, as well as the presence / or absence of a particular type of injury and injuries, throughout the entire period of playing sports / or a given sport, by this female athlete. Also, to clarify the necessary details of the study, we used the method of

questioning / extended interviewing of athletes. After the completion of the study, the results were processed and analyzed. In total, 1643 female athletes took part in the study. Of these: those involved in team sports (n=245); different types of athletics (n=274); weightlifting and athletic sports (n=346); those involved in gymnastics, acrobatics and dancing (n=351); different types of martial arts (n=313); cycling (n=114). Among them are athletes training in different regions of Ukraine (Nikolaev, Kherson, Zaporozhye, Novaya Kakhovka).

According to age indicators, the athletes were classified as youthful and first mature (reproductive) age. The average age of female athletes in the youth group was 20.13±0.79 years, in the group of the first reproductive (mature) age – 24.33±1.06 years. The length of time

female athletes practice their sports ranges from 4.5 years to 9 years for a group of candidates for master of sports (CMS), from 9 or more years for female athletes at the master of sports level. The sports qualifications of female athletes are presented as follows: 1st 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.

Results and Discussion

After conducting the necessary research - anonymous questionnaires and surveys/extended interviews, we obtained the results that are shown in Table. 1:

Table 1: Types of injuries received by female athletes

Name of indicator	Dislocations and sprains	Soft tissue bruises	Different types of fractures
Female Athletes involved in team sports (n=245)	147 (60,00%) female sportsmens	91 (37,14%) female sportsmens	3 (1,22%) female sportsmens
Female athletes involved in light athletics (n=274)	173 (63,14%) female sportsmens	48 (17,52%) female sportsmens	4 (1,46%) female sportsmens
Female athletes involved in weightlifting and athletic sports (n=346)	289 (83,53%) female sportsmens	176 (50,87%) female sportsmens	9 (2,60%) female sportsmens
Female Athletes involved in gymnastics, acrobatics and dance sports (n=351)	311 (88,60%) female sportsmens	234 (66,67%) female sportsmens	2 (0,57%) female sportsmens
Female Athletes practicing different types of martial arts (n=313)	114 (36,42%) female sportsmens	310 (99,04%) female sportsmens	3 (0,96%) female sportsmens
Female Athletes doing cycling (n=114)	74 (64,91%) female sportsmens	114 (100,00%) female sportsmens	4 (3,51%) female sportsmens

Analysis of the results obtained in each of the studied groups of female athletes convincingly showed that among all types of traumatic injuries in female athletes, the dominant ones are dislocations of joints, sprains of the ligamentous apparatus of the upper or lower extremities and their parts (depending on sports specialization), as well as bruises soft tissues, varying intensity and localization. The presence of fractures in various parts of the body (mainly limbs) in female athletes is a less frequent phenomenon, but quite unfortunate. Most often, these are fractures of various 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 extremities, as well as facial bones (in contact martial arts), also ribs/ribs, in case of unsuccessful falls or blows. Among sprains, dislocations and joint injuries, damage to the knee/knee joints, as well as to the wrist and ankle joints, small joints of the hand and/or foot, dominates.

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

of female athletes. The total, total number of soft tissue bruises received both during training and during the competitive period is 973 cases, or 59.22% of all female athletes. The number of bone fractures in various parts of the body, primarily the upper and lower extremities, was 25 cases, or 1.52% of the total number of female athletes studied. The most traumatic are such modern types of 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 identified such as muscle pain, pain in the joints and bones, as well as pain in various parts of the spine, which arise both during the period of performing one or another physical activity, and which manifest themselves during the period of rest - outside the period training and competitions. The distribution of all these pathological groups among female athletes is presented in Table. 2, in % ratio.

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

Name of indicator	Muscle pain of different localization	Joint pain of various localizations	Pain in different parts of the spine
Female Athletes involved in team sports (n=245)	189 (77,14%) female sportsmens	193 (78,78%) female sportsmens	209 (85,31%) female sportsmens
Female athletes involved in light athletics (n=274)	229 (83,58%) female sportsmens	197 (71,90%) female sportsmens	244 (89,05%) female sportsmens

Female Athletes involved in weightlifting and athletic sports (n=346)	346 (100,0%)	326 (94,22%)	346 (100,00%)
Female Athletes involved in gymnastics, acrobatics and dance sports (n=351)	351 (100,00%) female sportsmens	337 (96,01%) female sportsmens	342 (97,44%) female sportsmens
Female athletes involved in various types of martial arts (n=313)	313 (100,0%) female sportsmens	311 (99,36%) female sportsmens	293 (93,61%) female sportsmens
Female athletes involved in cycling (n=114)	97 (85,09%) female sportsmens	114 (100,00%) female sportsmens	114 (100,00%) female sportsmens

Analysis of the results of the survey and extensive interviewing of athletes of all studied groups convincingly showed that the overwhelming number of athletes in all represented types of modern women's sports actively presented such pathological manifestations as muscle pain of different localization - in 1525 (94.54%) all athletes; joint pain 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 regions) – in 1548 (95.97%) female athletes.

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

Conclusions

1. It was found that among all types of sports injuries in female athletes of the studied groups, sprains and dislocations dominate - 1108 cases, in 67.44% of athletes, as well as bruises of soft tissues of different parts of the body - 973 cases, or 59.22 % of all female athletes.

2. A history of fractures of bones of various parts of the body, primarily the upper and lower extremities, was recorded - 25 cases, or 1.52% of all studied athletes.

3. The largest number of all types of injuries was recorded in young athletes with little sports experience.

4. 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 warm-up when performing the required set of exercises – in 804 (48.94%) female athletes; lack of proper control on the part of the coach when performing a particular technique/exercise 619 (37.68%) cases of injury to an athlete.

5. It was also found that muscle pain of different localization was detected in 1525 (94.54%) of all female athletes; joint pain 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 regions) – in 1548 (95.97%) female athletes.

6. The data obtained by the author as a result of the study coincides with the opinions and materials of other researchers of this problem.

References

1. Agranovich, VO., Agranovich, NV. Analysis of sports injuries during physical education and sports and the creation of conditions to reduce it // Health and education in the XXI century. 2017. 2:77-81.
2. Belyaev, VS., Chernogorov, DN., Matveev, YuA. Toucher, YuL. Biomechanical factors in the development of spinal motion segment injuries in qualified weightlifters // Person, Sports, Health. V International Congress. 2011. Pp. 319-320.
3. Bugaevsky, KA. Women's athletic sports: back pain and their localization // Current problems of the theory and methodology of arm wrestling, bodybuilding, kettlebell lifting, mas-wrestling, powerlifting and heavy lifting athletics. Vol. 8: Sat. scientific articles / Chuvash. state ped. University; ed. V.P. Simenya. Cheboksary: Chuvash. state ped. univ., 2021. Pp. 103-109.
4. Gulevich, NP., Yasyukevich, A.S. Causes of sports injuries in various sports / N.P. Gulevich, // Innovative technologies in sanatorium and resort practice: materials of the republic. scientific-practical seminar with international participation "Kinesotherapeutic technologies in the diagnosis, treatment and prevention of diseases of the musculoskeletal system and damage to the central nervous system": Zhdanovichi, December 21. 2017 / Municipal Unitary Enterprise "HITC "Zhdanovichi"; editorial board: AV. Volotovskaya [and others]. Minsk "Prof-Press", 2018. Pp. 42–46.
5. Ingushev, Ch.Kh., Gilyasova MH. Prevention of sports injuries in classes with students in weightlifting, powerlifting and kettlebell lifting. // Interactive science. 2016. 2:58-59.
6. Mazur, AI. Epidemiology of sports injuries in the aspect of medical rehabilitation // Medical news. 2012. 11:46-50.
7. Semenov, AI. Pain in the lumbar region in athletes // Current problems in the development of traditional and similar martial arts: Zborn. Sci. pratz Xmizhn. Internet science – method. conf. VIP. 10: – Kh.: National Academy of the National Guard of Ukraine, 2016. 521 p.
8. Slesarenko, DYU. Injuries in weightlifting // Young scientist. 2019. 36 (274). :69-71. URL: <https://moluch.ru/archive/274/62333/> (access date: 07.09.2023).
9. Yasyukevich, AS., Zagorodny, GM. Jester, NM. et al. Recommendations for determining the severity of injuries in



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