

## A TRAUMATISM IS IN A WOMANISH HANDBALL

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**Annotation.** Character of the most widespread traumas is considered in the Ukrainian womanish handball, facilities of rehabilitation after the different kinds of traumas are generalized and the percent of returning of sportswomen is returned after the different types of traumas. 122 handballers took part in research, which come forward in the commands of Ukrainian Super league. During research a questionnaire and questioning of players, doctors and trainers of leading handball clubs was used. It is set that the most of traumas is on the damage of overhead and lower extremities (38 % but 26 % accordingly). Distributing of cases of traumatism following between the players of different playing line of business: for linear players 26 %, goalkeepers (24 %), extreme players (20 %), who play, and welterweight 14 % but 16 % accordingly. It is set during research, that 63,2 % sportswomen are used conservative method of treatment, and 36,8 % handballers are applied operative method of treatment. It is experimentally set that most percent of failure to return of handballers to active contention activity after tears and breaks of copulas (every third sportswoman), after the delete of meniscuses – every fourth, every fifth handballer did not return after the concussions of the brain. A traumatism in sport remains one of main problems of his existence.

**Keywords:** handball, traumatism, sporting, trauma, rehabilitation.

### Introduction

Modern sport is complex, multilevel, socially significant phenomenon, which contains a number of serious antagonisms. On the one hand, reasonable physical training facilitates strengthening and improvement of health, harmonic physical development and functional perfection of human organism, but on the other hand high level sports, as professional activity, to a certain extent, causes appearing of different abnormalities in the health of sportsmen. Progression of sports results and increase of competitiveness make physical and psychic/emotional influences on human organism rather significant [2, 5]. As per statistic data of leading handball coaches, the characteristic trend of sports games' development is increase of training and competition loads. So, the quantity of annual training days varies from 265 to 330 and the quantity of trainings – from 510 to 690. Annual scope of high qualification teams have long ago exceeded 1000 hours. The annual quantity of games varies from 50 to 100 [5, 10].

In modern handball intensification of attacking and defensive actions at the account of increased demands to the players' anthropometric characteristics, rising of technical and tactic skill and changes of game rules, is observed. Also, in intensification of the process great role is played by sports commercializing, increasing of professionalism in training of high level sportsmen [1, 5]. In handball all players are divided by game roles that determine the peculiarities of their activity in competitions. Competition activity of different roles' handball sportswomen substantially differ from each other both owing to their techniques and by the level of power struggle with adversaries. Consequently, the quantity of traumatic-hazard cases and the character of traumas, received in the process of competition activity are also different [2, 3]. All above said proves the urgency of our research..

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### Purpose, tasks of the work, material and methods

*The purpose of the research* implies studying of characteristic peculiarities of traumatism cases in women handball, generalization of rehabilitation means after different traumas and studying of percentage of sportswomen's return to sports after different traumas.

*The methods of the research:* questioning, talks with players, consultations with doctors and coaches of leading handball clubs.

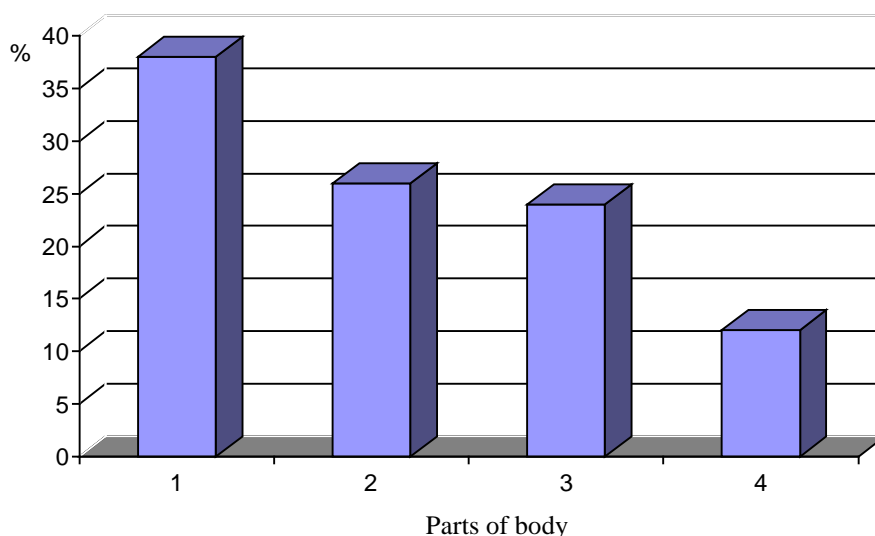
### Results of the research

In our opinion, struggle with traumatism is one of the most important medical and social tasks of the present [6, 7]. "Trauma" is a Greek word, which means distortion of tissue or body organs integrity, resulted from any effect [8, 9]. Trauma can appear as a result of single strong or repeated weal influence [4]. Sport traumas are injuries or pathologic states, which resulted from fulfilling of some training or competition exercises.

The research of this problem is rather urgent and, consequently, rather difficult. We have studied traumatism problems in women handball for two years. During this time we studied the kinds of the most frequent traumas, rehabilitation methods and means for different traumas and determined the influence of traumas on further sports career of handball sportswomen. In our research handball players (women) from eight handball teams of Ukrainian super league took part, videlicet: HT "SPARTA" (Kryvyi Rig); HT "Tax university" (Iprin); HT "Spartak" (Kyiv); HT "Dniprianka" (Kherson); HT "Galychanka (Lviv); HT "Karpaty" (Uzhgorod). In every team the quantity of players is

different and in average it was from 12 to 16 players of age from 18 years old and older. In the course of the research we carried out questioning of players, doctors and teams' coaches.

At the beginning of our research we determined indicators' correlation of different traumas of different handball players' parts of body, which are presented in fig. 1.



*Fig. 1. Correlation in percents of traumatism indicators of handball players' different parts of body (%).*

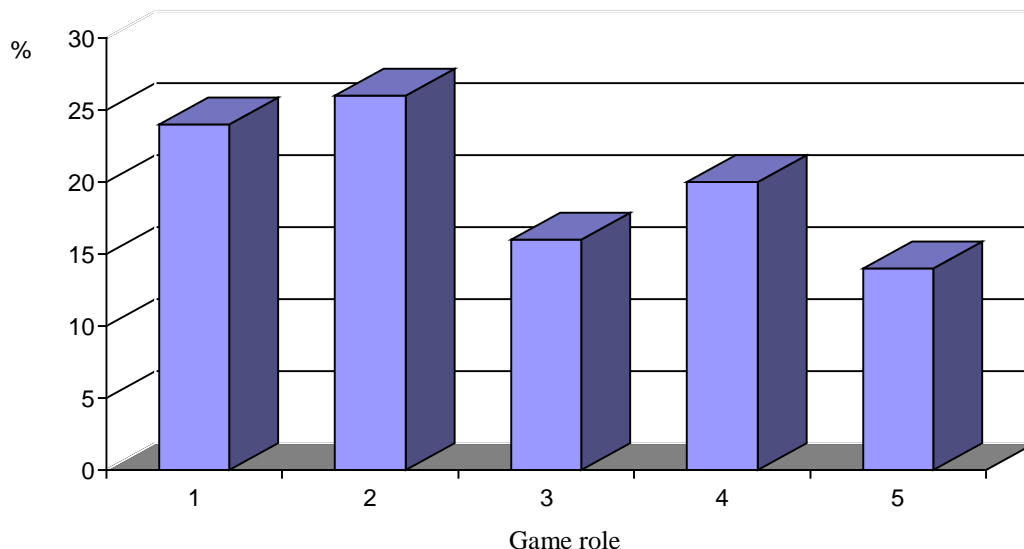
1 –superior limbs; 2 –lower limbs; 3 –back and backbone; 4 –head.

Analysis of the obtained results proved that for the whole period of the research 122 handball sportswomen received 168 traumas of different parts of body. The most frequent: superior limbs were injured (64 times- 38% of all traumas); lower limbs – 44 times – 26%; traumas of back and backbone – 40 times (24%) and the least frequent there were traumas of head – 20 times (12%).

Traumatism intensity, i.e. the quantity of traumas per one handball player, turned out to be rather high. So, in average every one handball player has more than one trauma a year.

In handball all players are characterized by certain game role and, consequently, perform specific functions. Competition activity of different roles' handball players is rather different, that result in different quantity of traumatic situations. The quantity of traumas of handball players of different roles is given in fig.2.

Analyzing the obtained results we established that goalkeepers have the highest quantity of traumas (24%), linear players have 26%, end players – 20%. Handballers, who start the game and those, who are in position of halfback receive 14% and 16% of traumas correspondingly. The obtained data are conditioned by the degree of contact with adversary during the game, while for goalkeeper – by the quantity of attacks at their goal.



*Fig.2. Traumas percentage of different game roles' handball players.*

1 –goalkeepers; 2 –linear; 3 –halfbacks; 4 –attacking end players; 5 –starting the game.

Having studied the character of the received traumas we found that goalkeepers have most often arms injuries, ankles and elbows, injuries of head. End forwards have high traumatism of superior limbs: injuries and abrasions of hands and fingers. Halfbacks have the highest indicator of fingers' traumas, legs and arms' muscles, injuries of ankles and knees. For linear player the most trauma-hazard are superior limbs and torso. The lowest trauma indicator is peculiar to players, starting the game, though they have often traumas of knee joint and ankle.

In the course of the research we found out that sports traumas like any other pathology has objective and subjective factors as their base; any of these factors in one case can be the reason of an injure and in other case it can be a condition of its appearance. It is worth to consider the character and localization of trauma that depend on the qualification and the age of sportsmen. So, beginners and the sportsmen of lower grades have prevailing quantity of easy injuries, which do not require durable treatment (abrasions of soft tissues, traumas, connected with overloading of supporting motor system and so on).

Highly qualified sportsmen have less quantity of traumas. Sport qualification, period of sports activity and experience permit them to avoid many traumas. For highly qualified sportsmen specific traumas, connected with peculiarities of their sports activity and which are caused by repeated overloading are characteristic.

At present, the level of handball achievements directly depends on the scope and intensity of training loads. However, trauma withdraws player from further improvement of his/her sportsmanship for long time. In order to determine which rehabilitation methods are the most efficient, it is necessary to know the reasons of traumas of sportsmen of different kinds of sports. For determination of treatment means, which are used by handballers during rehabilitation after different traumas, we carried out questioning of Ukrainian super league players.

Physical trauma is rather great psychological stress for sportsmen. In rehabilitation process sportsmen pay great attention to treatment methods. The period of rehabilitation and return to team depend on the choice of treatment method. In the course of research it was established that 63,2 % of sportswomen prefer conservative methods of treatment and 36,8 % of handball players, unfortunately, chose operational methods. Rehabilitation of sportswomen after different traumas occurred in different ways: from 122 players 18 persons (11%) did not use special treatment at all, 27 sportswomen (16%) practiced self treatment. Though, most of handball players consulted specialists for restoration of their workability. 36 handballers (21%) used physiotherapeutic methods, 26 (15%) addressed team doctor for aid. But the biggest quantity of traumas required application of stationary treatment – 61 case (37%). Selection of different treatment methods is in direct proportion to the character and complexity of the received trauma. Though, it should be remembered that rehabilitation process is versatile and complex one, which, in the opinion of handball players, is more efficient, if a sportswoman is positively adjusted for reaching good result and does not collapse.

One of the main problems of modern sports is return of sportsmen/women to active competition activity [3]. By the results of the conducted research it was found that from 33 sportswomen, who received serious trauma (concussion of the brain, rupture of ligament, meniscitis) 23 handballers returned to full fledged sports mode and competition activity and 10 – left sports. Correspondingly to the kind of trauma and its consequences the percentage of handballers' return to competition activity is presented in fig. 3.

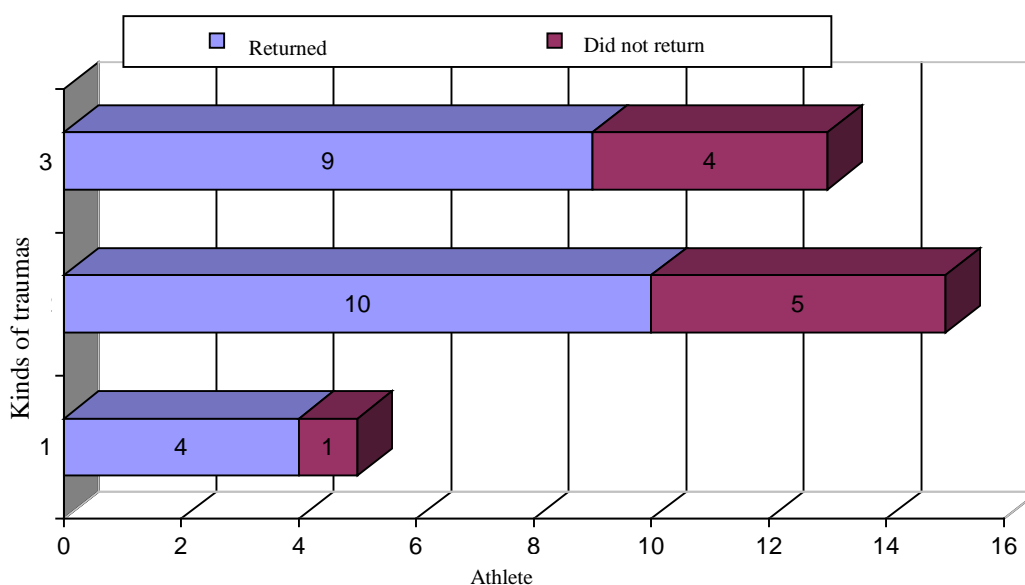


Fig.3. Correlation of handballers' return to competition activity after different traumas  
1 — concussion of the brain; 2 — rupture of ligament; 3 — meniscitis.

The highest percentage of non-return was observed after rupture of ligament (33 %) i.e. every third sportswoman could not return to active competition activity. After concussion of the brain every fifth handball player (20%) did not return and after meniscitis – every fourth (20%).

## Conclusions

Traumatism in sports is one of main problems if its existence. Sometimes, exactly traumas do not permit teams to show maximal results in competitions. The greatest quantity of traumas concerns injuries of superior and lower limbs (38% and 26% correspondingly). Traumas of back and backbone were observed in 24% of cases and much less cases were connected with traumas of head (12%). Distribution of traumatism's cases between different roles' players is as follows: linear players – 26%, end players – 20%, goalkeepers – 24%, starting and halfbacks 14% and 16% correspondingly.

For leading handball teams of Ukrainian super league the most frequent are haematoma and stretching. But after appropriate rehabilitation measures all sportswomen as a rule, return to usual conditions of training and competition activity.

With more dangerous traumas like meniscitis (injure of meniscus), fractures, ligament ruptures, concussion of the brain stationary treatment is required, then durable and painful rehabilitation period, that usually prevent sportswomen from returning to usual game loads.

It has been experimentally established that the highest percentage of handballers' not returning to active competition activity is after ligament ruptures (every third sportswoman), after meniscus extraction – every fourth one and after concussion of the brain every fifth sportswoman can not return.

*The prospects of further researches.* Development of efficient methods of sportswomen's treatment and rehabilitation, depending on trauma's complexity. Also it is necessary to pay more attention to development of traumatism preventive measures, that will permit to substantially increase efficiency of competition activity.

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