

THE ANALYSIS OF SPORTS INJURIES OCCURENCE IN PLAYERS OF SELECTED TEAM GAMES

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- handball.

Abstract:

Introduction: Sport brings a lot of positive aspects, which have a positive effect on the health and well-being, but it also has negative consequences. Injuries are almost indispensable element of sport and apply to both professional players and amateurs.

Aim of the work: The aim of the study was to determine the type and frequency of sports injuries in men professionally playing volleyball and handball.

Material and methods: The study involved 71 men (36 volleyball and handball 35 players) aged from 19 to 40 years, professionally engaged in sport. The research tool was the author's questionnaire consisting two parts. The first part included demographic data, while the second part consisted questions concerning types of injuries, location and circumstances of their occurrence.

Results: Players playing volleyball and handball suffered injuries during the game. In the respondents opinion the most frequent was twists (94% volleyball, 77% handball). Injuries occurred frequently during landing (75% volleyball, 80% handball players). Handball players often (71%) suffered injuries resulting from collision with other player.

Conclusions: The results of study confirms that the team sports such as handball and volleyball are sports discipline with high frequency of injuries.

INTRODUCTION

Sport has many positive aspects which affects on the health and comfort. It is said that "sport is health". Unfortunately, any sport carries the risk of injuries. Individual damages of motion organ are often. It may be influenced by the specific activities carried out during trainings and matches in selected disciplines. It is believed that injuries occurs often in team games such as volleyball and handball. Volleyball is characterized by a lack of direct contact of two opponents. It is a sport belonging to strength-speed sport. Technique is an important element, which determines the accuracy of hitting the ball. Crucial roles have also coordination, stamina and tactics.

Volleyball is a discipline in which there is large number of jumps and landings. Also frequent changes of direction, sudden stops and returns results in a significant lower limbs load. It is characterized by non-standard acyclic, dynamic movements taking place during long lasting intervals.

Handball is a contact team game. Throws, jumps, walk and running are main movements that occur during the handball game.

There are three elements which characterized this discipline: movement, attacking and defending. Handball belongs to speed-strength sport [2,4]. All sports involve a risk of severe injuries. It is related to occupational hazards. Injuries in sports has different causes. Mostly damages occur during direct combat, especially when discipline belongs to contact sports like mentioned handball. In addition, players who want to achieve the best results, try to improve their performance often beyond their own capabilities. Intensive training, lack of wellness and insufficient rest after the exercise are some of the causes that may lead to overload in motion organ and to an injury. Extremely important for the proper preparation of athletes is adequate warm-up. As we know, the warm-up is an essential and indispensable part of every workout. It should be individual, which is rare in the disciplines team. Another problem contributing to the formation of injury is too quick return to training after not cured injury. An important element is also player's suitable lifestyle. Improper diet, or taking some medication without consulting your doctor may weaken the body and cause motion organ injuries.

Cause of sports injuries can be also external factors, over which player and coaching staff have no influence. It can be mentioned poor condition of facilities and sports equipment that may be direct threat to the players themselves [1, 9].

AIM OF THE WORK

The aim of this study was to determine the type and incidence of sports injuries in men who are playing professional volleyball and handball.

The following research questions were prepared:

- Which sport discipline has higher injury rates?
- What kind of injuries occurred often when playing volleyball and handball?
- Where often were injuries located?
- Under what circumstances came to an injury?

MATERIAL AND METHODS

The study was made on a group of 71 men playing professional volleyball and handball. The subjects were divided into two groups. The first of them were volleyball players, who trains in the Polish Ekstraklasa clubs and the first league. The group consisted of 36 respondents aged 20 to 38 years (average age 26.7 years). Average players seniority in this respondent's group was 13,5 years. Athletes average training was 6 times a week for 2 hours. The second group consisted 35 people and was represented by handball players aged from 19 to 40 years (average age 27,3 years), playing in Polish Ekstraklasa and first league. Average players seniority in this group was 14,4 years. Respondents from this group trains 6 times a week for 1,5 hours. The research tool was the author questionnaire consisting two parts. The first part was the imprint contains data such as age, players seniority and information about trainings frequency. The second part includes closed and open questions. These includes the type of sustained injuries, location and circumstances of their occurrence.

The results of the survey were collected and afterwards developed using descriptive statistics.

RESULTS

Research analysis shows that in all surveyed players were sports injuries. Athletes playing volleyball suffered injuries on average 2,9 in their career. In the second group, which included handballers there were more - average 3,7.

The research shows that the most common injury in athletes, playing volleyball and handball were sprains, which occurred in 94% volleyball players (34 people) and 77% of

handball players (27 people).

Joints dislocations experienced 33% volleyball players (12 people) and 23% of handball players (8 people). 69% (24 people) of handball players indicated that they suffered a muscle strain, tendons and ligaments. More often than in the other group, they have a breaks and tear muscles and fractures, bruises due to the contact nature of the sport. 11% of volleyball players respondents (4 people) indicated that they have suffered other injuries such as: herniated lumbar, synovial knee hypertrophy and slipped disc. Among other injuries which experienced 17% handball players (6 people) indicated: head cut, meniscus injury, inflammation of the Achilles tendon (Figure 1). In summary, the most common injuries occurring in surveyed players were sprains (26%). Stretching muscles, tendons and ligaments and fractures accounted for 15% of all injuries suffered. Soft tissue tears and breakage comprised 12% of total damage in the group of respondents, while sprains and breaks the soft tissues were successively with 9% and 7%.

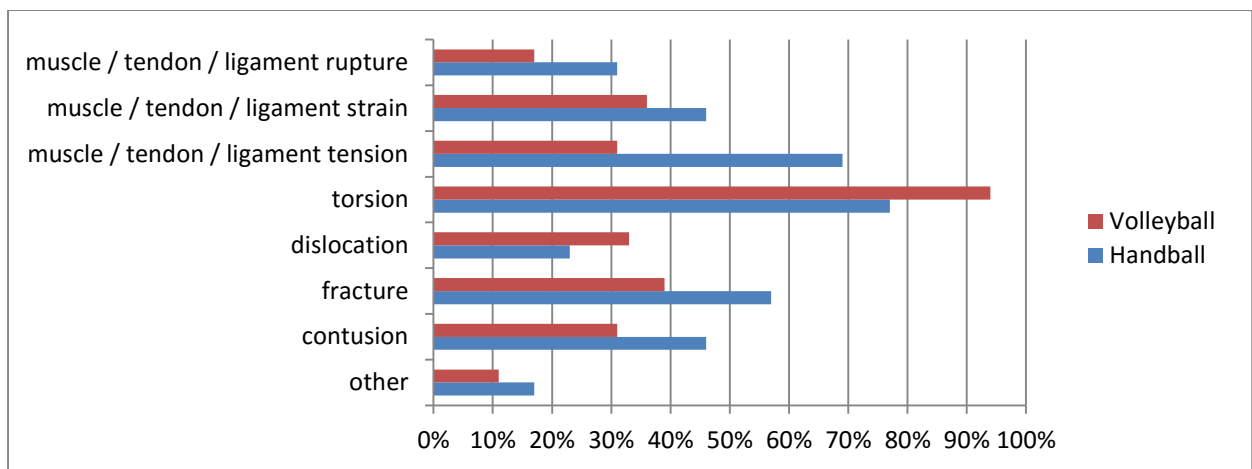


Figure 1. Types of injuries divided into volleyball and handball (the sum does not equal 100% because respondents could select more than one answer)

Most suffered injuries related to the lower limbs, either in one, and in the second group of respondents. In volleyball players were as much as 71% of all injuries, while in handball slightly less because 64%. In the lower limb injuries mostly concerned ankle joints and knee joint. Slightly less were injuries in the upper limbs. It was reported in 23% of volleyball players and 30% of handball players. Mostly they were located within fingers and shoulder joints. Occasionally injuries were reported in the trunk area and rarely the damage occurred in area of head and neck. Volleyball players group did not suffer such injuries while in handball players it was 2% of all injuries (Figure 2).

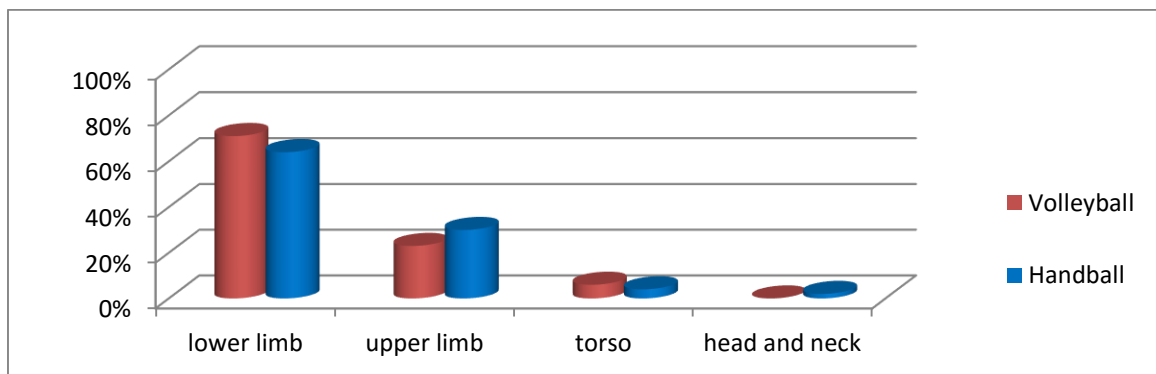


Figure 2. Injury occurrence area with divide on volleyball players and handball players

The question of the circumstances in which the injury occurred, respondents most frequently marked a landing (volleyball players - 75%, handball players - 80%). Often in handball players injuries occurred as a result of collision with another player - 71% of respondents, in volleyball players it was only 19%. This difference is probably due to a greater "brutality" of handball and results from the specificity of the sport. During the jumps, injuries suffered 31% of the athletes who play volleyball and 43% of handball players. During run 14% of volleyball players and 37% handball players suffered injuries. Among the other factors that were mentioned by the respondents were overloads, slipping on a wet pitch, ball hits, bad trainings, blocking and falls during game (Figure 3).

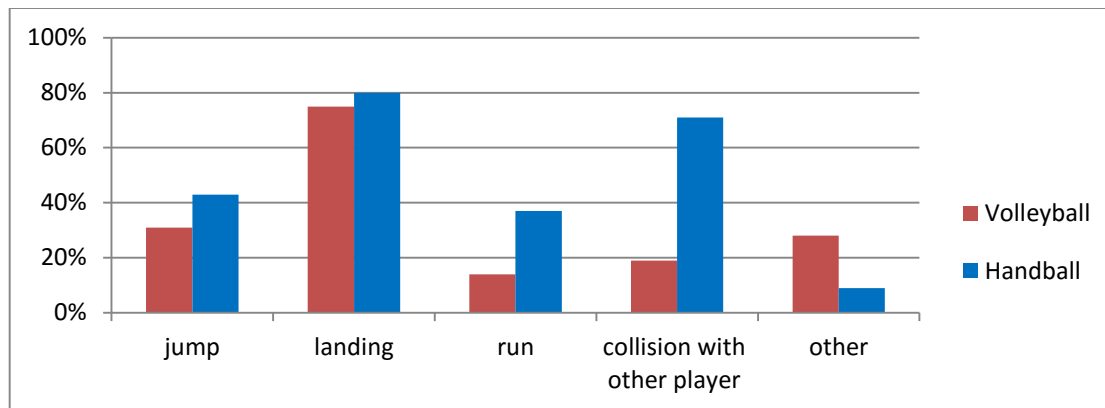


Figure 3. Circumstances in which injuries occurred with divide on volleyball and handball players (the sum does not equal 100% because respondents could select more than one answer).

DISCUSSION

Analysis of the results obtained from the study confirmed the assumption that there are differences in the incidence of sports injuries in player playing volleyball and handball. The study shows that the handball is more traumatic than volleyball. Players of both groups most often experienced twists joints of the lower limbs.

In handball players more often were soft tissue strains and bruises and contusions which affected contact nature of this sport and frequent collisions with other players.

Damages were usually located in the lower limbs, slightly lower rate of injuries in the upper limbs, and the least in the trunk, head and neck.

Research conducted by Wawrzyńczak-Witkowska also seek to determine the types, frequency, location and causes of injuries. The study involved 200 people, professionally playing handball, volleyball and basketball. The results showed that the most common injury in volleyball and handball players were also twisting joints.

According to the author, damages in sport players often related to lower limbs, just like in the present study [8].

Similarly Taniewski, conducted a survey among football, handball, basketball and volleyball players. In studies author says that the most common injury which occurs in team games are also twisted joints. Mentioned author says that the handball is more traumatic sports than volleyball which is consistent with results of our work. According Taniewski damages in subjects are most often localized in the lower limbs, and it is less likely to report injuries in upper limbs. Again, these results are consistent with the results presented by the authors of this study [5].

Walentukiewicz analyzed sport injuries epidemiology among the group of 157 players of various sports. The most injuries frequency characterize handball. As author points out, the greatest percentage of damage affected lower limbs, which is consistent with the results presented above. The author mentioned earlier also confirms that the most frequent injuries

are twisted joints among all suffered injuries [7]. Research conducted by Maronia among Polish volleyball national team also confirmed that the most common area of injury in volleyball are the lower limbs, and sprains are the most numerous of all the injuries [3]. This fact is also confirmed by other researchers who assessed that lower extremity injuries occur in 83% of players playing volleyball [6]. In summary, results presented in this paper are similar to observations made by other authors. They confirm the presence of a larger traumas of players playing handball and location of injuries in the lower limbs. Type of damage within the motion organ, the most common in players who play volleyball and handball also was consistent with the work of other researchers.

CONCLUSIONS

1. Handball and Volleyball are sports with high frequency of injuries.
2. During play of volleyball and handball the most common injury was twist.
3. In both groups the most damage were in lower limbs. The least frequent injuries occur around torso, head and neck.
4. Most injuries occurred during landing in both respondents group. In handball players damage were often caused by the collisions with other players which contributes to the contact nature of this sport.

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