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INJURIES IN BEACH HANDBALL

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Keywords

Beach handball, injuries, severity, and environment

Summary

The purpose of the present study was to investigate the injuries in beach handball and their correlation with those in indoor handball. The sample of the study was composed of 96 beach handball players, all members of the men’s national teams that participated in the 2007 European Beach Handball Championships that took place in Misano Adriatico (Italy, 10-15 July 2007).

All the athletes were given a self-reported questionnaire related to the injuries that the players had suffered during their involvement with the sport within the period of the last 24 months. The results showed that 15.5% of the players suffered a serious injury. Goalkeepers and backcourt players presented the most injuries (71%). Most injuries were closed (85.7%), mainly ligam ental (57%), concerning the lower limbs and more specifically the torso (42.8%). The main reason for those injuries was the violent contact with an opponent player (71.4%). Most injuries were reported to have occurred during the match (57.1%) while in attack (71.4%). Regarding the severity of the injuries, this was 71.4% of a serious form (resulting in a 2-4 weeks absence) and 14.2% of a severe form (resulting in a more than 4-week absence). The injuries were diagnosed at a hospital (42.8%), mainly by doctors (85.7%). The percentage of players who had to be hospitalized was 57.1%.

Most players followed conservative treatment (57.1%). Finally, the majority of the athletes (92.8%) had no relapse after they returned to athletic activity. Deductively this game level demonstrates low frequency of injuries but of great severity mainly due to the environment that the matches take place (sand, high temperatures, at least two games per day), while obvious is the need of further research in larger sample of handball players.

Import

Bigger probability of injury exists in contact sports as opposed to the non-contact sports (American Association of Oral and Maxillofacial Surgeons, 1999 Kujala, Taimela, Antti-poika, Orava, Tuominen and Myllynen, 1995). Both indoor and beach handball include movements that produce stress to the myoskeletal system and consequently injuries (Andren-Sandberg, 1994 Loes and Goldie, 1988 Tyrdal and Bahr, 1996 Werner and Plancher, 1998). Therefore, the requirements and the particularities of the sport, as for example the frequent and intense contact with the opponent players, lead quite often to injuries (Andren-Sandberg, 1994 Asembo and Wekesa, 1998 Wolf et al. 1974).

Hoeberigs, van Galen, and Philipsen (1986) supported that each sport should have its own model of injuries, which can be more or less specialized. The knowledge of this model can be very important for planning the medical care that perhaps needs to be
given and is useful to define the most important causative factors of injuries in handball. The necessity of knowledge of this model that concerns injuries in this particular sport, appeared, also, in the study of Nielsen and Yde (1988) in which has been documented that the knowledge of athletic injuries and their rehabilitation was poor for both athletes and coaches.

This conclusion is reached by a number of scientific publications (Bak and Koch, 1991 Engebretsen, Gruntvedt, and Bredland, 1993 Fagerli, Lereim, and Sahlí, 1990 Hoeberigs et al., 1986 Yde and Nielsen, 1990 Backx, Beijer, Bol and Erich, 1991 Sorensen, Larsen and Rock, 1996). The above mentioned injuries lead -many times- the individuals to the hospital with injuries of high severity that require medical care (Hoeberigs et al., 1986 Jørgensen, 1984 Maehlum and Daljord, 1984 Menquy, Guillou and Condamine, 1999). The sustained injuries appear to be of high severity because the majority of athletes are absent from training sessions for more than a week (Lindblad, Jensen, Terkelsen, Helleland, and Terkelsen, 1993 Lindblad, Hoy, Terkelsen, Helleland, and Terkelsen, 1992 Nielsen, and Yde, 1988 Biener, and Pole, 1980). Asembo and Wekesa (1998), support that injuries in handball are inevitable. They suggest that, for these specific injuries, measures of prevention, treatment and rehabilitation should be taken.

A special characteristic of beach handball is the environment in which the games take place: Sand, high temperatures and many matches during the same day. The cause of injuries in each sport and its versions can differ between different subgroups of the athletes' population. Different subgroups of athletes' population in each sport, need, also, different prevention programmes, so that the highest frequency and severity reduction of particular injuries is achieved.

Therefore, the scientific research should be specialized, so that the groups of high risk are ascertained and independent variables for forecasting injuries are defined for each subgroup separately. The results of such studies can provide effective precautionary measures and prevention programmes. It is desirable such research to include similar subgroups for the determination of injuries and should be based on epidemiologic and methodological principles (Inklaar, 1994).

**Method**

The total sample of the study consisted of 96 beach handball players all members of the men's national teams that participated in the 2007 European Beach Handball Championships that took place in Misano Adriatico (Italy, 10-15 July 2007). All the athletes were given a self-reported questionnaire developed specifically for this research.

The questionnaire was related to the injuries the players had suffered during their involvement with the sport within the period of the last 24 months. An injury was defined as an accident sustained, during practice or competition, which led to a medical problem (e.g. pain, disability) and prevented participation in training sessions or games for at least one day beyond the date of occurrence (Gibbs, 1993; Hodgson, Standen and Batt, 1998). More specifically, at the beginning of the questionnaire each player was required to give information and data on personal characteristics such as age, weight, height and his history of athletic activity and participation.
In the main part of the questionnaire, information was required on injuries which the players had sustained during the last two years. For instance, the incidence, severity (injuries were graded into four categories of severity): mild (absence from practice less than 1 week), moderate (1-2 week absence), serious (2-4 week absence), and severe (more than 4 weeks absence) (Seil, Rupp, Tempelhof and Kohn, 1998), the percentage of players who had to be hospitalized, localization, type and mechanism of injury, time (that is during training or at a match), type of treatment and relapse of the injury. Finally, information was asked about various environmental factors, such as the surface of the field, the soles of the player’s shoes as well as the place where the injuries occurred.

**Results**

From the statistical analysis of the results concerning the players’ personal characteristics the average age was 25.4 years. The average weight was estimated at 88.84 kg and height at 187.75 cm. The average training age was at 3.7 years, with 2.4 average training sessions per week. The findings revealed that 15.5% of the players had treatment for at least one injury during the previous two years.

From the athletes with injuries, 14.2% had suffered two injuries in a 2-year period. Goalkeepers and backs reported the most injuries (71%). The environment that the matches were played was sand and high temperatures, while each player had at least two games per day. Most injuries were closed (85.7%), mainly ligamental (57%), concerning the lower limbs and more specifically the torso (42.8%). This result is similar to the one found by Karras, Stergioulas, Tsolakis and Bebetsos (2002). The main reason of injuries was the violent contact with an opponent player (71.4%). Most injuries were reported to have occurred during the match (57.1%) while attacking (71.4%). The severity of the injuries is described at the following table.

**Table 1 Severity of injury**

<table>
<thead>
<tr>
<th>Form</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe</td>
<td>14.2%</td>
</tr>
<tr>
<td>Serious</td>
<td>71.4%</td>
</tr>
<tr>
<td>Moderate</td>
<td>0.0%</td>
</tr>
<tr>
<td>Soft</td>
<td>14.2%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Diagnosis was made at a hospital (42.8%), mainly by doctors (85.7%), the next few hours after the injury (42.8%). The percentage of players who had to be hospitalized was 57.1%. Most players followed conservative treatment (57.1%). The conservative treatment that most athletes followed was physiotherapy (ice and ultrasounds) and drugs (mainly NSAIDs).

The majority of the athletes followed the doctor’s advice (87.5%) for complete rehabilitation of the injury. Twenty-seven percent of the athletes suffering a severe injury had complications as pain, stiffness and difficulty while walking. Most athletes (57.1%) continued to play after their severe injury. The majority of the athletes returned to athletic activity healthy after three weeks. Finally, the majority of the athletes (92.8%) had no relapse after they returned to athletic activity.
Injuries in beach handball

Conclusions

Deductively, it is obvious that while the public, media and sponsor interest for the sport of beach handball is steadily increasing, there is absence of research via which we would generate precious information and reliable inquiring data on factors that determine the reduction of injuries at national team level.

Bibliography


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