SURVEY ON AWARENESS OF AND ATTITUDES TOWARDS INJURY PREVENTION OF THE BASKETBALL COACHES

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Introduction

The presented part of the research is a part of the international project "Safety in Sports", in full "*Safety Management in High Risk Sports in Collaboration with European Sports Associations*." The leader of the work package is Ruhr University Bochum (RUB), Department of Sports Medicine and Sports Nutrition, Bochum, Germany. The project has been accepted for co-funding in the framework of the EU Health Programme 2008 – 2013 and it is realized under the auspices of European Basketball Federation (FIBA Europe) and with cooperation with Slovak Basketball Association. The project is scheduled since October 2008 to September 2011 and it is divided into several parts:

- Coordination of expert and scientific materials
- Dissemination of expert and scientific materials
- Evaluation of expert and scientific materials
- Inventory of the prevention measures
- Assessment of the inventory of the prevention measures
- Implementation of preventive measures
- Generalization of the outcomes.

The aim of the project is to contribute to injury reduction in sports and to increase the benefit of sports through identification and implementation of sustainable injury prevention toolkits in basketball and handball in Europe. The basketball part of the project is carried out in Slovakia and Sweden. The task of the project is to choose the most appropriate prevention measures according to the demands of coaches, to choose the most effective promotion strategies and to create an inventory that would be suitable for the demands of coaches in Europe.

The task of the inventory is to provide an overview of existing prevention measures and promotion strategies that were documented on national and international level. The prevention measures are divided into 5 fields:

1. Training & Physical Preparation (e.g. balancing exercises, stabilization, strengthening, agility, coordination, stretching)
2. Technical & Political Approaches (e.g. fair-play campaigns, coaches education, behavior and rules modification, refereeing)
3. Equipment & Facilities (e.g. taping, ortheses, mouth guards, protectors, floor conditions, venues, shoes)
4. Medical & Non-medical Support (e.g. physiotherapy, pre-participation examinations, medical screenings, massage, psychological support)
5. Multifaceted Approaches (picking up aspects of at least two different subgroups that are mentioned above).

Subsequently after the producing the inventory there will be carried out realization and testing of the prevention measures. Afterwards there will be generalized certain schemes of sustainable prevention measures for practice.

Reducing the risk of injuries in basketball as a popular sport may increase the aspect of health and well being of this activity. In basketball as a competitive sport the reduction of the risk of injuries can mean performance enhancing.

Aims and Tasks

The aim of the study is to determine the perception of potential changes in awareness of and attitudes towards injuries and their prevention, which was tested with the help of questionnaire based baseline in Slovak Basketball.

The tasks were to gather, to analyze and to compare the knowledge and demands of Slovak and Swedish basketball coaches as well as how is knowledge in the field of injury prevention applied to a training process.

Methods

The questionnaire method was used to analyze knowledge and demands of the coaches. English version of the questionnaire was provided by the Department of Sports Medicine and Sports Nutrition, RUB. The Slovak version of the questionnaire was distributed among coaches at a clinic that was carried out on September 20th 2009 in Levice. Questionnaires were processed in cooperation with RUB. Similar procedure was applied in Sweden.

The research sample consisted of 44 coaches, 17 of whom were Slovak coaches and 27 were Swedish coaches. All of them had coaching education of the highest and second highest level.

The questionnaire consists of thirteen questions, out of which there was one open question, nine closed questions and 3 are partly open questions. We analyzed 7 closed questions. The basic information about coaches was determined in the questionnaire (age, gender, coaching education what kind of teams do they lead). Two fields of the knowledge of the coaches that were investigated were:

a) theoretical knowledge and demands of the coaches,
b) prevention measures carried out by the coaches with their players.

In the first field we investigated the importance of injuries in basketball, possible causes of injuries, possibilities of the reduction of injuries and demands for preventive measures. In the second field we investigated the prevention measures that are actually practiced by coaches, the popularity of prevention measures among players and additional prevention measures.

To process and evaluate the data there were used descriptive statistic methods.

Results

The majority of the coaches in both samples consider injuries an important problem. Approximately the same percentages (30 – 33%) of the Swedish coaches consider injuries in basketball a very important, important and medium important issue. In those three levels there is a majority of Slovak coaches, with 53% considering the injuries a very important issue, 18% considering the injuries an important issue and 29% considering injuries medium important issue. In general we can say that for more than 65% of coaches the injuries are an important issue (Fig.1). These findings correspond with the fact, that there occur 720 000 injuries of licensed players per year in European area (Luig – Henke, 2010). The number of injuries according to Cumps et al. 2008, Loës et al. 2000 cause an amount of approximately € 500 million a year. The answers of Slovak and Swedish coaches correspond with the results of 44 international elite handball coaches who participated in EHF Top Coaches Skopje. 61,4% of them consider injuries an important issue.

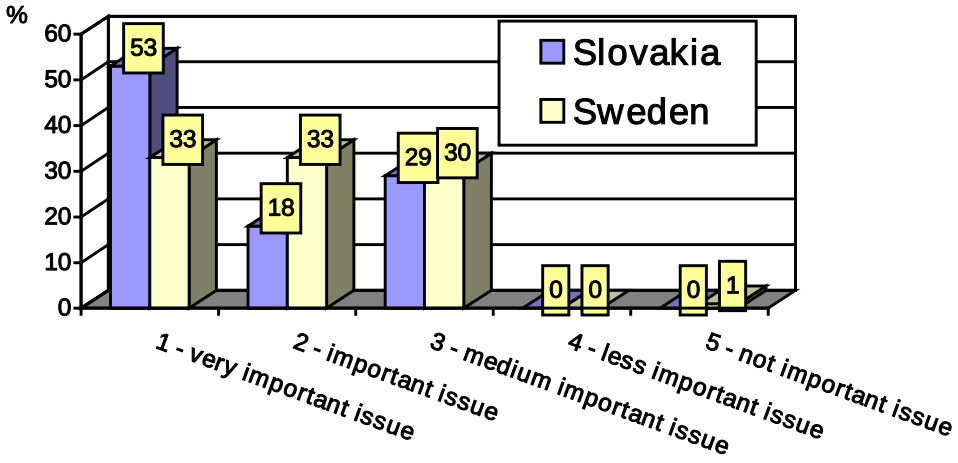

Fig.1: The importance of injuries in basketball

Another field of interest was the opinions on the possible causes of injuries in basketball. Both samples considered the most probable causes of injuries the insufficient regeneration and poor physical preparation of players. 88% of Slovak coaches consider lack of regeneration a probable cause and 76% of Slovak coaches consider poor physical preparation a probable cause. 93% of Swedish coaches consider poor physical preparation a probable cause and 33% of Swedish coaches consider lack of regeneration a probable cause. 52 % of Slovak coaches consider insufficient warm-up and 35% of the Slovak coaches consider collisions/body contact probable causes of injuries. 20% of Slovak coaches consider fouls/unfair play a probable cause of injuries. Too many matches and bad luck are not considered a probable cause of injuries by Slovak coaches. On the contrary less than 20% of Swedish coaches consider collisions/body contact, too many matches and fouls/unfair play probable causes of injuries. None of the Swedish coaches consider insufficient warm-up and bad luck probable causes of injuries (Fig.2). Elite handball couches consider the most probable causes of injuries: poor physical preparation (39%), fouls/unfair play and collisions/body contact (19%), which partly cooperates with our results.

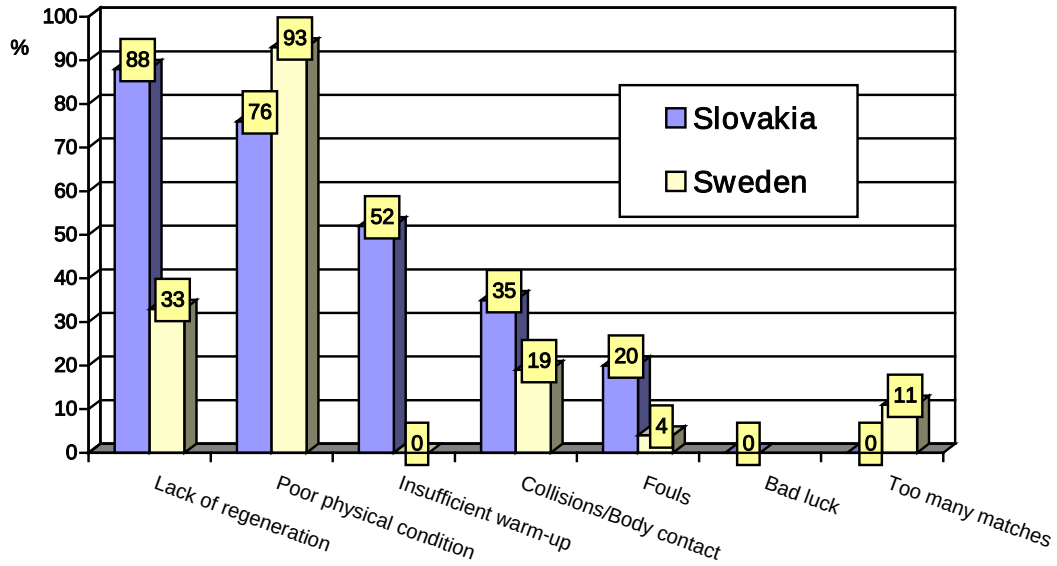

Fig.2: Possible causes of injuries in basketball

88% of Slovak coaches consider longer regeneration and 76% of the coaches consider better athletic preparation the best prevention measures for reduction of injuries. 65% of Slovak coaches consider appropriate prevention programs. Less than 20% consider appropriate protective equipment, reduction of matches and modification of rules. These results (Fig.3) correspond with the results of the possible causes of injuries (Fig.2). On the contrary, only 50% of Swedish coaches consider better athletic preparation and longer regeneration the best prevention measures for reduction of injuries. Less than 10% of Swedish coaches consider appropriate protective equipment and reduction of matches. They do not consider appropriate modification of rules and prevention programs. The results of Swedish coaches (Fig.3) correspond to results of the possible causes only partially (Fig.2).

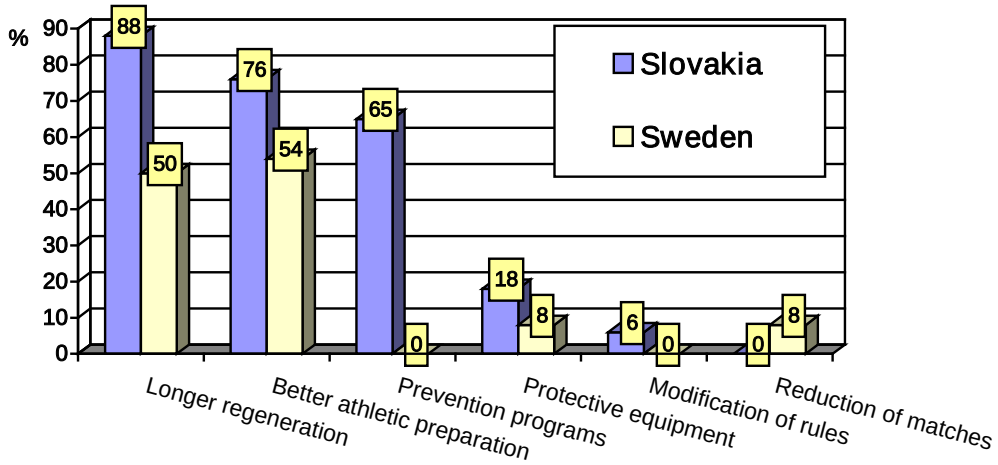

Fig.3: Prevention measures for reduction of injuries.

In the field of demands for preventive measures both Slovak and Swedish coaches agreed to wrist and finger injuries as the most important. On the contrary elite handball coaches demanded preventive measures for knee, ankle and shoulder. According to the literature it seems, that independently from age, gender and performance level it seems that the most common acute injuries are sprains, with ankle, knee and finger joints being the most frequently affected locations, followed by muscle strains, contusions and fractures (Drakos et al. 2010, Borowski et al. 2008, Deitch et al. 2006, McKay 2001, Powell & Barber-Foss 2000, Messina et al. 1999, Siebert et al. 1997, Gomez et al.1996). Younger athletes are typically more vulnerable to fractures than older athletes, in particular with regard to fractures of finger and wrist. According to Luig – Henke (2010) foot/ankle is the most vulnerable body part in European area (37% of all injuries - men and 34% of all injuries - women). Other risky body parts are: knee (17% of all injuries - men and 30% of all injuries - women), hand/wrist (15% of all injuries - men and 16% of all injuries - women) and head (17% of all injuries - men and 12% of all injuries - women).

Stretching as a preventive measure is practiced by 97% of Slovak coaches. Other practiced prevention measures are: strengthening (76%), warm-up (71%), athletic drills (59%), coordination exercises (59%), balance exercises (47%) and physiotherapy (18%). Majority of practiced prevention measures is more extended in Slovakia compared to Sweden. Less than 10% of Swedish coaches practice coordination exercises, athletic drills, balance exercises and physiotherapy. In comparison to Slovak coaches, not so many Swedish coaches practice stretching (39%) and warm-up (49%). However, more Swedish coaches (89%) practice strengthening (Fig.4). Elite handball coaches practice stretching (82%) and physiotherapy (25%).

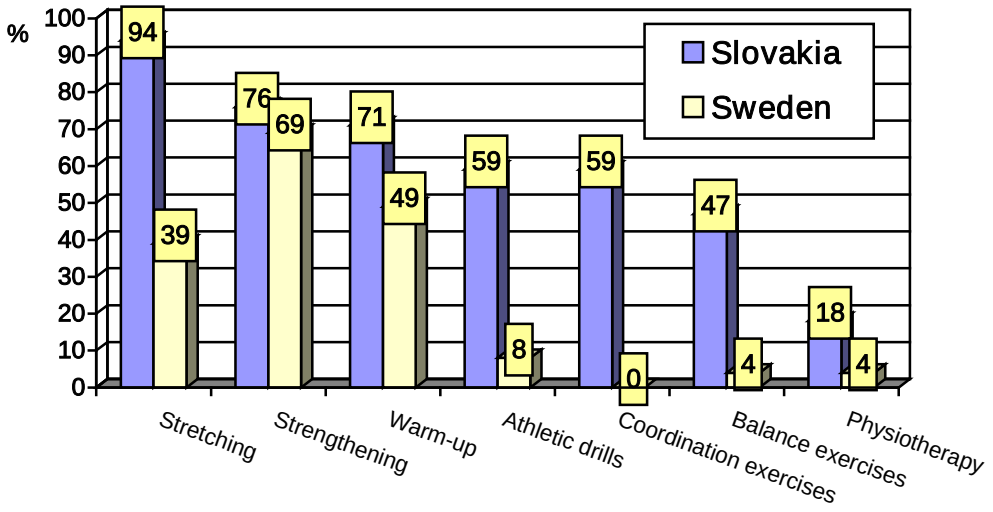

Fig.4: Practiced prevention measures.

Another field was a popularity scale of the prevention measures among players (coaches evaluated the popularity of prevention measures among players on **5 - degree scale**: **1** - players do not like prevention measures at all, **5** - players like prevention measures very much). According to 54% of Slovak coaches their players are in degree **3** and according to 29% of Slovak coaches their players are in degree **4**. In general we can assume, that Slovak coaches think that their players perceive prevention measures positively. On the contrary, 52% of Swedish coaches consider their players to be in degree **2** and 41% consider their players to be in degree **3**, so we can assume that prevention measures are more popular among Slovak players, than among Swedish players (Fig.5).

The last field deals with additional prevention measures. In Slovakia there is used: taping (82%), ortheses (59%), medical/nutritional supplementation (59%), massage (53%), mouth guards (24%) protectors (18%), and physiotherapy (6%). There is a big difference between Slovakia and Sweden – ortheses are used by 70% of coaches, taping is used by 37% of coaches and the rest of the measures is used by less than 11% of the coaches - Fig.6.

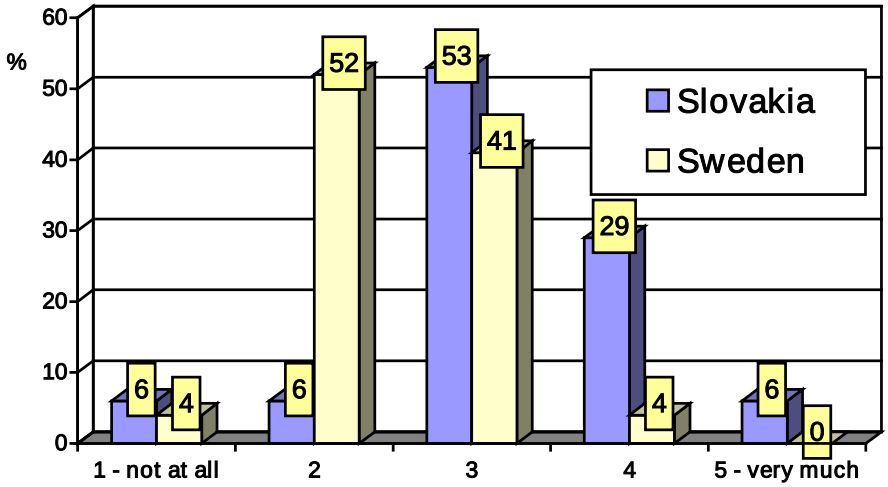

Fig.5: Scale of popularity of prevention measures among players.

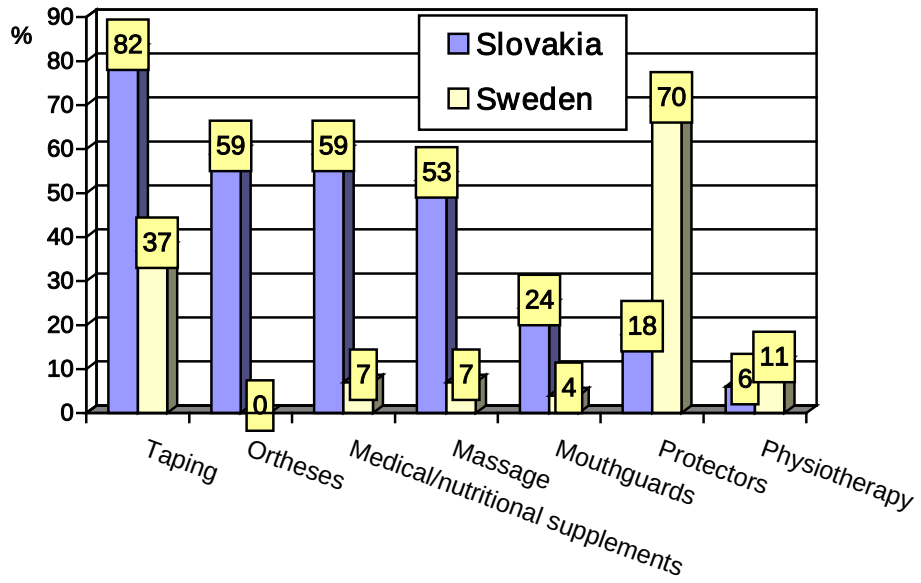

Fig.6: Additional prevention measures.

Conclusions

The research sample consisted of Slovak and Swedish coaches. 65% of them think that injuries are an important problem. As most common causes they consider poor physical preparation and lack of regeneration. Prevention measures that are carried out the most often are stretching, strengthening and warm-up. As he most effective measure of reduction of injuries they consider better athletic preparation and longer regeneration. There is medium popularity of practiced prevention measures among players.

According to Luig – Henke (2010) foot/ankle and knee are the most vulnerable body part in European area. Other risky body parts are: hand/wrist and head. Slovak and Swedish coaches specially demand prevention measures for wrist and finger injuries.

Except for the above mentioned causes of injuries, Pilný et al. (2007) describes other causes: personal qualities of an athlete (anthropological qualities, psychical qualities...), impact of other person, objective causes emerging from specific sport field, climatic and hygienic conditions, technical equipment and organizational element. However, those were not investigated in our survey.

The findings of the survey took part in creating the Safety in Sports inventory on prevention measures. Slovak version of this inventory would be distributed among Slovak coaches in various forms (leaflets, coaches' clinic and brochure).

Considering the fact that the Safety in Sports inventory has been created also according to the demands of Slovak coaches and it has been evaluated by Slovak experts we assume that it would become an important and useful part of education of coaches.

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