

Evaluation Awareness of Injury Prevention Strategies among Junior Male Malaysian Soccer Players

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ABSTRACT

The incidence of soccer injuries is high, especially in junior players, and effective injury prevention methods are needed. Purpose: The aim of the present study was to determine the level of general awareness and application of injury prevention strategies among junior male Malaysian soccer players. Fifty-five players from two Malaysian Sports School, age of 13.34 ± 0.47 years, body mass index of 20.96 ± 1.57 kg/m², height 1.62 ± 0.07 m, with 4.46 ± 0.57 years playing experience, took a part in a questionnaire consisting of 39 items based survey. The questionnaire was discussed with schools physiotherapists before distribution to their junior players for completion on a voluntary basis and return to the authors. All data gathered from the questionnaire were processed using the (SPSS v19, Chicago), means \pm SD and frequency distribution were calculated for all responses to the questionnaire. The data for the study were collected during the month of September and October, 2012. Questionnaires were distributed to 55 junior soccer players and responses were received from 50 players completed a questionnaire. A result showed in findings there was lacking knowledge about awareness of injury prevention strategies among junior male Malaysian soccer players. The results of this study indicate the need for a comprehensive assessment to determine whether these results are representative of the majority of junior soccer players. However, players need better education regarding injury prevention strategies and should include such interventions as part of their regular training.

Keywords: football, training, injury, children, players.

1. Introduction

Soccer demands a high level of physical fitness and good technical skills which can be acquired from a regular physical training. However, the physical training and regular participation in both competitive and recreational levels may put the players at a certain risk of injury (Junge & Dvorak, 2007). As the sports is getting more recognition worldwide, children as young as 12 years old are now being recruited into the football academy and start a strict training regime to prepare them to be a professional player. Young adolescents are the vulnerable population that is very prone to injury due to their developing musculoskeletal system. Robert et al (2007) reported that the injury rate with regard to age in soccer related injuries was 0.4% in children between 2 to 4 years of age, 12.3% among those between 5 to 9 years, 49.0% among those 10 to 14 years, and 38.4% among those 15 to 18 years old. The most commonly injured body regions were the lower extremity (47.3%) and the upper extremity (30.8%). In terms of individual body parts, the wrist/finger/hand (20.3%), ankle (18.2%), and knee (11.4%) were the most commonly injured. While, the most common diagnoses were sprain/strain (35.9%), contusion/abrasion (24.1%), and fractures (23.2%).

Certainly, the young soccer players require additional information on the strategies to prevent or reduce the risk of injury during games as well as during training. They could be many factors that can lead to lack of injury awareness among young adolescent, such as insufficient preparation, non-standardized technical movements, weaknesses in techniques and tactics as well as in muscle strength, endurance, and coordination especially among the less experienced players. According to Frank et al. (2007), the higher injuries in children are explained by the improper training techniques and poor equipment. In addition, being children probably presented with a lack of seriousness, thus they tend to perform only the basic stretching and skills that are typical for soccer games such as passing, dribbling and shooting.

The awareness is important skill in the soccer it is one of a branch in to components of physical skills such as quickness and agility. Therefore, the need to understand the causative factors that lead to high incidence of injury should start from the beginning players train themselves preparing for bigger events. Hawkins & Fuller (1998) in their studies on the professional footballers awareness of injury prevention strategies concluded that main deficiencies in awareness of injury prevention strategies for players were identified as use of shin pads during training , carbohydrate intake before and after training and matches, cool-down after training and matches, and flexibility work. These deficiencies indicate a need for wider education of players in injury prevention strategies by their trainer. The authority must create legislation and provide safety and health provision to protect employees, including professional sportspeople, from injury at work, as stated by Hawkins & Fuller, because they concluded that many players were not implementing accepted control measures available for reducing the risk of injury. Even with professional players, an awareness of injury prevention strategies is somewhat lacking (Junge et al., 2002). Thus, the aim of the present study was to determine the level of specifically awareness and application of injury prevention strategies among juvenile male Malaysian soccer players.

2. Methodology

Subjects

The study was conducted during the second half of the 2012 soccer season. Fifty – five boys age of 13.34 ± 0.47 years, body mass index of 20.96 ± 1.57 kg/m², height 1.62 ± 0.07 m, from two teams Malaysian Sports School, with 4.46 ± 0.57 years playing experience, took a part in a questionnaire based survey. The questionnaire was discussed with club physiotherapists before distribution to their junior players for completion on a voluntary basis and return to the authors. The study was approved by the ethics committee, University Teknologi MARA. The permission to conduct the study in the schools was granted by the State department of education.

Questionnaires

An adapted questionnaire by Hawkin & Fuller (1998) was used as the investigative instrument. The questionnaire contained 39 items which were divided into 4 parts. Part A concerned with the demographic data of the subjects. Part B, part C, and part D are concerned about awareness of injury prevention strategies (use protective equipment, nutrition, warm-ups and cool-downs, flexibility work, and strength training).

Statistical analysis

All data gathered from the questionnaire were processed using the software Statistical Package for the Social Science (SPSS v19, Chicago, US). Means \pm SD were calculated for all variables. Descriptive analysis was used to report the respondent frequency distribution based on the responses to the all question being asked in the questionnaire. The data gathered were the analyzed to present the aspect like the frequency and the percentage.

3. Results

The data for the study were collected during the month of September and October, 2012. Questionnaires were distributed to 55 junior players and responses were received from 50 players completed a questionnaire. The response rate for the questionnaire was 91%. A result showed there was lacking knowledge about awareness of injury prevention strategies among junior male Malaysian soccer players Figure 1.

4. Discussion

Many injuries to the lower limb among junior soccer players can attributed to the lack of awareness towards injury prevention strategies. The important of the application of injury prevention strategies should be inculcated right from the beginning of the training, and this can be achieved with the right teaching and guidance from the training team which include the athletic trainers, coaches, team physician and physiotherapist, and sometime a nutritionist or dietitian. This study assesses the footballers' awareness in injury prevention strategies from a limited number of players from two teams Malaysian Sports School, therefore discussion will be based on the results of the findings in the results section. In the earlier research by Hawkin & Fuller (1998), using the same variables, the main deficiencies identified as use of shin pads during training, carbohydrate intake before and after training and matches, cool down after training and matches, and flexibility works. The findings in the study were found to be consistent with the previous findings.

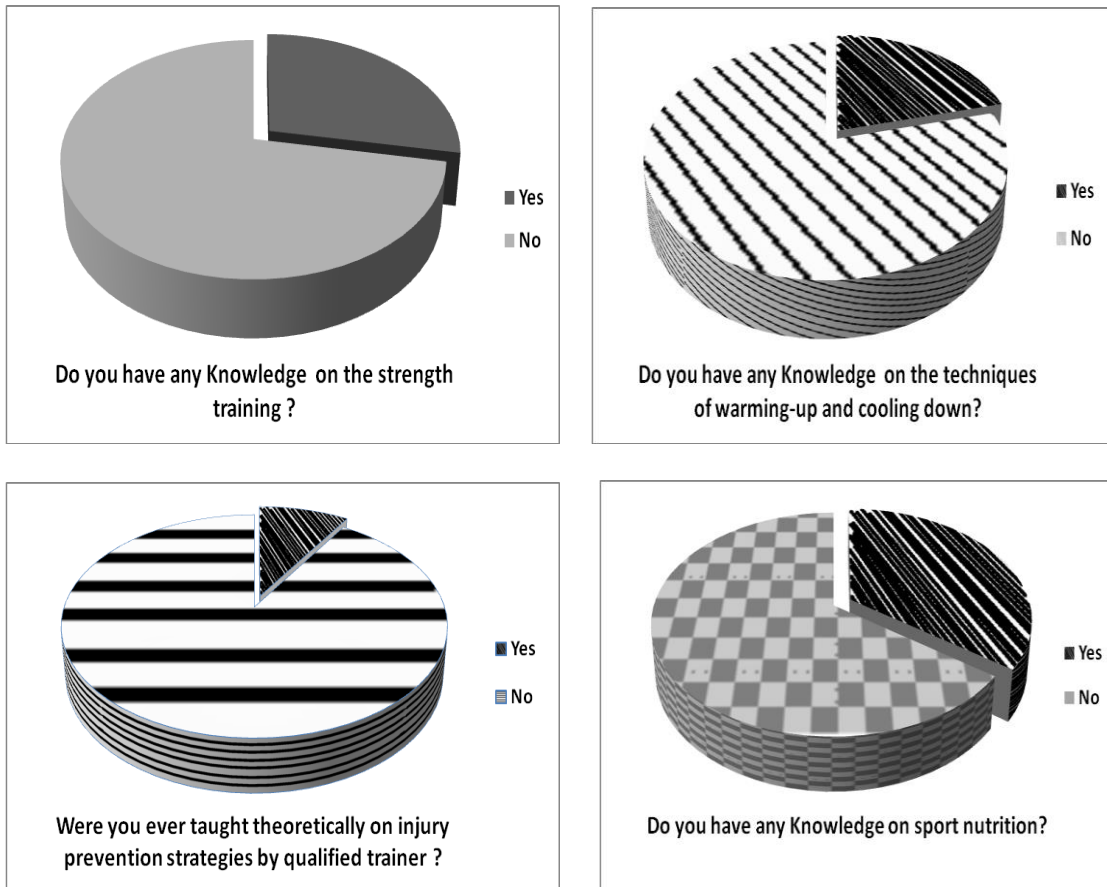


Figure1. The respondent frequency distribution based on the responses

Protective device

Use of protective equipment has been recognized as a common injury prevention strategy (Marshall et al., 2002). Shin-pad is used to protect the lower leg from impact injuries. According to Lees & Lake, (2003) shin-pad offer protection from injuries ranging from the severe (such as direct contact between the opponent boot and the legs as in a poorly executed tackle) to the minor (such as bruises and scratches from glancing blows). However, in present study it was found that players were not fully implementing the use of shin pads especially during training. It is shown that as high as 42% players never use shin pads during training, and only 14 always wore. The results of this study has shown that the trend of injury during training and matches were consistent, but they were only about 34% players agreed and strongly agreed that the risk of lower leg injuries in training is reduced by wearing shin-pads. About 74% players were disagreed and strongly disagreed that the majority of other players wear shin pads during training even though more than 88% were encouraged to wear shin pads during training. In the previous study by Hawkin & Fuller (1998), the findings were consistent with the findings of the study except for one area where, in the previous study it was reported that more than 80% players were not encouraged by their coaching staff to wear shin pads during training.

Nutrition

Proper nutrition is another measure to help prevent injury (Pieter, 2003). In term of the carbohydrate intake of footballer, according to Maclaren (2003), it is often inadequate. If muscle stores of carbohydrate are not adequately replenished, subsequent performance will be impaired. Knowing that the major causes of fatigue for footballers are the depletion of muscle glycogen stores most players reported in this study are lacking the awareness. In the previous study by Hawkin & Fuller (1998), most players (more than 80%) always consumed carbohydrate, and they were given some advice before and after matches and training. However, in this study, during pre training and post training, they were about 10% and 8% players always consumed carbohydrate respectively, and during pre match and post match they were 8% and 6% respectively always consumed carbohydrate. Most players reported that they were given very little advice on the nutrition intake pre and post training and match. It shows that the Malaysian juvenile footballers are very much lacking in their energy store for the purpose of delaying fatigue and recovery aid.

Warm ups and cool downs

Warm up prepares the body physiologically and physiologically for physical performance, and it is also believed that it will lessen possibilities of injury. The main purposes of warming up are to raise both the general and the deep muscle temperatures and to stretch connective tissue to permit greater flexibility. This reduces the possibility of muscle tear and ligament sprains and helps to prevent muscle soreness. Cooling down permits the return both the circulation and various body functions to pre exercise level, and because blood and muscle lactic acid level decreases more rapidly during active recovery than during passive recovery, thus it aids the recovery period. In this study, it was found that only between 40% to 23% players always have a warm up and cool down, as compared to the study by Hawkin & Fuller (1998), none of the players always perform cool down, when it should be 100% of them performing the technique to gains its maximum benefits, though more than half of the respondents agreed and strongly agreed with the benefits of warm up and cool down in reducing injury. Among their reason for not performing this techniques were no time, too tired, not told to, no advice, not necessary, and nobody else did it.

Flexibility work

Flexibility reduces the risk of injury sustained darning stretching, for example, attempting to reach the ball when intercepting a pass (Howe & Hanchard, 2003). Therefore, due to the nature of the football game, flexibility training is a great emphasis. However, Hawkin & Fuller (1998) found that they were generally lack of awareness towards the flexibility work among the football players. The area most lacking were stretching the muscle during cool down period after training and matches. In this study, between 19% to 12% players always stretch the major muscles pre and post training and matches. As high as 9% agreed and 2% strongly agreed that players with poor flexibility are more likely to get injured than those with good flexibility. However, only 14% players who did more than 1 times per week strength training as team session, and 24% did more than 1 times per week for individual work, most players performed at least 1 times per week strength training as a team session 26% and individual work 22%. They were about 76% players who never did any kind of strength training, whether as part of a team session or as extra individual work.

Strength training

In the area of strength training, in this study it was found that the juvenile footballers were lacking in their awareness towards strength training. Even though 8% agreed that strong muscle are important in the protection against injury, but none of these footballers who performed strength training in the gym as part of a team session and as extra individual work. However, most literature recommended that 3 times per week is the best routine for elite footballers, because overtraining might lead to burn out overuse syndromes. Overuse injuries are caused by continued or repetitive action or as a result of exposure of a structure to high loads (Reilly et al, 2003). Among the major reasons given for not doing strength training showing in Table 1.

Table 1. Responses given by players for not doing strength training at least once per week.

Responses	Training
No time	1
Too tired	9
Not told to	18
No advice	13
Not necessary	1
Nobody else does it	8

5. Conclusion

The results of this study indicate the need for a comprehensive assessment to determine whether these results are representative of the majority of junior footballers. However, the specific initial situation of the players and lack of awareness of injury prevention should be considered, including extrinsic risk factors such as quality of pitches and equipment. Coaches and players need better education regarding injury prevention strategies and should include such interventions as a part of their regular training program.

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