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Survey on post sports injuries in hockey players

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Abstract

In this investigation of the case, the majority of injury occurred were in low back and knee (35.7%) followed by mid back (34.3%) and wrist (31.4%). The result indicate that playing surface is the main cause of the injuries, in Kerala most of the colleges practicing and playing in uneven mud surface. lack of strength in various parts of the body also a cause of above pointed injuries. It indicates insufficient strength training also a fact of common injuries of hockey players in Kerala. With the evidence from the present study, the field hockey governing bodies should acknowledge the risk of injuries and the infrequent use of protective gear by the athletes. Also, the player at the developmental stages should be educated about the evidence of injury risks and consequences and be encouraged to adopt safe practices in the sport.

The present investigation point out that only 50% of players taken treatment and rehabilitation to the injuries, it indicated the field hockey governing body should educate the players as well as coaches about the importance of the treatment and rehabilitation.

Keywords: Injury, sports injury, hockey players

Introduction

Field hockey

Field hockey is a team sport of the hockey family. The earliest origins of the sport date back to the middle age in England, Scotland, France and the Netherlands. The game can be played on a grass field or a turf field as well as an indoor board surface. Each team plays with eleven players, including the goalie. Players use sticks made out of wood, carbon fiber, fiber glass or a combination of carbon fiber and fiber glass in different quantities (with the higher carbon fiber stick being more expensive and less likely to break) to hit a round, hard, plastic ball. The length of the stick depends on the player's individual height. Only one end of the stick is allowed to be used. Goalies often have a different kind of stick, however they can also use an ordinary field hockey stick. The specific goal-keeping sticks have another curve at the end of the stick, this is to give them more surface area to save the ball. The uniform consists of shin guards, shoes, shorts, a mouth guard and a jersey. Today, the game is played globally, with particular popularity through western Europe, the India, Southern Africa, Australia, New Zealand, Argentina, and parts of the United States (primarily New England and the Mid-Atlantic states)^[3, 4]. Field Hockey is the national sport of India and Pakistan. The term "field hockey" is used primarily in Canada and the United States where ice hockey is more popular. In Sweden the term "land hockey" is used. To some degree also in Norway. It is a section of Norway's Bandy Association. Until recently they called it "hockey", when it was changed to "land hockey".

Sports injury

Sports injury are injuries that occur to athletes participating in sporting event. These types of injuries are due to over use of the part of the body when participating in certain type of sports. For example, tennis elbow is the form of repeated stress injury at elbow. Other types of injuries can be caused by hard contact with something. This can often causes a broken bone or torn ligament or tendon. Every day, thousands of peoples in the world participating sports and other games activities. Games and sports can also results in injuries some minor, some major and still others resulting in lifelong medical problems. Young athletes taking part in sports activities are in majority and they are not merely small adults. Their bones muscles tendons ligaments are still growing, which make them more susceptible to injury.

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Statement of the Problem

The purpose of the study is to find out most post common injury among college level field hockey players in Kerala in the academic year of 2016-17.

Delimitations

1. The study was de-limited to a total of seventy (N=70) college level field hockey players from Kerala
2. The age group of the subject were ranged between 18 to 26 years.

Limitations

1. Questionnaire research may have its limitations. As such any bias that might have Erupted into the response on the this account may be considered as limitation of the study.
2. Individual difference among the subject such as lifestyle, daily routine and other factors that may have influenced the subjects remain as limitation of the study.
3. No special motivational technique is use during the data collection.

Significance of the Study

1. The study provides background information of the common sports injuries among hockey players
2. The study reveals the drawback in injury management in the terms of immediate treatment and rehabilitation aspects among players
3. The result of the study may be helpful in establishing the need for broad base education program on prevention and management to players, coaches and physical education teachers.
4. The study will provide adequate knowledge to physical education teachers and coaches regarding various injuries in field of hockey.

Sports injuries result from acute trauma or repetitive stress associated with athletic activities

Selection of Subjects

The study was conducted on 70 boys and girls field hockey players from various colleges in kerala. All the subject were involved in their daily training program and were participating inter college, national level, and state level competitions. The subjects belonged to different parts of Kerala and their age ranged 18 to 26 years.

Selection of Variables

The present survey of injuries among field hockey players took the account of the incidence of common injuries in the academic year of 2016-17 to the different anatomical region of face, ankle, knee, shoulder, hip, elbow, wrist, back, finger, internal organs and neck. Information was also sought regarding the causes, treatment and other pertinent aspects relating to injuries and their management.

Questionnaire

The survey type research depends to a large extent on the questionnaire being employed. Keeping this in mind, the research scholar made all possible effort to prepare a well-planned questionnaire to seek as best information as possible. A standardized questionnaire took from sports injury survey journals of University of Delaware. The questionnaire was later reviewed by experts. The questionnaire for the study consisted of ten questions.

Collection of data

The data were collected through a standardized questionnaire seeking as much information as possible regarding the incidence of injuries, the causes, the treatment they received and other related aspects. Further the researcher arranged personal interviews with the hockey players at their leisure time enquire any other information's about their injury, which was not included in the questionnaire. The information so obtained from the questionnaire and the interviews were carefully noted down, classified on the basis of injury type, anatomical areas locations are analyzed.

Statistical Technique Employed

The information sought through the questionnaire and the interview schedules were classified with respect to frequencies and other descriptive measures. The percentage analysis was employed to describe the relative incidence of injuries, their causes, treatment and other pertinent

Analysis of data and Results of the study

Table 1: The average percentage chance of upper extremity and lower extremity injuries

Anatomical region	Percentage of injury
Skull	4.76%
Upper extremity	22.30%
Chest	0.50%
Abdominal organs	0.75%
Spine	12.28%
Lower extremity	59.39%

The Average Percentage chance of upper extremity and lower extremity injuries

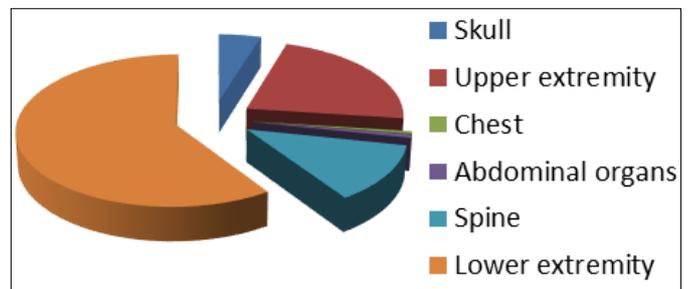


Fig 1: Percentage of injury

Table of percentage indication of the total percentage of upper and lower body injuries indicates that greater percentage of occurrence of injury was to lower body (59.39%). 22.30% of players had occurrence to upper extremity injuries, 12.28% of players had occurrence to spine injuries, 4.76% of players had occurrence to skull injuries, 0.75% of players occurring abdominal organ injuries and 0.50% of [players occurring chest region injuries.

Discussion and Findings

The results of the study findings that higher percentage of players had injuries at lower extremities (59.39%) than upper extremity. KAREN MURTAUGH *et al.*, 2002 study reported more injuries in upper extremities, which is not consisted with finding of present study. This may due to various factors like surface, level of players etc.

The result of the study also indicates that higher incident of injury was found in right knee and low back (35.7%) followed

by mid back (34.3%).it indicate the surface of the play field, equipment, and training programmes have some errors.

The surface is not smooth and ground beneath the mud is irregular further leading to the bouncing effect of the ball which predisposes the players to injury. Also, the grass surface is slippery and less frictional forces are there leading to the instability of the lower limb during activities like running. Increased skill, conditioning and smooth playing surfaces decrease the risk of injury. In kerala a player spends most his time playing on mud and grass due to the decrease in number and availability of the artificial surfaces.

Lower extremity is the most frequent site of injury (59.39%) and ankle injury was the most common injury reported. The high incidence of this injury can be attributed to the irregularity of the mud surface and ruggedness of the grass surface. Sudden twisting and turning movements which are the requirements of the game along with the interference of stick and ball on the playing surfaces which is usually uneven, leads to inversion and plantar flexion, resulting in ankle injury. In addition to this, improper protective devices and foot wear may also cause this injury. In the present study it was observed that incidence of shin pain was higher (22.42%). This can be attributed to the improper maintenance of the play grounds, as the surfaces was very hard and irregular. Usually athletes suffer from shin pain because of being overweight, overtraining, tight calf muscles, compartment syndrome and improper playing surfaces. Tight calf muscles, which commonly occur as a result of hard training, will restrict dorsi flexion, increase the tendency for excessive pronation and lead to shin pain. Incidence of hamstring was high(24.5%,right and left). Injury to the hamstring muscle can be devastating to the athlete because these injuries heal slowly and have a tendency to recur.. The impact of the surfaces get heightened if there is dysfunction of the hamstring muscles. Inappropriate rehabilitation and repetitive trauma to the muscle may cause a devastating effect on the muscle and reoccurrence of injury.

Upper limb injuries occur due to the contact of stick or ball which comes with greater speed. Due to the uneven surface there is a chance of lifting the ball during hit or pushing the ball. 10 Recent surveys of collegiate and high school field hockey indicate that 14.0% to 15.8% of the total injuries are to the upper limb and most of these are wrist and fingers.

In the present study the percentage of skull injuries (4.76%). The vigorous use of hockey stick for handling the ball increases the potential risk of injury.

In the present study incidence of low back pain is very high (35.7). Sudden twisting movements which result from irregular surface of the mud, conveys unbalancing forces to the spine resulting in pain and dysfunction.

Specific levels of fitness are pre requisites for competitive performance. Which contributes to reduce the level of injuries to players during the competition.

The most promising possibilities to increase strength is through planned conditioning and modified training methods, apart with that good surface also be developed to reduce the level of injuries among players and coaches should also caution to take care personal fouls made by playing during competition which increase injuries among field hockey players.

In the present study indicate 50% of players only take treatment and rehabilitations process during injury its leads to Sevier the injury and may be the carrier of the player will be dropped. This results stresses the need for educating the players and coaches regarding the potential risk of injury

occurrence, the need to maintain physical conditions and strength, Using of proper equipment, the need or timely care, appropriate and rehabilitation process in case of injuries.

Researches, physicians, therapist, trainers, coaches, managers, and athletes should focus on factors that are controllable in an effort to reduce injuries in field hockey.

According to Shauna Sherker, Erin Cassell in the study of a review of field hockey injuries and countermeasures for prevention also recommending to prevent field hockey injuries.

Primary, secondary and tertiary countermeasures

Injury countermeasures can be classified as primary (pre-event), secondary (event) and tertiary (post-event). Primary countermeasures are preventive actions taken before an event or incident that could potentially lead to injury. These countermeasures are designed to prevent the injury from occurring in the first place. Secondary countermeasures act during the event or incident to prevent the injury occurring or to reduce the severity of the injury. Tertiary countermeasures act after the injury has occurred and help to minimize the consequences of injury. Table lists some of the major countermeasures to hockey injury, and categorizes their action in the chain of events leading to injury.

Discussion of Hypothesis

1. First hypothesis of this study stated that Possibility of upper body injuries are more as compared with lower body injuries. The findings of present study indicated that the investigators hypothesis were rejected.
2. Second hypothesis stated that the Possibilities of low back injuries are more when compare with other injuries were accepted.
3. Third hypothesis stated that the Playing surface and lack of strength is the cause of most injuries. The finding of present study indicate that the investigators hypothesis were accepted because most reported injuries are low back pain, mid back and knee injuries. Possibilities of this injuries due to lack of strength training and bad condition of playing surface.

Summary, conclusion, and recommendations

Summary

The present investigation is devoted to survey the post common sports injuries among college level hockey players in Kerala in the academic year of 2016-17.for this study a total of 70 male and female players from different colleges in Kerala were selected as subjects. most of the players were represented the state, districts, and universities in the respective championships the age of the subjects was range of 18-25 years. A standardized questionnaire took from sports injury survey journals of University of Delaware. The questionnaire was later reviewed by experts and the questionnaire was used for the collection of data.

The present study was based on common post injuries to the college level hockey players in the year of 2016-17 were information are collected regarding the causes and method of treatment to injuries and other related aspects. The percentage analysis was employed to analyzes the incidence of post common injuries in the academic year of 2016-17

Conclusion

Based on the result of the study the majority of injury occurred were in low back and knee (35.7%) followed by mid back (34.3%) and wrist (31.4%).the result indicate that

playing surface is the main cause of the injuries, in Kerala most of the colleges practicing and playing in uneven mud surface. lack of strength in various parts of the body also a cause of above pointed injuries. It indicates insufficient strength training also a fact of common injuries of hockey players in Kerala. With the evidence from the present study, the field hockey governing bodies should acknowledge the risk of injuries and the infrequent use of protective gear by the athletes. Also, the player at the developmental stages should be educated about the evidence of injury risks and consequences and be encouraged to adopt safe practices in the sport.

The present investigation point out that only 50% of players taken treatment and rehabilitation to the injuries, it indicated the field hockey governing body should educate the players as well as coaches about the importance of the treatment and rehabilitation.

Recommendations

- Formally evaluate the effectiveness of risk management plans in the prevention of sports Injury
- All hockey players should undergo at least a pre-season fitness screening for general strength, flexibility and endurance.
- The impact of diet on the incidence of injury, particularly in female athletes, needs to be determined.
- Players should undergo conditioning for general fitness before the start and throughout the Season.
- Players' conditioning programs should be monitored for proper content and technique.
- Coaches should be taught principles of sport-specific conditioning and fitness as part of their Training.

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