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SPORT INJURIES COMPARISON OF HALL AND LAWN HOCKEY OF PROFESSIONAL TEAMS IN IRAN

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Abstract:- Hockey is one of the most popular and attractive sports in the world. Hockey is a sport with many complex techniques and tactics, that can be seen speed, power, endurance and movement frequently in it. The aim of this study is to compare the sport injuries of professional teams of hall and lawn hockey in Iran. The present study is a descriptive and comparative study in which the researcher was able to collect randomly the views of 500 lawn hockey athletes (250 men), and hall hockey (people). Means of data collection is questionnaire that is made by researcher. The validity of questionnaire is formalize and its reliability is calculated by Cronbach's alpha 0.87 test. One-way ANOVA was used to analyze the data. Research findings represent: there is a significant difference in terms of bone injuries, joint injuries and muscle injuries among hall and lawn hockeys' athletes and lawn hockeys' athletes suffer from much more injury than hall hockeys' athletes, but in terms of skin injuries there is no significant difference among hall and lawn hockeys' athletes, it also shown that the highest rate of injury among all hockeys' athletes are formed in match season. Due to high injury rate among athletes, especially lawn hockey athletes, it is recommended to authorities to pay special attention to conditions for creating safety of champions' places and responsible factors for prevention of athletes' injuries and once again control the environmental condition of champions.

Keywords: Hall and lawn hockey, bone injuries, joint injuries, muscle injuries and skin injuries.

INTRODUCTION

Community health depends on the health of body and soul, world will not have peace unless human become relax and human comfort, bring world peace. Sport and physical education as a basis for improvement in society that helps both to hold physical and mental balance in community and proper use of human leisure time, and it can also add to humans' health of body and soul, vigor and vitality, motility and construction power and generally it is one of the most important educational tools for the community.

Lively spirit, strong muscles, perseverance and ambition all will lead athletes begin their daily activities with vitality and achieve their life goals with efforts and continuity. So sport can be considered as a positive distinction for successful people. On the other hand despite the plenty effects of sport, doing exercises can make athletes prone to different injuries, as far as in professional and championship level always should be alert to emergence of injury but fear of injury; can cause to put it aside? ((injury)) has an ancient background in human life. (the health care committee book pp 9-10) In recent years researches have expanded about Sport injuries so that useful information about the pathology of various sports has been provided for sport teams, doctors, physiotherapists, coaches and

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athletes. The importance of addressing these fields can be considered from two aspects: health and championship that both of them are dependent on each other. From human aspect an athlete needs to be physically healthy and free from injury and on the other hand competitive and championship aspect is also dependent on physical and mental health. So the role of researchers in the field of sports science about study on rate, prevalence, type and mechanism of injuries and factors associated with them has great importance (Zabih Hoseynian 1384).

One of the most problematic factors in the growth and development procedure of sport championship is neglect and lack of optimum use of the Researches and Applied Sciences in sports. Including these sciences, the sport pathology science can be noted that with their new findings and applicable can prevent many problems of athletes. In such circumstances, continuing this process, causes the forced removal of athletes that somehow received sport injuries and in fact, a large part of material, spiritual and temporal investment were easily wasted (Aghapoor 1368)

Hockey is a vibrant sport that has in its essence different movements such as tapping, bending, running, fast responses and so and these movements are sometimes done fast and sometimes slow, and for effective implementation of them at all professional levels of this field all physical capabilities of body such as speed, strength, power, coordination, agility, balance, etc., should be strengthened to prevent possible injuries. (moeini 1374)

Different reports from different kinds of injuries among hockey players has been expressed and such that can be pointed hand fingers breaking, hands and face skin laceration, contusion and knee and ankle and waist and hamstring muscle.

Karen and colleagues (2001) conducted a research on female lawn hockey players at the national level and base on reports injuries among them was like this: most injuries occurred in lower limbs (51%) and after that head and face injury (34%) and upper limbs (14%) that accounted a significant percentage. The most common injuries that have been reported are ankle sprain, hand fracture, and head and face injuries and the highest rate of injuries (58%) belong to midfielder player. Now with regard to this issue the question is that whether there is any differences in the rate of injuries between hall and lawn hockey players or not? And is it possible to take a basic step to reduce and prevent injuries with identifying common types of injuries among them?

The most important information related to sports field that coaches should be aware of are familiarity and understanding of physical activity. But unfortunately, some coaches and physical education and sport science experts encountered some difficulties due to lack of understanding of the subject and planning and achieving desired goals. Some coaches train athletes with using traditional and non-reasonable style of training that this affair contributes to anomalous pressure on ligaments, tendons, joints, organs, muscles, bones that causing injuries among athletes. And regarding the history of hockey in the country since the beginning till now very little research has been done on this field, it is hoped that this research be useful so that with using the results of this study and other studies we witness the identification and prevention of hockey athletes injuries in our country.

RESEARCH METHODOLOGY

Materials and methods. It's a descriptive method and post happening.

Population. The population of this study is consisted of (600) professional lawn and indoor hockey teams players in the country, provinces of (Markazi, Lorestan, Hamedan, Qom, Kermanshah, Ilam, Golestan, Semnan, Isfahan, Tehran, east Azarbaijan, west Azarbaijan, Kohkiloo Boyer Ahmad) that were working in the hall and lawn hockey league matches at years 92-93.

Sample. Using cochran's sample size formula, 500 patients (250 lawn hockey players and 250 hall hockey player) that were randomly selected and a questionnaire in this regard have been collected and analyzed.

Measurement tool. Information needed for this research obtained through questionnaire that is made by the researchers. The questionnaire was studied in two parts: (1) personal information, including athletes' biographies (weight, height, age, sport history, sport field, Positions acquired) and (2) information on the actions needed to identify the causes of injuries in hall and lawn hockey teams players. In this regard, coaches and teams' physician helped the researcher in gathering the necessary

information.
Questionnaire in the identification of injuries has been developed from different parts including joint injuries (dislocation,sprain), bone injuries (fractures, bone cracking), tendon-muscle injuries (muscle cramps, bruise or strain, muscle-tendon sprain and tear), and skin injuries (abrasion and scratches, blisters).
Questionnaire validity is confirmed formalized and with using sport pathologist teachers' ideas and a number of physical medicine specialist. At the first 50 questionnaires distributed among hockey players who were not included in the sample, and questionnaire reliability was calculated 87.0 with using Cronbach's Alpha test. The obtained number, indicating the reliability of questionnaire for intended research. Methods of data collection and statistical analysis. At first the researcher obtain the licenses necessary to complete research questionnaire for this study in communication and coordination with hockey Federation Islamic Republic of Iran and, research questionnaire distributed among all hockey boards in country by national team coaches of Islamic republic of iran and after completion of questionnaire by haal and lawn hockey players the questionnaire were collected by mentioned team coaches.
Statistical methods. After data collection, extraction and clustering, for analysis of them descriptive statistics was used that includes frequency tables, mean, standard deviation; and also in inferential statistics part in order to investigate hypothesis of this study, the Kruskal-wallis test in the SPSS software package version 15 was used.

RESULTS

a)Description of the characteristics of hockey players

1- the total number of testees were 500 subjects (100%), that 250 subjects were lawn hockey players (50%) and 250 subjects were hall hockey players (50%).
2- average age of lawn hockey players were (25/1 ± 43/24) and average age of hall hockey players were (164/3 ± 43/22).
3- average weight of lawn hockey players were (25/4 ± 43/64), and average weight of hall hockey players were (742/3 ± 43/73).
4- average height of lawn hockey players were (55/3 ± 33/170), and average height of hall hockey players were (76/2 ± 32/172).
5- average sport experience of lawn hockey players were (02/1 ± 12/7) years, and average sport experience of hall hockey players were (01/1 ± 23/10) years.
6- both groups of athletes had most frequency train in 3 days a week and had 2 training sessions per day.
7-both groups of athletes expressed their most frequency of sport injuries in match season.

b) inferential results of the research hypothesis

1-regarding bone injuries, joint and muscle injuries there was significant difference between hall and lawn hockey athletes and hall hockey players suffered more injuries than lawn hockey players.
2-regarding skin injuries there was no significant difference between hall and lawn hockey players.

DISCUSSION AND CONCLUSION

First hypothesis: is there any significant difference in bone injuries among hall and lawn hockey players?

According to the krusal-wallis test, obtained chi-square amount (019/19) at significant level (000/0 = sig) statistically show significant difference between lawn and indoor hall hockey players regarding bone injuries, and average bone injuries in hall hockey players was 124.7 and in lawn hockey players was 528.5.

Present research show more bone injuries in hall hockey than lawn hockey; and these findings is consistent with the results of most investigators including Nobakht and colleagues (1386), Kargar (1390), Rajabi (1372), Rezvani (1375), Karen and colleagues (2001), Jorgenson, Schmidt (2009), Hall (1986) and Finches (2000) who believe somehow gyms immune is low and cause injury and fractures of the lower limbs.

The results showed that there was significant difference regarding bone injuries among both groups of hall and lawn hockey players, and hall hockey players are more vulnerable. In explaining the results, it can be noted that the athletes working in halls since they work in tough hockey fields it is expected to be more vulnerable for bone injuries. Because the ground is hard, sliding probability on indoor field is more, that this sliding can cause problem for hall hockey athletes. Of course failure to conform safety issues in the sport halls based on previous research reports also reported high lower and upper limbs injury.

Second hypothesis: is there any significant difference in joint injuries between hall and lawn hockey sport?

According to Kruskal-Wallis test, obtained chi-square amount (7.062) at a significant level (sig = 0.029) statistically show significant difference between lawn and indoor hall hockey players regarding joint injuries, and average joint injuries in hall hockey players was 6.084 and in lawn hockey players was 5.504.

Present research show more joint injuries in hall hockey than lawn hockey; these findings is consistent with the results of most investigators including Soltani (1377), Kargar (1390), Shojadin (1377), Afsar jafari (1380), Kren and colleagues (2001), Jorgenson and Schmidt (2009), Abbott (2007), and Finches (2000) who argue that low gyms safety cause to relative increasing of joint injuries in lower and upper limbs.

The results showed that there was significant difference regarding joint injuries among both groups of hall and lawn hockey players, and hall hockey players are more vulnerable. In explaining the results, it can be noted like pervious hypothesis that the athletes working in halls since they work in tough hockey fields it is expected to be more vulnerable for joint injuries. Because the ground is hard, sliding probability on indoor field is more, that this sliding can cause problem for hall hockey athletes. Of course failure to conform safety issues in the sport halls base on previous research reports also reported high lower and upper limbs injury.

Third hypothesis: is there any significant difference in tendon and muscle injuries between hall and lawn hockey sport?

According to Kruskal-Wallis test, obtained chi-square amount (7.386) at a significant level (sig = 0.025) statistically show significant difference between lawn and indoor hall hockey players regarding tendon and muscle injuries, and average tendon and muscle injuries in hall hockey players was 4.204 and in lawn hockey players was 3.636.

Present research show more joint injuries in hall hockey than lawn hockey; these findings is consistent with the results of most investigator including nobakht and colleagues (1386), kargar (1390), rezvani (1375), ezatolah soltani (1377), elahi and colleagues (1383), Karen and colleagues (2001), jorgenson and Schmidt (2009), abboott (2007), and fuller (2007), who believe that low gyms safety cause to relative increasing of joint injuries in lower and upper limbs.

The results showed that there was significant difference regarding tendon and muscle injuries among both groups of hall and lawn hockey players, and hall hockey players are more vulnerable. In explaining the results, it can be noted that because hall hockey players play in smaller fields than lawn hockey players regarding nearby spaces around the fields, more contacting of hall hockey players with each other than lawn hockey players is not unexpected, that in researcher's ideas can know this difference due to mentioned situation.

Fourth hypothesis: is there any significant difference in skin injuries between hall and lawn hockey sport?

According to Kruksal-Wallis test, obtained chi-square amount (3.044) at a significant level (sig =0.218) statistically don't show significant difference between lawn and indoor hall hockey players regarding skin injuries, and average skin injuries in hall hockey players was 3.848 and in lawn hockey players was 3.576.

In present research the amount of skin injuries among hall and lawn hockey is rather equal and is in medium level; these findings is consistent with the results of most investigators including Taghizadeh (1385), Naser (1382), Afsar jafari (1380), Nobakht and colleagues (1386), Kargar

(1390), Rezvani (1375), Ezatolah soltani (1377), Elahi and colleagues (1383), Karen and colleagues (2001), Hall (1980), zoot (1987), Finj (2000), Jorgenson and Schmidt (2009), Abbott (2007), and Fuller (2007) who believe somehow skin injuries of different athletes of different sport fields is on high extent.

Researcher believes because of athletes' body and stick contacting with each other are equal among hall and lawn hockey players, and also because skin is more sensitive regarding its vulnerability than other studied cases in this research, so the environment condition couldn't have more interference in it and its outbreak condition is affected by players activity manner that their movement condition is also equal and because of this there is no significant difference in these two conditions.

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