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Awareness about the Preventive Measures for Injuries in Recreational Football Players

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Abstract: ***Recreational footballers have a high risk for injury as with any athlete. Objective: To study musculoskeletal injuries faced by Recreational footballers and their understanding about protective gears, playing surface , footwear and physiotherapy. Method: A survey based study using self-devised pre validated questionnaire. Result: 28% Footballers reported of injury at ankle;16% in knee;14% in shin;10% in quadriceps;6% in the hamstrings and hands;4% in calves and toes while lowest were low back, groin, face 2%. Conclusion: Common injuries: Ankle>Knee > Shin > Quadriceps >Hamstring. Footballers need to be made aware regarding Physiotherapy's role in injury prevention and post-injury rehabilitation.***

Keywords: Recreational footballers, injury, prevention, physiotherapy

1. Introduction

Football is one of the most popular sports throughout the world, with more than 240 million players in 2000[1,2]. It is an intermittent sport that uses walking, jogging, running, and sprinting. And the previous studies have shown that football has a high injury rate and injury percentage[1,3,4].

Football is characterized as a high intensity, intermittent, contact team sport that requires a number of physical attributes to display good performances successfully on the pitch. Apart from the necessary technical and tactical skills required, football players must also develop high level of aerobic and anaerobic conditioning, speed, agility, strength and power. These attributes can be best developed through high intensity interval training, small sided games, repeated sprints, coached speed and agility sessions and strength and power based gym sessions.

An injury can be defined as any condition that caused a player to be removed from a game, miss a game, or to be disabled enough to come to the medical tent. Another defined injury as one received during training or competition which prevented the injured player from participating in normal training or competition for more than 48 hours, not including the day of the injury[5].

In football it is found that, the most common mechanisms for the occurrence of injuries were tackling, running, being tackled, shooting, twisting and turning, jumping and landing. Tackling is usually seen in football matches when players try to get possession of the ball. The lower extremities are often found to be injured during tackling as players cannot respond quickly enough to avoid such rapid and unpredictable movement. During running, twisting and turning, the main causes of injury are inferior playing surfaces and inappropriate footwear. If the game is being played on an uneven playing surface that may result in more loading on the ligaments and muscles. And it is been observed that, when external loading is greater than the ligaments and muscles can tolerate, the chances of occurrence of the injuries is higher. Incorrect foot-wear which cannot provide sufficient frictional force will eventually lead to slipping. But too much of the frictional force will produce large torque when twisting and turning that can lead to injury. Moreover, defenders will often use any means to prevent opponents from scoring thus it is observed that the severe injuries often occur during shooting. Also, injuries often happen during jumping and landing, which are vital components of activities such as heading, shooting, and goalkeeping. The causes of such injuries are incorrect landing technique and collisions between players after take off and before landing[6].

Thus to study the various musculoskeletal injuries faced by the recreational footballers and their awareness about the injuries and knowledge about the treatment for the same this study was done.

Aim and Objective

To Find the Common Musculoskeletal Injuries Faced By Recreational Footballers.To understand their knowledge regarding protected gears, playing surface, proper footwear, physiotherapy as a treatment approach.

2. Review of Literature

1) Torbjørn, Soligard and Myklebust Grethe. "Comprehensive Warm-Up Programme To Prevent Injuries In Young Female Footballers: Cluster Randomised Controlled Trial.". N.p., 2008. Print.

It was concluded that, the risk of severe injuries, overuse injuries, and injuries overall was reduced. This indicates that a structured warm-up programme can prevent injuries in young female football players.

2) Luiz Henrique Gomes, Gustavo Ribeiro da Mota. "Proprioceptive And Strength Endurance Training Prevent Soccer Injuries".

We conclude that simple exercises of proprioception and muscular endurance decreases the incidence of injuries in soccer players, and are therefore preventive.

Methodology

- **Research approach :** Cross-sectional survey
- **Study design:** Data collected via questionnaire direct method.
- **Study setting:** Nerul Gymkhana, Navi Mumbai.
- **Study Sample:** Recreational footballers aged between15 to 30 yrs.
- **Ethical clearance :** The Ethical clearance for the study was taken from the Institutional Ethics committee of Dr. D. Y. PatilUniversity, Nerul, Navi Mumbai.
- **Procedure:** A self-devised pre validated questionnaire was administered to the study subjects via mail,as far as possible the questions were closed ended for easier grouping & to prevent any statistical errors.

3. Results

It was found that 48% of breakers had an experience of more than 5 years of playing football ; 32% had for 2.1-5yrs while 20% had for 0-2yrs. Also, 72 % footballers were found to take pauses during a match. 52% footballers did warm up before practice and adequate cool down post session whereas 48% did not. 54% of the footballers wore stockings whereas 46% did not wear. 60% of the recreational footballers were carrying some sort of musculoskeletal injuries whereas the rest 40% were injury free. Also, 80% of the footballers used the same footwear for the training and an actual match whenever they participated in one and the rest 20% used different footwear for training and a match.

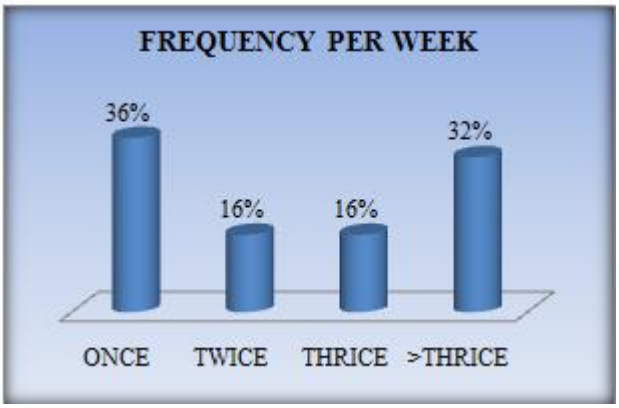

Figure 1

According to Figure1: 36% of the footballers play football once a week, 32% play more than thrice a week,whereas players playing twice and thrice a week are 16% each.

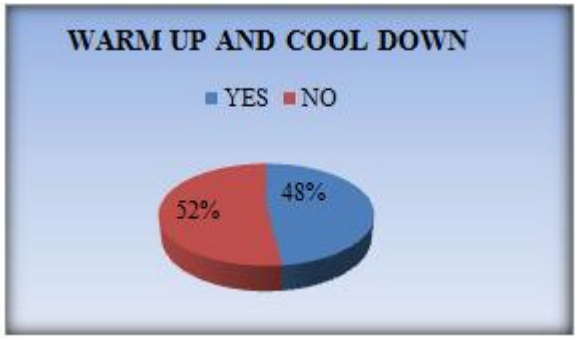

Figure 2:

According to Figure2: 52% of the footballers do not follow the warm up-cool down routines, whereas 48% of them do follow the warm up-cool down routines.

Figure 3

According to Figure3:64% of the footballers follow the exercise routines,and the other 36% of the footballers do not follow the exercise routines.

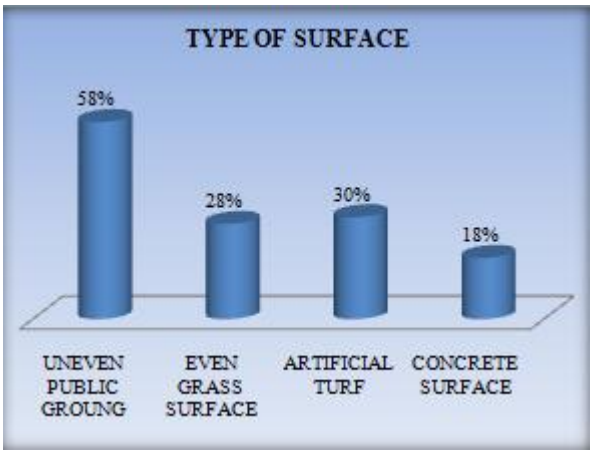

Figure 4

According to Figure4:58% of the footballers play on the uneven public grounds, 30% on the artificial turf,28% on the even grass surface whereas 18% on concrete surface.

Figure 5:

According to Figure5: 68% of the footballers do not use shin guard while playing, and rest 32% of the footballers do use the shin guard while playing football.

Figure 6

According to Figure6: 36% of the footballers play in the midfield,32% in the forward positions, 24% in the defence, and 8% were goalkeepers.

Figure 7

According to Figure7: 90% of the footballers wear the properly fitted footwear, whereas remaining 10% do not wear properly fitted footwear.

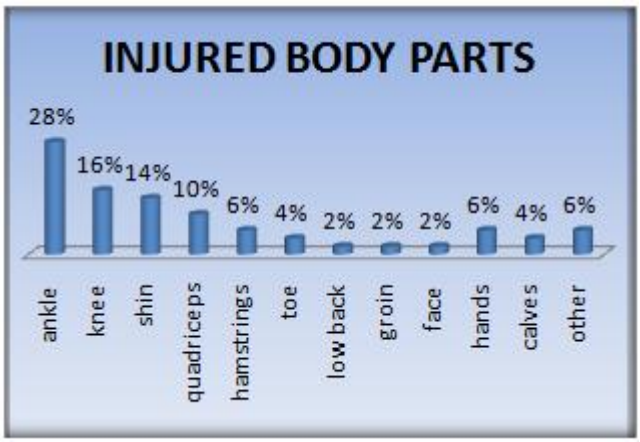

Figure 8:

According to Figure8: 28% of the footballers had ankle injuries,16%had knee injuries,14% shin,10% quadriceps, 6% hamstrings, 6% hands, 4% calves, 4% toes, 2% groin, 2% low back, 2% face and 6% other injuries.

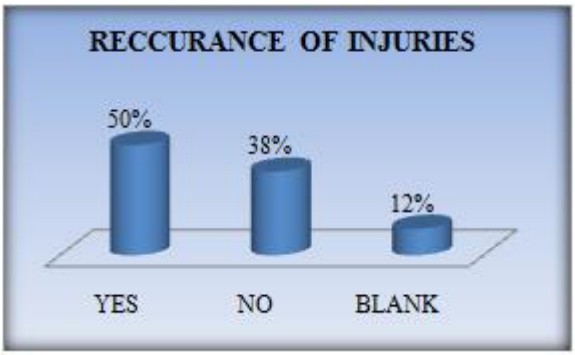

Figure 9:

According to Figure9: in 50% of the footballers the injuries reoccured ,in 38% the injuries did not reoccur.

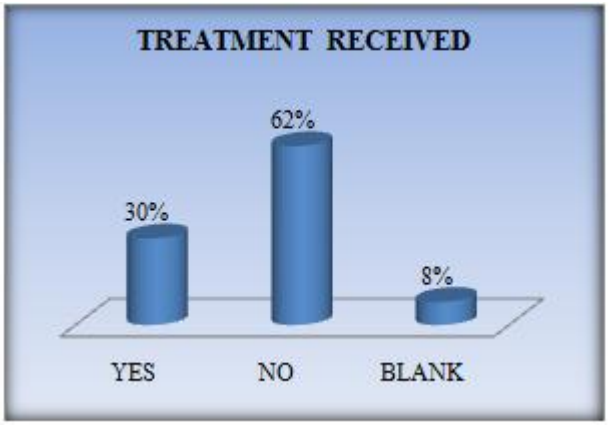

Figure 10

According to Figure10: 62% of the footballers did not receive the treatmentfor the injuries,30% of the footballers did receive treatment fot the injuries.

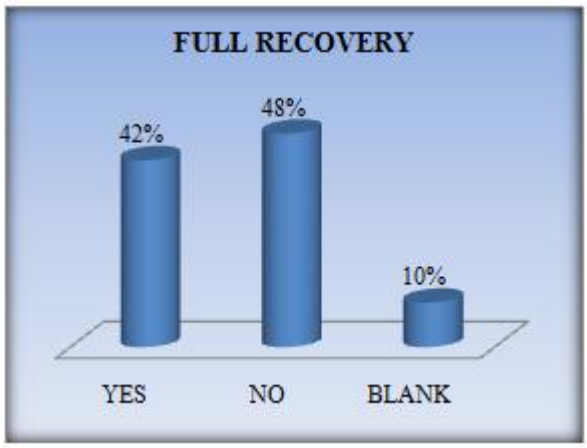

Figure 11

According to Figure11: 48% of the footballersdid not recover completely before starting to play again,whereas 42% of thefootballers completely recovered.

4. Discussion

The purpose of this study was to find the various musculoskeletal injuries faced by Recreational Footballers, in Navi Mumbai.
Football is a high intensity,intermittent,contact sport.Football requires various physical attributes.Thus in football the injuries are seen very commonly.The lower limb injuries are significantly more than upper limb injuries[6,7,8,9,10]. The knee, ankle, upper leg, groin, and hip are the most injured anatomical regions[6].

Ankle- According to a study done in the past, in soccer, the most frequent type of injury was the ankle sprain[11]. The plantar flexion and inversion type of mechanism is usually observed in the ankle sprains.The lateral collateral ligaments of the ankle usually get injured. Specifically the anterior talofibular ligament and the calcaniofibular ligament. Also, according to our study ankle injuries were the most common (28%).

Knee- According to a study done in the past, Eighty-nine percent of the injuries were located in the lower extremities and 42% occurred in the knee or ankle.Most of the major injuries were traumatic such as knee ligament injuries[11]. Knee injuries were observed to be the second highest (16%) injuries in recreational football players.

Shin-The third highest injured body part was shin.Shin guard helps preventing the shin injuries. But majority (68%) of the players participating in my study did not wear the shin guards.

Causes of Injuries-
The various causes for the musculoskeletal injuries in recreational footballers are as follows-
warm up and cool down- A study done previously concluded that, the risk of severe injuries, overuse injuries, and injuries overall was reduced. This indicates that a structured warm-up programme can prevent injuries in football players[12]. Cool down allows the heart rate to return to its resting rate and reduce the potential for DOMS. Most of the recreational footballers (52%) did not perform the warm up and cool down exercises before a match.

Lack of proprioception and muscular endurance exercises- A study done previously concluded that, simple exercises of proprioception and muscular endurance decreases the incidence of injuries in soccer players, and are therefore preventive[13]. Increasing the awareness about these exercises among the recreational footballers is vital to prevent the musculoskeletal injuries.

Playing Surface- Uneven playing surfaces may result in more loading on the ligaments and muscles[6]. Thus the probability of developing the injuries in footballers increase on the uneven surfaces. Majority of the players (58%) played football on uneven surface in our study.

Shin guard- A study concluded that, all shin guards provide some measure of protection against tibia fracture[14]. So, spreading the awareness about the effectiveness of use of shin guards in reducing the chances of injuries among recreational footballers is important.

Playing position- A study done previously done previously concluded that,those players directly involved in attack or defense are those most likely to be injured. The centre half, centre forward, full-backs and goalkeeper constituted 86% of players presenting for treatment[15].Majority (56%) Forward and Defenders combined) of the players in our study were found to be playing in the positions on the field, in which the player is more prone to the injuries.

Proper footwear- A study done previously done previously concluded that, training interventions aimed at reducing lower-extremity injury should consider utilizing sport-specific footwear[16]. Use of proper footwear is important in preventing the ankle and foot injuries. So the use of the proper footwear should be promoted for the same. Also, the majority of the footballers change their footwear after 12 months. So the wear and tear of the footwear can be another reason for the occurrence of the injuries.

Physiotherapy –
Physiotherapy is defined as the care and services provided by or under the direction and supervision of a physical therapist (American Physical Therapy Association, 2003).

Physiotherapy uses a variety of techniques to help your muscles and joints work to their full potential, helping to repair damage by speeding up the healing process and reducing pain and stiffness.[17] Hence, physiotherapy can help a recreational footballer to be more creative using motor learning approaches, proper biomechanics and new movement patterns and help understand balance, movement control and stabilization, thus, aiming to optimise footballers' function and wellbeing, reducing disability and lifestyle restrictions.

5. Conclusion

The occurrence of musculoskeletal injuries was common among Recreational Footballers. Most common injuries were found as follows: Ankle>Knee >

Shin>Quadriceps>Hamstrings>Hands. It is concluded that there is lack of knowledge about the treatment for the various musculoskeletal injuries, 62% recreational footballers did not receive any treatment for the injuries they had. Also the majority (50%) of the footballers had the recurrent injuries. Probable reason behind it is the lack of knowledge about the physiotherapy rehabilitation for the injuries. Also, according to our study the majority (48%) of the footballers did not fully recover from the injury before starting to play football again. So, they need to be made more aware regarding Physiotherapy and its role in injury prevention as well as in complete rehabilitation post-injury.

6. Clinical Implication

Physiotherapy camps and seminars could be implemented in order to help recreational footballers understand the importance of physiotherapy in injury prevention and rehabilitation post–injury. Various applications of physiotherapy treatment strategies could help improvise recreational footballers' performance on long term basis giving them physical as well as mental boost and motivation. Also, employing a physiotherapist at all kind of footballing setups is important to teach the players the appropriate methods, the frequency, time and type of the training to prevent the chances of injuries from occurring.

7. Acknowledgement

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