Editorial

Unlocking the Games: A Proactive Approach to Safeguarding Athletic Prowess through Cutting-Edge Sports Injury Prevention Strategies

First of all, we mention a very famous quote which is relevant for all sports injuries prevention "***An ounce of prevention is worth the pound of cure***." Prevention is better than cure.

Sports injury prevention can be characterized as primary, secondary, tertiary prevention.

- ***Primary prevention*** is health promotion and injury prevention e. g ankle braces being worn by entire team, even those without previous ankle sprain.
- ***Secondary prevention*** is early diagnosis and intervention to limit risk of re-injury.
- ***Tertiary prevention*** is rehabilitation to reduce existing disability.

Willem van Mechelen et al [1] reported the classic four step model of injury prevention. First establish extent of injury, its incidence and severity. Secondly assess mechanism and etiology of injury; thirdly formulate strategies of its prevention and its application. Fourthly assess its effectiveness by repeating step 1.

Meeuwisse et al [2] described a comprehensive multifactorial model of injury causation which was further modified by Bahr & Krosshaug [3]. It describes a number of modifiable and non-modifiable risk factors which predispose or protect athlete. Modifiable risk factors can be targeted to reduce risk of injury. A number of external risk factors make a predisposed athlete to a susceptible athlete. Finally a number of factors govern the inciting event of injury. Injury prevention strategies can be applied at each level of this multifactorial causation model of injury.

We will discuss strategies of injury prevention in relation to soccer (football) sport. The various strategies of injury prevention are:

1. ***Reviewing the literature to know extent and aetiology of injury:*** Most injuries in soccer (football) occur in lower extremities, more frequently during matches than training; and thigh, ankle, knee and hip/groin are the body parts injured most often, while muscle strains, sprains and contusions are most common injury types [4,5]. Females have higher risk of concussion, knee, and ankle injuries than males [5,6].
2. ***To follow injury surveillance program for team***: Oslo Sports Trauma Research Centre Questionnaire on Health Problems should be used for prospective monitoring of all sports injuries. It collects data of last one week on issues related to sports participation, training volume, performance and symptoms suffered by players.
3. ***Season analysis*** represents an attempt to identify risk factors. Risk of injuries is greater during transitional period between basic training, training camp, competition or rest period.
4. ***Performing periodic medical assessments*** to identify athletes with risk factors and to take appropriate action thereafter
5. ***Implementing a targeted prevention program:*** Structured warm up programs consisting of strength and neuromuscular control exercises have been shown to halve rate of lower limb overuse injury among adolescent athletes [7]. Many studies including randomized controlled trials, meta-analysis and systematic reviews have reported that FIFA 11+ warm up program and its modifications are effective in reducing injury incidence in football players

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especially adolescents [5,6,8-11]. We recommend implementation of FIFA 11+ injury prevention program for prevention of injuries in Soccer or football. It is a multifaceted warm up program focusing on core stability, balance, strength, and running exercises. It is done before each training session or match preferably three times a week. It takes approximately 20-25 minutes to complete. It has three parts. Part 1 includes running exercises at slow speed along with active stretching and controlled partner contacts. Part 2 includes six sets of exercises focusing on core and leg strength, balance and plyometrics/agility each with three levels of increasing difficulty. Part 3 includes running exercises at high speed along with planting and cutting movements.

6. ***Technique modification:*** - Ensuring optimal sporting technique is effective way of preventing overuse injuries.
7. ***Integrating neuromuscular neck exercises*** into injury-reduction exercise programs has potential to decrease the risk of concussion in adolescent soccer players [12].
8. **Adequate nutrition**: particularly adequate levels of calcium and vitamin D should be maintained by all players [7]. Normal calcium requirement is 1000 - 1200 mg and of Vitamin D is 600 - 800 international units. Adequate hydration during exercise or training or competition helps in prevention of sports injuries.
9. ***Managing load to prevent injury***: Limiting week to week training load increases to 10% is good policy [7]. Athlete with high acute load (training load of last week) and low chronic load (average training load of last 4 weeks) will be fatigued and have an increased risk of injury [13], hence acute: chronic load ratio should be less than 1.5 [7,13]. Open communication between players, coaches and sports medicine clinicians enables effective load monitoring that can decrease injury risk and may subsequently minimize dropout, improve team success and overall sport enjoyment and promote life-long sports participation.
10. ***Protective equipment***: like shin pads and use of appropriate playing surface like rye grass surface also help in reduction of injury incidence [7]. Insoles in shoes have preventive effect for lower limb overuse injuries such as stress fractures, medial tibial stress syndrome, Achilles tendinopathy.
11. ***Early diagnosis and appropriate treatment*** of injuries (Secondary prevention) and their adequate rehabilitation (Tertiary prevention) are essential components of injury reduction program.

The declining injury incidence observed between 2001 and 2019 in a recent prospective cohort study could be a sign that injury prevention has become increasingly efficient and should encourage medical staff to continue to implement and monitor preventive programs in accordance with emerging evidence [14].

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