Cricket Injury Surveillence by Mobile Application Technology on Smartphones

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Abstract : The demands on cricketers are increasing with more matches being played in a shorter period of time with a greater intensity. A ten year report on injury incidence for Australian elite cricketers between the 2000- 2011 seasons revealed an injury incidence rate of 17.4%.1. In the 2009–10 season, 24 % of Australian fast bowlers missed matches through injury. 1 Injury rates are even higher in junior cricketers with an injury incidence of 25% or 2.9 injuries per 100 player hours reported. 2 Traditionally, injury surveillance has relied on the use of paper based forms or complex computer software. 3,4 This makes injury reporting laborious for the staff involved. The purpose of this presentation is to describe a smartphone based mobile application as a means of improving injury surveillance in cricket. Methods: The researchers developed CricPredict mobile App for the Android platforms, the world's most widely used smartphone platform. It uses Qt SDK (Software Development Kit) as IDE (Integrated Development Environment). C++ was used as the programming language with the Qt framework, which provides us with cross-platform abilities that will allow this app to be ported to other operating systems (iOS, Mac, Windows) in the future. The wireframes (graphic user interface) were developed using Justinmind Prototyper Pro Edition Version (Ver. 6.1.0). CricPredict enables recording of injury and training status conveniently and immediately. When an injury is reported automated follow-up questions include site of injury, nature of injury, mechanism of injury, initial treatment, referral and action taken after injury. Direct communication with the player then enables assessment of severity and diagnosis. CricPredict also allows the coach to maintain and track each player's attendance at matches and training session. Workload data can also be recorded by either the player or coach by recording the number of balls bowled or played in a day. This is helpful in formulating injury rates and time lost due to injuries. All the data are stored at a secured password protected data server. Outcomes and Significance: Use of CricPredit offers a simple, user friendly tool for the coaching or medical staff associated with teams to predict, record and report injuries. This system will assist teams to capture injury data with ease thus allowing better understanding of injuries associated with cricket and potentially optimize the performance of such cricketers.

Keywords : injury, cricket, surveillance, smartphones, mobile

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