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ABSTRACT

An accumulation of scientific evidence has emerged during the 1980s and 1990s, that is, physical activity would have significant benefits on health and well-being. Consequently, increasing participation of people in physical activities over the last decades has also led to a growing number of sports injuries and, simultaneously, higher demands on financial resources in global healthcare systems. Today, sports injuries are seen as a major public health problem in many developed, as well as developing, countries. This article illustrates the importance of having a platform such as iReport SportsPhysio to address such a rising issue globally. iReport SportsPhysio is a Web-based platform directed to sports health professionals to provide standard sports injuries monitoring and surveillance at a national level. The platform supports the acquisition, analysis and dissemination of sports injuries information, allowing health professionals to register and analyze sports injuries across various sports populations. Essentially, the platform provides a mechanism to house diverse statistical data in the form of tables and charts to analyze injuries at three levels: (1) athlete level independently of where individual athlete practices; (2) specific sports level across organizations; and (3) sports organizations level. A module for a global analysis is also made available, which allows the iReport SportsPhysio to obtain the incidence and prevalence measures, besides the socioeconomics costs relating to sports injuries at a global level. In order to offer these features, the platform is based on a global sports injury data model with the goal of standardizing data related to sports injuries.

Keywords: iReport SportsPhysio, Sport Injuries, Sport Injuries Monitoring Systems, Sport Injuries Surveillance Systems, Web Systems

1. INTRODUCTION AND MOTIVATION

During the 1980s and 1990s, an accumulation of scientific evidence has emerged to show that physical activity would have significant benefits on both health and well-being. Physical activity, and particularly the participation in sports, is considered a vital component of an active and healthy lifestyle. Those having such a lifestyle would reduce the risk of various diseases, thereby contributing to better social and physical performance (Beijsterveldt et al., 2011). Positive and direct effects of one who

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practices regular physical activity are generally evidenced in the literature, that is, regular exercises will combat problems related to hypertension, cardiovascular disease, diabetes, obesity, depression, and even cancer, among others. A report from the United Nations Inter-Agency Task Force on Sport for Development and Peace states that, above all, young people can benefit from physical activity as adopting such a lifestyle will contribute to developing healthy bones, efficient heart and lung functions, and improved motor skills as well as cognitive functions (Nations, 2003). Moreover, older people who remain physically active can improve their functional capacity and maintain an independence of life that brings quality to their days. Therefore, in both developed and developing countries, sport and physical activity can make substantial contributions to the health and well-being of their citizens.

Even so, increasing the participation of people in various sports and physical activities will also correspondingly increase the number of sports injuries. Simultaneously, substantial demands on financial resources in healthcare, and in some cases, absenteeism from work can result with growing sports injuries (Cumps, Verhagen, Annemans, & Meeusen, 2008). Actually, injuries related to practicing sports have been recognized as a major public health problem in many countries (Timpka, Lindqvist, Ekstrand, & Karlsson, 2005) and an accurate picture about incidence, prevalence and socioeconomic costs remains a challenge for all communities across the globe.

Currently, high quality data on the number of sports related injuries at a recreational level (or even at different competitive levels) as well as costs related to the amount of time used in sports vs. working are not available or easily accessible in Portugal. Yet, “The Burden of Sports Injuries in the European Union Report” reflects on the important objective of assessing the magnitude of sports injuries and their health and economic burden in all European Union (EU) countries (Kisser & Bauer, 2012). This document suggests the need to provide accurate data on frequency, severity, and sport injuries costs as well as on their distribution across different sports and population groups, and as a pre-requisite to more complex calculations, the development of a methodology for monitoring sport injuries based on widely available health statistics.

The project iReport SportsPhysio grew out of a partnership between the Informatics & Systems Department and the Physiotherapy Department of the Polytechnic Institute of Setúbal in order to address the lack of a platform and a unifying model to deal with sports injuries data at a national level. This project serves two specific roles: (a) the development of a sensitive sports injuries platform, based on a global model, to manage the most important variables in order to characterize and assess sports injuries and socioeconomics costs. In generating such a platform, a standardized methodology and terminology based on recommendations from the literature (Finch, Ozanne-Smith, & Williams, 1995) is to be upheld, thereby enabling data comparison between different sports clinical contexts, sports populations and sports modalities (Meeuwisse & Love, 1997); (b) the provision of a generic data model and final reports through easy and friendly interfaces using quick, safe and effective methods that allow users to register, collect, analyze and disseminate data (Junge et al., 2008; Zemper & Dick, 2007). It was also essential to have a flexible system that can be upgraded or expanded over time according to the healthcare professionals and sports community usual and regular needs (Zemper & Dick, 2007). These requirements will inform us on the development of the iReport SportsPhysio platform. It is envisaged that such a web-based platform will be continuously under development in order to better permit health professionals to individually monitor and manage sports injuries data from sports organizations and individual recreational athletes. Simultaneously, it will be focused on contributing towards an accurate general picture of sports injuries at a national level.

This article extends the presentation of the platform and its underlying model made in (Macedo, Madeira, Correia, & Jardim, 2014).
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