

Sports Medicine: Issues, Challenges, Controversies, Opportunities and Responsibilities

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Abstract

Sports medicine is a field in itself, evolving through a long period of practice, education, research and administration, not only in sports but also to exercise and physical activity in health and disease. The objective of this editorial is to provide a broader perspective of Sports Medicine, its issues, challenges and controversies in the past and present, with opportunities and responsibilities for the future.

Keywords: Sports medicine; Exercise physiology; Professionalization

Introduction

Sports medicine is a field in itself, evolving through a long period of practice, education, research and administration, not only in sports but also to exercise and physical activity in health and disease [1]. Sports medicine is recognized as a multidisciplinary interprofessional collaborative knowledge-translation approach and has its own influences ranging from an individual's own performance or health status to a national team's victory or public health status [2]. The objective of this editorial is to provide a broader perspective of Sports Medicine, its issues, challenges and controversies in the past and present, with opportunities and responsibilities for the future.

Issues in sports medicine-individual or environmental?

Analogous with the intrinsic and extrinsic risk factors for any sports injury; individual and environmental factors interact in a complex manner thus generating multifaceted issues which can be addressed easily from a biopsychosocial perspective [3]. Biological issues are often addressed under the biomedical domain (neuromusculoskeletal injuries, sudden cardiac death, hypertension, concussion, methicillin-resistant *Staphylococcus aureus* infections, the female athlete triad, diabetes mellitus, and asthma) [4] whilst the psychological factors arise out of mental aspects of an individual that include but not limited to psychiatric [5], psychological (Fears about reinjury, fears related to surgery, and lack of patience with recovery/rehabilitation) [6] and neuropsychological issues [5], and social issues include administrative (program management- choosing program director, physician-coach inter-relationship) [7], ethical (autonomy, paternalism, truthfulness, professional loyalty) [8], medico-legal (potentially fatal medical conditions such as knee dislocation, cervical spine trauma, cardiac abnormalities, heat illness, and concussion [9], and physicians may be held legally liable for not doing a standardized pre-participation evaluation, for not administering adequate on-site or after injury care, or for violating an individual's civil rights by refusing to allow continued participation because of medical risk) [10], playing field-related (artificial turf versus natural grass) [11], sports-related (martial arts) [12], and profession/work-related (dancers [13], musicians [14]) or recreation-related (addictive disorders such as gambling in athletes) [15].

Challenges and controversies in sports medicine-sport-specific or injury-specific?

Differences and variations are inherent manifestations of 'uniqueness' in all types of sports and thus "where there are issues, there are controversies" both sport-specific and injury-specific. Some of the few widely reported controversies in sports medicine were on

concussion in young athlete (return-to-sport decisions) [16], conflict of interest (pharmaceutical and device manufacturing companies and financial sponsors) [17], and core stabilization as a treatment for low back pain (technique, patient selection, dose-response, and long-term outcome) [18], femoroacetabular impingement (diagnostic criteria, natural history and role of surgery) [19], and spondylolysis in adolescent athletes (diagnostic imaging modalities and use of bracing) [20], stingers (associated injuries, recurrence, return-to-sport decisions) [21], and sudden cardiac death in young athletes (preparticipation physical examination, emergency responses and secondary preventive strategies) [22].

Opportunities and responsibilities in sports medicine-what or who?

"Research seeded by questions and hypotheses has its own roots of sports medicine knowledge watered by issues and controversies to bear fruits of opportunities on branches of responsibilities."

Traditionally, sports medicine was perceived as a career opportunity [23] per se more than what is in it. There is plenty of growing opportunity for research in sports medicine considering the limited evidence on aforementioned topics. The future holds bright for use of bioactive factors [24], genetic research [25], allografts [26] and computer-assisted surgery [27], whilst professionalizing into primary care [28] and pediatric sports medicine [29].

It is not only a joint responsibility when it comes to real-life sports medicine scenario on person, professionals and stake-holders, but also the scientific arena on researchers, reviewers and editors to ensure adequate unbiased disclosure of facts and findings, and JSMDs welcomes papers on such aspects in the field of sports medicine and is also committed equally in publishing negative results' studies.

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