Education and Management of Concussions in Iowa High School Football

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Sport-related concussions are recognized as a major public health concern throughout the United States. Although the collegiate and professional football leagues garner the most media attention, over one million individuals play high school football each year (Martini, Eckner, Kutcher, & Broglio, 2013). As with any contact sport, physically debilitating medical injuries from participating in football are inevitable. An earlier study estimated that 67,000 high school football players are diagnosed with concussions every year (Broglio et al., 2009). In part, due to the litigious nature of our society, concussion has become a significant legal topic as states hurry to enact sport-related head injury legislation. As of April 2015, 49 states and the District of Columbia have enacted legislation pertaining to concussions (Straus, 2015). Since research has indicated that high school football players have the greatest annual incidence of concussion (Notebaert & Guskiewicz, 2005), it is important for coaches to understand their legal responsibilities for properly identifying the existence of an injury (Miller & Ammon, 2014).

Relevant Literature

The United States Centers for Disease Control and Prevention (CDC) has indicated between 1.6 and 3.8 million traumatic brain injuries occur each year as a result of sports and recreational activities (Langlois, Rutland-Brown, & Wald, 2006). A concussion is unique because it affects a player's mental functioning, which can alter physical abilities (Edwards & Bodle, 2014). The injury is particularly significant to football, because it is the sport with the highest concussion frequency rate per athletic exposure (Marar, McIlvain, Fields, & Comstock, 2012). A recent study by the Institute of Medicine determined that high school football players sustained 11.2 concussions per 10,000 games and practices (Breslow, 2013). The elevated concussion frequency can be correlated with the physical, swift, and violent nature of the game when compared to other sports. However, those same factors are what attract many players, coaches, and spectators to the sport.

Purpose of the Study

While the prevalence of concussions in high school football players has been reported to be higher than any other sport, there has been a lack of information analyzing how it is managed (McCrea, Hammek, Olsen, Leo & Guskiewicz, 2004). Thus, the purpose of the study was to determine the frequency, management, and education of concussion related injuries for one high school football season from the perspective of Iowa high school head football coaches. Information garnered from the study was used to generate recommendations for the Iowa High School Athletic Association (IHSAA) to assist in increasing the prevention, education, and management of concussions in Iowa high school football.

Method and Analysis

The email addresses of 340 Iowa head high school football coaches, collected from the state’s high school directory, were identified as participants in this study. Two weeks prior to the questionnaire distribution date, a letter describing the intent of the study, and response deadline was sent out via email to the listed head football coaches. The early dissemination was done to make certain that the email address was current as well as potentially increase the response rate (Kent & Turner, 2002). The recipients were informed they had three weeks to respond to the questionnaire. A 26- question questionnaire using a 5 point Likert scale (1=Strongly Agree, 2=Agree, 4=Disagree and 5=Strongly Disagree) was administered. When the questionnaire was distributed each of the recipients was notified of the deadline, participation in the study was completely voluntary, and there would be no penalties for choosing not to participate. Descriptive statistics (i.e., frequencies and percentages) were used to report the information.

Discussion/Implications
Two hundred and forty-six coaches submitted fully completed questionnaire resulting in a 72.4% response rate. Several of the relevant findings included almost fifty-five (54.1%) percent of the head football coaches had at least 15 years of coaching experience. In addition the respondents felt they had above average (M = 3.99) education levels with respect to concussions and their detection/treatment. The concussion rate in Iowa for the 2014 season was 8.36 concussions/10,000 AE (athletic exposures) which is less than the US average (11.2). Almost 97% of the coaches indicated that qualified medical personnel were available at all home varsity, junior varsity, and freshman games as well as at all practices. While 83% percent of the respondents believed that player concussions were properly diagnosed 27.2% believed players try to hide concussions symptoms to avoid missing playing time.

The length of coaching experience is relevant in order for the coaches to know, understand and appreciate the potential safety and legal implications pertaining to the appropriate management of concussions. The coaches’ opinions that they were adequately educated relating to concussions and their responses pertaining to the presence of qualified medical personnel could be related to the lower concussion rate in Iowa. However, further research will be necessary to determine the veracity of this possibility.

Contribution to the Body of Knowledge

While most of the previous court cases pertaining to concussions have involved either the NFL or the NCAA interscholastic athletics have not been ignored (Strough v. Bedford Community School District et al, 2015; Pierscionek v Illinois High School Association, 2014). The national attention placed on the incidence of concussions, enacted state legislation and potential litigation further emphasizes the importance of properly documenting these injuries. To that end, from a risk management perspective proper identification, assessment, and documentation of concussions are significant components in effectively managing such risks in interscholastic sports. Failing to properly document prior concussions may lead to multiple concussions resulting in traumatic brain injuries or death (Edwards & Bodle, 2014). These potential tragedies may result in an increase of subsequent litigation against coaches, sports administrators, trainers and medical personnel (Serrell v. Connetquot Central High School District, 2001).