Sigma’s 30th International Nursing Research Congress

Concussion Awareness: Is Your Child Ready to Play?

Ashley Marass, DNP, CPNP, RN
College of Nursing, University of South Alabama, Mobile, AL, USA
Taralyn W. McMullan, DNP
College of Nursing; Maternal/Child Dept., University of South Alabama, Mobile, AL, USA

Purpose: Increases in sports-related concussions has gained attention across the United States and internationally due to the long-term effects on youth, in particular athletes. Traumatic Brain Injury related sports and recreational activities are most often seen in males between the ages of 10 to 19 years and cause a reported 329,920 emergency department visits in 2012 (Coronado 2015). However, a lack of reporting incidents is also occurring. The Center for Disease and Control (CDC) reported an estimated 1.6 to 3.8 million concussions occurring annually related to sports and recreational activities (Daneshvar Nowinski, McKee, & Cantu, 2011). Part of the increase in reporting concussions is due to the increased awareness of diagnosis by organizations (Daneshvar, et al., 2011), with the most increases seen in high school sports such as: football, baseball/softball, basketball, and soccer (American Association of Neurological Surgeons, 2018). Some of the barriers to reporting concussions can be attributed to a lack of recognition of symptoms by parents, students, and coaches (Coghlin, Myles, & Howitt, 2009; McCrea, Hameke, Olsen, Leo, & Gusiewicz, 2004), personal and parental desire for excellence on the field (McCrea et al., 2004; Sarmiento et al., 2010), and insufficient knowledge of the seriousness of the long-term sequelae (Coghlin et al., 2009; McCrea et al., 2004; Sarmiento et al., 2010; Register-Mahalik, 2012). Additionally, parents and athletes alike may not realize the serious nature of the concussion and do not want to be prohibited from playing time on the field In (McCrea et al., 2004; Sarmiento et al., 2010; Register-Mahalik, 2012). A gap of reporting and actual concussion occurrence was realized and initiated the development of a computer-based concussion education program for athletes to increase concussion awareness among high school athletes, coaches, and parents. The purpose of this study was to raise awareness of knowledge and attitudes among high school athletes, parents and coaches changing perceptions and recognition of traumatic brain injury and the effects on reporting.

Methods: The Concussion Awareness Program is a computer based education program developed for this study to increase concussion awareness among athletes, parents, and coaches. A quasi-experimental model with a single group pre-test post-test design was used over a 3 month period during the football season. Pre-test post-test evaluation of knowledge and attitudes was determined after including an educational intervention. The program took approximately 18 to 25 minutes for student athletes to complete and was administered before and after the educational intervention. Both the pre-test and post-test were identical, including 10 questions to assess attitude and knowledge about concussions. A convenience sample of 533 male, high-school football athletes and 46 coaches were included in the study. Students were measured on knowledge and attitude about concussions using the Rosenbaum Concussion and Attitudes Survey-Student Version instrument (Rosenbaum & Anette, 2010).

Results: A statistically significant improvement in high school football player's knowledge about concussions and attitude toward concussions was seen after receiving formal concussion education. Results also indicated the when students show an improvement in knowledge and attitude towards concussions, a reciprocal effect occurs in the reporting of concussions. When comparing concussion clinic attendance, an increase in participation was noted and players reported feeling more comfortable acknowledging their injury or symptoms to an adult or health care provider. Athletes’ responses remained unchanged after concussion education when comparing pre-test to post-test results when asked specifically about recovering when symptoms were reported. Results indicated that athletes understood the importance of reporting concussion symptoms sooner than when asked in the pre-test. Overall, a computer-based video concussion education program can increase knowledge of symptoms and management of concussions.
**Conclusion:** Health care providers may be able to decrease the time an athlete needs to seek medical attention which in turn will impact the risk of re-injury or long term consequence through ongoing education programs. Reporting concussions is a school wide priority effecting the entire student athlete body both inside and outside of the classroom. Schools must integrate team approaches to Concussion Awareness Programs. School nurses are instrumental in educating coaches, parents, students and other school staff about symptoms that may be seen on the field, in the classroom and at home. Recognition of special accommodations at home or school may be required during the recovery phase (Schneider, 2017; Weber, Parsons, & Valovich McLeod, 2015). Concussion awareness programs must be designed to increase knowledge and improve attitudes towards concussions to influence better reporting, recognition, evaluation and management of concussions among youth.

---

**Title:**
Concussion Awareness: Is Your Child Ready to Play?

**Keywords:**
Awareness, Concussion and Long term sequela

**References:**


Abstract Summary:
The learner will: 1. Understand how concussions impact youth 2. Discover how Concussion Awareness Programs help children, parents, coaches and providers realize when a player is ready to play. 3. Determine how nurses and Advanced Practice Providers are influential in developing concussion awareness among youth, parents, providers and coaches.

Content Outline:
I. Introduction of Concussions
   1. Statistics and Facts
   2. Short Term Consequences
   3. Long Term Consequences

II. Participants
   1. Knowledge level of youth, parents and coaches
   2. Demographic factors

III. Provider’s Role
   1. Concussion Awareness Program
   2. Knowledge Assessment
   3. Accommodations and Needs

III. Results
   1. Knowledge
   2. Influence on Education and Reporting
   3. The classroom and beyond

IV. Limitations

V. Conclusions

First Primary Presenting Author
Primary Presenting Author
Ashley Marass, DNP, CPNP, RN
University of South Alabama
College of Nursing
Assistant Professor
Mobile AL
USA

Author Summary: As a Nurse Practitioner and Assistant Professor at the University of South Alabama,
Dr. Marass has worked with students and pediatric patients on concussion awareness and prevention. Dr. Marass created a computer-based concussion program that was NCAA funded to decrease the barriers to reporting in student athletes.

Second Author
Taralyn W. McMullan, DNP
University of South Alabama
College of Nursing; Maternal/Child Dept.
Associate Professor
Mobile AL
USA

**Author Summary:** Dr. Taralyn McMullan works at the University of South Alabama College of Nursing as an Associate Professor. She currently works exclusively online in the MSN and DNP programs, however, she has years of experience teaching undergraduate theory and clinical courses as well.