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Tiffany A. Martin

University of Montana - Missoula, tiffany.martin@umontana.edu

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Sports-Related Concussion Management in Montana Youth: Rural vs. Non-Rural Settings

Tiffany Martin, A.A.

Introduction

Approximately 1.6 to 3.8 million sports-related concussions occur each year in the United States¹, and there was a four-fold increase in the number of sports-related concussions in high school athletes from 2000 to 2011².

Beginning with Washington in 2009, the majority of states have implemented state legislation regarding concussion related education for coaches, parents, and youth athletes³. Initial research has suggested that knowledge regarding concussion management improves after implementation of state legislation⁴, however deficits in knowledge of sports-related concussion management still exist³. In rural counties, where training in concussion management and access to medical professionals may be limited, it is important to identify possible deficits in knowledge regarding concussions and return-to-play guidelines in order to improve knowledge and better protect youth in all areas of the state.

Purpose and Hypotheses

This study assessed the knowledge of coaches from rural (population < 10,000) and non-rural (population > 10,000) counties in Montana with regard to sports-related concussion management and return-to-play guidelines. It was hypothesized that there would be a greater amount of deficits in sports-related concussion management practices for youth sports organizations in rural counties versus non-rural counties.

These data were collected prior to the first sports season in which the Dylan Steigers Protection of Youth Athletes Act was in effect in Montana.

Methods

Adults overseeing youth sports in Montana (including coaches, assistant coaches, and athletic directors) were surveyed regarding concussions and return-to-play guidelines in 2013.

The data were tested for significance via independent-samples t-test.

Participants

58 individuals from 54 different counties completed the survey (4 individuals indicated invalid counties)

- 26 (48.1%) from rural counties (population < 10,000)
- 28 (48.3%) from non rural counties (populations > 10,000)

The majority of respondents (65.5%) had been involved with youth sports for over 10 years .

- 8 (13.8%) were involved with K – 2nd grade athletes*
- 14 (24.21%) were involved with 3rd – 5th grade athletes*
- 34 (58.6%) were involved with 6th – 8th grade athletes*
- 53 (91.4%) were involved with 9th – 12th grade athletes*

*More than one answer could be selected

Table 1. “Our organization has an individual trained in evaluation and management of concussions.”

	Yes	No	Unsure
Rural	9 (37.5%)	9 (37.5%)	6 (25.0%)
Non Rural	19 (79.2%)	2 (8.3%)	3 (12.5%)

Table 2. “Our organization has someone on the sidelines who is specialized to recognize and treat sports-related brain injuries.”

	Yes	No	Unsure
Rural	9 (36.0%)	5 (20.0%)	11 (44.0%)
Non Rural	18 (75.0%)	3 (12.5%)	3 (12.5%)

Results

- Differences were apparent between rural and non-rural counties in all aspects of concussion management addressed in this survey.
- Significantly more respondents from non-rural counties indicated that their organizations have individuals trained in the evaluation and management of concussions ($p = .016$)
- Significantly more respondents from non-rural counties reported that they have an individual specialized in the recognition and treatment of concussions, present during sporting events ($p = .004$).

Conclusion

These findings highlight a significant discrepancy between concussion management practices in rural and non-rural counties in Montana. Montana was one of the last states in the nation to implement a law regarding concussion management in youth sports, and it is imperative that all counties within our state receive the education and resources necessary to protect youth athletes from the devastating consequences of poor concussion management. With these baseline findings, the overall effectiveness of concussion legislation to protect youth athletes in Montana can be monitored.

References

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