

Abstract:

Background:

Pediatric concussions have become an increasingly relevant public health concern, with over pediatric 329,000 concussions diagnosed in 2012. The number of diagnosed concussions increased by 30% from 2006 to 2013. In spite of this, there are few studies that have investigated correlation between demographic factors and concussion outcomes for pediatric patients. As such, the primary purpose of this study was to determine if race and primary language spoken have an impact on a child's quality of life one month following an ED evaluation of a concussion. Secondary outcomes measured include the relationship between race and primary language spoken with school support, school days missed, and sub-score on PedsQL.

Methods:

We conducted a retrospective observational cohort study that analyzed information collected from a parent study that was conducted at a regional pediatric trauma center ED: using the PedsQL measurement device, we measured the quality of life at thirty days post-concussion for 223 patients. The primary outcome was PedsQL score at thirty days post-hospitalization: a decreased quality of life was defined as a PedsQL < 69.7.

Physical, Emotional, Social, and School PedsQL sub-scores < 72.9, 59.6, 66.6, and 62.9 respectively were defined as a clinically meaningful difference. Days of school missed and school support were compared using Chi-square, Fisher's exact, t-tests, ANOVA, Wilcoxon Rank Sum, and Kruskal Wallis tests.

Results:

We found that race and language spoken were not correlated with a decreased quality of life at 30 days post-concussion. Primarily Spanish-speaking individuals were less likely to have an abnormal school functioning score than primarily English-speaking individuals ($p < 0.01$). Non-Hispanic white patients were more likely to report receiving support from school ($p < 0.001$). There was no correlation between race/ethnicity and/or language with days of school missed.

Discussion:

While overall quality of life following pediatric concussion was not related to race or language as hypothesized, there was a significant difference in the frequency with which children of different race and ethnicity received school support. Additionally, primarily Spanish-speaking individuals received less school support than primarily English-speaking individuals (although not statistically significant). Surprisingly, Spanish-speaking children tended to report higher scholastic quality of life after concussion than English speaking children. These findings, coupled with the existing literature, which highlights disparities in follow-up care, indicate a need for interventions aimed at minimizing healthcare disparities in pediatric patients with mild traumatic brain injury.