Relationship Between Initial Post-concussion Presentation And Health-related Quality Of Life At One Month Post-injury In Pediatric Concussion Patients: 1485 Board #160 June 1 900 AM - 1030 AM

Register-Mihalik, Johna K.[1]; Bloom, O. Josh[2]; Fonseca, Janna[2]; Phillips, Kristen[2]; Kay, Melissa C.[1]; Vander Vegt, Christina B.[1]; Gallini, Julia W.[1]; Guskiewicz, Kevin M. FACSM[1]; De Maio, Valerie J.[1]

[1]University of North Carolina at Chapel Hill, Chapel Hill, NC. [2]Carolina Family Practice & Sports Medicine, Cary, NC.

Email: johnakay@email.unc.edu

(No relationships reported)

Prognostic indicators of outcomes following sport-related concussion (SRC) managed in the primary care setting are understudied.

PURPOSE: This study examines the relationship between acute post-concussion measures and one-month parent reported health-related quality of life in pediatric concussion patients.

METHODS: This was a prospective cohort presenting to 3 clinics of a single practice group from December 2014-September 2016. Included were patients 8-18 years, presenting within 3 days of a SRC, who consented to participate, and whose parents completed a one-month follow-up. Participants completed a standardized initial visit, including a clinical exam, a symptom checklist, the Immediate Post-Concussion and Cognitive Test (ImPACT™), and a near point convergence screening. Parents completed a one-month follow-up about their child [PedsQL™ Quality of Life Inventory (QOL) and the PedsQL™ Multidimensional Fatigue Scale (MDF)]. We assessed univariate relationships between demographics, initial presentation measures, and one-month follow-up QOL and MDF. Variables significant in univariable analyses ($p < 0.05$) were included in multivariable regression models.

RESULTS: A total of 180 patients met initial inclusion and completed the one-month follow-up [% follow-up = 75% (180/240 eligible at initial visit)]: 100 (55.9%) were male, 136 (88.9%) Caucasian, and 28 (15.6%) were injured in football. Median age was 15 years (IQR: 13.0, 16.0). In the QOL model, a 10 point estimated increase in symptom severity score (Beta=-1.825; 95% CI: -3.335, -0.314) and no previous head injury (Mean Difference: -5.751; 95% CI: -11.089 -0.412) were associated with worse one-month QOL. A 0.06 point increase in initial visit ImPACT™ Reaction Time (Beta=-2.120; 95% CI: -3.898 -0.343) was associated with worse one-month MDF in the MDF model.

CONCLUSION: Clinicians should be mindful of acute symptom burden and those with no history of concussion when considering potential for worse one-month post-injury QOL outcomes. Those with initial longer reaction times may be more likely to experience fatigue over the first month following concussion. Clinicians may need to consider early intervention in patients with these characteristics.