

Self-Reported Severity of Mood Symptoms in Pediatric Patients With Persistent Post-Concussion Symptoms (PPCS)

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Introduction

Persistent Post Concussion Symptoms (PPCS) is known to have multiple subtypes, including:

- Mood subtype
- Vestibulo-ocular dysfunction
- Migraine
- Cognitive

The mood subtype is traditionally believed to be higher in incidence among those with the most prolonged courses of PPCS, but empirical analysis of the associations seem to be scant.

Purpose

By better understanding the incidence of mood symptoms in pediatric PPCS, we may improve our ability to identify and treat primary causes of ongoing brain dysfunction.

METHODS

- Retrospective cohort study
- Pediatric PPCS patients (age < 18 years) treated at a private concussion clinic in Tucson, AZ between 7/2018 to 7/2019
- Based on written questionnaires completed by patients at office visits, patients were assigned a mood and anxiety score between 0 and 3
 - 0 being the least severe and 3 being the most severe.
- Patients were also classified into stages 1 through 4 based on PPCS duration (see table in Results section).

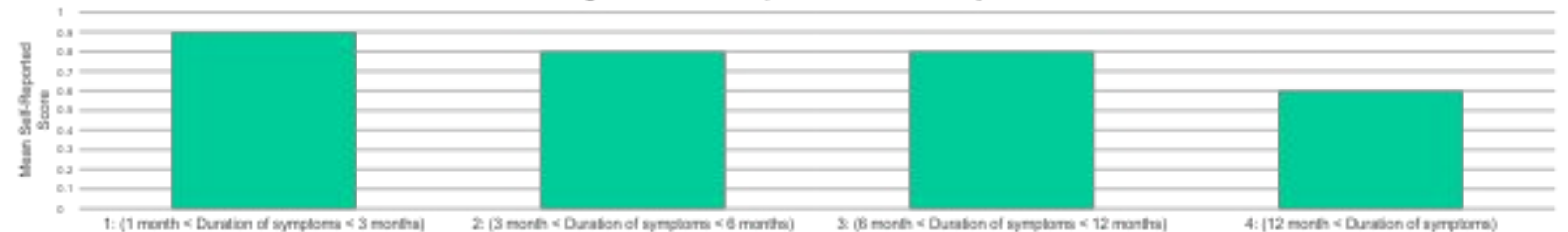
RESULTS

Data of 59 pediatric patients (ages ranged from 7 to 17 with a mean age of 13.9, 33:26 female to male) were included.

Self-Reported Mood and Anxiety Score (With 0 = least intense and 3 = most intense)	n	Mean Duration of Symptoms in Months	Variance	ANOVA
0 = none	31	5.7	27.5	P-value = 0.12
1 = mild	14	10.7	154.8	
2 = moderate	7	3.6	7.6	
3 = severe	7	4.1	5.5	

PPCS Substage	n	Mean Self-Reported Mood and Anxiety Score	Variance	ANOVA
1: (1 month ≤ Duration of symptoms < 3 months)	23	0.9	1.3	P-value = 0.94
2: (3 month ≤ Duration of symptoms < 6 months)	18	0.8	1.3	
3: (6 month ≤ Duration of symptoms < 12 months)	13	0.8	1.0	
4: (12 month ≤ Duration of symptoms)	5	0.6	0.3	

Substage vs. Mean Self-Reported Mood and Anxiety Score



CONCLUSIONS

- Contrary to traditional thinking, our review showed no significant associations between self-reported mood and anxiety symptoms with mean duration of symptoms or between PPCS stages and self-reported mood and anxiety symptoms.
- Results may suggest that other domains such as migraine or vestibulo-ocular dysfunction are the primary sources of ongoing symptoms.
- Limitations of this study include its small sample size; rating mood and anxiety symptoms on a scale of 0-3 may require larger sample sizes in order to detect associations.