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Adult Knowledge of Childhood Head Injury Management at Home

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Hypothesis:

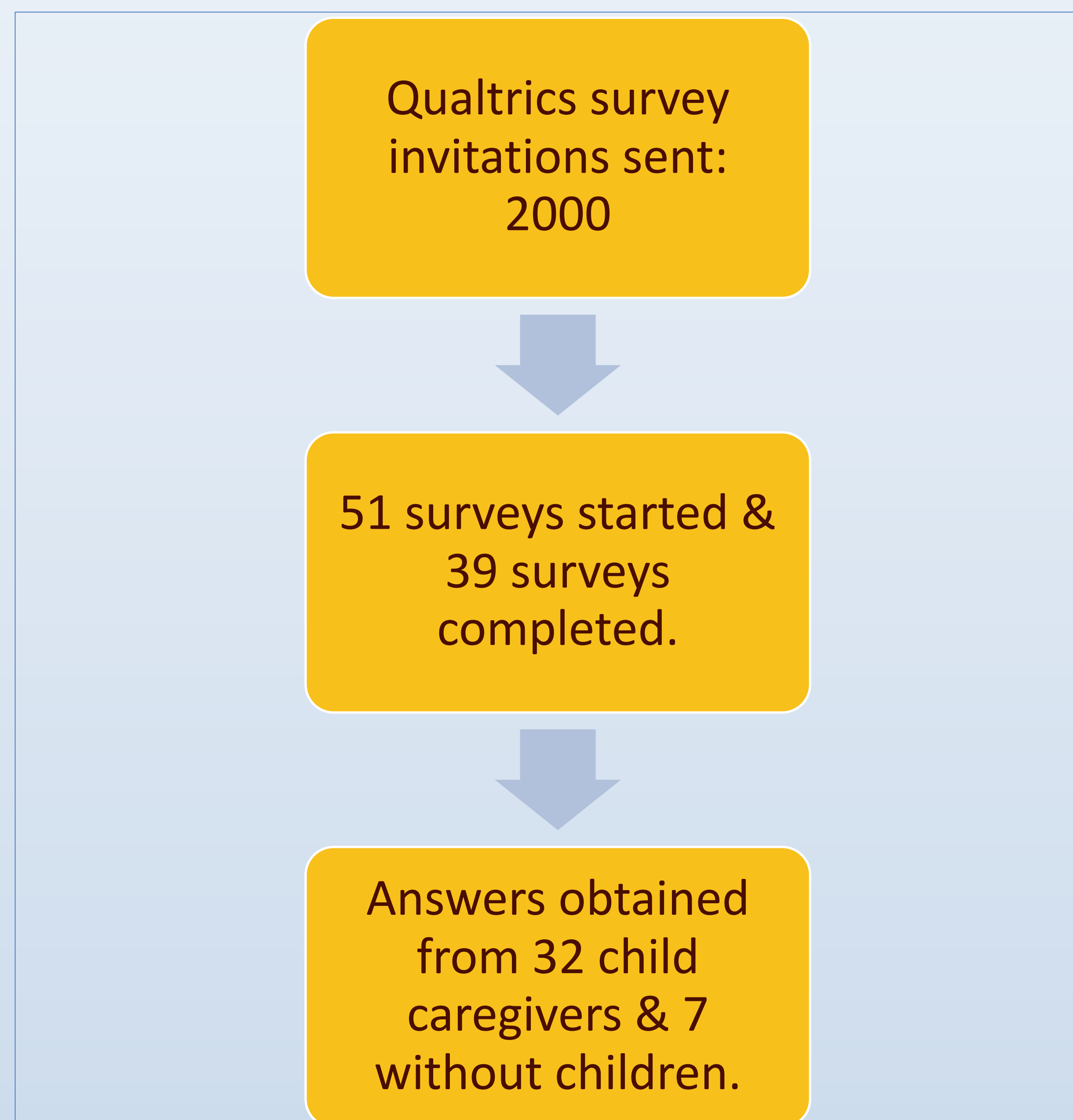
- Adults are able to recognize concussion warning symptoms, however, they lack the knowledge on how to manage and treat a child's head injury.

Background:

- Within the past decade there have been improvements to recognize the symptomology of concussion and modify guidelines for sport related head injuries. The Center for Disease Control and Prevention (CDC) published an educational initiative for parents called "Heads Up to Parents" and a follow up study was performed focusing on parents of children participating in sports. These parents demonstrated difficulty discerning between correct and incorrect concussion signs and symptoms. Symptoms such as difficulty with sleep, increased emotion, mood alterations, and disorientation were unknown to the parents in this study.¹
- Currently, the concussion knowledge of caretakers for head injury at home is unknown. Many children sustain head injuries in a variety of ways that are unrelated to sports. In actuality, only 18% of concussions sustained by children aged 0-4 are sports related. Outside of sports, the primary mechanism of head injury is being struck by an object or by a fall.² Most parents do not know the signs of concussion and therefore a brain injury may go undiagnosed.

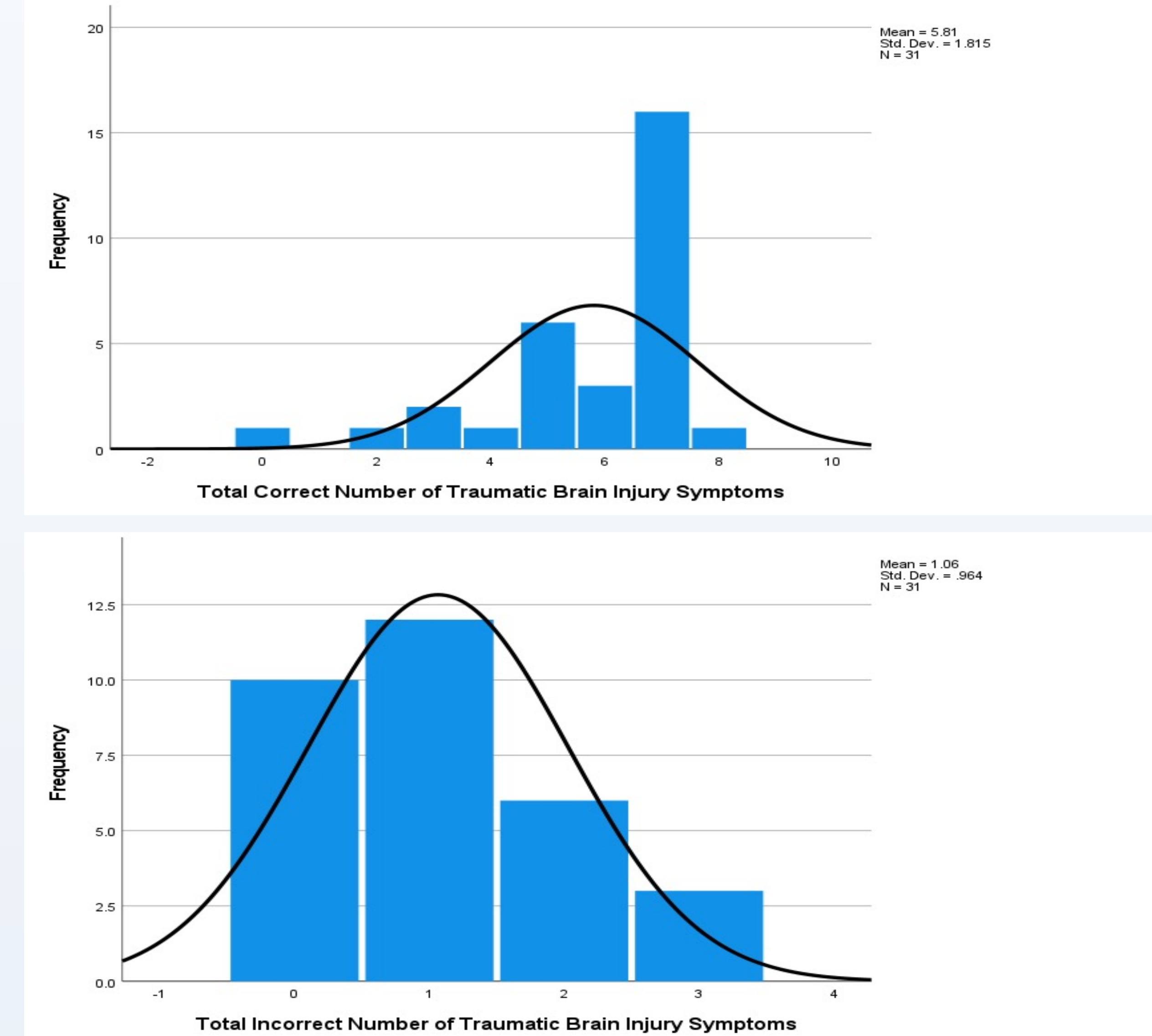
Methods:

- A cross sectional study was conducted within the Rowan Medicine outpatient population looking at 18-65 year-old caregivers of children.
- 22 online survey questions pertaining to caregiver demographic, child demographic, concussion symptom knowledge, and concussion treatment knowledge were asked.
- Survey invitation reminders were emailed 4 times between 12/3/2019 – 8/17/2020 due to low response rate.
- Following the survey, participants were directed to the CDC's Heads Up Initiative to learn more about concussion.



Results:

- For the 32 volunteers who currently had children at home there were 10 (31%) men and 22 (69%) women of whom 21 (50%) described themselves as parents.
- Caregivers had an average of 3 (SD =1) children and reported that on average 3 of their children had head injury history.
- 19 (59%) caregivers had completed college or above and 13 (41%) had completed some college or below.
- 20 (63%) survey respondents believed that they could identify concussion symptoms. This is supported by the finding that the mean number of the correct symptoms identified by the respondents was 6 (SD =2) and the mean number of incorrect symptoms was only 1 (SD =1).
- Age of caregiver was positively correlated with knowledge of correct concussion symptoms ($r = .42, p < .05$).
- Total number of correct concussion symptoms was positively correlated with caregiver awareness of concussion symptoms ($r = .36, p < .05$) and wanting to continue learning more to prevent concussions ($r = -.38, p < .05$).
- The more children a caregiver had was inversely related with the total number of wrong concussion symptoms ($-.36, p < .05$).
- No association between the number of correct concussion symptoms and the caregiver's ability to manage and treat a concussion was found.



Conclusion:

- Overall, the participants in this study showed that adult caregivers with a greater number of children knew more about concussion symptomology.
- Unfortunately, due to low response rate, there was not enough data to show how caregivers felt about their ability to treat concussion at home.
- Future studies with greater response rate may strengthen results and yield further significant correlations.

Acknowledgements:

- The authors thank Rowan Medicine for their support with this project. The study was approved by Rowan University's Institutional Review Board.

References:

- Rice, Tracy. "Parental Knowledge of Concussion: Evaluation of the CDC's 'Heads Up to Parents' Educational Initiative." *Journal of Safety Research*, vol. 69, 7 Mar. 2019, pp. 85-93., doi:10.1016/j.jsr.2019.02.007.
- Haarbauer-Krupa, Juliet. "Variations in Mechanisms of Injury for Children with Concussion." *The Journal of Pediatrics*, vol. 197, June 2018, pp. 241-248.