Rose, S.C., Levine, D.A., Shi, J., Wheeler, K., Aungst, T., Stanley, R.M., & Beauchamp, M. H. (2023). Emergency department visits for mild traumatic brain injury in early childhood. *The American Journal of Emergency Medicine, 65,* 36-42.

An Article Review Submitted

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On Behalf of the

GLACLP Research Committee

According to the Brain Injury Association of America (2023), roughly 62,000 children sustain brain injuries requiring hospitalization annually. These injuries are commonly as a result of motor vehicle accidents, falls, sports injuries, and physical abuse. Concussion is the most common form of traumatic brain injury (National Institute of Child Health and Human Development, 2023). A concussion can happen when the head or body is moved back and forth quickly, such as during a car crash or sports injury, or from a blow to the head. Concussions are often called "mild TBIs," because they are usually not life-threatening. Hospitals and other medical professionals often do not properly diagnose brain injuries because most frequently miss the signs of mild traumatic brain injury (mTBI), which can range from a mild concussion to more severe brain injuries because they simply do not understand them (McFarland-Bryant, 2021). Understanding brain injuries is critical to the work of a child professional as these injuries have the potential to disrupt key periods of neurodevelopment.

Rose et al.'s (2023), current research into the incidence and healthcare utilization for mTBI in young children presenting to U.S. emergency departments (ED) found that 1,372,291 of patient emergency department visits included children that were two years or younger (63.5%), that 57.5% of patients were male, and that 69.4% were injured in falls. The most common head injury diagnosis was "unspecified injury of head" (83%); this diagnosis decreased in frequency as age increased, in favor of a concussion diagnosis. This is concerning, given its potential to disrupt development.

Rose et al.'s research (2023) recognizes the negative impact that mTBI can have on cognition and brain development; "brain injury during early childhood is of particular concern due to the rapid development and changing morphology of the brain." Additionally, "brain development in early childhood drives the rapid acquisition of motor, cognitive, and social skills, and injury during this period can affect long-term outcomes" (Rose et al., 2023). Manifestations of these injuries can include social and behavioral difficulties.

While most research focuses on the prevalence of mTBI on school aged children, infants, toddlers, and preschoolers are at higher risk of severe traumatic brain injury. The difficulty in research relates to the challenges associated with self-reporting of symptoms. "Young children may experience somatic, sleep, emotional, or visual-vestibular symptoms typically seen in older children, but they may also experience symptoms not included on concussion symptom

checklists such as behavioral difficulties, decreased participation in activities, clinginess, and change in appetite" (Rose, 2023).

This discrepancy is worrisome given that those of highest risk are younger children. There is then a minimal understanding of the incidence of mTBI in children prior to elementary school. Child life has a unique ability then, to bring awareness to the high risk of severe traumatic brain injury in younger children, to advocate for awareness initiatives. Future implications also include bringing recognition to the understanding of the incidence and public health burden of ED visits for mTBI in this age group. An understanding will help to inform future research initiatives and public policy advocacy efforts.

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