



# The Speech-Language Pathologist's Role in Concussion Management: A Systematic Review

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## Background

Traumatic brain injury (or TBI) is an injury gaining widespread notoriety due to its deadly reputation among professional athletes and military personnel. But according to the CDC, "most TBIs that occur each year are mild, commonly called concussions." In the past decade, the rate of medical treatment required from sport and recreation-related injuries has doubled in those under age 18. Symptoms of a concussion included headaches, dizziness, amnesia, ringing in the ears, nausea, vomiting, slurred speech, language issues, and confusion. With the increase in injuries, awareness for mTBI treatment has risen in response. The role SLP's play and the assessments and interventions they provide may vary greatly depending on the setting, age group, and cause of injury, and current research on the specific roles of SLPs in this population is limited.

## Purpose

This systematic review aims to answer the following question: Based on current research and guidelines, what is the SLP's role in assessing and managing mTBI?

## Methods

### Databases Used:

- PubMed
- CINAHL

### Search Terms:

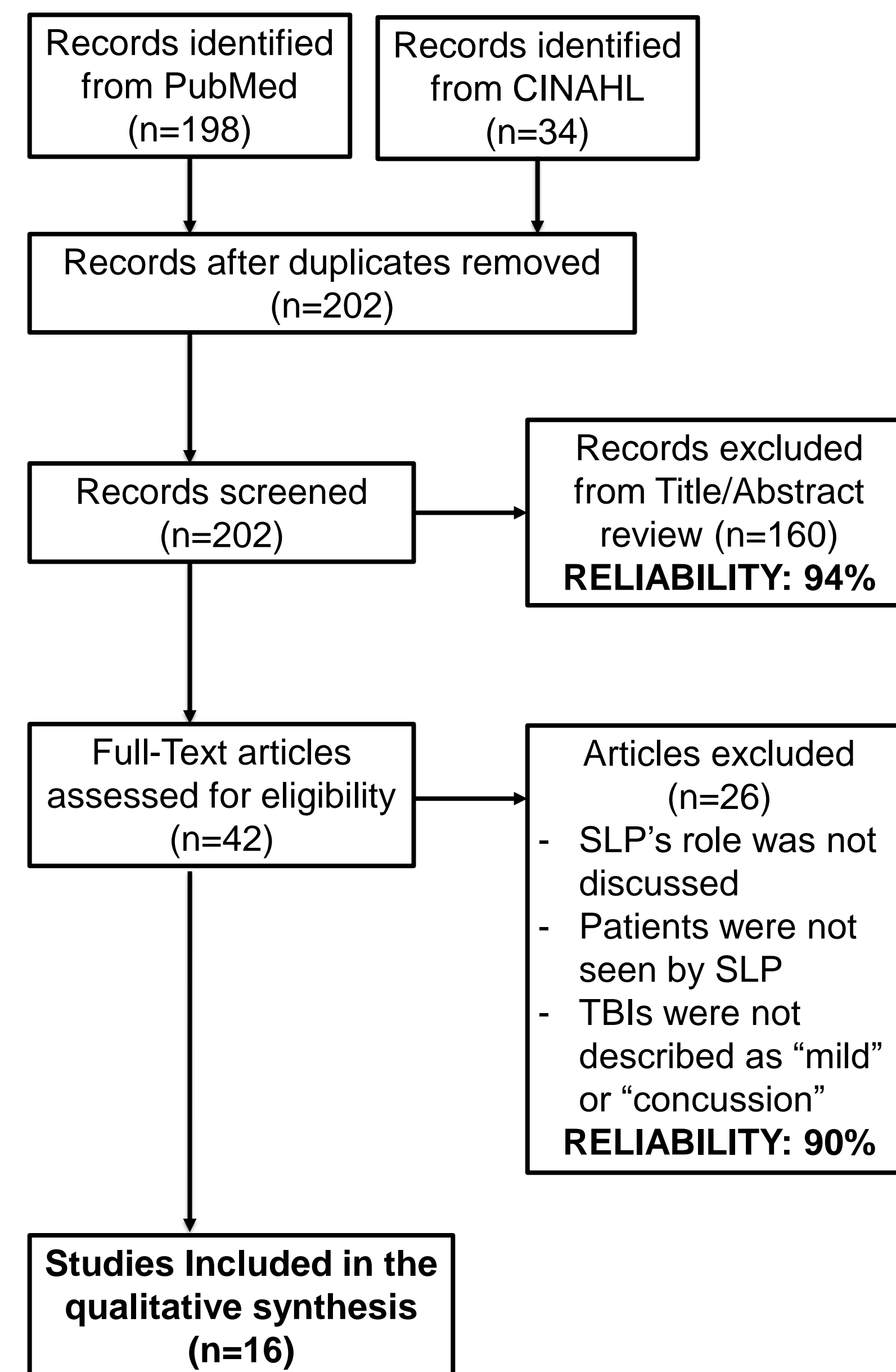
- ("speech-language" OR "speech language" OR speech OR language) AND (patholog\* OR therapy OR intervention OR treatment OR rehabilitation OR services OR assessment OR evaluation OR management OR strateg\*) AND (concussion OR "mild traumatic brain injury" OR "mild head injury" OR "mild brain injury")

Inclusion Criteria	Exclusion Criteria
English, published between 1/06-12/18	Unpublished or non-English articles
Injury described as "mild TBI" or "concussions"	Injury not described as "mild TBI" or "concussion"
Human participants	Nonhuman/animal participants
Discuss SLP's role in Dx, Tx, or management of mTBI	SLPs not discussed

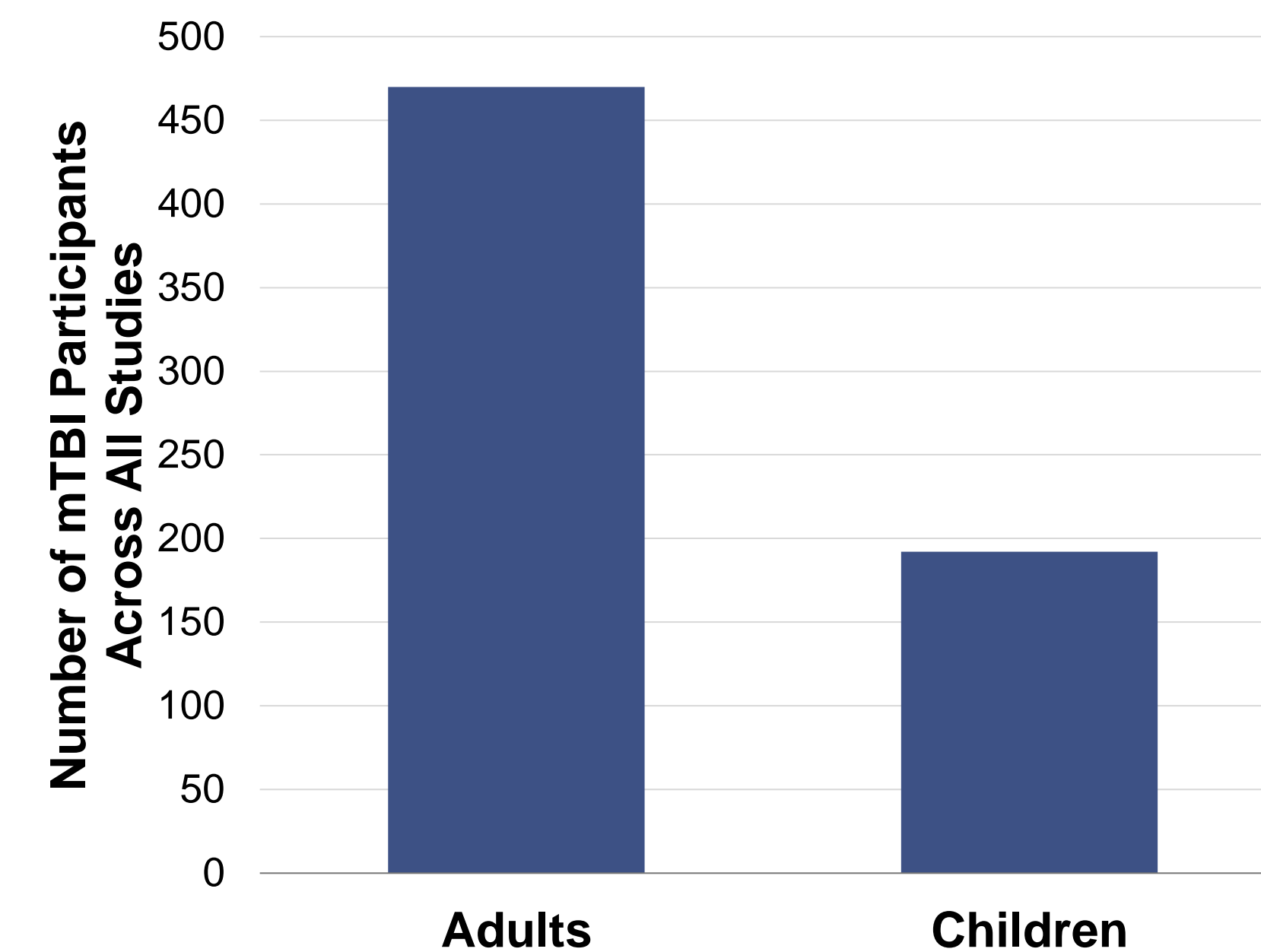
Titles and abstracts were blindly screened based on inclusion/exclusion criteria. There were 50 double-screened articles. Then a full-text review was conducted for each of the 42 remaining articles, with each one double-screened. After review, 16 articles were chosen and quality appraisals were then carried out blindly by each reviewer.

## Results

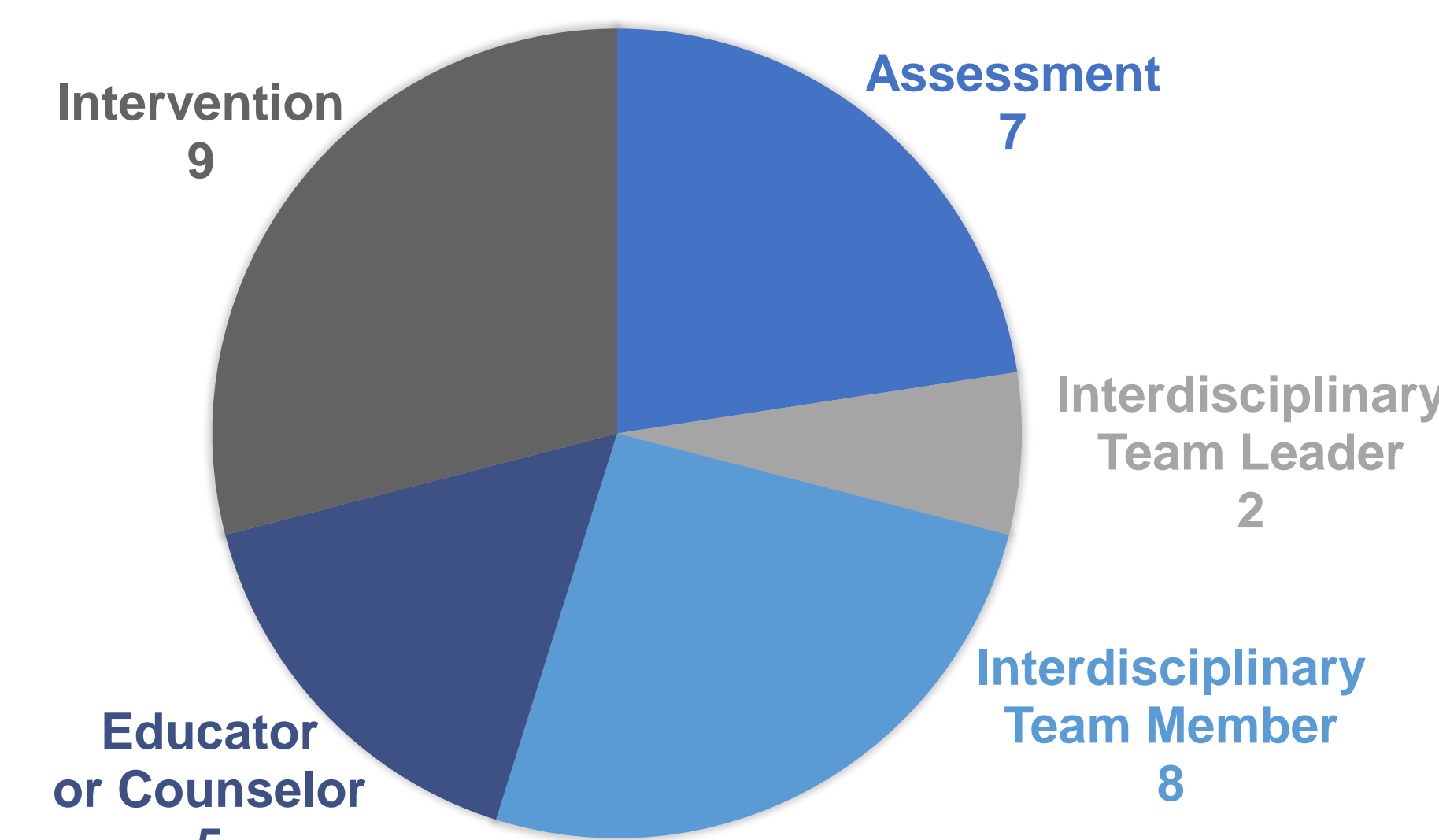
### Study Selection



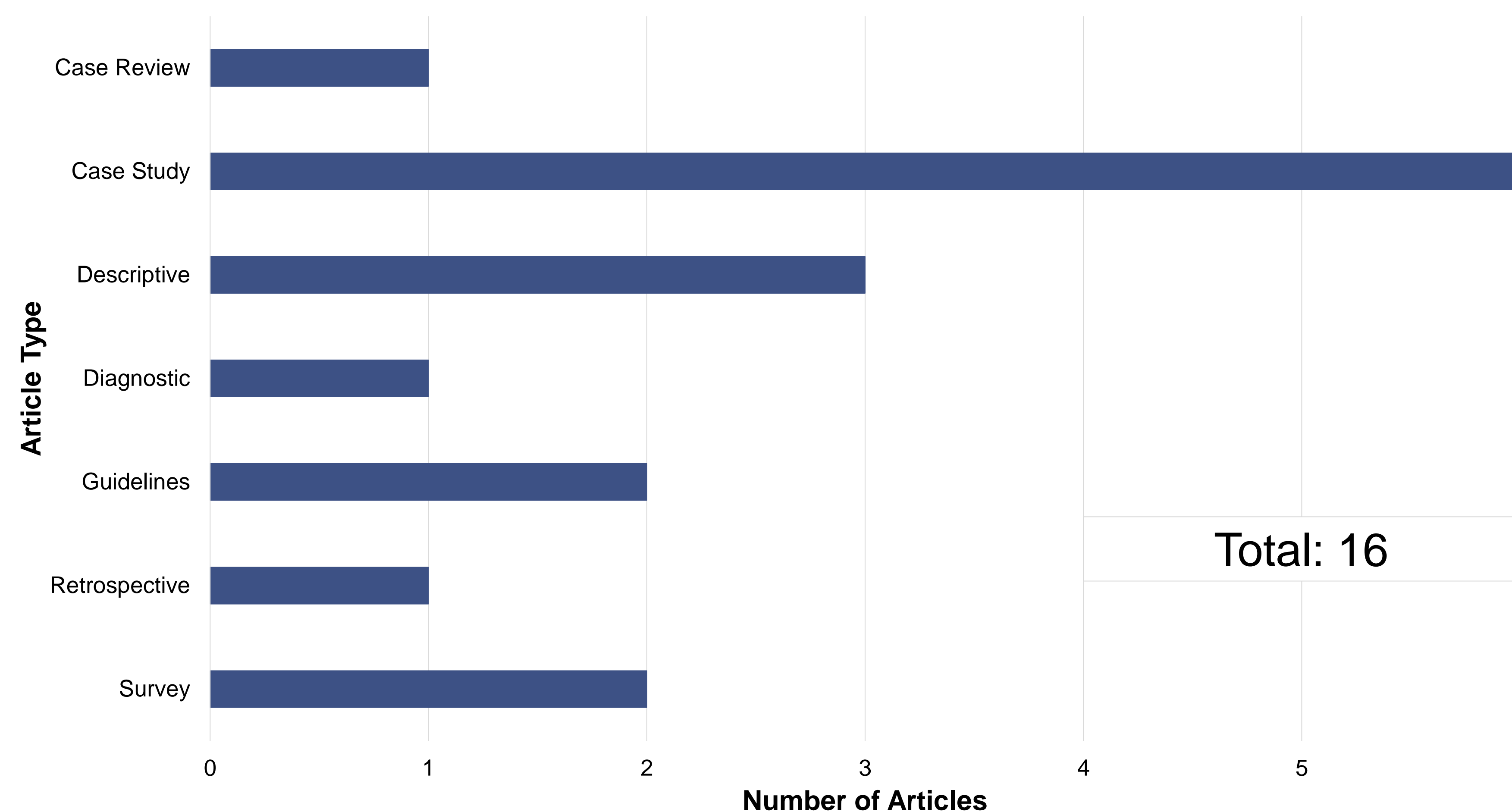
### Populations Explored



### SLP Roles Discussed



### Study Types



## Results & Discussion

### Current SLP Responsibilities

The SLP's role in mTBI management varies depending on setting. However, 50% of the articles recommend an interdisciplinary team approach to mTBI assessment regardless of setting, including working with physicians, occupational therapists, physical therapists, and athletic trainers.

Literature suggests that SLPs should assess and diagnose cognitive communication disorders that result from mTBI and provide intervention for these deficits. In school settings, SLPs should aim to find strategies and accommodations to help students smoothly transition back to academics and athletics; however, formal assessments are not necessarily required.

### The SLP's Role is Emerging

Our review of the literature reveals that SLPs should be more involved in mTBI management than they currently are. Parrish et al. (2009) surveyed 117 mTBI patients and found that irritability was their biggest concern, followed directly by word-finding and name recall difficulties, even when their language scores on assessments were within normal limits. This indicates that while these patients may pass cognitive and language assessments, they could still benefit from speech therapy.

Duff & Stuck (2015) surveyed 280 SLPs across the U.S. and found that only 21% of SLPs felt "confident" in treating mTBI. When asked questions about mTBIs, there was a mix between accurate and inaccurate responses. This indicates that more training and education on mTBI is needed for SLPs.

Knollman-Porter et al. (2014) and Krug & Turkstra (2015) both examined new, SLP-run mTBI clinics and protocols, which shows that SLPs are beginning to emerge as major players in mTBI management in clinical settings, leading teams and running mTBI intervention programs.

### Conclusion

The SLP's involvement in mTBI assessment and treatment is emerging and in need of evidence-based practice guidelines. SLPs need more training in order to be confident in their abilities to assess and treat mTBI. More research is needed in all areas of the SLP and mTBI management, as diagnostic and prospective studies are extremely limited, particularly in the area of pediatrics.

## Key References

- Duff, M. C., & Stuck, S. (2015). Paediatric concussion: Knowledge and practices of school speech-language pathologists. *Brain Injury*, 29(1), 64-77.
- Knollman-Porter, K., Constantinidou, F., & Hutchinson Marron, K. (2014). Speech-language pathology and concussion management in intercollegiate athletics: the Miami University Concussion Management Program. *American Journal of Speech-Language Pathology*, 23(4), 507-519.
- Krug, H., & Turkstra, L. S. (2015). Assessment of Cognitive-Communication Disorders in Adults with Mild Traumatic Brain Injury. *Perspectives on Neurophysiology and Neurogenic Speech and Language Disorders*, 25(1), 17.
- Parrish C, Roth C, Roberts B, & Davie G. (2009). Assessment of cognitive-communicative disorders of mild traumatic brain injury sustained in combat. *Perspectives on Neurophysiology & Neurogenic Speech & Language Disorders*, 19(2), 47-57.