

Rowan University

Rowan Digital Works

Rowan-Virtua Research Day

28th Annual Research Day

May 2nd, 12:00 AM

Examining the Differences in Functional Outcomes for Patients with Traumatic Brain Injury After Acute Rehabilitation and Subacute Rehabilitation: A Review of the Literature

Michael Rangel
Rowan University

Ashley Kakkanatt
Westchester Medical Center Health - Mid-Hudson Regional Hospital

Follow this and additional works at: https://rdw.rowan.edu/stratford_research_day



Part of the [Neurology Commons](#), [Occupational Therapy Commons](#), [Pathological Conditions, Signs and Symptoms Commons](#), [Physical Therapy Commons](#), [Physiotherapy Commons](#), [Sports Medicine Commons](#), and the [Therapeutics Commons](#)

Let us know how access to this document benefits you - share your thoughts on our [feedback form](#).

Rangel, Michael and Kakkanatt, Ashley, "Examining the Differences in Functional Outcomes for Patients with Traumatic Brain Injury After Acute Rehabilitation and Subacute Rehabilitation: A Review of the Literature" (2024). *Rowan-Virtua Research Day*. 40.

https://rdw.rowan.edu/stratford_research_day/2024/may2/40

This Poster is brought to you for free and open access by the Conferences, Events, and Symposia at Rowan Digital Works. It has been accepted for inclusion in Rowan-Virtua Research Day by an authorized administrator of Rowan Digital Works.

Examining the Differences in Functional Outcomes for Patients with Traumatic Brain Injury After Acute Rehabilitation and Subacute Rehabilitation: A Review of the Literature

Michael Rangel (OMS-II), Ashley Kakkanatt M.D.
Rowan-Virtua School of Osteopathic Medicine

Westchester Medical Center Health Mid-Hudson Regional Hospital

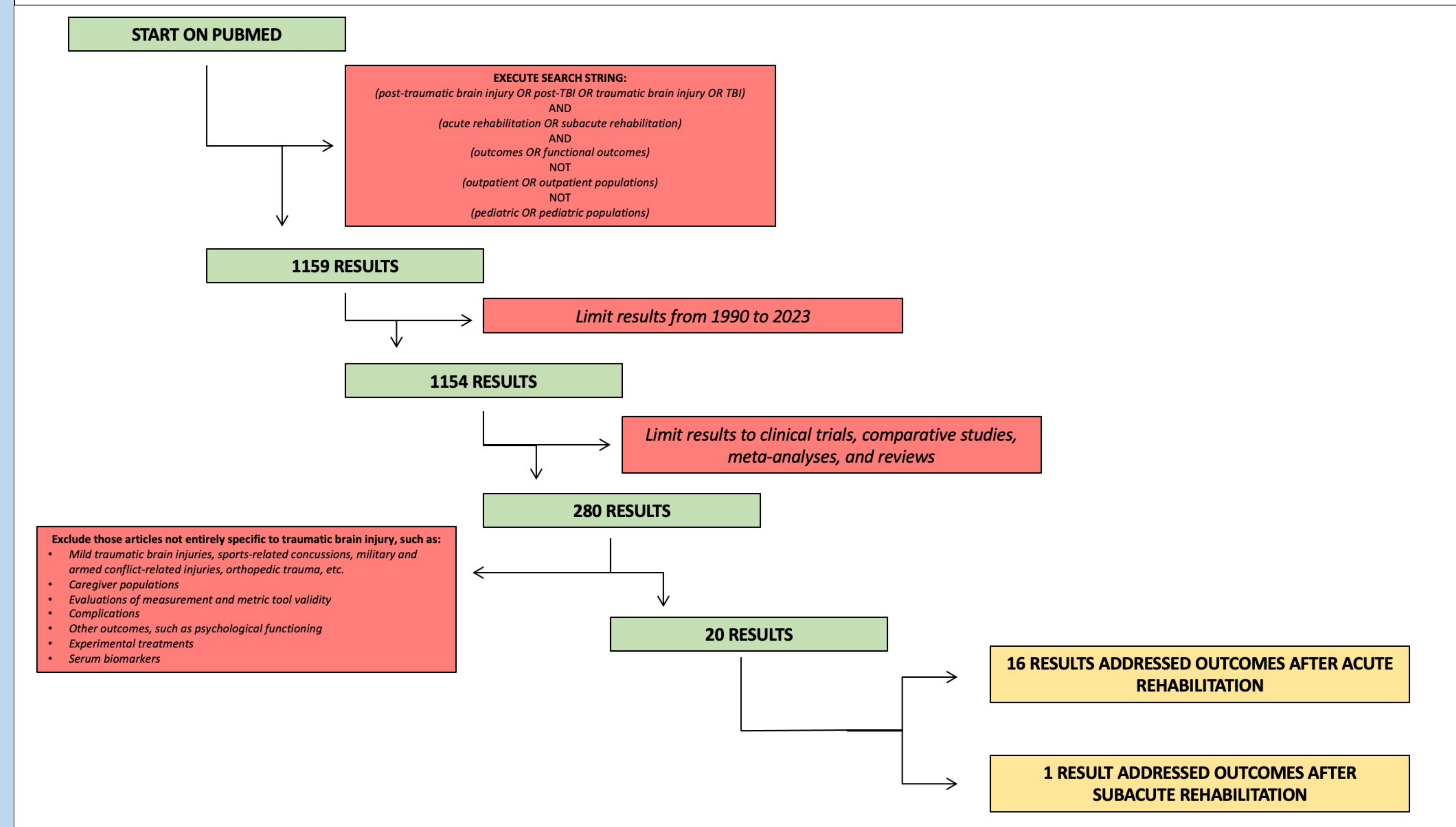
BACKGROUND / SIGNIFICANCE

- Traumatic brain injury (TBI) is one of the major causes of morbidity in the US [1-4].
- The purpose of this study is to examine patient outcomes across all pathways of inpatient rehabilitation following TBI.
- Various types of inpatient rehabilitation facilities exist, including acute rehabilitation and subacute rehabilitation programs.
- The structure and outcomes of these programs are not well-delineated [5-7].

METHODS

- Key words: (post-traumatic brain injury OR post-TBI OR traumatic brain injury OR TBI) AND (acute rehabilitation OR subacute rehabilitation) AND (outcomes OR functional outcomes) NOT (outpatient OR outpatient populations) NOT (pediatric OR pediatric populations)
- Limited to 1990 – 2023
- Excluded outpatient and pediatric populations
- Two categories for the studies: those addressing acute rehabilitation and those addressing subacute rehabilitation
- Outcome measures: disability ratings, physical independence, independence with ADLs, social re-integration inside and outside of home, cognitive recovery, and general mobility, FIM scores, and HSQ-12 scores.
- Examined meta-analyses, clinical trials, comparative studies, and other literature reviews

Study Selection Diagram



RESULTS

- 16 articles addressed outcomes after acute rehabilitation [5, 8-22]. They suggest:
 - Improved functional independence, cognition, and odds of discharge home with earlier intensive acute rehabilitation following TBI.
 - Compared to those who were discharged from acute care to long term care, those who received rehabilitation had better FIM scores and HSQ-12 scores.
- Only 1 article addressed outcomes after subacute rehabilitation [23].

DISCUSSION

- Acute rehabilitation programs lack uniformity in data collection methods, comprehensive metrics for outcome measurements, and homogenous and well-defined rehabilitation structures [24-27].
- Despite increasing patient admissions to subacute rehabilitation facilities, our study suggests there is little-to-no data to support that these programs have improved patient outcomes over acute rehabilitation.
- Reasons for shifting trends towards subacute rehabilitation may be due to increased difficulty for admission to acute rehabilitation programs. Common causes are insurance barriers or patient inability to tolerate acute rehabilitation workloads.

CONCLUSION / FUTURE DIRECTIONS

- Current research critically lacks information regarding outcomes after subacute rehabilitation. As trends move towards increased utilization of subacute rehabilitation services, future research must be focused on outcomes in the patient population at the subacute rehabilitation level.



Scan here for
citations