Lost in the Shuffle

Meeting the Needs of Older Adults Living with Traumatic Brain Injury

Dr. Sherrie Bieman-Copland, C.Psych.
Dr. Elena Ballantyne, C.Psych. (Supervised Practice)
Outline

- What is an older adult?
- How does traumatic brain injury (TBI) look different in an older adult?
- The solution to the problem starts with assessment
- Rehabilitation options for older adults
- Conclusions – how does the system need to change?
What is an Older Adult?

- It might not be what you expect!!!
What is an Older Adult?

- 5\textsuperscript{th} decade as threshold
- We think of aging as a continuum but discrete categories of older adults may exist...50-65, 65-80, 80+
- Chronological age can be a very unreliable marker for the aging process
- Cognitive changes start between 25-30 years of age!
Frequency of Brain Injuries in Older Adults

- Between 2002-2006 in the USA\(^1\):
  - 141,998 visited the ER
  - 81,499 were hospitalized
  - 14,347 adults 65 or over died

- Between 2003-2004 in Canada\(^2\):
  - 4,902 adults 60 or over were admitted to hospital for TBI
  - 809 died
How does TBI look different in an older adult?

- **At the time of trauma:**
  - Less intense forces necessary to produce more serious injuries\(^3\)
  - Falls most common cause of TBI instead of motor vehicle collisions
  - More likely to have medical co-morbidities; easily confused with TBI
  - Increased risk for hemorrhaging:
    - More likely to be taking blood thinners (Warfarin)
    - Brain atrophy stretches blood vessels, susceptible to shearing forces
- Delayed effects of TBI in older adults
- Overall worse outcomes than younger counterparts
  - Lower levels of consciousness, more severe injuries, higher mortality rates\(^4\)
- Increased frailty gives rise to concurrent orthopedic injuries
Jane

- Motor vehicle collision
- Initial GCS = 14 (mild TBI); however, neurological and cognitive deterioration over the next hours/days, with lowest recorded hospital GCS = 7 (i.e., severe brain injury).
- Brain imaging:
  - Significant intracranial hemorrhaging
  - Diffuse axonal injury
  - Skull fracture
  - Generalized brain atrophy
- Despite neurodiagnostic indicators of severe injury, repeated references in hospital records to her injury as “mild”
Sarah & John

- Motor vehicle collisions
- Multiple and severe fractures of ribs, legs, and arms
- Emphasis on physiotherapy and pain control
- Sarah: Subdural hematoma
- John: Widespread intracranial hemorrhages, skull fractures
- No follow-up for moderate-severe brain injuries
How does TBI look different in an older adult?

- **During critical and acute care:**
  - Longer hospitalizations, but pressure to move individuals out of acute beds
  - Multiple transfers to treat injuries (e.g., surgery, orthopedics)
  - Attention focused on potential co-morbid medical conditions, not TBI
  - Addressing early depression and anxiety, but not losing sight that may be a primary manifestation of the TBI
John

- Medical focus on stroke risk – red herring
  - Loss of consciousness attributed to cerebrovascular issues
  - Hit by truck, cracked bicycle helmet
- Neurobehavioural symptoms lost in multiple transfer shuffle
  - Depression, impulsive anger, and anxiety identified
  - Clinicians at various hospitals had no access to each other’s records
- No follow-up
Jane

- Presented with significant somatic complaints
- Often refused treatment
- Emotional lability
- History of health anxiety
- “Symptom exaggeration”
How does TBI look different in an older adult?

- Biases regarding accessing appropriateness rehabilitation services
  - Adults over 65 received less rehabilitation than younger patients\(^5\)
  - Many ABI programs do not accept individuals over 65
    - Age as an exclusion criteria for Brain Injury Community Re-Entry (BICR) in Niagara
  - Only left options for dementia/stroke/day programs.
    - Often have more of a supervisory than rehabilitation component
    - Not well suited to individuals with TBI
  - Traditional methods for “buy-in” for rehabilitation center around return-to-work
John

- Discharge to home imminent
- Residual orthopedic injuries
- No outpatient therapies
- Fought for admission to rehabilitation hospital
Simon

- Retired at time of accident
- History of social isolation
- Little “buy-in” for rehabilitation
- Therapist goals inconsistent with Simon’s goals
- Premature discharge
How does TBI look different in an older adult?

- Challenges post-discharge
  - Family challenges when the person is no longer the same
  - Failure to see psychiatric issues as possible primary symptoms of the brain injury
  - Cohort issues that create a reluctance to seek help
  - Sudden facing of “old age” issues in one’s 50s and 60s
  - Older adults at greater risk for decline 5+ years post-injury
  - Rehabilitation has to consider co-morbid health issues in context of programming (e.g., arthritis, cardiac issues)
  - At risk for subsequent brain injuries due to falls
“Normal” Psychosocial and Developmental Tasks for Older Adults

- **Erikson Stages of Psychosocial Development**
  - *Generativity vs. Stagnation*
    - Meaning in life related to one’s perception of contribution at work, home, and in the community
  - *Integrity vs. Despair*
    - Making sense of one’s life story; reflection and reminiscence are characteristic processes for this stage of life

- **Brain injury disrupts development**
  - Injury after age 50 may result in premature termination of meaningful life roles
  - Cognitive difficulties may interfere with one’s ability to form a coherent life story
Carmen

- Carmen prematurely needed to leave her work role in her early 50s
- Facing early retirement
- Unsure what to do next
Sarah

- Formerly active and outgoing
- Change of retirement plans
- Not enjoying “golden years”
- Focus on quality of life for “years left”
- Adjusting to “new normal”
Bob, Theresa, & Peter

- Generational beliefs about mental health professionals
- Reluctant to acknowledge the brain injury
- All-or-nothing thinking around “fixing” the brain injury or no treatment
How does TBI look different in an older adult?

- Aging with a brain injury
  - “Am I going crazy?”
  - Fear of Alzheimer’s Disease is always in the backs of people’s minds
- Need to consider how those injured early in adulthood will look different than those without a brain injury
- TBI-related cognitive impairment interacts with age-related cognitive decline
- Research is mixed on whether TBI is a risk factor for Alzheimer’s disease
Aging with a Brain Injury

- Cognitive and behavioural symptom overlap
- TBI may magnify natural aging process and produce symptoms which mimic dementia
- Within samples of older individuals presenting with dementia, those with a history of TBI tend to be different from those without a history of TBI\(^6\):
  - Less severe impairment
  - Higher verbal fluency and verbal memory scores
  - Worse psychiatric symptoms (e.g., depression, anxiety)
  - More likely to have gait disorder (increased falls) and motor slowing
  - Worse cerebrovascular and cardiovascular health
  - More medical co-morbidities
Nick

- 65 years old
- Severe TBI eight years ago
- Strong family history of Alzheimer’s disease
- Education about aging with TBI
- “Baseline” neuropsychological assessment
- Re-assessment every 2 years
Assessment of Older Adults Requires a Specialized Skill Set

- Inpatient screenings are often insufficient to capture symptoms of brain injury
  - Too basic
  - Missing executive functioning skills (i.e., MMSE)
- Often batteries are inappropriate for the patient’s age
- Cognitive data needs to be integrated with emotional/behavioural assessment
- Wider range of variability in cognitive scores in this population
- Issues with interpretation of assessment data
- Importance of collateral interview
What are Ways to Screen for TBI

- Has the person recently...
  - Begun exhibiting unusual behaviours?
  - Been suddenly irritable, argumentative, combative, confused, verbally disinhibited or unusually forgetful?
  - Been in a car crash, even a minor accident?
  - Complained of headaches?
  - Forgetting to pay bills or other important tasks?
  - Stopped participating in routine social activities?
  - Developed sleep-wake cycle imbalances?
John & Carmen

- Cognitive test results were generally “normal”
- No overt signs of brain injury in the office
- Interview with spouses told a different story
  - Neurobehavioural symptoms
  - Personality change
  - Seizure activity
Guidelines for Older Adults

- **Ontario Neurotrauma Foundation (ONF) Guidelines**:
  - Importance of early intervention
  - Website offers short and long versions of education materials
  - Recommendation: Patient given TBI advice card before discharge
  - Education (individual and family)
Guidelines for Older Adults

- **American College of Surgeons Geriatric Trauma Guidelines**:  
  - Lower threshold for trauma team intervention  
  - Comprehensive geriatric assessment (CGA):  
    - Liberal use of CT scans  
    - Detailed assessment of medications, pre-accident history, current medical status  
    - Regular cognitive assessments  
    - Detailed discharge planning including providing discharge diagnosis to patient/family and continuity physician or clinic
Guidelines for Older Adults

- **World Health Organization Guidelines**
  - Early intervention through basic TBI education
  - Call for research on TBI and non-athlete populations
  - Over 60: CT scan, hospitalization/neurosurgical consultation if GCS 13-14
**Brain Injury Advice Card (Long Version)**

**Important Points about Mild Brain Injury**
- You had a mild brain injury or what is sometimes called a concussion. Most people recover quickly following a mild brain injury. A few people may experience symptoms over a longer period.
- There is a small risk of you developing serious complications so you should be watched closely by another adult for 24 hours after the accident.
- Please read the following. It outlines what signs to look for after a brain injury and what you need to do if you have problems.

**Warning Signs**
If you show any of these symptoms or signs after your brain injury, or you get worse, go to the nearest hospital, doctor or call 911 immediately.
- Fainting or blacking out, drowsiness, or can’t be woken up
- A constant severe headache or a headache that gets worse
- Vomiting or throwing up more than twice
- Cannot remember new events, recognise people or places (increased confusion)
- Acting strange, saying things that do not make sense (change in behaviour)
- Having a seizure (any jerking of the body or limbs)
- Inability to move parts of your body, weakness in arms or legs, or clumsiness
- Blurred vision or slurred speech
- Being unsteady on your feet or loss of balance
- Continual fluid or bleeding from the ear or nose

**The First 24-48 Hours After Injury**
- **Warning Signs:** You should be observed and return to hospital if you develop any of the above warning signs.
- **Rest/Sleeping:** Rest (both physical and mental) and avoid strenuous activity for at least 24 hours. It is alright for you to sleep tonight but you should be checked every four hours by someone to make sure you are alright.
- **Driving:** Do not drive for at least 24 hours. You should not drive until you feel much better and can concentrate properly. Talk to your doctor.
- **Drinking/Drugs:** Do not drink alcohol or take sleeping pills or recreational drugs in the next 48 hours. All of these can make you feel worse. They also make it hard for other people to tell whether the injury is affecting you or not.
- **Pain Relief:** Use acetaminophen or acetaminophen/codeine for headaches (e.g., Tylenol).
- **Sports:** Do not return to sports until you have received medical clearance from your health care provider.

See your local doctor if you are not starting to feel better within a few days of your injury.
Meeting Rehabilitation Needs of Older Adults

- Successful aging related to lifestyle factors:
  - Early diagnosis and treatment of cerebrovascular/cardiovascular risk problems
  - Provide ongoing opportunities for cognitive demand

- Monitor mental health issues:
  - Develop and support meaningful community-based activities
  - Prevent social isolation
  - Provide opportunities for reflection, reminiscence, and incorporating injury into one’s “life story”

- Maintain independence:
  - Or illusion of independence
  - Prevention of further injury, especially related to falls
  - Strategies to increase or maintain cognitive reserve might help to prevent exacerbated decline after TBI$^{13}$
How does the system need to change?

- **Proper assessment:**
  - Don’t assume that concerns are “just aging”
  - Baseline assessment, re-assessment every 2 years
  - With “new” onset mental health issues, ask about TBI history

- **Inform the patient:**
  - Early education about brain injury
  - Follow-up after discharge
  - Better communication between facilities

- **Geriatric neurorehabilitation focuses on removing excess disability that complicates the ABI**
  - Depression, sleep disturbance, chronic pain, polypharmacy, lack of social support
  - Emphasis on team approach to improving functional outcomes

- **Fall prevention because largest cause of TBI**
  - Need for ergonomics, lighting, home modifications, in-home support
Questions?


