The Intersection of Brain Injury and Intimate Partner Violence

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2021
Introduction

Why is it important for those who interact with women vulnerable to Intimate Partner Violence (IPV) to have an understanding of Traumatic Brain Injury (TBI)?

- A history of TBI is often hidden among women who may be vulnerable to IPV
- Women who may be living with a TBI and are currently experiencing or have in the past experienced IPV, often are living with co-occurring behavioral health disorders and histories of trauma
Introduction

If the provider(s) knows OR suspects there is a history of TBI, they:

• Can engage women in a Brain Injury informed manner e.g., provide important information in a written format to reinforce what is being shared verbally

• Can educate affected women and their natural supporters about what a possible history of Brain Injury might mean and provide education and recommendations for accommodations and referrals, not only for the person, but their supporters as well
Introduction

Have the capacity to offer technical assistance to other entities women may interact with or receive services from such as; community and hospital providers, law enforcement, judges, and attorneys about Brain Injury
Agenda

• The basic brain
• Who is affected?
• Types of Brain Injury
• How are people affected by Brain Injury?
• The Brain Injury/substance abuse and mental health intersection
• The link between IPV and Brain Injury
• Resources
What might it feel like to be living with a Brain Injury?

Writing and processing exercise
Dr. Javier Cardenas of the Barrow Neurological Institute

“"The similarities between this population (domestic violence affected individuals) and the professional athlete is astounding""
The Ohio State University-
Video: *Brain Injury Common in Domestic Violence*

https://youtu.be/zp7uBCJ6Sko

“In the first community-based participatory study of its kind, researchers from The Ohio State University and the Ohio Domestic Violence Network found that 81 percent of women who have been abused at the hands of their partners and seek help have suffered a head injury and 83 percent have been strangled.”
# Introduction

<table>
<thead>
<tr>
<th>TBI-Defined</th>
<th>ABI-Defined</th>
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<tbody>
<tr>
<td><strong>Traumatic Brain Injury</strong> is an insult to the brain caused by an external physical force, such as a: fall, motor vehicle accident, assault, sports-related incident, or IED exposure</td>
<td><strong>Acquired Brain Injury</strong> is an insult to the brain that has occurred after birth, such as: TBI, stroke, near suffocation, infections in the brain, anoxia</td>
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Both mechanisms of injury can result in a chronic disability that may get worse with age.
Diffuse Axon Injury

Diffuse Axon Injury is very serious, as it directly impacts the major pathways of the brain.
The Basic Brain

How many Americans are treated in Emergency Departments (ED), hospitalized, or die as a result of a TBI? (IS THIS BY THE YEAR?)

• 231,840
• 2.8 million
• 1.2 million

Source: CDC 2017
The Basic Brain

At what age, on average, does the adult brain mature?

• 18
• 21
• 25
The Basic Brain

What is the last part of the brain to mature?

• Frontal lobe
• Temporal lobe
• Parietal lobe
Problem Scope

Distribution of severity:

- **Mild injuries = 80 percent**
  (Loss of consciousness (LOC) < 30 minutes, post traumatic amnesia (PTA) < 1 hour)

- **Moderate = 10–13 percent**
  (LOC 30 minutes to 24 hours, PTA 1 to 24 hours)

- **Severe = 7–10 percent**
  (LOC >24 hours, PTA >24 hours)
Risk Factors

Among non-fatal TBI-related injuries in 2013:

- Rates of ED visits highest for those 75 and older and children up to age four
- Falls were the leading cause of TBI related ED visits for all but one age group
- Being struck by or against and object was the leading cause of TBI related ED visits for those 15 to 24
- Falls were the leading cause of hospitalizations among children up to age 14 and adults 45 and older
- Motor vehicle crashes were the leading cause of hospitalizations for adolescents and persons 14 to 44 years of age
Skull Anatomy

The skull is a rounded layer of bone designed to protect the brain from penetrating injuries.

The base of the skull is rough, with many bony protuberances.

These ridges can result in injury to the temporal and frontal lobes of the brain during rapid acceleration.

Source: Adapted from Dr. Mary Pepping of the University of Idaho’s presentation “The Human Brain: Anatomy, Functions, and Injury”
The Frontal Lobe

The frontal lobe is the area of the brain responsible for our “executive skills” or higher cognitive functions.

These include:

- Problem solving
- Spontaneity
- Memory
- Language
- Motivation
- Judgment
- Impulse control
- Social and sexual behavior

Source: Adapted from Dr. Mary Pepping of the University of Idaho’s presentation “The Human Brain: Anatomy, Functions, and Injury”
The Temporal Lobe

The **temporal lobe** plays a role in emotions and is also responsible for smelling, tasting, perception, memory, understanding music, **aggressiveness**, and sexual behavior.

The temporal lobe also contains the **language area** of the brain.

*Source: Adapted from Dr. Mary Pepping of the University of Idaho’s presentation “The Human Brain: Anatomy, Functions, and Injury”*
There are two other lobes in the brain, but the frontal lobe and the temporal lobe are critically involved in managing behavior and emotions.

Thus, damage to these regions can result contributing to mental health and/or addiction problems. Damage to these lobes is considered the "Fingerprint of Traumatic Brain Injury."
Recognizing Brain Injury

People with a history of TBI are at risk of:

• Developing psychosis
• Suicide
• Being unemployed or underemployed
The Developing Brain

Many of our adult thinking skills reside in the frontal lobe. The frontal lobe is very vulnerable to injury.
Brain Injury: *Growing* into Brain Injury ...
Without proper supports, Brain Injury can lead to mental health and addiction issues that bring people living with “hidden” TBI into the criminal justice system.

• Appropriately, structure offered by school, parents, and community fall away as children go through adolescence into adulthood. A TBI that incurred at age seven may not be fully “unmasked” functionally or behaviorally until age 11, 12, or 13 with the challenges of middle school/puberty

• The frontal lobe and temporal tips injured earlier are unable to adequately respond to the expectations of behavioral regulation and executive skill functioning
## Possible Physical Changes

<table>
<thead>
<tr>
<th>Injury-related problem</th>
<th>How it may affect a person functionally</th>
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<tbody>
<tr>
<td>Coordination</td>
<td>Unsteady gait, poor eye-hand coordination, slow or slurred speech, tremors, paralysis</td>
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<tr>
<td>Visual Deficits</td>
<td>Staring or poor eye contact, blurred or double vision, inability to follow an object with their eyes</td>
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<tr>
<td>Additional Physical Challenges</td>
<td>Seizures, deaf or hard of hearing, fatigue</td>
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# Possible Cognitive Changes

<table>
<thead>
<tr>
<th>Injury-related problem</th>
<th>How it may affect a person functionally</th>
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</thead>
<tbody>
<tr>
<td>Memory</td>
<td>Trouble following directions, providing requested information, making appointments</td>
</tr>
<tr>
<td>Processing (receptive)</td>
<td>Understanding what is being said and reading</td>
</tr>
<tr>
<td>Processing (expressive)</td>
<td>Trouble putting thoughts into words—tip of the tongue syndrome</td>
</tr>
<tr>
<td>Problem solving (related to frontal lobe and temporal tip injury)</td>
<td>Impulsive, easily frustrated, sexually disinhibited, verbally/physically combative, interpersonally inflexible, poorly organized</td>
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## Possible Behavioral Changes

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<th>How it may affect a person functionally</th>
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<tbody>
<tr>
<td>Depression</td>
<td>Flat affect, lack of initiation, sadness, irritability</td>
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<tr>
<td>Unawareness</td>
<td>Unable to take social cues from others</td>
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<td>Confabulation</td>
<td>“Making up stories”</td>
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<td>Perservation</td>
<td>Gets “stuck” on a topic of conversation or physical action</td>
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<tr>
<td>Anxiety</td>
<td>Can exacerbate other cognitive/behavioral problems</td>
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Recognizing Brain Injury

Civilian groups who have multiple mild TBIs include:

- Athletes—especially boxers, football players, and hockey players
- Victims of intimate partner violence and childhood physical abuse
- People who misuse and abuse substances
- People who are homeless

Source: Corrigan 2014
Brain Injury “Fingerprint”

Updating the “fingerprint” of Brain Injury—hypoxic-ischemic damage from a lack of oxygen to the brain such as can occur from overdose as well as strangulation:

• Sudden loss of oxygen to the brain has the greatest effects on parts of the brain that are high oxygen users such as the hippocampus, basal ganglia, neocortex, cerebellar Purkinje cells, primary visual cortex, frontal regions, and thalamus.

• Most common cognitive impairment: Memory, attention, mental processing speed, executive functioning, visual spatial skills, and motor coordination.

• Emotional dysregulation also occurs: Lability, impulsivity, irritability, and apathy.

• The impact of executive functions—particularly self-regulation—is very similar to the impact of TBI.

Source: John Corrigan of the Ohio State University Brain Injury Program
Violence

Repeated Brain Injury, typical of ongoing domestic violence, leads to increased cognitive, physical, and emotional dysfunction over time.

Source: Hibbard 2002
Violence

Domestic violence:

• People who are victims of domestic violence often have Brain Injuries from hitting, choking, etc.

• Studies have suggested the perpetrators are also likely to have a history of TBI

• It is difficult for those who have been abused, especially over a long period of time, to organize a plan to leave, due not only to emotional distress and economic considerations, but also because the parts of their brains responsible for planning, organizing, and remembering have been damaged. Victims may have impulse control problems themselves. “She gives as good as she gets”
Several studies have investigated characteristics of women who have been abused but experience poor outcomes in domestic violence programs. Typical descriptions include:

- Unmotivated
- Unfocused
- Poorly organized
- Unable to plan ahead
- Unable to follow a train of thought
- Forgetful

Sounds familiar to those of us in the TBI world.

Source: Adapted with permission from Anne McDonnell, Brain Injury Association of Virginia 2010
Violence

Physical, cognitive, and emotional sequela of TBI/IPV:

• Somatic complaints usually consist of headaches, blurred vision, hearing problems, dizziness and trouble sleeping

• Cognitive deficits include confusion, memory loss, mental fatigue, trouble making attention and concentrating, inability to initiate self directed behavior, and difficulty following directions, abstract thinking, decision making, and judgment

• Emotional symptoms consist of depression, irritability, apathy, agitation, and low frustration tolerance

Source: Adapted with permission from Anne McDonnell, Brain Injury Association of Virginia 2010
Violence

“Mild TBI” categorizes most women who sustain a brain injury as a result of domestic violence:

• They are often seen only in an ED or healthcare provider’s office—if they seek treatment at all
• Beat up, but still conscious and able to answer questions
• They may be told they’ve had a concussion and that they’ll be fine in a few days
• They tend not to be followed by the medical community

Source: Adapted with permission from Anne McDonnell, Brain Injury Association of Virginia 2010
Violence

... but if they go back to see a healthcare provider, they aren’t fine:

• They still have trouble thinking and sleeping because they still have a headache

• They are usually misdiagnosed as having post-traumatic stress disorder (PTSD). Or they have PTSD and sequela of TBI

Source: Adapted with permission from Anne McDonnell, Brain Injury Association of Virginia 2010
Violence

Many human service professionals focus on symptoms, rather than etiology, and fail to:

• Fully appreciate the consequences of Brain Injury
• Recognize its high correlation with domestic violence
• Realize challenges abused women face may result in part from Brain Injury
• Refer to appropriate Brain Injury rehabilitation services

Source: Adapted with permission from Anne McDonnell, Brain Injury Association of Virginia 2010
Violence

The cumulative effect of Brain Injury is a serious issue:

• Three times a greater risk to sustain a second TBI and eight times more likely to sustain a third

• If the victim returns to the abuser, that risk increases enormously

• Problems caused by repeated injuries don’t add up sequentially, but rather exponentially

• In one study of women living in a domestic violence shelter, the average number of Brain Injuries sustained by the women was five, with almost 30 percent of them reporting 10 Brain Injuries the previous year

Source: Adapted with permission from Anne McDonnell, Brain Injury Association of Virginia 2010
Violence

Placing these seemingly illogical decisions within the context of a possible history of brain injury and its consequences may explain the behavior.

An abused woman maybe unable to make an informed choice about staying with the batterer. She maybe incapable of developing a plan to leave. She may be too tired and feel too bad to even think about it. She may be easily overwhelmed and confused. She may forget who and when to call for help. She may lack the skills necessary to fully and accurately assess safety, health, childcare, and parenting issues.

Source: Adapted with permission from Anne McDonnell, Brain Injury Association of Virginia 2010
Several studies report that among perpetrators of intimate partner violence:

Present high-

• Mental rigidity (inflexible thinking)

• Poor ability to inhibit responses

• Reduced processing speed of information presented to them

• Impairment in several aspects of memory, short and long term

• Executive skill dysfunction

Several studies report that among perpetrators of intimate partner violence:

Suspected factors related to these cognitive challenges:

- History of TBI, alcohol use and/or dependence - with the evidence suggesting that the higher the level of alcohol intake, the more likely the perpetrators were to have attention and cognitive empathy deficits.
Violence
Statistics from a number of peer-reviewed studies of perpetrators of IPV:

• 53 percent had a history of TBI, a prevalence that is significantly higher than prevalence of TBI among the general population (1.1-1.7 percent, this does not count those who are treated and released from the ED or who are treated in other settings)

• More research is needed, with the authors, Farrer, Frost, and Hedges suggesting that TBI is a risk factor for IPV

• In a 2011 article in the same journal, issues commonly associated with a history of TBI; cognitive dysfunction, PTSD, and depression were found among women who were affected by IPV

Source: 2012 Meta Analysis, Trauma, Violence & Abuse
Because Brain Injury is often unknown, undiagnosed and untreated, programs that treat those impacted by Intimate Partner Violence need to incorporate Brain Injury Screening into their services.

The Ohio Valley ABI Screening Tool is simple and quick to administer. Asking the tool’s questions serves to prompt individuals' to reflect on times in their lives when they may have been exposed to insults to their brain, both traumatic (TBI) and acquired (ABI). If there is a positive history of Brain Injury, simple strategies & accommodations can be identified and implemented.
Lifetime History of Traumatic Brain Injury (from the OSU TBI-ID) and other Acquired Brain Injuries

1. Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g., history of abuse, contact sports, military duty)?
   - Yes
   - No (IF NO, GO TO QUESTION 3)

2. If yes, how many times have you experienced these repeated injuries?
   a. How old were you when these repeated injuries began?
      ____ years old
   b. How old were you when these repeated injuries ended?
      ____ years old

Interpreting Findings

The validity of this tool is not based on elicitation of a perfect accounting for a person’s lifetime history of brain injury. Instead, it provides a means to estimate the likelihood that consequences have resulted from one’s lifetime exposure. A person may be more likely to have ongoing problems if they have any of the following:

- **WORST:** one moderate or severe TBI
- **FIRST:** TBI with loss of consciousness before age 20
- **ANOXIC:** a single incident of prolonged loss of consciousness from an overdose or being choked or strangled
- **MULTIPLE:** multiple instances of blows to the head or multiple overdoses or incidents of being choked or strangled
- **OTHER SOURCES:** any ABI combined with another way their brain function has been impaired or any brain injury diagnosed by a doctor or other health professional.
Accommodating Symptoms of Brain Injury

Please go to the link on the following slides for tips and tools for screening as well as how to support and accommodate individuals who may be living with a history of brain injury.
To view on-line go to: https://heller.brandeis.edu/ibh/pdfs/accommodating-tbi-booklet-1-14.pdf

Accommodating the Symptoms of TBI

Ohio Valley Center for Brain Injury Prevention and Rehabilitation

With contributions from Minnesota Department of Human Services State Operated Services
Accommodating the Symptoms of TBI

Sample Question from OSU resource, “Accommodating the Symptoms of TBI”
Page 10—Reflective Recommendations

“What helps you with ... ?”

- Learning new material
- Remembering assignments
- Staying on track
- Figuring out how to do new things
- Making choices that keep you healthy and safe
Structured Environment

By **structuring the environment**, memory, organization, and attention are supported, enhancing independence, reducing frustration, and freeing up cognitive and psychological energy to tackle new challenges at home, work and community.
Communication Strategies

• Make and maintain eye contact during interactions
• Speak in short, simple sentences
• Speak in a neutral tone
• Ask the person to paraphrase what you have said frequently
• Give the person time to process what is being said
• When possible, give the person a “heads up” regarding what to expect during your interaction

Source: Joelle Ridgeway, MS
Behavioral Strategies

• Behavior-specific praising: Reinforce the positive behaviors you see—
  “I like how you are sitting here talking to me”

• Redirection

• Choose your battles . . . only focus on what matters

• Non-verbal cues—including tone of voice—will be interpreted first

Source: Joelle Ridgeway, MS
Behavioral Strategies

Positive prompting—don’t give attention to negative behavior and don’t sound authoritative:

- Person becoming distracted—“We are almost finished here, thank you for sitting here talking to me”
- Person is yelling at you or someone else—“Lower your voice please”
- Person hitting fists on car/wall—“Let’s walk over here”

Source: Joelle Ridgeway, MS
Information and Referral

410-448-2924

info@biamd.org

www.biamd.org
Recognizing TBI

What does TBI look like?

*Beyond the Invisible*, narrated by Lee Woodruff

- [https://youtu.be/ePJgU2LFU-g](https://youtu.be/ePJgU2LFU-g)

Also found on: [www.BrainLine.org](http://www.BrainLine.org)
Recommended Viewing-Stream *The Lookout*

*The Lookout* is a 2007 movie about a young man living in the community 4 years post a moderate traumatic brain injury that occurred when he was 18 years old. When viewing the film through a brain injury informed lens, ask yourself:

- What are the character’s **barriers**?
- What are the character’s **strengths**?
- What are the strategies he is **using to compensate**?
Thank you

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“This project was supported, in part by grant number 90TBSG0027-01-00 from the U.S. Administration for Community Living, Department of Health and Human Services, Washington, D.C. 20201. Grantees undertaking projects with government sponsorship are encouraged to express freely their findings and conclusions. Points of view or opinions do not, therefore, necessarily represent official ACL policy.”