Overview

- This webinar is brought to you today by the Office of Refugee Resettlement.
- The National Capacity Building Project is a project of the Center for Victims of Torture in partnership with Harvard Program in Refugee Trauma and the National Consortium of Torture Treatment Programs.

Disclaimer

We will be talking about trauma today. Trauma impacts all in different ways but it is something we have all had some experience with. The information, images, and discussions can be triggering or uncomfortable at times. Make sure you monitor and take care of yourself when and if you need to.
Objectives

After attending this webinar, participants will be able to:

- Recite the historical significance of identifying THI/TBI in survivors of extreme violence
- Understand the neuroscience of THI/TBI in survivors of torture
- Recognize the high prevalence of THI/TBI in survivors of torture
- Recognize how traumatic brain injury results in heterogeneous symptoms, which vary depending on the nature, mechanisms, and severity of injury
- Learn common tools for screening for TBI and post-concussive symptoms
- List the interventions used to treat TBI symptoms and recognize when and where to refer people with TBI for evaluation and treatment

Presenters

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Harvard Program in Refugee Trauma | Massachusetts General Hospital | Harvard Medical School

Why THI/TBI is Not Readily Identified and Treated in Torture Survivors?

1. Primary care practitioners are not trained to identify and refer THI/TBI patients.
2. No simple, valid and reliable screening instruments with good psychometric properties.
3. The patient and/or family does not recognize THI and the resulting symptoms of TBI as a medical problem. In many cultures a “folk diagnosis” does not exist for the presence of an organic brain syndrome. The symptoms of TBI are usually considered as “emotional” or as a negative character trait that is under the person’s willful control.
The most common enduring symptoms of THI/TBI overlap with other psychiatric problems such as PTSD and depression:

- Poor executive functioning: planning, organizing, learning
- Impaired concentration
- Memory problems
- Easily confused
- Headache
- Photosensitivity
- Fatigue
- Depression symptoms
- Irritability
- Anxiety symptoms

THI/TBI diagnosis can be hidden behind the diagnosis of PTSD, depression, anxiety disorders, and substance abuse.

Strategies for treatment have not been developed for primary healthcare and community-based torture treatment centers.

Linkages of primary healthcare and community-based torture treatment centers to specialized THI/TBI government-provided resources (state, VA) are weak, especially for non-English speaking patients.

Why THI/TBI is Not Readily Identified and Treated in Torture Survivors?

The Norwegian Investigation (1961)

- n = 100 concentration camp survivors (out of 300).
- All had been systematically tortured.
- Most common torture: blows and kicks to the head, often with serious sequelae (e.g., loss of consciousness).
- Defined for the first time as the “concentration camp syndrome”. 

Symptomatology of the Concentration Camp Syndrome

- Failing Memory and Difficulty Concentrating
- Nervousness, Irritability and Restlessness
- Fatigue
- Nightmares and/or Sleep Disturbances
- Headaches
- Emotional Instability
- Dysphoric Moodiness
- Vertigo
- Loss of Initiative
- Feelings of Insufficiency

Concentration Camp Syndrome in Relation to Conditions during Imprisonment

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>TOTAL (n - %)</th>
<th>≥ 7 SYMPTOMS n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Loss of Weight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- More than 30%</td>
<td>61</td>
<td>47 (77%)</td>
</tr>
<tr>
<td>- Less than 30%</td>
<td>17</td>
<td>6 (35%)</td>
</tr>
<tr>
<td>2. Captivity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Severe Degree</td>
<td>69</td>
<td>50 (77%)</td>
</tr>
<tr>
<td>- Moderate Degree</td>
<td>31</td>
<td>15 (48%)</td>
</tr>
<tr>
<td>3. Head Injury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- (+)</td>
<td>50</td>
<td>39 (78%)</td>
</tr>
<tr>
<td>- (-)</td>
<td>50</td>
<td>21 (42%)</td>
</tr>
</tbody>
</table>


The Norwegian Investigation (1961)

- THI highly correlated with concentration camp syndrome (78%).
- 75% of the sample had abnormal pneumoencephalographic findings.

“Our figures . . . confirm the assumption that organic brain changes produced by the various traumatic situations reported . . . form the basis of the concentration camp syndrome.”

Leo Eitinger - 1961


Traumatic Head Injury/Traumatic Brain Injury (THI/TBI)

An injury to the brain, whether or not it is associated with lasting functional impairment. The exact nature of the symptoms depends upon the type and severity of the injury. Injuries include penetrating injuries, closed head injuries, and exposure to blasts. Disruptions in brain functioning can include a decreased level of consciousness amnesia, or other neurological or neuropsychological abnormalities.


US Veterans’ Study (2008)

<table>
<thead>
<tr>
<th>Mechanisms of Injury</th>
<th>Injury with loss of consciousness (n=120)</th>
<th>Injury with abnormal status (n=240)</th>
<th>Other injury (n=550)</th>
<th>No Injury (n=130)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blunt or explosion</td>
<td>79%</td>
<td>72.7%</td>
<td>25.2%</td>
<td>-</td>
</tr>
<tr>
<td>Bullet</td>
<td>4.8%</td>
<td>0.8%</td>
<td>1.6%</td>
<td>-</td>
</tr>
<tr>
<td>Fragment or stippled</td>
<td>3.3%</td>
<td>1.8%</td>
<td>8%</td>
<td>-</td>
</tr>
<tr>
<td>Fall</td>
<td>53.9%</td>
<td>28.1%</td>
<td>45.7%</td>
<td>-</td>
</tr>
<tr>
<td>Vehicle accident</td>
<td>30.8%</td>
<td>14.1%</td>
<td>13.3%</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>12.9%</td>
<td>6.8%</td>
<td>9.6%</td>
<td>-</td>
</tr>
</tbody>
</table>

US Veterans’ Study (2008)

<table>
<thead>
<tr>
<th>Injury with loss of consciousness (n=124)</th>
<th>Injury with alterations in mental status (n=216)</th>
<th>Other injury (n=497)</th>
<th>No injury (n=526)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD</td>
<td>44%</td>
<td>27%</td>
<td>10%</td>
</tr>
<tr>
<td>Depression</td>
<td>23%</td>
<td>8%</td>
<td>7%</td>
</tr>
</tbody>
</table>


Vietnamese Ex-Political Detainee Story

Vietnamese Ex-Political Detainee Story
### Demographics of Study Participants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Control (n=82)</th>
<th>Ex-Detainees (n=337)</th>
<th>P-value</th>
<th>Ex-Detainees w/o THI (n=210)</th>
<th>Ex-Detainees w/ THI (n=127)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>62.4</td>
<td>60.5</td>
<td>.26</td>
<td>61.2</td>
<td>59.4</td>
<td>.10</td>
</tr>
<tr>
<td>Marital Status (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>76.0</td>
<td>76.5</td>
<td>.16</td>
<td>75</td>
<td>76</td>
<td>.18</td>
</tr>
<tr>
<td>Divorced</td>
<td>9.8</td>
<td>9.4</td>
<td>.01</td>
<td>10</td>
<td>9</td>
<td>.01</td>
</tr>
<tr>
<td>Widowed</td>
<td>9.9</td>
<td>10.4</td>
<td>.61</td>
<td>10</td>
<td>10</td>
<td>.01</td>
</tr>
<tr>
<td>Single</td>
<td>3.3</td>
<td>2.1</td>
<td>.71</td>
<td>0</td>
<td>0</td>
<td>.71</td>
</tr>
<tr>
<td>Years of Education</td>
<td>8.6</td>
<td>11.2</td>
<td>&lt;.001</td>
<td>11.5</td>
<td>10.5</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

### Trauma and Torture Histories

<table>
<thead>
<tr>
<th>Variable</th>
<th>Control (n=82)</th>
<th>Ex-Detainees (n=337)</th>
<th>P-value</th>
<th>Ex-Detainees w/o THI (n=210)</th>
<th>Ex-Detainees w/ THI (n=127)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years in Re-education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Camp Location</td>
<td>HPA</td>
<td>6.5</td>
<td>.01</td>
<td>6.6</td>
<td>6.3</td>
<td>.56</td>
</tr>
<tr>
<td># Trauma Events (Median)</td>
<td>1</td>
<td>10</td>
<td>&lt;.001</td>
<td>12</td>
<td>15</td>
<td>&lt;.001</td>
</tr>
<tr>
<td># Torture Events (Median)</td>
<td>0</td>
<td>7</td>
<td>&lt;.001</td>
<td>6</td>
<td>10</td>
<td>&lt;.001</td>
</tr>
<tr>
<td># Events of Torture and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trauma Atrocities</td>
<td>1</td>
<td>20</td>
<td>&lt;.0001</td>
<td>17.5</td>
<td>25</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

### The Number and Percent of Vietnamese Ex-Political Detainees Reporting Each Type of Head Injury Across Time

<table>
<thead>
<tr>
<th>Type of Head Injuries</th>
<th>Control (n=82)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain</td>
<td>2 (2.4%)</td>
</tr>
<tr>
<td>Scalp</td>
<td>2 (2.4%)</td>
</tr>
<tr>
<td>Brainstem</td>
<td>1 (1.2%)</td>
</tr>
<tr>
<td>Brainstem Injury</td>
<td>1 (1.2%)</td>
</tr>
<tr>
<td>Scalp Injury</td>
<td>1 (1.2%)</td>
</tr>
<tr>
<td>Scalp Injury</td>
<td>1 (1.2%)</td>
</tr>
<tr>
<td>Other</td>
<td>1 (1.2%)</td>
</tr>
<tr>
<td>Other Injury</td>
<td>1 (1.2%)</td>
</tr>
<tr>
<td>Unidentified</td>
<td>1 (1.2%)</td>
</tr>
<tr>
<td>Unidentified Injury</td>
<td>1 (1.2%)</td>
</tr>
<tr>
<td>Unidentified Other</td>
<td>1 (1.2%)</td>
</tr>
<tr>
<td>Unidentified Other Injury</td>
<td>1 (1.2%)</td>
</tr>
</tbody>
</table>

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Depression and PTSD in Ex-Political Detainees vs. Controls


Depression and PTSD in Ex-Political Detainees with THI


Psychiatric Morbidity in Ex-Political Detainees’ Additive Impact of THI

Neuroimaging MRI Study – Vietnamese Study Definition

We considered a participant to be head-injured if they reported at least one head injury during any time period. However, to qualify, the head injury had to be associated with memory problems, loss of consciousness, and at least one other neurological symptom (e.g., trouble walking, talking, thinking, seeing or feeling ill).

Participant Flow Through a Large-Scale Epidemiologic Survey Of Vietnamese Ex-Political Detainees And Non-Traumatized Controls


Statistical Thickness Difference Maps Between THI-Exposed Ex-political Detainees and Ex-Political Detainees Who Had Not Experienced THI

Relationship Between Severity of Depression Measured by the Hopkins Symptom Checklist-25 (HSCL) and Cortical Thickness of Brain Regions that were Related to THI in Each Ex-Political Detainee Group


A. Left superior frontal cortex
B. Left middle frontal cortex
C. Left superior temporal cortex
D. Right superior temporal cortex

Summary – Neuroimaging MRI Study

Vietnamese ex-political detainees with THI has cortical thinning in the following brain areas:
- Left superior frontal cortex (SFC)
- Left middle frontal cortex (MFC)
- Left superior temporal cortex (STC)
- Right superior temporal cortex (STC)
- Right posterior cingulate cortex (PCC)
- Left paracentral cortex

Vietnamese ex-political detainees with trauma/torture had cortical thinning in the following brain area:
- Amygdala volume loss

Prevalence of THI in SOT Programs

New York University/Bellevue Program for Survivors of Torture (PSOT) Study (2008-2011)

Males = 304, 62.3%
Average Age: 35.7
Among the treatment-seeking survivors of torture in this sample, 69% reported sustaining a blow to the head as a result of torture.

Reported headaches and sleep disturbances.

THI/TBI can be a major barrier to recovery.

One in four women experience severe violence from a domestic partner.

75% experience a single or repeated traumatic brain injuries.

Most DV-TBI go unreported.

Impact of THI/TBI

Five-year outcomes of persons with TBI

- 22% Died
- 30% Became Worse
- 22% Stayed Same
- 26% Improved

*Data are self-reported estimates based on the THI/TBI National Database. Data refer to people 18 years of age and older who received hospital rehabilitation services for a primary diagnosis of TBI.

Source: [https://www.cdc.gov/traumaticbraininjury/moderate-severe/index.html](https://www.cdc.gov/traumaticbraininjury/moderate-severe/index.html)
Long-term negative effects of TBI are significant. Even after surviving a moderate or severe TBI and receiving inpatient rehabilitation services, a person’s life expectancy is 9 years shorter. TBI increases the risk of dying from several causes. Compared to people without TBI, people with TBI are more likely to die from:

- Intracranial Hemorrhage: 30 x more likely
- Organ Failure: 15 x more likely
- Infections: 9 x more likely
- Pneumonia: 6 x more likely

Source: [https://www.cdc.gov/traumaticbraininjury/moderate-severe/index.html](https://www.cdc.gov/traumaticbraininjury/moderate-severe/index.html)

Conclusion

Traumatic Head Injury (THI)/Traumatic Brain Injury (TBI) is one of the most common and least recognized medical/mental health problems in survivors of torture.

Traumatic Head Injury (THI)/Traumatic Brain Injury (TBI) and severe trauma are highly associated, leading to severe cognitive deficits, mental health disorders, and major physical and social disabilities.
Not all head injuries are traumatic brain injuries.

CDC defines TBI as a “disruption in the normal function of the brain that can be caused by a bump, blow, or jolt to the head or a penetrating head injury.”

- Observing one of the following clinical signs constitutes an alteration in brain function:
  - Any period of loss of or decreased responsiveness
  - Any loss of memory or impaired ability to communicate
  - Abnormal or unusual behavior

Source: Asylum Medicine Training Initiative Module 8
Not all brain injuries are traumatic.

### TBI Severity

**Mild:**
- Loss of consciousness (LOC) <30 minutes (can involve no LOC at all but an alteration in consciousness)
- Post-traumatic amnesia <24 hours

**Moderate-severe:**
- LOC >30 min
- Post-traumatic amnesia >24 hours

### TBI Symptoms

- Physical: Headache, memory loss
- Emotional: Anxiety, depression
- Cognition: Difficulty concentrating, confusion, dizziness
TBI Recovery


TBI and Psychosocial Factors

Source: The OSU TBI Identification Method, adapted from Corrigan and Bogner's (2007) study, demonstrated initial reliability and validity.

Ohio State University TBI Identification Method
HELPS Screening Tool

Symptom Checklists
- Glasgow Coma Scale
- Neurobehavioral Symptom Inventory
- Rivermead Post-Concussion Symptom Scale
- Post-Concussion Symptom Scale
- Standardized Assessment of Concussion


Cognitive Screening
- Montreal Cognitive Assessment (recognizing multiple versions, MOCA-B)
- St. Louis University Mental Status Exam (SLUMS)
- Rowland Universal Dementia Assessment Scale (RUDAS)

**Recognize inherent limitations in cognitive screening, need for adjustments, assessing across multiple cognitive domains, and potential need for neurologic or neuropsychological assessment.**


<table>
<thead>
<tr>
<th>Table 1: The Rowland Universal Dementia Assessment Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cogntitive domain</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>Registration</td>
</tr>
<tr>
<td>Visuospatial orientation</td>
</tr>
<tr>
<td>Praxis</td>
</tr>
<tr>
<td>Visuoconstructual drawing</td>
</tr>
<tr>
<td>Judgment</td>
</tr>
<tr>
<td>Memory recall</td>
</tr>
<tr>
<td>Language</td>
</tr>
</tbody>
</table>

*Questions have been adapted. The full text and details are available at https://www.dementia.org.au/resources/educators/rowland-universal-dementia-assessment-scale.pdf.
Major and Minor Cognitive Disorder

- **Criterion A:** Significant cognitive decline
- **Criterion B:** Interferes with independence
- **Criterion C:** Not due to delirium
- **Criterion D:** Not due to other mental disorders

Major Neurocognitive Disorder

- **Criterion A:** Moderate cognitive decline
- **Criterion B:** Does not interfere with independence
- **Criterion C:** Not due to delirium
- **Criterion D:** Not due to other mental disorders

Imaging

The overwhelming majority of patients with mild brain injury show no imaging abnormality, either on CT or MRI.

Workflow

**History Taking**
1. Screening for brain injury
2. Assessing symptoms and functional assessment
3. Assessing psychosocial factors affecting recovery
4. Physical and psychiatric history
5. Obtain collateral, if possible

**Examination**
1. Observe for behavioral clues even before formal examination
2. Psychological Exam
3. Neurological Exam
4. Physical exam focusing on head and neck

**Refer, if needed**
1. Neurology
2. Neuropsychology
3. Cognitive Rehab (SLP, OT)
4. Vestibular PT
Traumatic Brain Injury

Additional References


Disability Exemption for Citizenship N-648 Additional Resources

- EthnoMed: https://ethnomed.org/resource/disability-exception-for-citizenship-n-648

- MGH Center for Immigrant Health Webinar: https://youtu.be/omfszOd6fdU?si=t7V8iYsosPtCWKCB
Assessment and Treatment of Traumatic Brain/Head Injury in Survivors of Torture

February 8th, 2024

The National Capacity Building Project is a project of the Center for Victims of Torture in partnership with Harvard Program in Refugee Trauma and the National Consortium of Torture Treatment Programs.

More resources are available at www.heal torture.org

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