

**The Impact of Traumatic Brain Injury:
Screening Protocol and Response for
Medical and Advocacy Services**

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Objectives

- Understand the impact of traumatic brain injury and related symptoms on health.
- Be able to identify core criteria required to develop TBI screening protocol for the health care and shelter setting.
- Be equipped with culturally sensitive best practices to assess and screen for TBI in health care and shelter settings

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TBIs are Common

- 52,000 deaths, 275,000 hospitalization, 1.365M ED visits in the U.S. per year (Faul, 2010)
- 2% of the U.S. population (60 million Americans) have a TBI related disability (Thurman, 1999; Pullkrat, 2007)
- Estimated annual expenditure of 60 billion dollars related to medical care and lost productivity (Finkelstein, 2006)

IPV is Common & Often Includes TBIs

- 25% of women will be assaulted by an intimate partner in their lifetime (Black et al, 2011)
- TBIs resulting from physical contact to the head (ie: blunt force trauma): 68% of abused women reporting at least one mild TBI
- Strangulation and head injuries in abused women seldom considered together but both affect the brain
 - Cumulative effect important
 - Substantial epidemiological evidence of more neurological sx among abused women than those not abused (Coker, 2002; Campbell, 2002) including stroke & sx of stroke (BRESS, 2008)
- Strangulation one or more times:
 - 68% in a domestic violence shelter sample (Wilbur, Higley et al. 2001)
 - 54% in abused women seeking emergency shelter (Sutherland, Bybee et al. 2002)
 - 56% in a national sample of abused women (Campbell, Webster et al. 2003)

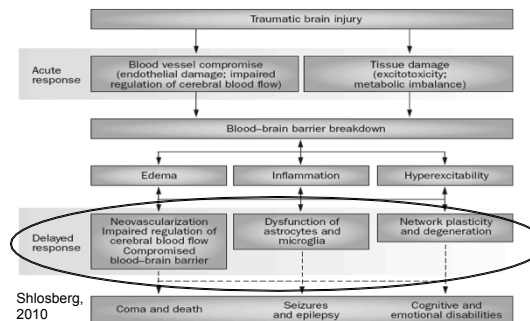
TBIs in Abused Women Linked to CNS / Neurocognitive Symptoms

- Strangulation: memory problems, depression, insomnia, headaches, dizziness, and loss of sensation with far greater symptoms in women who reported five or more strangulation events compared to abused women who reported two or fewer events (Smith, Mills et al. 2001).
- Blunt force: TBI often have symptoms including: headaches, dizziness, memory loss, insomnia, depression apathy, and fatigue. (Monahan & O'Leary 1999; Smith, Mills et al. 2001; Wilbur, Higley et al. 2001)



No clinical assessment of all neurocognitive symptoms
No linking with neurological impairments
Do not examine the cumulative impact of TBI's
Do not control for PTSD and depression symptoms
No neuronal imaging or biomarkers

Acute and Delayed Response



Chronic TBI Impairments & Interventions

- Neuropsychological testing: evaluates cognitive deficits
- Physical therapy: to address physical declines
- Psychotropic medication: for psychiatric/behavioral symptoms
- Support: for patient and family/caregivers
- Occupational therapy: re-integrate and recover
- Speech / language therapy: assess and address issues of cognition and language

The ACAWWS Study

- Examine health consequences in abused and non-abused women of African descent in Baltimore and the US Virgin Islands

Methods

- Comparative case-control study (randomly selected controls)
 - Study period 2009-2011
- Eligibility criteria
 - Women aged 18-55 years
 - Self-identify as African Caribbean or African American
 - Report intimate partner in the past two years
- Women recruited from primary care, prenatal or family planning clinics
- Questionnaire administered on a touch screen computer with optional headphones – addresses challenges of low literacy, sensitive information
 - Alerts interviewer if high score on DA or suicidality
 - Allows increased recruitment among Spanish speaking
 - Recording in Spanish & English by USVI residents




Study Definitions

- **CASES = Intimate Partner Abuse (IPA)**
 - **Intimate Partner Violence (IPV)** - physical/sexual abuse) & **psychological abuse** (threats/emotional abuse/controlling behavior)
 - **IPV assessed using the Abuse Assessment Screen (AAS, McFarlane & Helton - www.mvaweb.org)**
 - Pushed, slapped, hit, kicked, or physically hurt **&/OR**
 - Forced sex
 - **Psychological abuse: >19 on WEB** (Women's Experiences of Battering - Hall-Smith)
 - Controlled, in fear of current/former intimate partner
 - Any of the above by current or former intimate partner
- **Past 2 Year and Lifetime IPV (Physical/Sexual)—subgroups within cases**
 - Exclusive of emotional/controlling abuse
 - Reported as Lifetime and Past-two-year
- **CONTROLS** = Women never abused by anyone in their lifetime
- **Not eligible (if meeting age, race, and language requirements)**
 - Women experiencing abuse only from someone other than an intimate partner or ex-partner.
 - Women reporting no partner within 2 years prior to survey




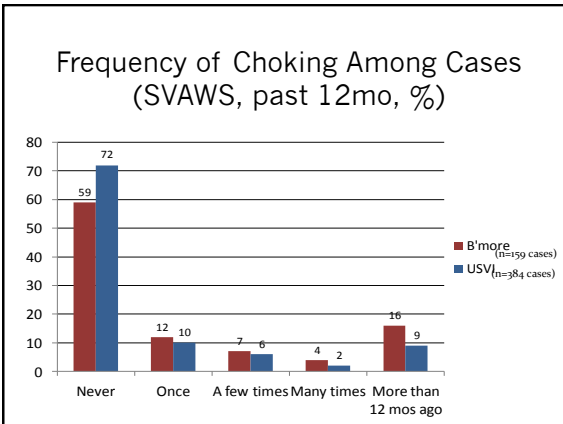
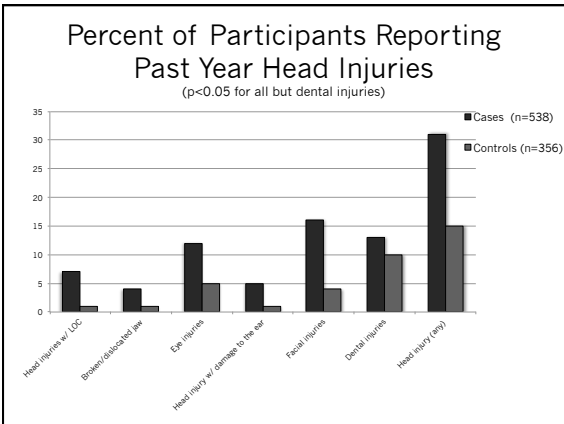
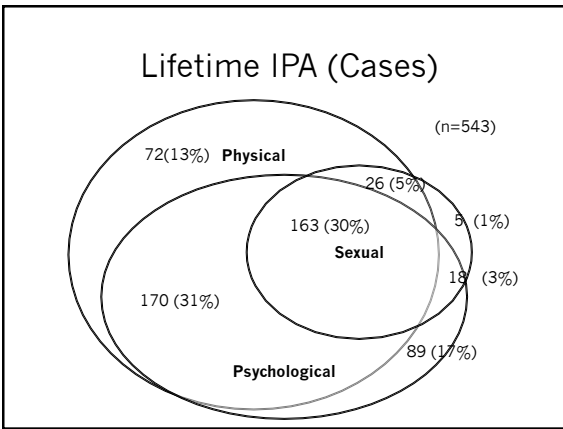
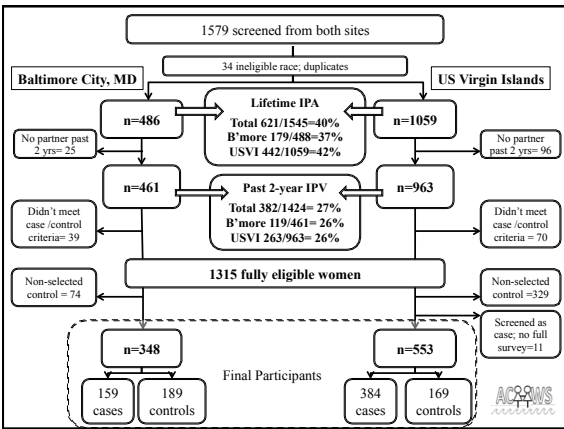
ACAAWS MEASURE OF TBI – Yes to any one of the below

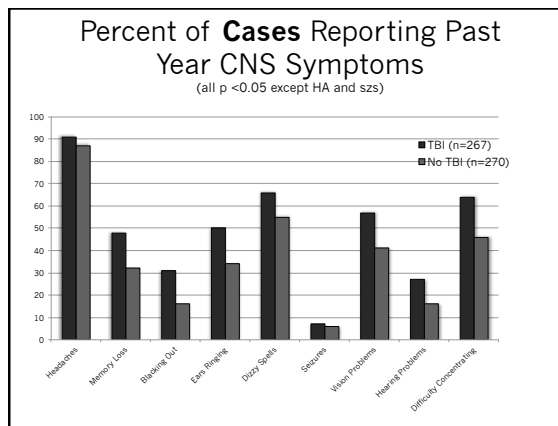
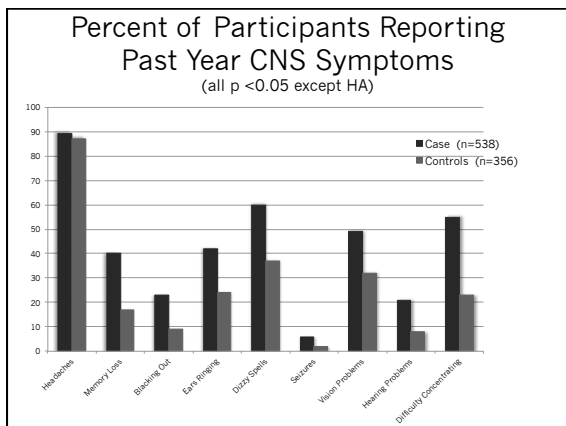
- In the past year, how many times has the following happen to you for any reason?
 - Head injury with loss of consciousness
 - Broken/dislocated jaw
 - Eye injuries
 - Head injury with damage to the ear
 - Facial injuries (eg black eye, bloody nose)
 - Dental injuries
- In the past 12 months has your partner ever choked you?
- Does he ever try to choke you?



ACAAWS Measures of CNS and Symptoms

- Dizzy spells
- Memory loss
- Difficulty concentrating
- Headaches
- Blacking out
- Seizures
- Hearing loss
- Ringing in ears
- Vision problems



Multivariable Associations with CNS Symptoms

	Unadjusted Results			Adjusted Results		
	β	95% CI	p value	β	95% CI	p value
TBI	3.76	3.07-4.45	<.001	2.79	2.12-3.46	<.001
Positive PTSD screen	4.19	3.21-5.18	<.001	2.26	1.31-3.21	<.001
Positive depression screen	4.17	3.49-4.84	<.001	3.14	2.47-3.82	<.001
Site: USVI	-.19	-.92-.53	.60	-.16	-.80-.48	.62
Age group 4 (45+)	.83	-.47-2.14	.21	1.23	-.09-2.38	.04
Age group 3 (35-44)	.77	-.27-1.81	.14	.53	-.38-1.44	.26
Age group 2 (25-34)	-.11	0.93-.71	.79	-.49	-1.20-.23	.18
Age group 1 (18-24)	Ref			Ref		

Why Are Screenings Important?

- Initiates a response to what's done after the screening.
 - Connect victims with services and supports they need to go about their daily lives and for which they are eligible because of their symptoms and/or injury.
 - A positive screen will help establish a probable basis for neuropsychological testing which may ultimately lead to an official, medical diagnosis.


- ### Screening Options for Traumatic Brain Injury
- Brain Injury Screening Questionnaire (BISQ)
 - Defense & Veterans Brain Injury Center (DVBIC)
 - HELPS

Brain Injury Screening Questionnaire

Have you experienced a blow to the head in this situation?	COLUMN A				COLUMN B				Total Score
	0	1	2	3	0	1	2	3	
Example: In a car crash?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. While roller blading or skate boarding?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. While horseback riding?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. While skiing or snow boarding?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. In sports (football, baseball, basketball)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. While on the playground?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. While diving into water?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Being assaulted or mugged?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Being physically abused?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Other? _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Ongoing Issues for Health Care Providers

- Equity in health care access not enough
- Competent care for women in all health care settings necessitates assessing for IPV – among all women
 - In order to make an accurate diagnosis
 - In order to give appropriate treatment
- Trauma informed interventions – both emotional and physical trauma
- More research to differentiate TBI’s from Post Traumatic Disorders & Depression
- Collaboration with community resources
- Collaboration with whole community



IPV (DV Shelter) Services: Accessing TBI Related Services

- Is she aware of, and able to access, TBI-related medical care, rehabilitation and support services?
- Does she require assistance with transportation to get to appointments?
- Does she depend on her abusive partner for any disability or health-related assistance?
- Are there additional resources available to her?
- What assistive devices does she use? [Some people with TBI use memory aids, such as voice recorders, timers and smart phones]
- Is she able to protect herself from additional injuries?

Impact of Symptoms

Symptoms:

- Impulsivity
- Irritable/angry/agitation
- Inability to get along with others, intolerant
- Difficulty with self-initiation
- Slowness and lack of logic in processing
- Poor concentration
- Slow verbal and written response
- Reduced ability to remember new info
- Inability to read others

Executive functioning is effected:

- Planning, setting goals
- Problem solving
- Prioritizing
- Being flexible
- Problems getting and being organized

Effect:

- Symptoms may impede ability to work with dv agency – safety planning, remembering and attending appointments, goal setting
- Irritability and angry outbursts can be scary for staff – they don’t feel safe meeting with client in private
- When client does not follow through or misses sessions, staff may label client as resistant, minimizing or difficult
- Symptoms interfere with ability to follow rules in shelter
- Prosecutors and police turned off by these victims – don’t feel they are credible, question their mental health & substance abuse, are easily frustrated by these clients

Suggestions for Advocates


- DV program staff should get consent and help prosecutors/police understand what is going on
- Give client datebook, planner, notebook or journal and pen, folders to help stay organized
- Work with clients in shorter time frames
- Help them fill out forms
- Connect victims with appropriate medical services


Cultural Competency

- Know your population – is there a certain racial, ethnic group or group of people with special needs in your community
- Know your community resources – are there agencies specializing in certain populations
- Know your medical services – is there a Brain and Spine Center in your community – meet with them in advance and develop a relationship
- Provide training to staff/attend trainings on cultural competency
- Provide or find opportunity to openly discuss comfort level of staff providing services to clients who are different from themselves based on:
 - Ethnicity/race, Sexual orientation, Values, Abilities, Clothing, Language, Gender, Etc.
- Provide interpreters and signers (not family members or children)
- Provide materials in different languages/Braile
- Do not impose own values on others


Resources

- Pennsylvania Coalition Against Domestic Violence
 - www.pcadv.org
 - Fern Gilkerson created TBI training and manual
 - <http://pubs.pcadv.net/training/tbi/TBI-Participants.pdf>
 - <http://pubs.pcadv.net/training/tbi/TrainersGuideTBI2012.pdf>
- www.doi.state.or.us/victims/pdf/traumatic_brain_injury_and_domestic_violence.pdf
 - “Traumatic Brain Injury and Domestic Violence”
 - HELPS Tool







St. Croix



St. Thomas



Baltimore Clinic Site & JHSON



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