

TBI AND DOMESTIC VIOLENCE: WHEN LOVE IS MORE THAN A HEADACHE

Ashley Bridwell, LMSW
Glynnis Zieman, MD
Barrow Neurological Institute
St. Joseph's Hospital and Medical Center

Objectives

- ▣ Brain Injury 101
- ▣ Mechanisms and Severity Most Common in DV Survivors
- ▣ Effects of TBI on DV survivors
- ▣ Barrow Center for Concussion and Brain Injury
DV Project and Findings
- ▣ Strategies for Advocates

New Head Shot



Old Head Shot



April 2012





Then we left for Tucson..







Donna

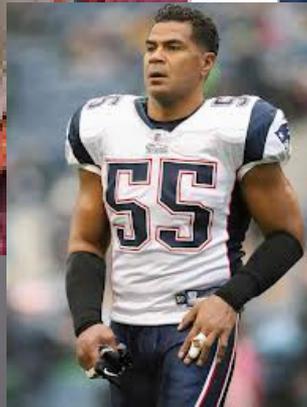
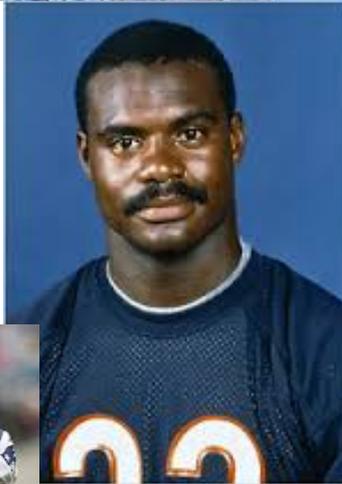




H3 and TBI

- Vulnerability Index
- 259 surveys completed: 27% responded positively to identifying with having a TBI
- 40% responded positively that they had been a victim of attack/violence
- 51 Homes in Tucson 402
- surveys
- 26% TBI
- 41% victim of violence

Brain Injury



First Chapter



Second Chapter

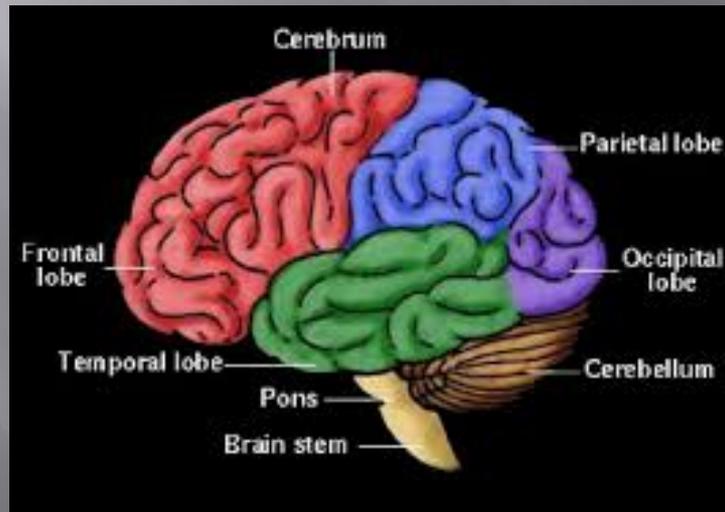


Third Chapter



Prevalence in the general population

- In the United States...
 - 1.7 million people are diagnosed with TBI (not including those that do not seek medical care)
 - TBIs cost Americans \$76.5 billion in medical care, rehabilitation, and loss of work every year

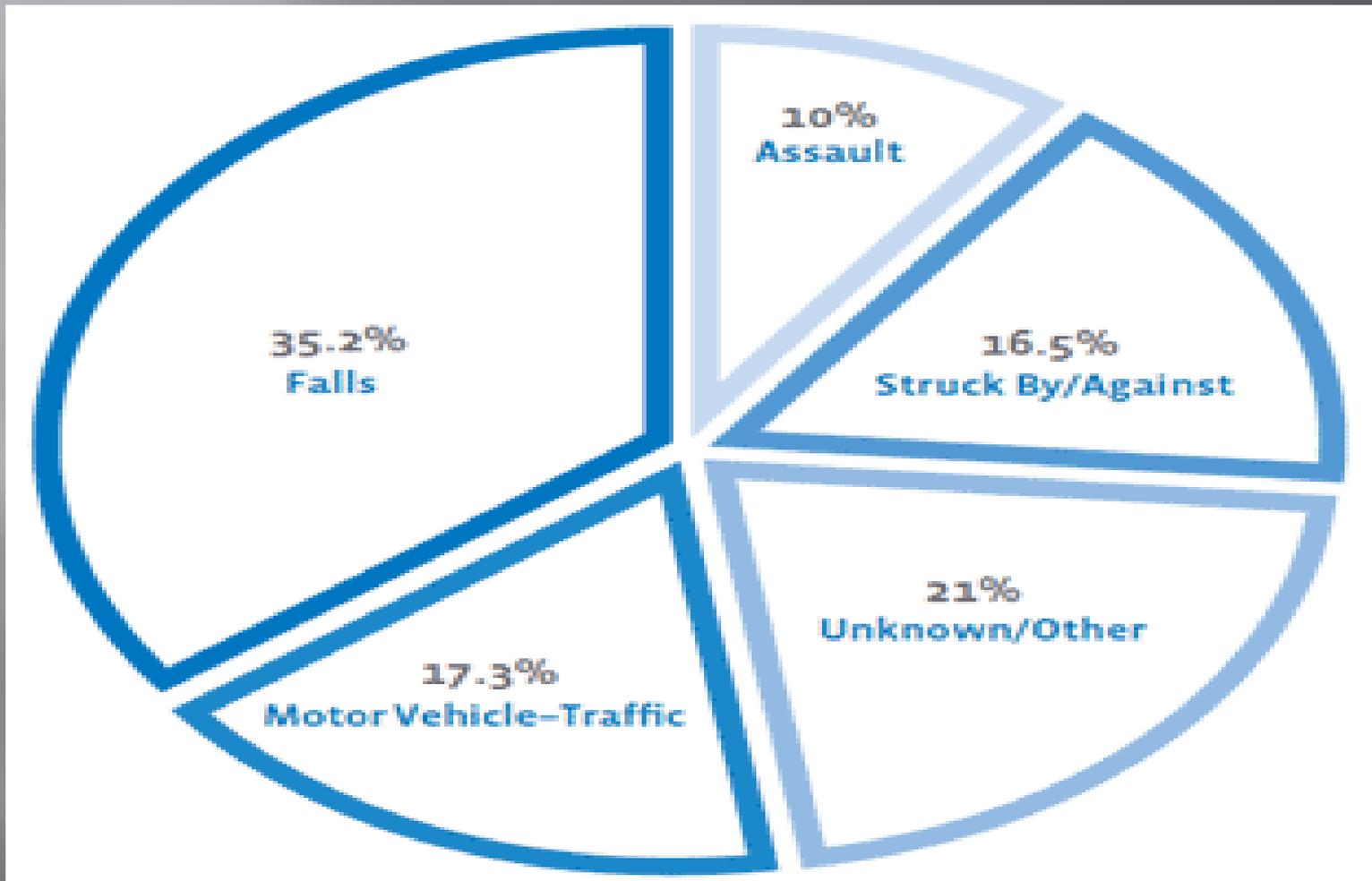


TBI Awareness

- ▣ In 2006 Traumatic brain injury (TBI) was reported more prevalent in the US than breast cancer, HIV/AIDS, multiple sclerosis, and spinal cord injuries (CDC, 2006).



Mechanisms of Injury



TBI demographics

▣ Age

- ▣ 0-4, 15-19 and 65 years and older are most likely to sustain a brain injury
- ▣ Almost half a million emergency department for TBI are made annually by children aged 0 to 14
- ▣ Adults aged 75 years and older have the highest rates of TBI related hospitalization and death

▣ Sex

- ▣ TBI rates are higher for males than females

Types of Brain Injury

Congenital Brain Injury

Acquired Brain Injury

Traumatic
Brain Injury

Non-traumatic
Brain Injury

Closed
Head Injury

Open
Head Injury

Traumatic Brain Injury

- ▣ TBI is caused by a blow or jolt to the head or a penetrating head injury that disrupts the normal function of the brain. Not all blows or jolts to the head result in a TBI. The severity of a TBI may range from “mild” i.e. a brief change in mental status or unconsciousness to “severe” i.e. an extended period of unconsciousness after the injury

Defining Severity

Measures

•Glasgow Coma Scale (GCS)

- Eye opening
- Motor response
- Verbal Response

•Loss of Consciousness (LOC)

•CT Scan

Mild:

- Altered or Loss of Consciousness <30 min. with normal CT and/or
- MRI GCS 13-15 PTA < 24 hours

Moderate:

- Loss of consciousness < 6 hours with abnormal CT and/or
- MRI GCS 9-12 PTA <7days

Severe:

- LOC> 6 hours with abnormal CT and/or
- MRI GCS<9 PTA>7 days

Three main areas of impact

- ▣ 6.5 million living with some effect:
 - Physical
 - Cognitive
 - behavioral



Physical Symptoms

- ▣ Headaches, neck pain
- ▣ Nausea and vomiting
- ▣ Changes in vision (blurred, sensitive, seeing double, blindness)
- ▣ Ringing or buzzing in ears
- ▣ Dizziness, difficulty balancing
- ▣ Increased sensitivity to noise or bright lights
- ▣ Seizures

Cognitive Issues

- ▣ Attention problems: difficulties with concentration, paying attention to visual details, and dividing one's attention between two differing tasks
- ▣ Processing speed: a person may report that all actions have slowed down...moving, talking, thinking and reading
- ▣ Learning and memory: these are most common following brain injury

Executive Functioning

- ▣ Difficulty in day to day functioning
 - Keeping appts, taking meds as prescribed, relating to others, difficult to engage, poor historian etc.
- ▣ Difficulty planning and setting goals
- ▣ Difficulty being organized
- ▣ Difficulty being flexible
- ▣ Difficulty problem solving
- ▣ Difficulty prioritizing

Behavioral Issues

- ▣ Changes in behavior, personality or temperament
- ▣ Increased aggression and/or anxiety
- ▣ Decreased or increased inhibitions
- ▣ Quickly agitated or saddened
- ▣ Changes in emotional expression (flat, non-emotional, inappropriate or overreactions)
- ▣ Avoidance of people, family, friends
- ▣ Difficulty sleeping
- ▣ Increased irritability or impatience

Common Psychosocial problems after brain injury

- Educational/Vocational Problems
- Interpersonal difficulties
- Intra-Personal Difficulties
- Family Issues
 - Intimacy
 - Dependency Issues
 - Alcohol and Drugs
 - Loss of Self esteem
 - PTSD

Prolonged Recovery After Concussion

- Was the injury worse than a concussion?
- Are there untreated physical or emotional symptoms that are prolonging recovery?
- Did the injury exacerbate something that was already going on (premorbid anxiety, headaches)

Substance Abuse

- Before their injury, people who sustain a TBI are twice as likely as others in the community to have issues with substance abuse – the use may have led to the injury
- Some studies suggest that use may get worse 2 to 5 years post injury
- Some studies indicate that between 10% and 20% of persons with TBI develop a substance abuse issue for the first time after their injury

Mount Sinai Medical Center
Ohio Valley Center for Brain Injury Prevention and Rehabilitation
(Corrigan et al. 1995; Kreutzer et al, 1996)

Leading Causes in Domestic Violence or any kind of Abuse

- Greater than 90% of all injuries secondary to DV occur to the head, neck or face region-
Forcefully hitting partner on the head with an object
 - Smashing her head against a wall
 - Pushing her downstairs
 - Shaking her
 - Strangling her

New York State Office for the prevention of DV
(Monahan & O'Leary, 1999)

Seldom Assault only once

- A study in DV shelters in NY showed:
 - 92% had been hit by their partners more than once
 - 83% had been both hit in the head and severely shaken
 - 8% had been hit in the head over 20 times in the past year

Repeated Concussions

- ▣ IPV often involve repeated incidents of abuse and can have cumulative effect
- ▣ Symptoms related to post concussive syndrome can be significant life long impairments and have debilitating effects on those who survive them

Literature Review

ED visit Study

- Brain Injury Association of America Reports:
- 51 Women were surveyed out of 169 women who came to three ED's over a 7-9 month period with injuries related to assault or abuse
- Overall 35% of the participants were identified as having a mTBI

Literature Review

- ▣ Presence of brain injury determined by number of minutes during LOC
- ▣ 35 women
- ▣ Brain Injury Questionnaire, Beck Anxiety Questionnaire, Inventory of PTSD
- ▣ 28 included, 6 were excluded
- ▣ 21% reported TBI as a result of battery
- ▣ Findings supported that women with TBI demonstrated greater levels of PTSD symptomology than women without

Literature Review

99 battered women were assessed using neuropsychological, psychopathology and abuse history measures

- ▣ $\frac{3}{4}$ of the sample sustained at least one partner related brain injury and $\frac{1}{2}$ sustained multiple partner related brain injury

57 women:

- ▣ Brain injury severity was negatively associated memory, learning, cognitive flexibility
- ▣ Positively associated with general distress, worry, PTSD symptomology

Valera and Berenbaum, 2003

Literature Review

- 53 battered women, 92% reported having received blows to the head
- 40% reported LOC
- Correlations between frequency of being hit in the head and severity of cognitive symptoms were significant

Jackson, Nuttall, Philp & Diller, 2002

Literature Review

- Descriptive case study
- Residents in a DV shelter over a three month period
 - 35% prevalence rate of battered women who had experienced head injury during a battering incident with their intimate partner
- Head injured battered women had more difficulty than the non head injured women with decision making, retaining information, initiating self directed activity, abstract thinking, memory loss and mental fatigue.

Barrow Steps Up!



Barrow – Community Partnership

- ▣ Established in 2012
- ▣ Partnership with 5 local homeless and domestic violence shelters
- ▣ Residents screened for TBI upon admission
- ▣ If concern, referred to BBICC
- ▣ Care covered by grants

Barrow Concussion and Brain Injury Center

- ▣ Mission: To improve outcomes of those who suffer from neurological injury through comprehensive, patient-centered care, collaboration and research.



HELPS Screening Tool

- Developed in 1991 by Pickard et al as a brief screening assessment to determine if a person may have suffered from a TBI
- 5 basic questions
- If “Yes” to ≥ 2 questions, more evaluation/referral warranted
- Used by our shelters to refer patients to our clinic (TBI of all causes)

HELPS BRAIN INJURY SCREENING TOOL

Consumer Information: _____

Agency/Screener's Information: _____

H Have you ever Hit your Head or been Hit on the Head? Yes No
Note: Prompt client to think about all incidents that may have occurred at any age, even those that did not seem serious: vehicle accidents, falls, assault, abuse, sports, etc. Screen for domestic violence and child abuse, and also for service related injuries. A TBI can also occur from violent shaking of the head, such as being shaken as a baby or child.

E Were you ever seen in the Emergency room, hospital, or by a doctor because of an injury to your head? Yes No
Note: Many people are seen for treatment. However, there are those who cannot afford treatment, or who do not think they require medical attention.

L Did you ever Lose consciousness or experience a period of being dazed and confused because of an injury to your head? Yes No
Note: People with TBI may not lose consciousness but experience an "alteration of consciousness." This may include feeling dazed, confused, or disoriented at the time of the injury, or being unable to remember the events surrounding the injury.

P Do you experience any of these Problems in your daily life since you hit your head? Yes No
Note: Ask your client if s/he experiences any of the following problems, and ask when the problem presented. You are looking for a combination of two or more problems that were not present prior to the injury.

<input type="checkbox"/> headaches	<input type="checkbox"/> difficulty reading, writing, calculating
<input type="checkbox"/> dizziness	<input type="checkbox"/> poor problem solving
<input type="checkbox"/> anxiety	<input type="checkbox"/> difficulty performing your job/school work
<input type="checkbox"/> depression	<input type="checkbox"/> change in relationships with others
<input type="checkbox"/> difficulty concentrating	<input type="checkbox"/> poor judgment (being fired from job, arrests, fights)
<input type="checkbox"/> difficulty remembering	

S Any significant Sicknesses? Yes No
Note: Traumatic brain injury implies a physical blow to the head, but acquired brain injury may also be caused by medical conditions, such as: brain tumor, meningitis, West Nile virus, stroke, seizures. Also screen for instances of oxygen deprivation such as following a heart attack, carbon monoxide poisoning, near drowning, or near suffocation.

Scoring the HELPS Screening Tool

A HELPS screening is considered positive for a possible TBI when the following 3 items are identified:

- 1.) An event that could have caused a brain injury (yes to H, E or S), and
- 2.) A period of loss of consciousness or altered consciousness after the injury or another indication that the injury was severe (yes to L or E), and
- 3.) The presence of two or more chronic problems listed under P that were not present before the injury.

Note:

- A positive screening is not sufficient to diagnose TBI as the reason for current symptoms and difficulties - other possible causes may need to be ruled out
- Some individuals could present exceptions to the screening results, such as people who do have TBI-related problems but answered "no" to some questions
- Consider positive responses within the context of the person's self-report and documentation of altered behavioral and/or cognitive functioning

The original HELPS TBI screening tool was developed by H. Roach, D. Scatena, R. Polack, (FPI), International Center for the Disabled, TBI-HET, U.S. Department of Education, Rehabilitation Services Administration, Grant #H12840022. The Help Tool was updated by project personnel to reflect recent recommendations by the CDC on the diagnosis of TBI. See http://www.cdc.gov/nccpc/pub-mn/tbi_toolkit/physicians/brt2/diagnosetbr.htm.

This document was supported in part by Grant # H21 MC 00039-03-01 from the Department of Health and Human Services (DHHS) Health Resources and Services Administration, Maternal and Child Bureau to the Michigan Department of Community Health. The contents are the sole responsibility of the authors and do not necessarily represent the official views of DHHS.

BNI Research – DV & TBI

JOURNAL OF NEUROTRAUMA 34:876–880 (February 15, 2017)

© Mary Ann Liebert, Inc.

DOI: 10.1089/neu.2016.4579

Traumatic Brain Injury in Domestic Violence Victims: A Retrospective Study at the Barrow Neurological Institute

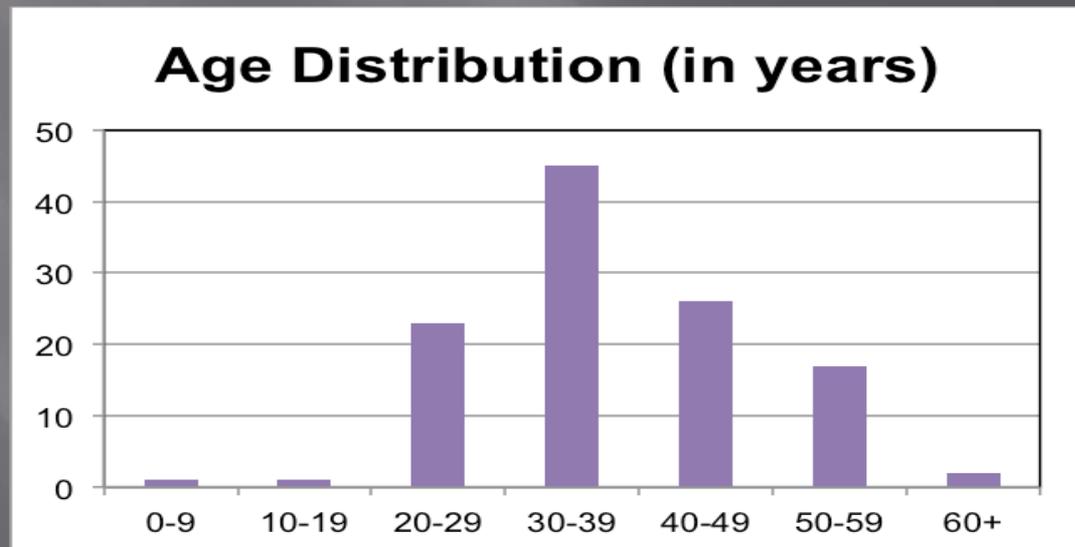
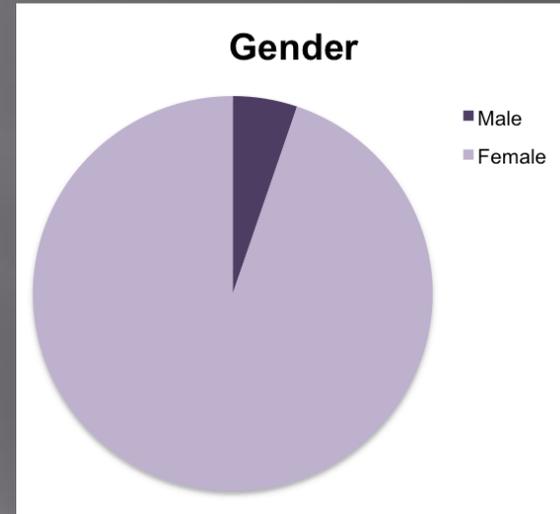
Glynnis Zieman,¹ Ashley Bridwell,² and Javier F. Cárdenas¹

Retrospective Review

- ▣ Retrospective chart review of all patients seen through this program from its inception in April 2012 through November 2015
 - 208 patients
- ▣ All ages included
- ▣ Exclusion criteria: TBI due to cause other than DV, no history of TBI
- ▣ n = 115

Demographics

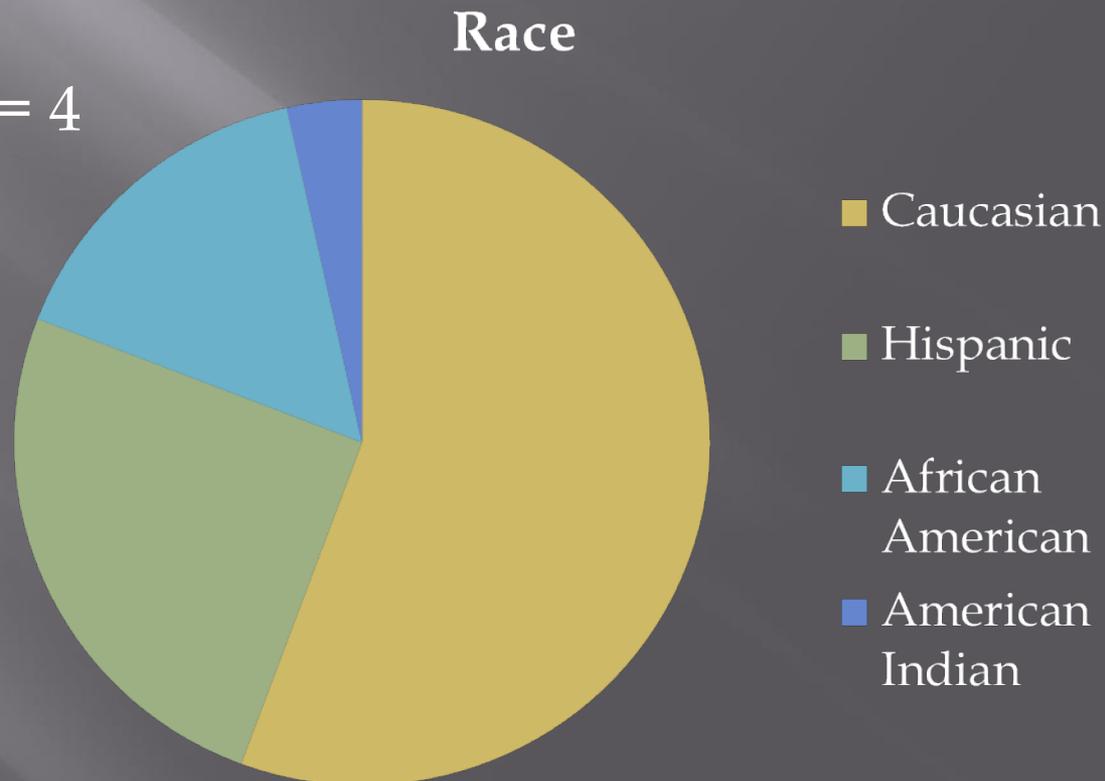
- ▣ 109/115 female (94.8%)
- ▣ Age: 4-68y
 - Mean = 37.9y (SD 10.8)
(only 1 child in study)
 - Compared to 18-24 risk age



Demographics, cont.

▣ Race:

- Caucasian = 64 (55.6%)
- Hispanic = 29 (25.2%)
- African American = 18 (15.7%)
- American Indian = 4 (3.5%)



DV Study - PMH

- ▣ All acquired via patient report (no medical records available)

- ▣ 97/115 (84.3%) reported a history of a psychiatric disorder
 - 69/115 (60%) – depression (*17% lifetime general population*)
 - 54/115 (47%) – anxiety (*18%*)
 - 13/115 (11.3%) – bipolar disorder
 - 13/115 (11.3%) – PTSD (*6.8%*)
 - 10/115 (8.7%) – psychiatric symptoms (AH, VH, etc.)

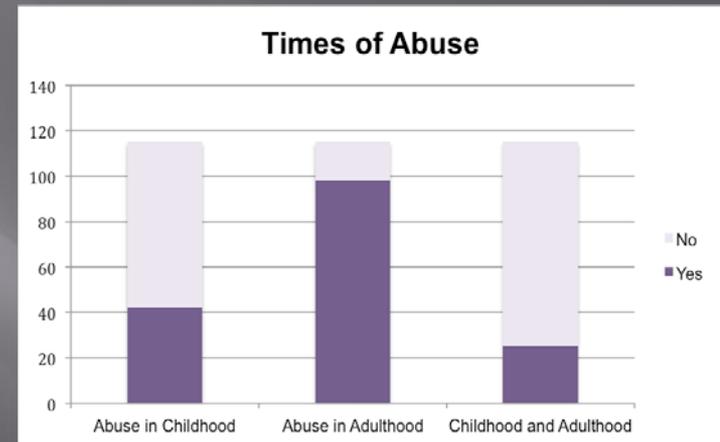
- ▣ Interestingly, the large majority of patients who reported a psychiatric history had received psychiatric care

*Headache history unreliable, not quantified

DV Study – DV History

- ▣ 98/115 (85.2%) – Adulthood abuse
- ▣ 44/115 (38.2%) – Childhood abuse
- ▣ 27/115 (23.5%) – Both

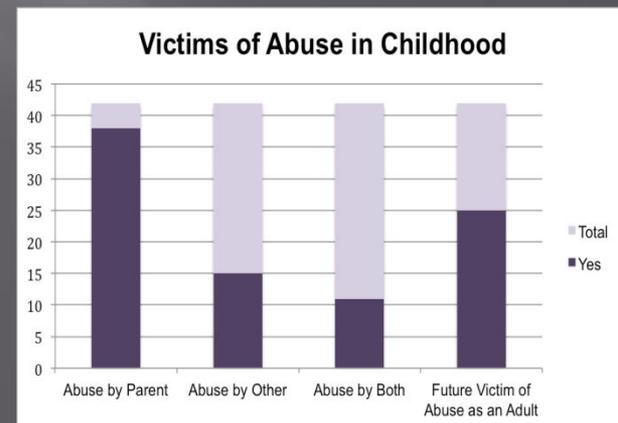
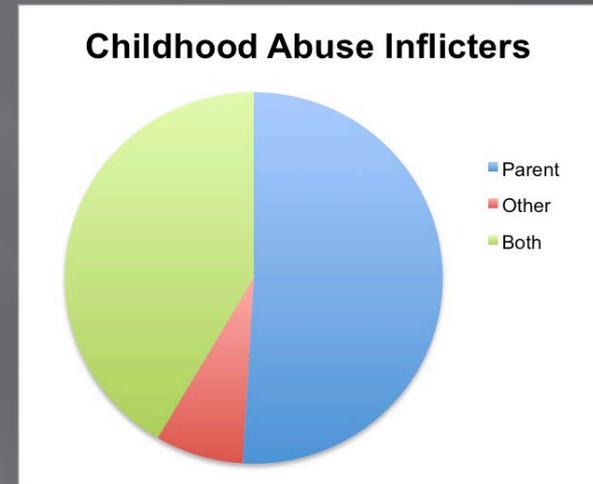
Of patients abused as a child, 61% went on to be abused as an adult



DV Study - Abusers

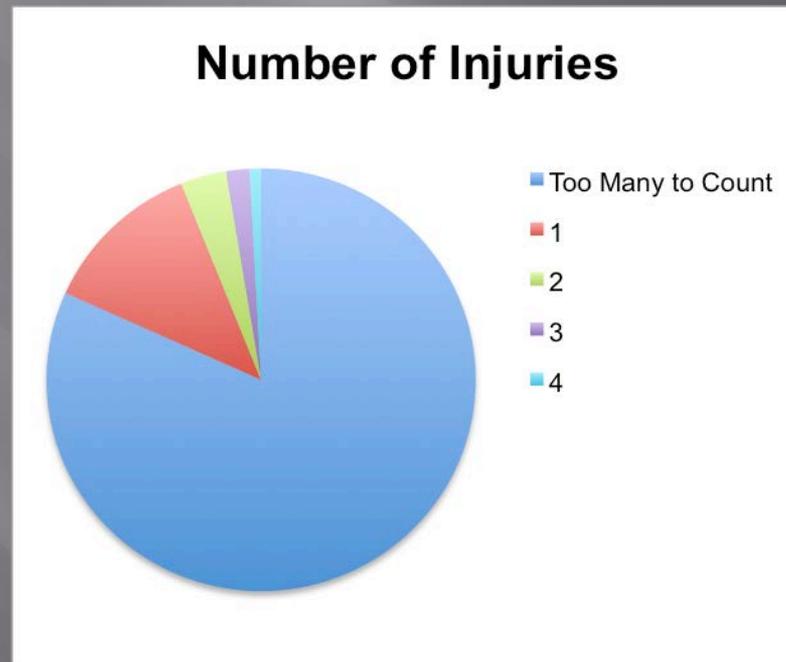
- ▣ Abused as Adult Victims:
 - ▣ 94/98 (95.9%) – IPV
 - ▣ 4/98 (4.1%) - other
- ▣ Abused as Child Victims:
 - ▣ 39/44 (88.6%) – parent
 - ▣ 10/44 (22.7%) – parent plus other

▣ *Overall, 45/115 (39.1%) had more than one abuser*



DV Study - Injuries

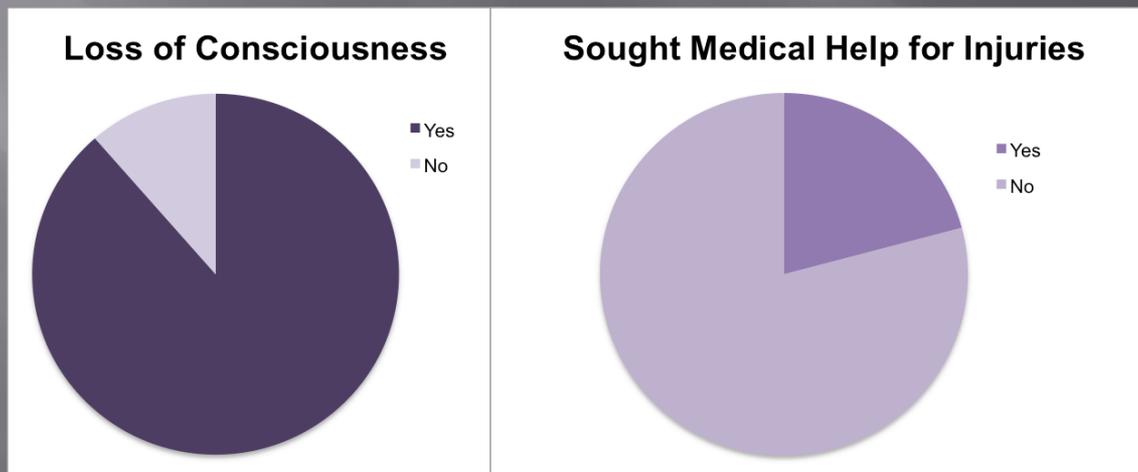
- ▣ 101/115 (87.8%) = >1 injury
 - Prior studies = 25-72%¹
 - Of these: 93/101 (92.1%) = too many to count



**Inconsistencies in disclosure of injury types; unreliable*

DV Study – Symptoms Surrounding Injury

- ▣ 93/115 (80.9%) reported loss of consciousness associated with at least one of their injuries
 - Prior studies = 30-80%^{1,2}
- ▣ Only 24/115 (20.9%) sought medical care at the time of at least one of their injuries
 - Prior studies = 25-74%^{3, 4}

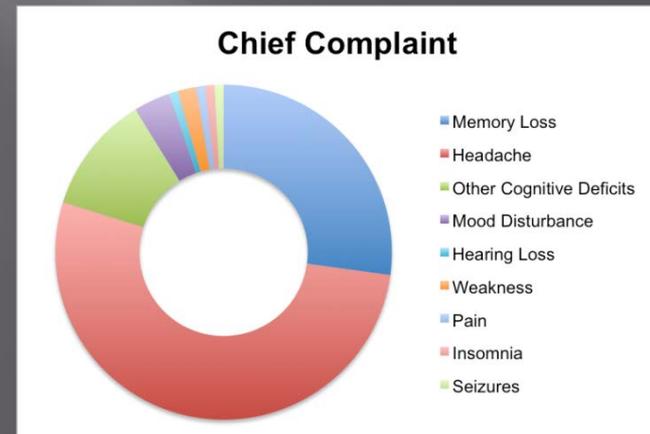


DV Study – Symptoms at Visit

▣ Chief Complaint

1. Headache (60/115, 52.2%)
2. Memory loss (31/115, 27%)
3. Other cognitive complaints (13/115, 11.3%)

▣ Prior studies: headaches, dizziness, memory loss^{1,2}



DV Study – Symptom Severity

- All BCBIC patients complete symptom severity scale
- Symptoms in 3 categories: Physical, Behavioral, Cognition
- Data collected from all patients' scales and overall average taken for each symptom to identify most severe average reported symptoms

CURRENT SYMPTOMS

Rating 0= None, 3= Moderate, 6= Severe
(Please circle only on rating that applies 0-6)

Physical Changes:

Weakness or paralysis	0	1	2	3	4	5	6
Headaches	0	1	2	3	4	5	6
Seizures	0	1	2	3	4	5	6
Dizziness or imbalance	0	1	2	3	4	5	6
Sleeping problems	0	1	2	3	4	5	6
Change in smell or taste	0	1	2	3	4	5	6
Pain (other than head)	0	1	2	3	4	5	6
Vision problems	0	1	2	3	4	5	6

Behavioral Changes:

Moody or irritable	0	1	2	3	4	5	6
Sad or Depressed	0	1	2	3	4	5	6
Tired or drowsy	0	1	2	3	4	5	6
Over-react	0	1	2	3	4	5	6
Impulsive	0	1	2	3	4	5	6
Aggressive	0	1	2	3	4	5	6
Emotionally sensitive	0	1	2	3	4	5	6

Cognitive Changes:

Cannot focus	0	1	2	3	4	5	6
Difficulty reading	0	1	2	3	4	5	6
Difficulty understanding directions	0	1	2	3	4	5	6
Difficulty getting organized	0	1	2	3	4	5	6
Difficulty speaking or finding words	0	1	2	3	4	5	6
Difficulty paying attention	0	1	2	3	4	5	6
Difficulty expressing yourself	0	1	2	3	4	5	6
Difficulty thinking	0	1	2	3	4	5	6

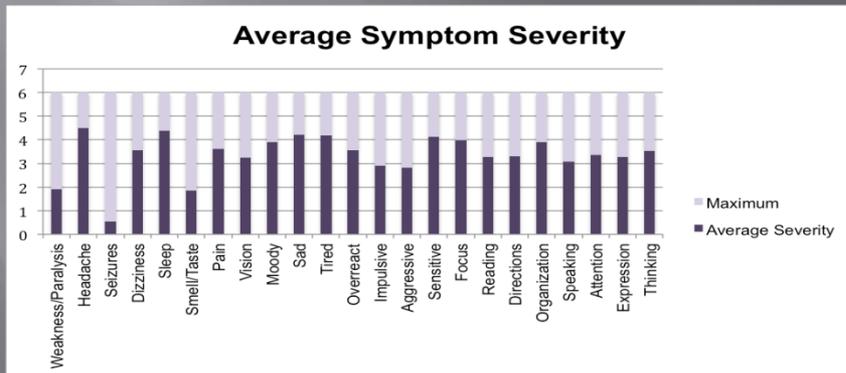
Other (Please List): _____

DV Study – Symptom Severity

□ Most severe reported symptoms:

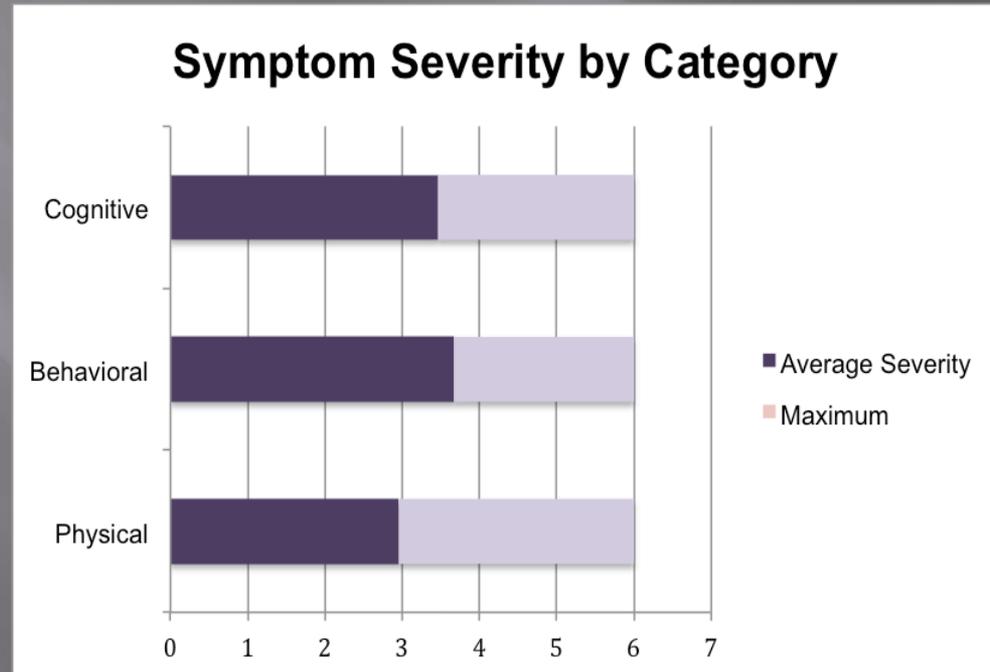
1. Headache (4.51)
2. Sleep problems (4.39)
3. Sad/Depressed (4.17)

Symptom	Symptom Severity (number of patients)							Mean (SD)
	0	1	2	3	4	5	6	
Headache	9	3	3	18	12	12	58	4.51 (1.9)
Problems sleeping	12	3	3	16	12	14	55	4.39 (2.01)
Sad	14	2	5	16	13	22	43	4.17 (2.02)
Tired	17	2	7	8	14	23	44	4.13 (2.13)
Sensitive	19	3	6	11	9	21	46	4.04 (2.23)
Focus	19	4	3	17	7	26	39	3.94 (2.19)
Moody	14	5	5	21	19	14	37	3.88 (2.02)
Pain	29	2	3	17	7	13	44	3.62 (2.44)
Dizziness	12	2	12	33	19	13	24	3.57 (1.81)
Overreact	28	2	7	13	10	18	37	3.54 (2.37)
Organized	29	0	4	17	14	15	36	3.53 (4.43)
Thinking	24	3	4	22	18	9	35	3.51 (2.23)
Attention	27	2	7	19	17	17	26	3.32 (2.22)
Directions	30	2	6	18	18	11	30	3.26 (2.3)
Expressing	31	3	4	21	13	10	33	3.25 (2.35)
Vision problems	26	3	13	22	10	8	33	3.24 (2.27)
Reading	34	1	8	14	6	22	30	3.24 (2.42)
Speaking	33	3	8	18	14	13	26	3.04 (2.32)
Impulsive	38	6	9	12	8	12	30	2.89 (2.47)
Aggressive	39	4	9	19	8	9	27	2.77 (2.39)
Weakness/Paralysis	52	2	10	28	9	5	9	1.92 (2.0)
Smell or taste	63	1	2	19	11	7	12	1.85 (2.22)
Seizures	99	0	3	6	1	0	6	0.56 (1.51)



DV Study – Symptom Severity

- Most severe symptoms by category:
 1. Behavioral (3.63, SD 0.55)
 2. Cognitive (3.39, SD 0.25)
 3. Physical (2.96, SD 1.3)

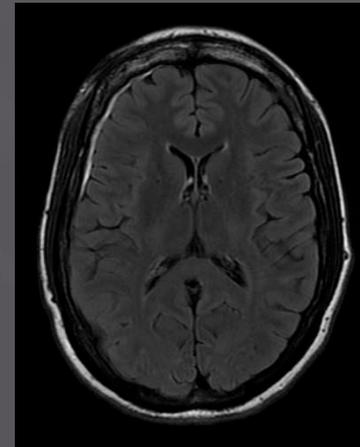
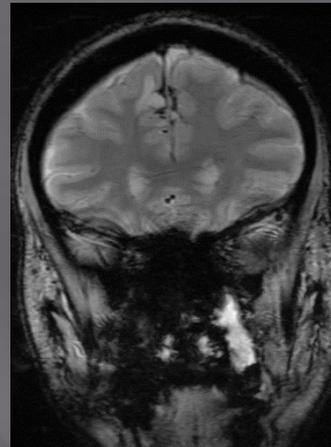
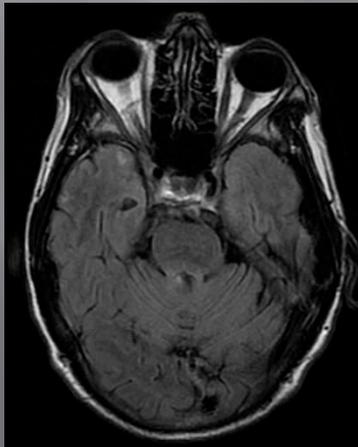
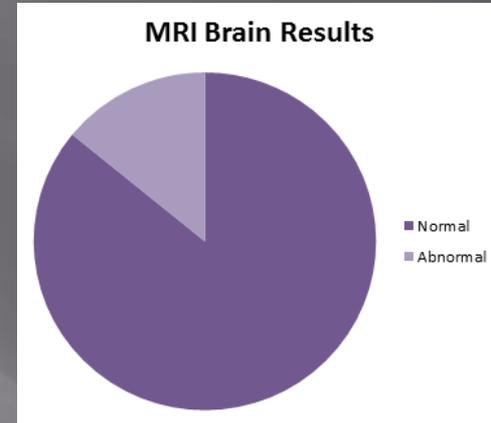


DV Study – Follow Up

- ▣ 80/115 (69.6%) returned for follow up appointments
- ▣ Medications prescribed for 81 patients (usually headache):
 - 45/81 (56.6%) confirmed compliance
- ▣ Psychiatry consultation ordered for 45 patients (many already had providers)
 - 21/45 (46.7%) presented for their appointment

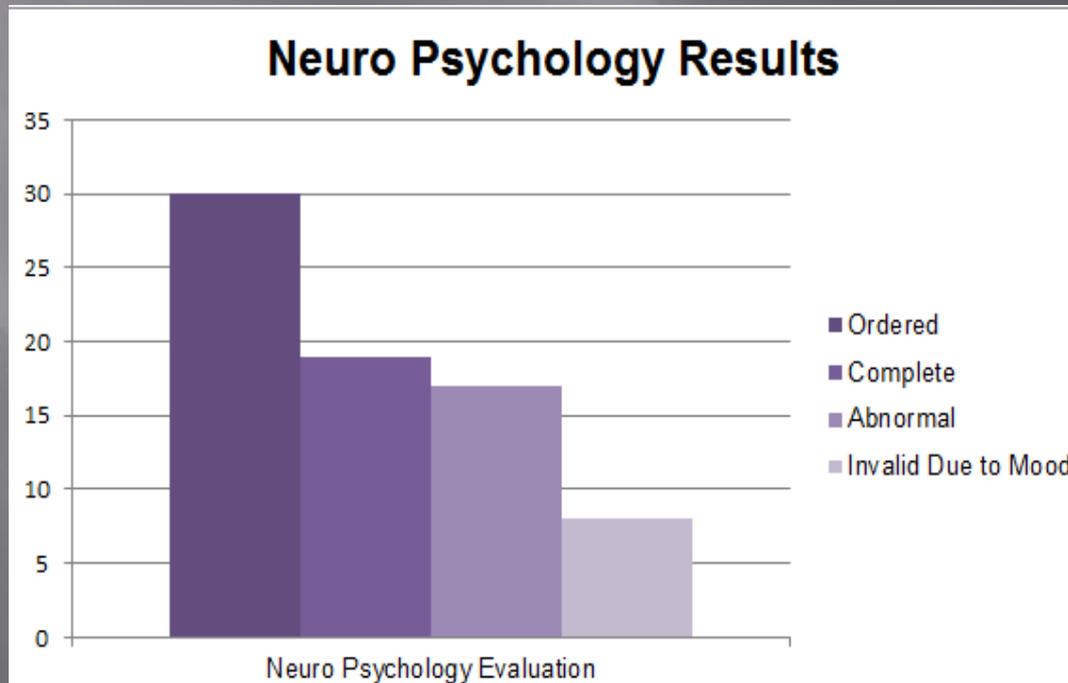
DV Study – MRI

- MRI brain ordered in 108 patients
 - 78/108 (72.2%) completed
 - Abnormal in 11 patients (14%)



Neuro Psychology Evaluation

- ▣ Formal testing ordered in 30 patients:
 - Complete in 19/30 (63.3%)
 - Abnormal in 17/19 (89.5%)
 - ▣ BUT, 8/17 invalid due to significant mood disturbance



DV Study - Highlights

- ▣ Most patients:
 - Too many injuries to quantify
 - Did not seek medical care for their injuries
- ▣ Over half of the patients who experience abuse as a child went on to be abused as an adult
- ▣ Most common chief complaint was Headache
 - Behavioral and Cognitive domains overall most severe
- ▣ Neuro psychology evaluation was abnormal in 89.5%
 - Almost half were invalid due to mood
- ▣ MRI was abnormal in 14% of patients (excluding nonspecific white matter lesions)

Newest Barrow DV TBI Study

- ▣ Purpose: Assess subjective cognitive improvement after speech cognitive therapy
- ▣ Retrospective study
- ▣ All patients seen in our program screened for inclusion:
 - History of TBI due to DV
 - Patients who were referred for speech therapy by neurologist in consultation
 - Patients had at least one follow up in neurology clinic after beginning therapy

DV TBI Cognitive Therapy Study

- ▣ Study vs. Control groups
 - All patients who were referred for therapy
 - Therapy vs. No Therapy
 - $n = 14$ in both groups
- ▣ Outcome measure: subjective cognitive symptom severity scores over time

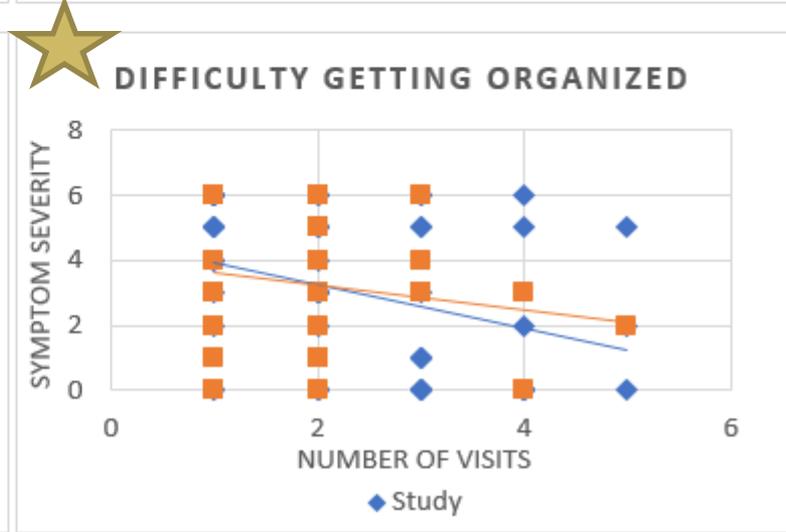
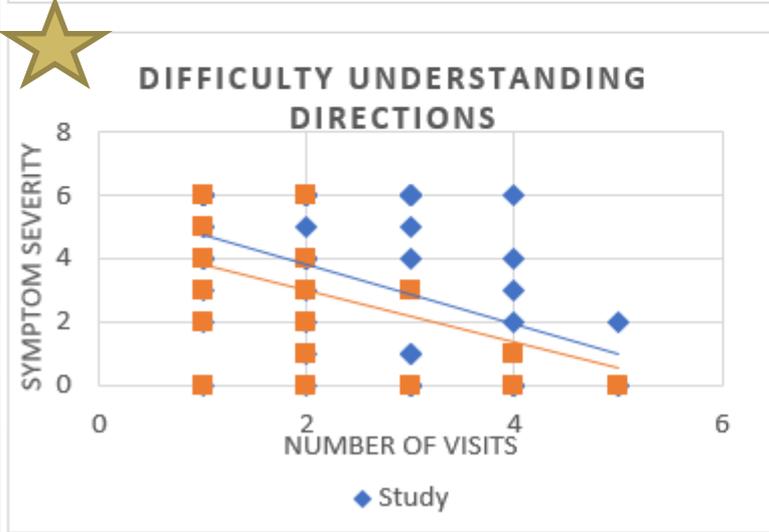
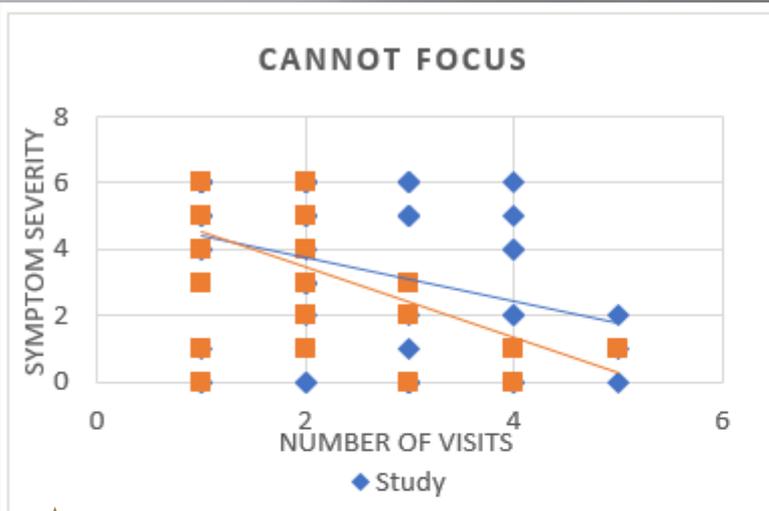
Data Collection and Analysis

- ▣ Symptom severity scores collected at each neurology clinic visit
- ▣ Collected cognitive symptom severities and displayed graphically over time
- ▣ Slope of each line recorded

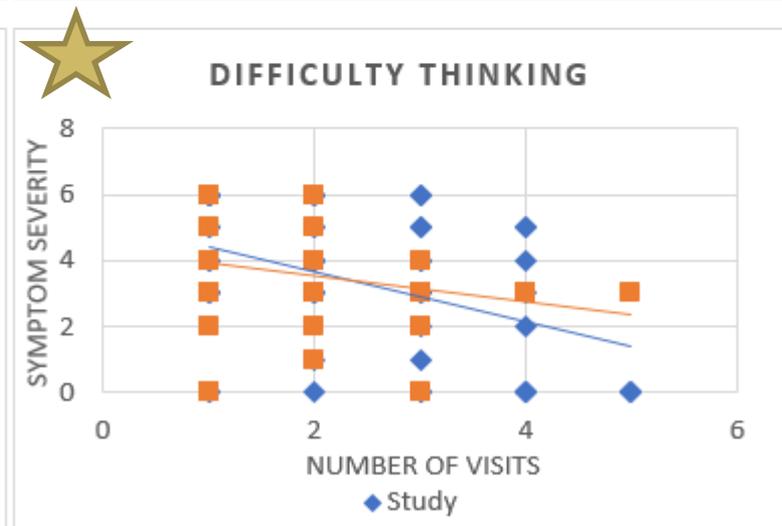
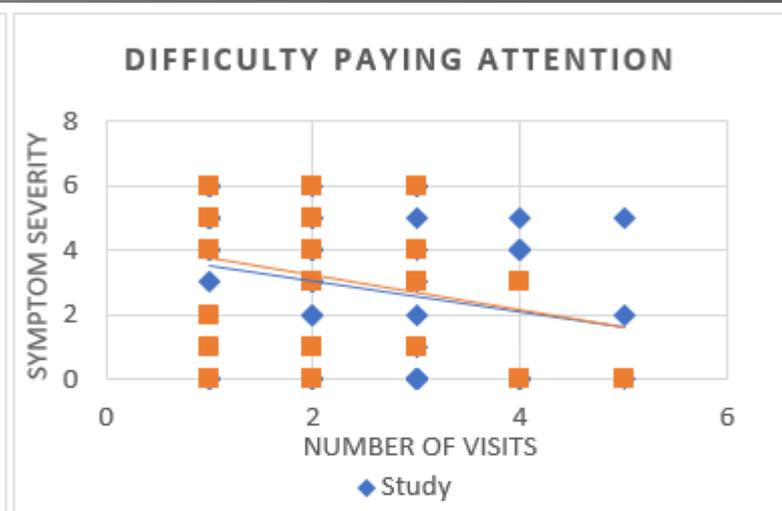
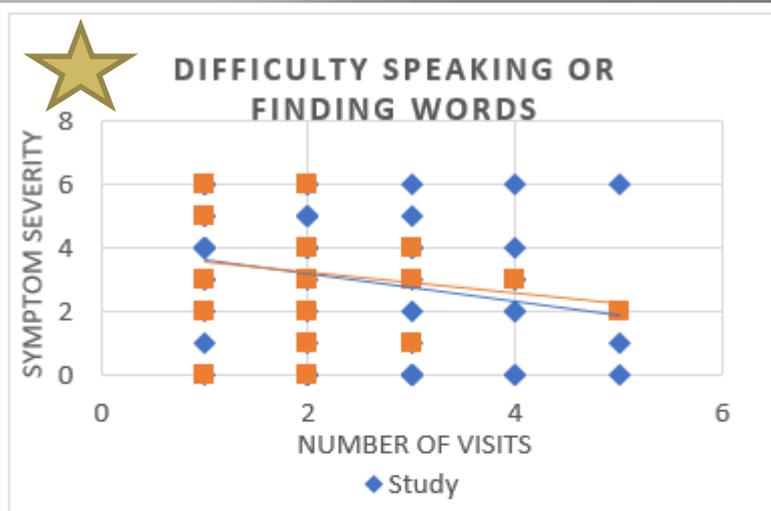
Table 1. Patient Demographic, Injury and Medical History Data

	STUDY n=14 (%)	CONTROL n=14 (%)
Female sex	14 (100)	14 (100)
Age in years, mean (SD)	42.71 (8.03)	38.29 (8.37)
Number of DV-related head injuries		
<i>1</i>	1 (7.1)	0 (0)
<i>2</i>	1 (7.1)	1 (7.1)
<i>Too many to count</i>	12 (85.7)	13 (92.3)
Abuse Timing		
<i>Childhood</i>	1 (7.1)	0 (0)
<i>Adulthood</i>	4 (28.6)	8 (57.1)
<i>Both</i>	9 (64.3)	6 (42.9)
Loss of consciousness (LOC)	11 (78.9)	10 (71.4)
Choking	3 (21.4)	1 (7.1)
LOC due to choking	1 (7.1)	0 (0)
Non-DV related head injury	5 (35.7)	5 (35.7)
Illicit drug use history	5 (35.7)	2 (14.3)
Learning disorder history	2 (14.3)	5 (35.7)
Psychiatric history		
<i>Depression</i>	10 (71.4)	11 (78.9)
<i>Anxiety</i>	8 (57.1)	8 (57.1)
<i>Bipolar disorder</i>	2 (14.3)	2 (14.3)
<i>Post-traumatic stress disorder (PTSD)</i>	5 (35.7)	4 (28.6)

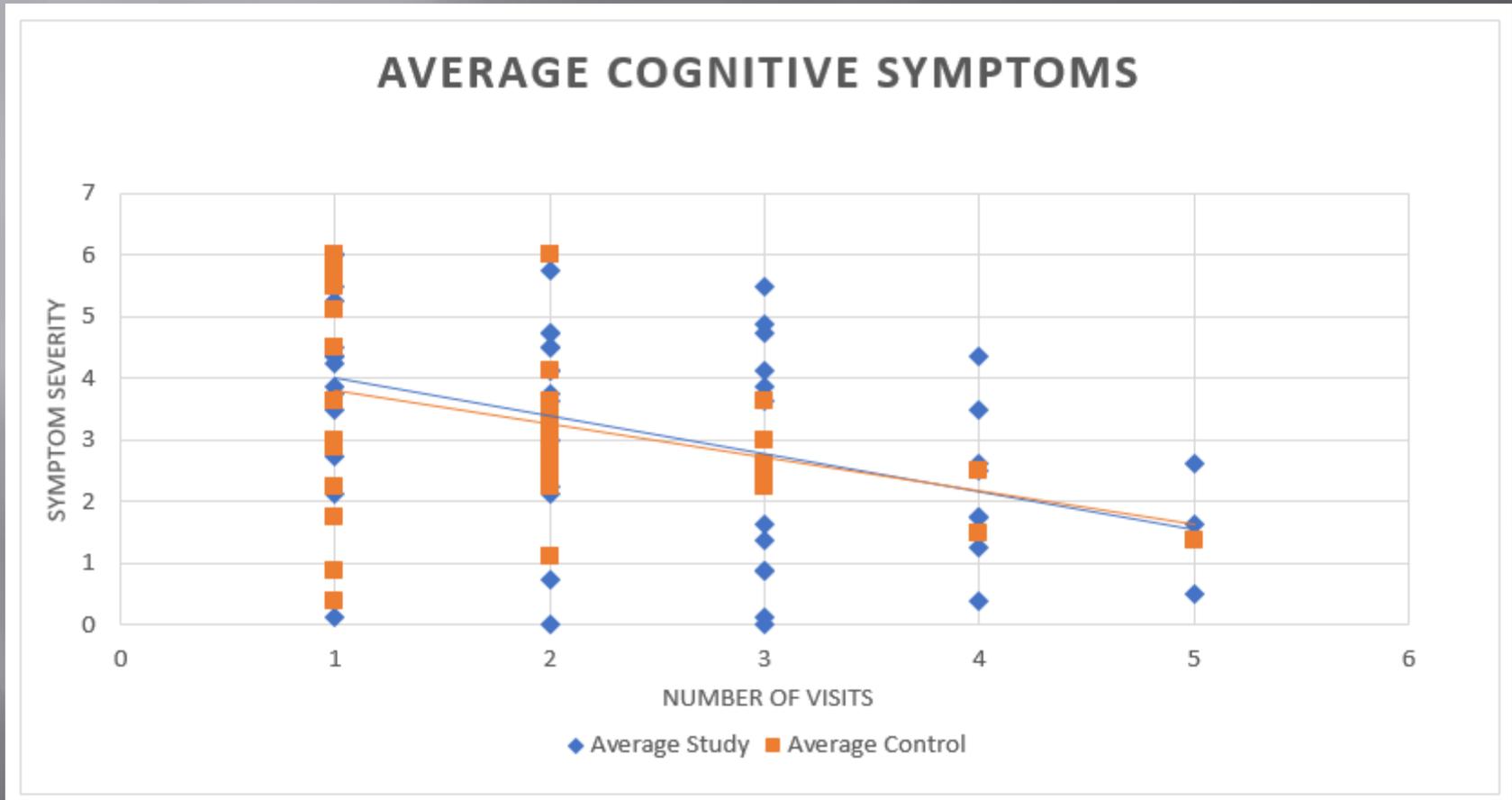
Results – Individual Symptoms



Results – Individual Symptoms



Results - Average Cognitive Symptoms



Overall Results

Table 2. Statistical Relationship Between Number of Visits and Symptom Severity Among Cognitive Symptoms

SYMPTOM	SLOPE		CORRELATION COEFFICIENT		P-VALUE*
	Study	Control	Study	Control	
Cannot focus	-0.648	-1.057	-0.337	-0.541	0.43
Difficulty reading	-0.472	-0.721	-0.253	-0.368	0.933
Difficulty understanding directions	-0.932	-0.806	-0.476	-0.393	0.115
Difficulty getting organized	-0.685	-0.376	-0.351	-0.183	0.431
Difficulty speaking	-0.435	-0.32	-0.249	-0.166	0.262
Difficulty paying attention	-0.488	-0.542	-0.266	-0.262	0.362
Difficulty expressing oneself	-0.507	-0.118	-0.278	-0.059	0.288
Difficulty thinking	-0.753	-0.387	-0.424	-0.222	0.594
Average cognitive**	-0.615	-0.541	-0.428	-0.356	0.361

*P-value was calculated between the study and control groups

**Values for the average of all cognitive symptoms were calculated using data from Fig. 1

Conclusions

- ▣ 5 of 8 cognitive symptoms demonstrated greater improvement in the study (speech cognitive therapy group)
- ▣ Overall average cognitive symptoms improved to a greater degree in study group as well
- ▣ Small sample size
- ▣ Subjective outcome measure
- ▣ Evidence for cognitive intervention in a population exposed to repeated head trauma

Interventions

Speed of Processing

- ▣ Focus on one task at a time. Break down messages or conversations in to
- ▣ smaller pieces and allow for repetition to assist her to understand and process information
- ▣ Repeat instructions to demonstrate understanding
- ▣ Monitor and check for understanding

Memory Deficits

- ▣ Write information down. Provide a day planner or calendar to help her remember important information such as police numbers, Order of Protection information, and court dates.
- ▣ If she is going to use her phone confirm she is able to use the calendar feature
- ▣ Encourage the use of a journal
- ▣ Provide repetition of information.
- ▣ Develop checklists.

Memory Deficits

- ▣ For multi step instructions a visual schedule would be helpful
- ▣ Repetition
- ▣ Decrease feelings of being overwhelmed by giving short periods of learning, shorter and more frequent sessions are better
- ▣ Structured one on one environment

Attention and Concentration

- ▣ Minimize distractions when having detailed conversations.
- ▣ Meet individually in quiet locations, with minimum bright lights, and keep meeting times limited.
- ▣ Incorporate short breaks.

Executive Functioning

- ▣ Assist in prioritizing goals and break them down into smaller, tangible steps.
- ▣ Reduce distractions and allow time when completing tasks.
- ▣ Write out steps to a planning or problem-solving task.

Organizational deficits

- Backpacks-if they allow it help organize their things, binder with dividers for paperwork, medical records etc.

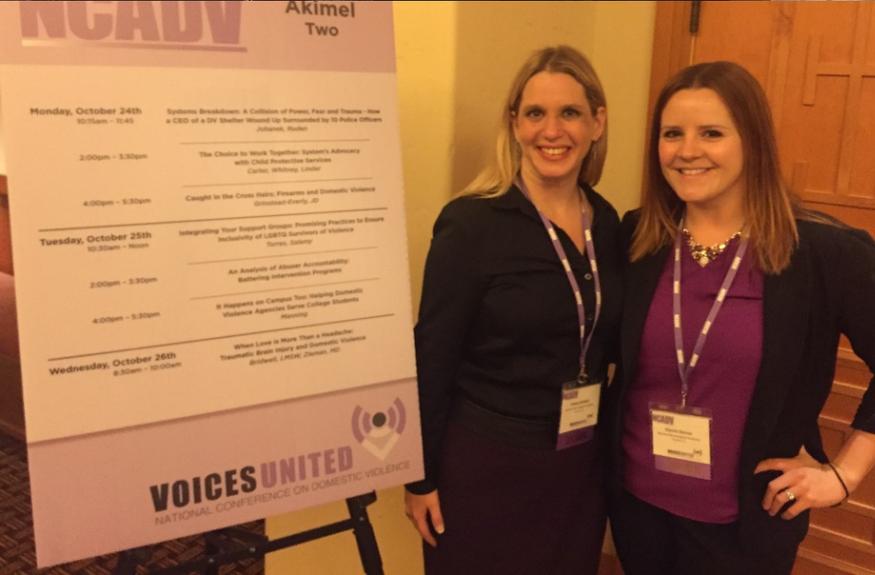
New information

- ▣ Provide written documentation to supplement verbal discussions

Errorless Learning

- ▣ Repetition, Repetition, Repetition

Thank You!



References

- ▣ Faul M, Xu L, Wald MM, Coronado VG. Traumatic brain injury in the United States: emergency department visits, hospitalizations, and deaths. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2010
- ▣ Petersilia JR. Crime victims with developmental disabilities: a review essay. *Criminal Justice & Behavior* 2001;28(6):655–94.
- ▣ Kwasnica CM, Heinemann A. Coping with traumatic brain injury: representative case studies. *Archives of Physical Medicine & Rehabilitation* 1994;75(4):384–9.

- Kim E. Agitation, aggression, and disinhibition syndromes after traumatic brain injury. *Neurorehabilitation* 2002;17(4):297-310.
- [Marcantonis, Eleni. The Wright Institute, 2003. 3098093.](#)
- Valera, E. and Berenbaum, H. Brain Injury in Battered Women. *Journal of Consulting and Clinical Psychology* 2003, Vol. 71, No. 4 797-804
- Diller, L., Jackson, H. et al. Traumatic Brain Injury: A Hidden Consequence for Battered Women. *Professional Psychology: Research and Practice* 2002, Vol. 33 No. 1, 39-45
- Muellman, R., Lenaghan, P. & Pakieser, R. Battered Women: Injury Locations and Types. *Annals of Emergency Medicine* Vol. 28, Issue 5 (November 1996)
- Monahan, K. & O'Leary, K. Head Injury and Battered Women: An Initial Inquiry *National Association of Social Workers* 1999
- Defense Medical Surveillance System (DMSS). Theater Medical Data Score (TMDS) provided by the Armed Forces Health Surveillance Center (AFHSC)
- http://www.vawnet.org/Assoc_Files_VAWnet/IntersectionBrainInjuryDV.pdf

- ▣ National Coalition Against Domestic Violence
www.ncadv.org
- ▣ Muelleman, Lenaghan & Pakieser, 1996