

Intimate Partner Violence: long-term sequelae



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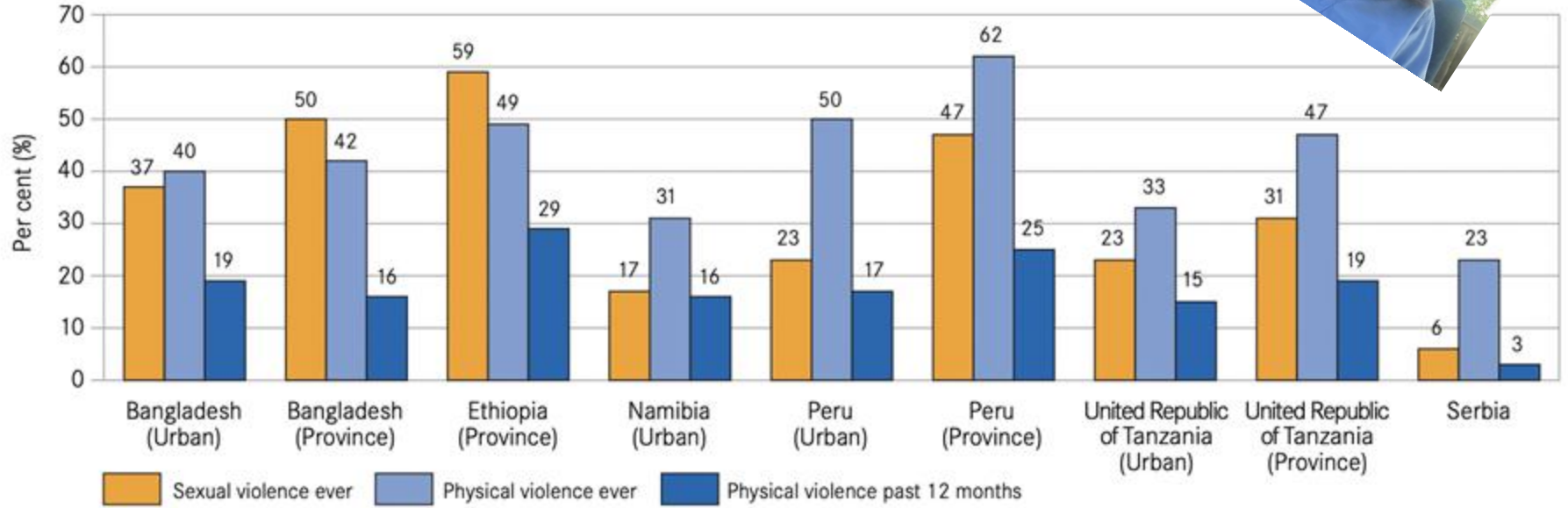
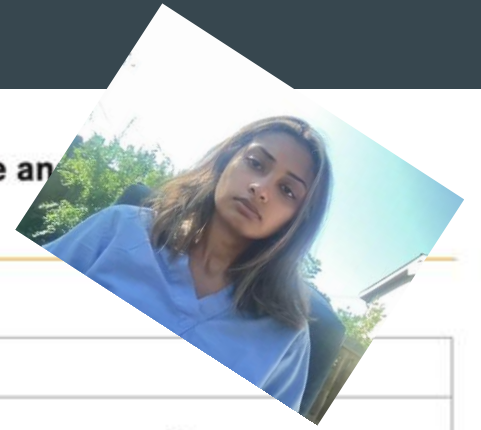
Intimate Partner Violence

- One of the most common forms of violence against women
- 1 in 4 women; 1 in 10 men
- WHO: multi-country study on women's health & domestic violence against women
 - Collected data from more than 24,000 women in 10 countries
 - Widespread issue in all countries
- Different types of violence often coexist: 23-56%



FIGURE 1

Percentage of ever-partnered women reporting physical and/or sexual IPV by type and where it took place, WHO multi-country study (3)



Forms of IPV

- Physical abuse: intentional use of physical force with the potential for causing death, disability, injury, harm
- Sexual abuse
- Psychological abuse: intent to harm the other person mentally or emotionally
- Controlling behaviors
 - Stalking/cyberstalking
 - Manipulation



Causes & Risk Factors of IPV

- Individual factors: age, education, history of violence, drugs/alcohol, personality disorders, sexual abuse history, acceptance of violence
- Relationship: conflict, male dominance, economic stress, infidelity
- Community and society: social norms, poverty, economic status, lack of women's rights, social acceptance of violence
- Why women often are unable to leave violent partners
 - Fear of retaliation
 - Lack of support
 - Stigma and fear



Overall Consequences

- IPV affects women's physical and mental health through direct and indirect pathways
- Injury and physical damage
 - Functional and stress-related disorders
- Mental health and suicide
- Sexual and reproductive health
- Violence during pregnancy
- Homicide
- Effects on children



Physical Health Effects

- General health
- Physical injuries
- Miscarriage
- Sexual abuse sequelae
 - STI
 - vaginal bleeding
 - pelvic pain, painful intercourse, vaginal bleeding, UTI
- Specific health problems: headache, back pain, GI problems
- Functional/stress-related disorders



Mental Health Effects

- Depression: 34.7% of total IPV disease burden
 - Chronicity of violence
 - Types of violence experienced
 - Patterns of recovery in mental health effects
- PTSD: 2-3 times more likely than women w/o history of IPV
- Anxiety: 27.3% of the total IPV disease burden
- Suicide: association between abuse and suicidal ideation/attempts
- Self-perceived mental health and psychological distress
- Sleep studies



Traumatic Brain Injury

- TBI: alteration in brain function or other evidence of pathology, caused by an external force
 - Damage to the structure and function of the brain
- Neuropathology: diffuse axonal injury caused by shearing forces generated in the brain by sudden deceleration
- Initial complaints: memory issues, headache, neck pain, dizziness
- Mild TBI: concussion
 - Any period LOC
 - Any loss of memory for events immediately before or after accident
 - Any alteration in mental status
 - Focal neurological deficits
- Severe TBI: GCS < 8



Traumatic Brain Injury in IPV

- One study: 75% of women sustained at least one partner-related TBI, 50% sustained multiple TBIs
- Examples of injury
 - Chronic repetitive microtraumas
 - Hit on head with fists/pushed against hard objects
 - Strangulation: anoxic/hypoxic brain injury
- Long term effects of multiple TBI
 - Cognitive, physical, psychosocial dysfunction
 - Elevated rates of mental illness
 - Fatigue, memory loss, mood changes, confusion, impaired judgment
 - Dementia
- Severity of brain injury: negatively associated with learning, memory flexibility



Outcomes of TBI

- Cause is not agreed on: biological effects of injury vs. psychological vs. psychosocial vs. chronic pain
- Cognitive sequelae
 - Default mode network (DMN) and salience network abnormalities
 - Right anterior insula interactions
- Deficits in attention, non-fluent memory, and verbal memory: neuropsychological assessment
- Postconcussive symptoms
- Depression/mental health outcomes



Persistent Post-Concussive Syndrome

- Caused by cumulative stressors: both organic and psychological
- Long term cognitive and physical dysfunctions: upto 50% of patients
- ICD-10 Definition: at least 3 of the features that are known as post-concussive symptoms, following head trauma
- Post-concussive symptoms:
 - Headache, dizziness, fatigue, irritability, insomnia
 - Cognitive symptoms: difficulty concentrating, impaired memory, reduced tolerance to stress, emotional excitement, or alcohol
 - Feelings of depression/anxiety, loss of self-esteem



“Brain injury in women experiencing intimate partner-violence: neural mechanistic evidence of an invisible trauma”

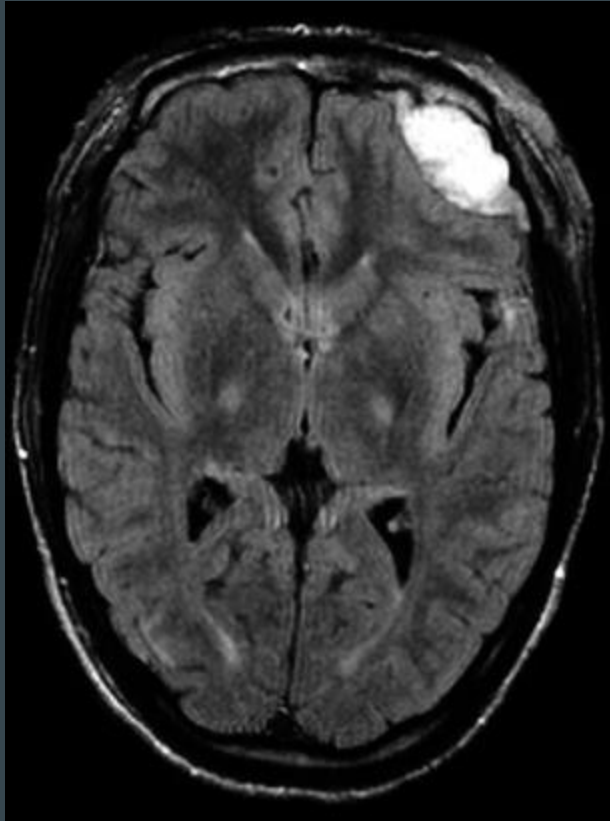
- Hypothesis: severity of IPV-related TBIs would be negatively associated with intrinsic interactions between the rAI and DMN nodes
 - This interaction would be associated with cognitive impairment
- Hypothesis: structural connectivity via white matter within the salience network would be associated with rAI-DMN functional connectivity
- Methods: collected clinical and neuropsychological data + neuroimaging scans from women who have experienced IPV
 - Looked for associations among brain injury severity, cognitive functions, and rAI-DMN structural and functional connectivity
- Conclusions
- Implications: brain-based diagnostic tools and therapies



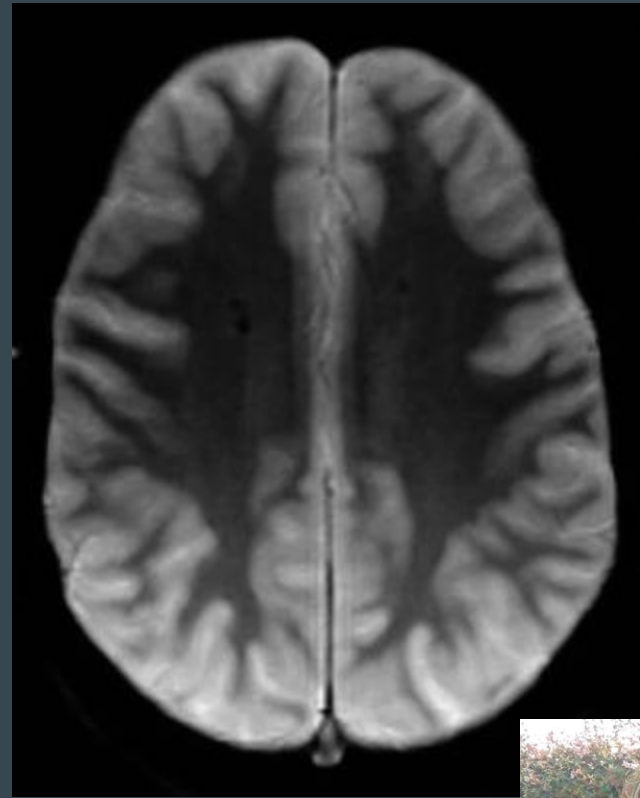
Imaging Abnormalities

- CT: first-line
- MRI: more sensitive than CT
 - FLAIR: cortical contusions and subdural hematomas
 - T2 weighted: hemorrhagic change
- Findings on MRI:
 - Small extradural hemorrhages
 - Hemorrhagic contusion: area of heterogeneous signal change
 - Petechial hemorrhage: small areas of very low signal on T2 weighted
 - FLAIR: deep white matter hyperintensities, multiple



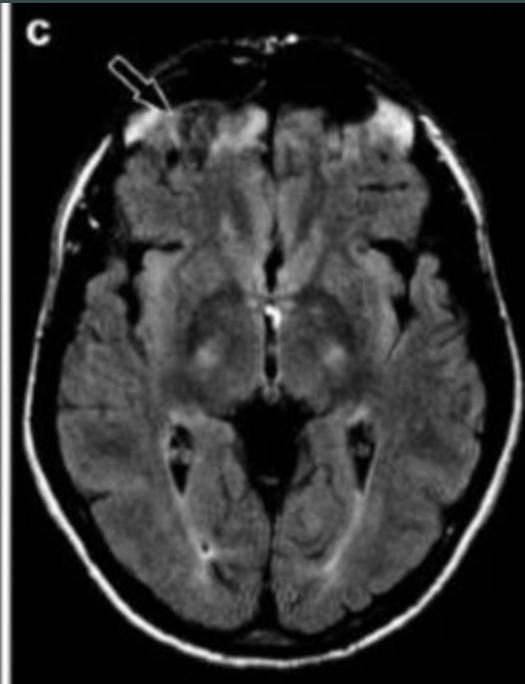
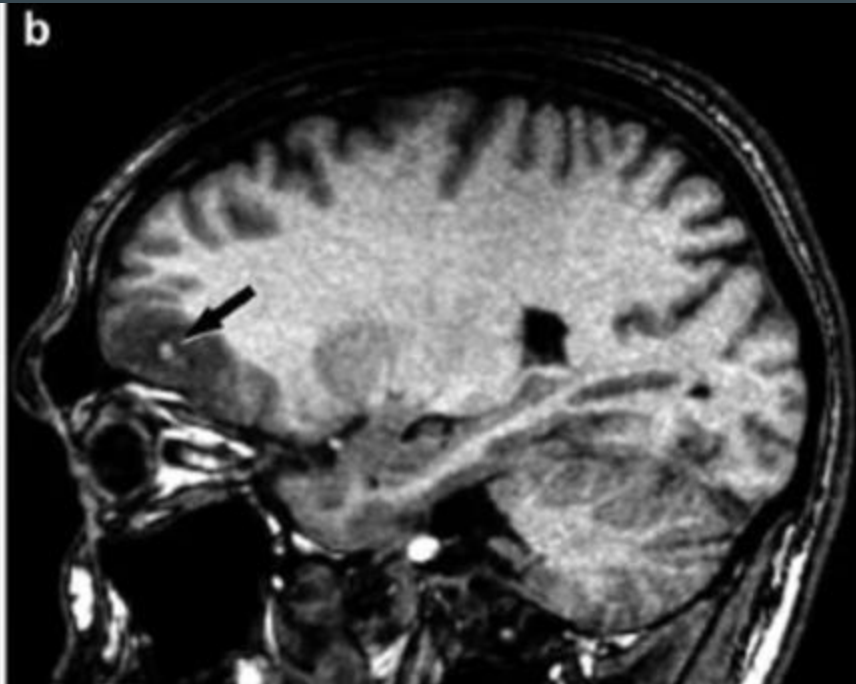
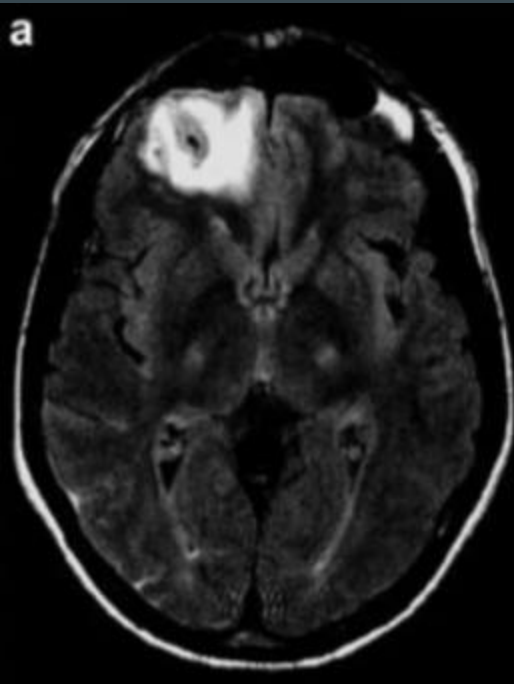


FLAIR: small extradural hemorrhage



T2: low signal area of petechial hemorrhage





- a. Axial FLAIR: hemorrhagic contusion in right frontal lobe
- b. T1 weighted: hemorrhagic change
- c. Axial FLAIR: 3 months post-trauma, small area of encephaloma



“Associations between traumatic brain injury from intimate partner violence and future psychosocial health risks in women”

- IPV-related TBI with persistent symptoms results in worsened health and has not been studied extensively
- Examined physical and mental health effects in women veterans who reported IPV-related TBI
 - with persistent symptoms: memory, dizziness, headache, irritability, sleep changes
 - 18-month outcomes
 - Recruited thru national random sampling, participation in a 2 surveys, 18 months apart
 - TBI screening tool
- Conclusion: IPV-related TBI with persistent symptoms was associated with significantly worse outcomes across all health outcome domains
- Significance: better provider understanding of IPV-related health outcomes



References

- Campbell, J., Jones, A. S., Dienemann, J., Kub, J., Schollenberger, J., O'Campo, P., Gielen, A. C. & Wynne, C. 2002, 'Intimate partner violence and physical health consequences', *Archives of Internal Medicine*, vol. 162, no. 10, pp. 1157-1163
- Carbone-López K, Kruttschnitt C, Macmillan R. Patterns of intimate partner violence and their associations with physical health, psychological distress, and substance use. *Public Health Rep*. 2006;121(4):382-392. doi:10.1177/003335490612100406
- Coker, A., Smith, P., Bethea, L., King, M. & McKeown, R. 2000, 'Physical health consequences of physical and psychological intimate partner violence', *Archives of Family Medicine*, vol. 9, no. 5, pp. 451-457
- Dillon G, Hussain R, Loxton D, Rahman S. Mental and Physical Health and Intimate Partner Violence against Women: A Review of the Literature. *Int J Family Med*. 2013;2013:313909. doi:10.1155/2013/313909
- Hughes, D.G., Jackson, A., Mason, D.L. *et al.* Abnormalities on magnetic resonance imaging seen acutely following mild traumatic brain injury: correlation with neuropsychological tests and delayed recovery. *Neuroradiology* 46, 550–558 (2004).
- Poole, G. V., Martin, J. N., Perry, K. G., Griswold, J. A., Lambert, C. J. & Rhodes, R. S. 1996, 'Trauma in pregnancy: the role of intimate partner violence', *American Journal of Obstetrics and Gynecology*, vol. 174, no. 6, pp. 1873- 1876
- Wong JY, Tiwari A, Fong DY, Humphreys J, Bullock L. Depression among women experiencing intimate partner violence in the Chinese community. *Nurs Res*. 2011 Jan-Feb;60(1):58-65. doi: 10.1097/NNR.0b013e3182002a7c. PMID: 21127447.
- Zlotnick C, Johnson DM, Kohn R. Intimate partner violence and long-term psychosocial functioning in a national sample of American women. *J Interpers Violence*. 2006 Feb;21(2):262-75. doi: 10.1177/0886260505282564. PMID: 16368765.

