Forced Sex and HIV Risk in Violent Relationships

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HIV/IPV Connections – Etiology
(Maman et. al. ’99) >0-3.7%

- Immune system depression with stress
  - 2010 - add immune system alteration with stress of IPV, PTSD
- Genital trauma-increased transmission; anal sex
  - More severe forced sex, multiple forced sex
- Increased STD’s & untreated STD’s
- Impossible to negotiate safe sex if IPV
- Women accused of infidelity if ask for safe sex
- Males have other partners unknown to women (WHO ’04)
- Fear of being beaten for being tested; notifying partner of positive status; delay in treatment
- Substance abuse
Overlap between physical, sexual and psychological abuse ($N = 889$) (Campbell et. al. ‘02 from Ellsberg ‘00)

- **Psychological** ($N = 677$)
  - 177 (19.9)
  - 303 (34.0)

- **Physical** ($N = 649$)
  - 166 (18.7)
  - 166 (18.7)

- **Sexual** ($N = 243$)
  - 31 (3.5)
  - 14 (1.6)
  - 32 (3.6)

- Overlap:
  - 177 (19.9) for Psychological
  - 166 (18.7) for Physical
  - 32 (3.6) for Sexual
Results – ACAAWS 2012

Of 422 African American and African Caribbean women who experienced physical abuse:

- 157 (37%) reported an experience of forced sex – by partner majority said forced sex repeated (many times)
- 41% were age 18-24
- 92% were Black/African American or African Caribbean (vs. Black with Hispanic Ethnicity)
- 50% of the sample single
- 79% had children under 18
- 43% reported a monthly income of $400-$1200
- 76% had received some sort of publicly available assistance
Multiple US Samples

- 35-45% of physically abused women also physically forced into sex
- If asked, majority say multiple – many times
- If asked, a substantial proportion (up to ½) of forced sex was anal sex

ACAAWS study – forced sex associated with Inconsistent Condom use Last 5 Anal Acts
4.52 (1.15, 17.72) (Draughon et al ‘12)
Summary report

WHO Multi-country Study on Women’s Health and Domestic Violence against Women

Initial results on prevalence, health outcomes and women’s responses

World Health Organization
Women Experiencing Physical & Sexual Partner Violence

% women who have ever experienced physical partner violence
% women who have ever experienced sexual partner violence

- Japan: 13.6 (C), 5.9 (C)
- Thailand: 22.9 (C), 28.9 (C)
- Brazil: 27.2 (C), 10.1 (C)
- Namibia: 30.9 (C), 6.5 (C)
- Tanzania: 33 (C), 30 (C)
- Thailand: 34 (C), 29 (C)
- Brazil: 34 (P), 14 (P)
- Tanzania: 47 (P), 31 (P)
- Ethiopia: 49 (P), 62 (P)
- Peru: 50 (C), 23 (P)
- NZ: 32 (C), 17 (C)
The younger a woman's age of first sex, the risk of a forced first sexual experience is higher.

Note: Japan city, Serbia and Montenegro city and Thailand city are not represented due to low percentages reporting first sex before age 15 yrs.
Forced First Sex/Sexual Initiation

- Forced first sex (sexual initiation) as a result of IPV ("dating violence")
- First sexual violence in an ongoing violent relationship?
- In US – anal sex not considered “sexual intercourse” (or “real sex”) by many adolescents – therefore “safe sex” practices not necessary & can remain “abstinent” even if anal sex
- Abusive young men exploit these myths
Globally – women dying in 3:1 ratios from AIDS & majority of new cases – young women especially

In the US:
- 48,000 new HIV infections ‘09 – women majority of new cases (Prejean et al., 2011)
- African American women - 66% of new dx among women in 09 (CDC, 2011).
- African American also women disproportionately affected by IPV (CDC 2011)
- 87% of new dx among women -heterosexual contact (CDC, 2011).
IMMUNE SYSTEM EFFECTS

- HPA axis – hypothalamic – pituitary – adrenal gland interactions
- Stress of abuse, multiplied by poverty, other stressors – but even separate from other stressors activates HPA & produces corticosteroids & catecholamines
- Suppresses Th1 cell cytokine (fights bacteria & viruses) production
- Depression has same effects on immune system
- May result in lowered immunity to HIV
Bio-Psycho-Immunologic Response to Trauma (A. Woods ’04)

- IPV
- Depression
- Co-morbid
- PTSD

HPA axis
- ↑ cortisol
  - Th2 shift
  - Immune Suppression
  - IgE/IgA Response

HPA axis
- ↓ cortisol
  - Th1 shift
  - Pro-Inflammatory
PTSD Immune System Alteration

Trauma → PTSD → HPA Axis Alterations → Health Declines

Insufficient Regulation of Immune Function

Increased Acute Phase Reaction

Increased Cell Mediated Immunity

Increased Humoral Immunity

INF
IL-2
IL-8
IL-12

IL-1
TNF-a
IL-6

IL-4
IL-5
IL-13
IL-10

Th0

Th1

Th2
Physiological Effects of IPV on Immune System Not totally clear

- PTSD & co-morbidity differential effects?
- Inflammation markers C-reactive protein (CRP) and interleukin-6 (IL-6) increase w/IPV – Newton ‘11; Granger, S. Woods – ‘11
- Multiple physical injuries – e.g. strangulation, TBI, immune system effects
- Stress/PTSD/depression leads to decreased CD4 counts – Ickovics, ‘01; Leserman ‘03
More Questions than Answers

- STI interactions – repeated, multiple, untreated, affecting immune system – inflammation significantly increased acquisition of HIV
- Menstrual cycle, young age - issues
- Friability of urinary & vaginal tissue – increased by inflammation?
- Interactions with chronic pain
- How to measure, when to measure –
- How much of sex differences in HIV (transmission, progression) related to ongoing SV (IPV)
- How to fully capture complexity of female humans
Physiological Model For IPV-HIV Acquisition/Progression

- Through Multiple Injuries
- Through other STI’s

IPV

Altered Stress Response (HPA)

PRO Inflammatory Response (CRP)

CSA

PTSD

*Intimate Partner Sexual Assault – severity, repetition, if anal

HIV/AIDS Acquisition/Progression

CD4 decrease Co-Infections
Moving Forward

- Exciting New Collaborative interdisciplinary research teams of basic sciences, physiology, epidemiologists, behavioral and clinical scientists

- Official and increasing recognition of full complexity of interfaces by UN, US State Dept, USAID, WHO, CDC, DHHS, NIH