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Is intimate partner violence a risk factor for HIV infection? A systematic review and meta-analysis

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Debate about whether VAW responses a core part of HIV programming

- Several large GBV-HIV initiatives
  - UNAIDS Pillar for HIV prevention on addressing GBV
  - Large PEPFAR funding in Sub-Saharan Africa
  - UN Stop Rape Campaign
  - Inclusion of violence prevention activities in some sex worker HIV prevention programmes, including AVAHAN

- However:
  - Questions about whether interventions to address violence should form a core part of IPV programmes
  - Analysis of DHS data found no association between intimate partner violence (IPV) and HIV (Harling 2010)
Aims & methods

Aims
• Compile existing epidemiological evidence on the association between exposure to intimate partner violence (IPV) and HIV infection

Methods
• Systematic review
• Searches of Pubmed, Embase, Cinahl, other databases until Dec 1 2010
• > 3,000 abstracts screened
• Inclusion: any population, any definition of IPV, HIV/STI
• Analysis stratified by study quality:
  – Prospective studies
  – High quality cross-sectional studies (biological outcome data, unexposed reference group)
Results

• 35 papers, describing 41 datasets with 121,479 participants, reporting 115 estimates included
  – 5 prospective datasets
    • 3 large studies with biological outcomes
      – 2 HIV, 1 STI
  – 3 case-control datasets
  – 35 cross-sectional datasets
    • With biological outcome data AND unexposed reference groups
      – HIV: 12 datasets, 25 estimates
      – STI: 6 datasets, 6 estimates
Prospective studies find associations

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Intimate partner violence measure</th>
<th>HIV/STI measure</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jewkes et al</td>
<td>1099 women, vocational schools in rural Eastern Cape, South Africa, 2002</td>
<td>More than one episode of physical and/or sexual violence, WHO</td>
<td>Incident HIV, biologically confirmed, adjusted for HSV-2</td>
<td>aIRR=1.51 (1.04-2.21)</td>
</tr>
<tr>
<td>Weiss et al</td>
<td>1991 non-pregnant women aged 18-45, population registers of primary care centre Goa, India, 2001-2003</td>
<td>Physical violence, not further defined</td>
<td>Incident CT/GC/TV, biologically confirmed</td>
<td>aOR=1.40 (0.70-3.00)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sexual violence, ‘the husband or partner forcing sex against the woman’s wishes.’</td>
<td></td>
<td>aOR=3.00 (1.20-7.50)</td>
</tr>
<tr>
<td>Zablotska et al</td>
<td>3422 women aged 15-24, population-based Rakai, Uganda, 2001-2003</td>
<td>Sexual violence, “Sexual partner physically forced you to have sex when you did not want to.’</td>
<td>Incident HIV, biologically confirmed</td>
<td>1.6/ 100py in IPSV-, Alcohol–</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.2/ 100py in Alcohol+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.3/ 100py in IPSV+</td>
</tr>
</tbody>
</table>
### Table: Different analyses of same cross-sectional data have different findings

<table>
<thead>
<tr>
<th>Year</th>
<th>Author, Year</th>
<th>Violence</th>
<th>Outcome</th>
<th>Outcome measure</th>
<th>Odds Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>HARLING</td>
<td>IPPV and IPSV HIV</td>
<td>Biological data</td>
<td>1.34 (0.73, 2.44)</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>HARLING</td>
<td>IPSV HIV</td>
<td>Biological data</td>
<td>1.35 (0.95, 1.94)</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>HARLING</td>
<td>IPV HIV</td>
<td>Biological data</td>
<td>1.35 (0.95, 1.90)</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>KISHOR</td>
<td>IPPV ANY</td>
<td>Self-report</td>
<td>1.76 (1.53, 2.02)</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>KISHOR</td>
<td>IPPV and IPSV ANY</td>
<td>Self-report</td>
<td>3.57 (2.90, 4.39)</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>KISHOR</td>
<td>IPV ANY</td>
<td>Self-report</td>
<td>2.07 (1.84, 2.33)</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>KISHOR</td>
<td>IPSV ANY</td>
<td>Self-report</td>
<td>2.15 (1.52, 3.04)</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>SILVERMAN</td>
<td>IPPV HIV</td>
<td>Biological data</td>
<td>0.89 (0.46, 1.71)</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>SILVERMAN</td>
<td>IPPV and IPSV HIV</td>
<td>Biological data</td>
<td>3.92 (1.41, 10.94)</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>SILVERMAN</td>
<td>IPPV HIV</td>
<td>Biological data</td>
<td>1.53 (0.76, 3.06)</td>
<td></td>
</tr>
</tbody>
</table>

Different analyses of same cross-sectional data have different findings.
Globally cross-sectional findings more mixed (HIV outcome)

**Figure**: Cross-sectional studies. Pooled OR, biological data only, HIV outcome, where reference group is no physical or sexual violence
Growing evidence globally that have a clustering of risk behaviours

- Men who are abusive to their partners are also more likely to have:
  - Concurrent sexual partners
  - A sexually transmitted infection
  - Problematic use of alcohol
  - Refuse to use a condom

- Clustering of risk linked to common underlying risk factors
Potential pathways of association between IPV & women’s risk of HIV

RISK FACTORS FOR PERPETRATION OF INTIMATE PARTNER VIOLENCE

DETERMINANTS OF HIV RISK FROM PARTNER

- Poverty & economic stresses
- Gender inequality & social norms condoning some use of violence
- Social constructions of masculinity
- Early experiences or witnessing of violence

RISK FACTORS FOR

- Partner physically and/or sexually violent
- Problematic alcohol use

DETERMINANTS OF HIV RISK FROM PARTNER

- Woman has concurrent sexual partners
- Partner has concurrent sexual partners

Potential pathways of association between IPV & women’s risk of HIV

- Reduced access to info & HIV services
- Genital trauma
- Low or inconsistent condom use
- Increased probability partner has HIV and/or STI

Increased likelihood that woman is HIV infected
Conclusions

• Violence is both a cause and consequence of HIV infection
• Prospective studies show an association between physical and/or sexual IPV and incident HIV in South Africa
• Prospective data also find association between sexual IPV & HIV in Uganda and sexual violence & STI in India
• Cross-sectional data analysis find less consistent findings
  – Many methodological factors make interpretation of existing evidence difficult
  – Consistent association between more severe IPV and HIV risk
• Unclear how generalisable findings are across different epidemic settings
• Pathways between IPV & HIV complex – need to be better understood to inform effective programmes
3 priorities to improve evidence base...

1. Identify opportunities to collect additional evidence from longitudinal studies
   • Take advantage of opportunities within ongoing intervention trials with HIV outcomes

2. Make best use of DHS & other population data collection
   • Ensure that DHS collects data on violence exposure from all partners
   • Re-analysis of DHS to address methodological issues

3. Integrate questions on violence in HIV intervention research
   • Provide deeper understanding of how violence and the fear of violence may undermine effectiveness of proven HIV interventions
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