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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)



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# 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)



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# 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



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# Prospective studies find associations

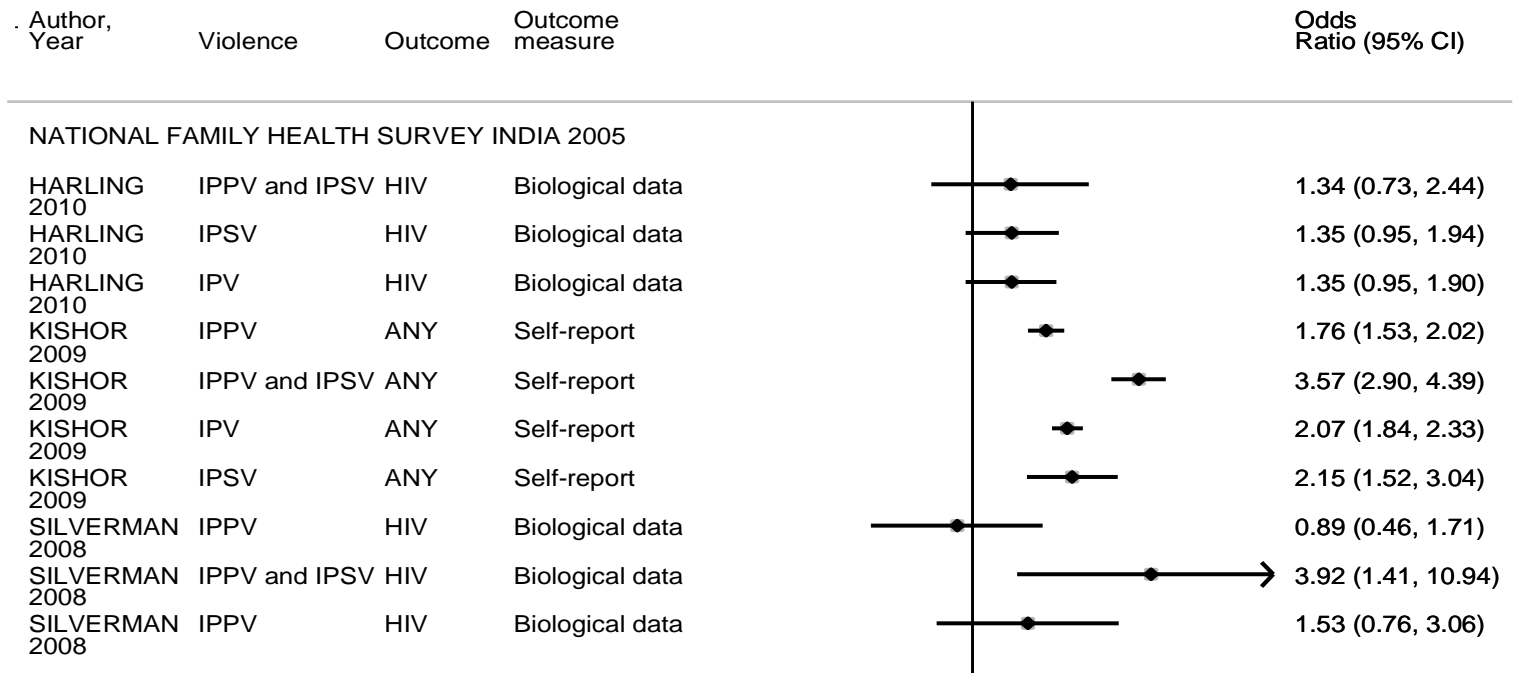
Study	Sample	Intimate partner violence measure	HIV/STI measure	Estimate
Jewkes et al	1099 women, vocational schools in rural Eastern Cape, South Africa, 2002	More than one episode of physical and/or sexual violence, WHO	<b>Incident HIV, biologically confirmed,</b> adjusted for HSV-2	<b>aIRR=1.51 (1.04-2.21)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



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**Different analyses of same cross-sectional data have different findings**



# Globally cross-sectional findings more mixed (HIV outcome)

## FORM OF IPV CONSIDERED

### PHYSICAL

Physical

Study	Odds Ratio (95% CI)	Total number of people in analysis
DHS ZIMBABWE 2005	1.35 (1.05, 1.73)	2287
NATIONAL FAMILY HEALTH SURVEY INDIA 2005	1.53 (0.76, 3.06)	28139
DUNKLE SOUTH AFRICA 2004	1.56 (1.21, 2.03)	800
<b>Pooled</b>	<b>1.45 (1.22, 1.73)</b>	

### SEXUAL

Sexual

DUNKLE SOUTH AFRICA 2004	0.88 (0.51, 1.53)	676
DHS ZIMBABWE 2005	0.95 (0.66, 1.37)	1852
<b>Pooled</b>	<b>0.93 (0.68, 1.26)</b>	

### PHYSICAL AND/OR SEXUAL

Either

DHS HAITI 2005	0.45 (0.23, 0.90)	2628
DHS LIBERIA 2006	0.87 (0.56, 1.35)	3278
DHS KENYA 2003	0.88 (0.62, 1.25)	1756
DHS ZAMBIA 2007	0.91 (0.77, 1.08)	3368
DHS RWANDA 2005	0.99 (0.59, 1.67)	2476
DHS MALAWI 2004	1.07 (0.81, 1.42)	2086
DHS MALI 2006	1.07 (0.51, 2.23)	2804
DHS ZIMBABWE 2005	1.11 (0.91, 1.34)	3203
DHS DOMINICAN REPUBLIC 2007	1.12 (0.67, 1.88)	7870
NATIONAL FAMILY HEALTH SURVEY INDIA 2005	1.35 (0.95, 1.90)	29783
DUNKLE SOUTH AFRICA 2004	1.49 (1.18, 1.89)	1336
<b>Pooled</b>	<b>1.05 (0.90, 1.21)</b>	

### PHYSICAL AND SEXUAL

Both

DHS ZIMBABWE 2005	1.38 (1.03, 1.85)	2061
DUNKLE SOUTH AFRICA 2004	1.66 (1.18, 2.32)	800
NATIONAL FAMILY HEALTH SURVEY INDIA 2005	3.92 (1.41, 10.94)	28139
<b>Subtotal</b> (I-squared = 48.9%, p = 0.141)	<b>1.66 (1.17, 2.34)</b>	

NOTE: Weights are from random effects analysis

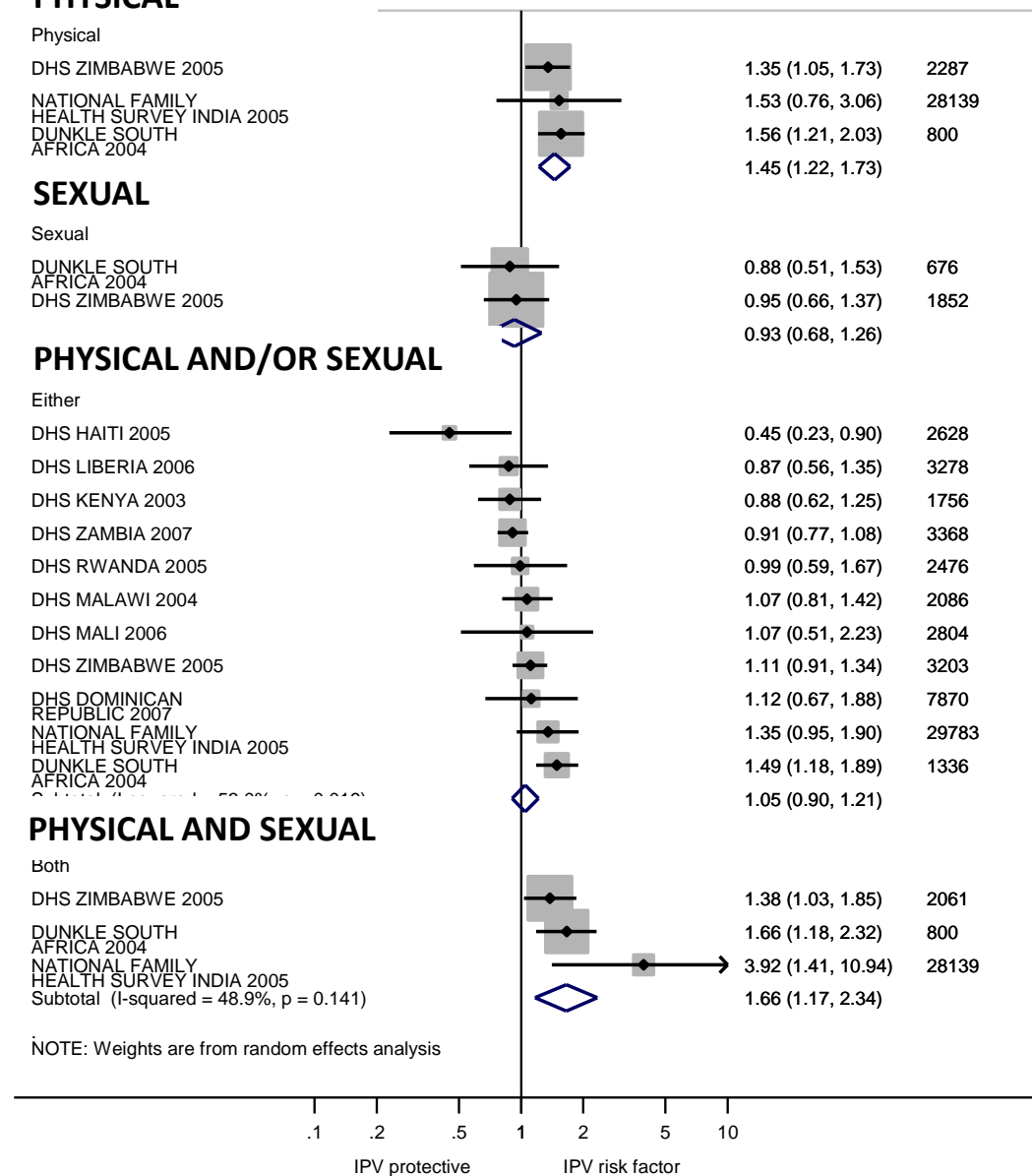


Figure: Cross-sectional studies. Pooled OR, biological data only, HIV outcome, where reference group is no physical or sexual violence



# 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

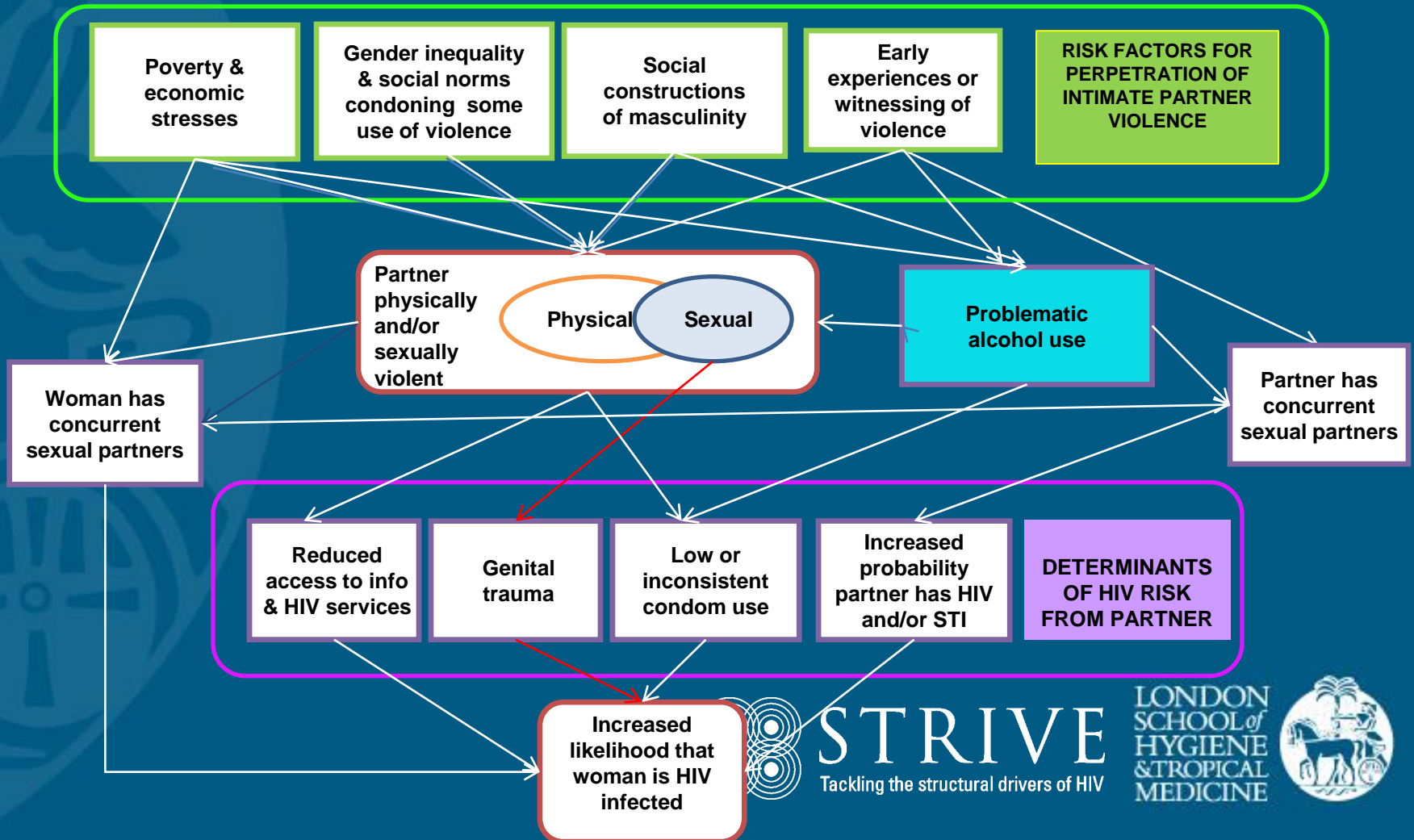


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# Potential pathways of association between IPV & women's risk of HIV



# 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



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# 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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