Background

• Intimate partner violence (IPV) has been associated with increased risk for HIV acquisition in some African settings.1,2
• Women who experience IPV are thus a potential target population for pre-exposure prophylaxis (PrEP) to prevent HIV infection.3
• However, high adherence levels are required for PrEP efficacy, and IPV is associated with low adherence to other medications, such as antiretroviral therapy and methadone treatment.4,5
• Studies have not evaluated whether IPV is associated with low PrEP adherence.

Objective

To test whether recent and/or past exposure to IPV is associated with lower adherence to PrEP.

Methods

9 sites in Kenya & Uganda
HIV-1 uninfected partners randomized 1:1:1 to daily oral tenofovir (TDF), entecavir/TDF or placebo
Followed monthly for up to 48 months
All HIV-uninfected females (N=1785) are included in this analysis
Exposure: Self-report of verbal, economic, or physical IPV by study partner since the last study visit.
At each visit, history of IPV was categorized as:
Recent: IPV reported in the past 3 months
Past: IPV reported more than 3 months ago
No IPV: No report of IPV to date
34 visits with unknown IPV status were excluded from the analysis
Outcome: PrEP adherence
• Measured by clinic-based pill count (TDF blood concentrations were available in a subset of participants and showed good correlation with pill count data7)
• Dichotomized into Low (<80%) and High (≥80%)
• Excluded visits with study-imposed product hold (e.g., due to pregnancy)
• Included missed visits and visits where participant refused PrEP

Statistical methods
• GEE logistic regression with exchangeable correlation matrix and robust standard errors to account for repeated measures with each individual
• A priori adjustment for age, education, and study site (baseline); time on study and report of additional sexual partnerships (time-varying)
• Evaluation of additional variables as potential confounders

Results

• Of the 1785 HIV-uninfected women in the study, 283 (16.1%) reported IPV, at 437 study visits over 12-48 months of follow-up (Figure 1).
• Verbal abuse was reported at 371 visits (84.9%), physical abuse at 228 visits (52.2%), and economic abuse at 163 visits (37.3%) (Figure 2).
• Women who reported IPV during the study were similar to women who did not report IPV on demographic characteristics and baseline sexual behavior. The only exception was that women who reported IPV were more likely to report any income (78.1% versus 67.9%, p<0.001).
• Mean PrEP adherence was very high overall (95.3%) and was similar across IPV exposure status groups. (Table 1)
• Recent IPV was associated with a 42% higher likelihood of low PrEP adherence, after adjusting for age, years of education, study site, time on study, any additional sex partners, and relationship status (versus ongoing versus dissolved) (adjusted OR 1.42, 95% CI 1.09 – 1.86, p=0.01, Table 1).
• Previous IPV was not associated with adherence (p=0.77, Table 1).

Table 1: Association of IPV Status and Low (<80%) PrEP Adherence

<table>
<thead>
<tr>
<th>Visits</th>
<th>N</th>
<th>% Adherence Mean (SD)</th>
<th>Low Adherence N (%)</th>
<th>OR</th>
<th>95% CI</th>
<th>p</th>
<th>Adjusted* OR</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recent</td>
<td>1,100</td>
<td>95.5 (1.7)</td>
<td>88 (8.9%)</td>
<td>1.30</td>
<td>1.02 – 1.65</td>
<td>0.032</td>
<td>1.42</td>
<td>1.14 – 1.76</td>
<td>0.007</td>
</tr>
<tr>
<td>Previous</td>
<td>5,471</td>
<td>94.8 (2.1)</td>
<td>433 (7.9%)</td>
<td>1.30</td>
<td>1.05 – 1.60</td>
<td>0.017</td>
<td>0.95</td>
<td>0.76 – 1.19</td>
<td>0.877</td>
</tr>
<tr>
<td>No IPV</td>
<td>43,562</td>
<td>95.5 (1.9)</td>
<td>2,962 (6.5%)</td>
<td>1.00</td>
<td>--</td>
<td>--</td>
<td>1.00</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>50,135</td>
<td>95.3 (1.9)</td>
<td>3,563 (7.0%)</td>
<td>--</td>
<td>--</td>
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</tbody>
</table>

* Adjusted for age (yrs), education (yr), study site, time on study, any additional sex partner, relationship status.

Conclusions

• Among HIV-uninfected women in the Partners PrEP Study, mean adherence to PrEP was very high.
• Women who reported recent IPV (in the past 3 months) were at increased risk of low PrEP adherence.
• If PrEP is targeted towards women who experience IPV, the risk of lower adherence should be recognized and strategies to promote high PrEP adherence should be evaluated.

References


Table 2: Type of IPV reported (N=437 visits)

<table>
<thead>
<tr>
<th>Type of IPV</th>
<th>N</th>
<th>%</th>
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<tbody>
<tr>
<td>Physical Only</td>
<td>25</td>
<td>5.7</td>
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<tr>
<td>Verbal Only</td>
<td>28</td>
<td>6.4</td>
</tr>
<tr>
<td>Physical and Economic</td>
<td>5</td>
<td>1.1</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>1.1</td>
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Table 3: Reported consequences of IPV (N=437 visits)

<table>
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<tr>
<th>Risk of Low Adherence</th>
<th>No Consequences</th>
<th>Consequences</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income Loss</td>
<td>12%</td>
<td>88%</td>
<td>100%</td>
</tr>
<tr>
<td>Changed Residence</td>
<td>20%</td>
<td>80%</td>
<td>100%</td>
</tr>
<tr>
<td>Lost Children</td>
<td>3%</td>
<td>97%</td>
<td>100%</td>
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Table 4: Association of IPV Status and Low (<80%) PrEP Adherence

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<tr>
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Acknowledgements

We thank the couples who participated in this study for their motivation and dedication.