Patterns and predictors of dual contraceptive use among sexually active treatment experienced women living with HIV in British Columbia, Canada.

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4th International Workshop on Women & HIV. January 2014
Conflicts of Interest

We have no conflicts of interest to declare.
Background

- Recent literature links the use of hormonal contraception to increased risk of HIV transmission to seronegative sexual partners.¹

- The relevance of this finding for women on ART is unclear.

- A systematic review published in 2013 commented on the lack of direct evidence, highlighting the need for further research ².

- The WHO recommends the use of dual contraception for sexually active HIV-positive women³.

- Dual contraception: the use of barrier contraceptives along with an additional method of effective contraception.

- Prevents unwanted pregnancies and STI transmission, whilst offering some protection against the possible HIV transmission risks associated with hormonal contraceptives.
Objectives

Among sexually active HIV-positive women of reproductive age who have ever accessed ART in British Columbia, our objectives were to:

- Measure the prevalence of dual contraceptive use.
- Determine the covariates of dual contraceptive use.
Canada
Methods

- Cross-sectional survey data from the Longitudinal Investigation into Supportive and Ancillary health services (LISA) cohort.
- HIV positive individuals who had ever used ART were recruited from across BC (n=1000).
- Interviewer-administered surveys collected information on socio-demographic, behavioural and healthcare factors from 2007-2010.
- Linked with longitudinal, population-based HIV clinical data, obtained through the Drug Treatment Program at the British Columbia Centre for Excellence in HIV/AIDS.
- Women, injection drug users and people identifying as Aboriginal were oversampled.
Inclusion Criteria for Dual Contraceptive Analysis

Participants recruited for LISA study (n=1000)

Female participants with clinical data in LISA study (excluding transgender) (n=250)

Aged 19-49 at time of interview (n=200)

Not pregnant and premenopausal (self-report) at interview (n=166)

Sexually active (self-report) in the 6 months prior to interview (n=104)
Methods

- **Primary Outcome Variable:**
  - Self-reported current contraceptive use at time of interview.

- **Contraceptive Type:**
  - Permanent: Tubal ligation and hysterectomy.
  - Hormonal: Injectables, oral contraceptives, Nuvaring, IUS.
  - Barrier: Male condoms.
  - Dual: Barrier method AND hormonal or permanent method
  - No method.
Statistical Methods

- **Descriptive statistics:**
  - Socio-demographic, clinical and reproductive characteristics.
  - Prevalence of any contraceptive use and dual contraceptive use.

- **Bivariate analyses:**
  - Identified variables associated with the use of dual contraception.

- **Multivariate logistic regression:**
  - Variables demonstrating $p$ value of $<0.2$ in bivariate analyses were considered for inclusion in a multivariable backwards stepwise logistic regression model.
  - Identified independent covariates associated with the use of dual contraception.
Table 1: Socio-demographic and reproductive characteristics of women enrolled in LISA who met the inclusion criteria (n=104)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Value (median/percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median age (IQR)</td>
<td>38 (33-42)</td>
</tr>
<tr>
<td>Aboriginal ancestry</td>
<td>41%</td>
</tr>
<tr>
<td>Married/living as married</td>
<td>36%</td>
</tr>
<tr>
<td>Currently employed</td>
<td>14%</td>
</tr>
<tr>
<td>Stable housing</td>
<td>60%</td>
</tr>
<tr>
<td>History of injection drug use (IDU)</td>
<td>70%</td>
</tr>
<tr>
<td>History of sex work</td>
<td>36%</td>
</tr>
<tr>
<td>Median parity (IQR)</td>
<td>2 (1-3)</td>
</tr>
<tr>
<td>Fertility expectations</td>
<td>19%</td>
</tr>
</tbody>
</table>
Table 2: Clinical characteristics of women enrolled in LISA who met the inclusion criteria (n=104)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value (median/percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median years since HIV diagnosis (IQR)</td>
<td>9 (6-12)</td>
</tr>
<tr>
<td>Median years since primary ART initiation (IQR)</td>
<td>6 (2-10)</td>
</tr>
<tr>
<td>Receiving ART at interview</td>
<td>66%</td>
</tr>
<tr>
<td>Median CD4 count at primary ART initiation (IQR)</td>
<td>240 (130-420)</td>
</tr>
<tr>
<td>Median recent CD4 count (IQR)</td>
<td>340 (190-550)</td>
</tr>
<tr>
<td>Virally suppressed at interview</td>
<td>56%</td>
</tr>
<tr>
<td>≥95% adherence</td>
<td>39%</td>
</tr>
<tr>
<td>Previous treatment interruptions</td>
<td>74%</td>
</tr>
</tbody>
</table>
Findings.

- Prevalence of any contraceptive use
  - 76% (79/104).

- Prevalence of dual contraceptive use:
  - 27% (28/104)
Table 3: Mutually exclusive categories of contraceptive methods used by women in the cohort (n=104).

<table>
<thead>
<tr>
<th>Mutually Exclusive Contraceptive Category</th>
<th>Sexually Active Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual contraception</td>
<td>27%</td>
</tr>
<tr>
<td>Permanent method + condoms</td>
<td>16%</td>
</tr>
<tr>
<td>Hormonal method + condoms</td>
<td>11%</td>
</tr>
<tr>
<td>Condoms only</td>
<td>30%</td>
</tr>
<tr>
<td>Permanent method only</td>
<td>11%</td>
</tr>
<tr>
<td>Hormonal method only</td>
<td>7%</td>
</tr>
<tr>
<td>No method</td>
<td>24%</td>
</tr>
</tbody>
</table>
Table 4: Multivariate logistic regression analysis of dual contraceptive use among women within the analytic sample.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No dual contraceptive use (n=76)</th>
<th>Dual contraceptive use (n=28)</th>
<th>Crude odds ratio (95% CI)</th>
<th>Adjusted odds ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median age</td>
<td>36 (32-42)</td>
<td>41 (37-43)</td>
<td>1.11 (1.03-1.21)</td>
<td>1.13 (1.03-1.24)</td>
</tr>
<tr>
<td>Median parity</td>
<td>1 (1-3)</td>
<td>3 (2-4)</td>
<td>1.52 (1.13-2.02)</td>
<td>1.43 (1.05-1.95)</td>
</tr>
<tr>
<td>Fertility expectations</td>
<td>32%</td>
<td>4%</td>
<td>0.09 (0.01-0.72)</td>
<td>-</td>
</tr>
</tbody>
</table>

- Only variables demonstrating a p value of <0.2 were considered for the multivariate analysis.
- Adjusted odds ratios are reported for variables demonstrating a significant association in the multivariate model.
Discussion

- Only a quarter of women use WHO recommended dual contraceptive methods.

- Overall, dual contraceptive users in this cohort are older with a higher parity, which may reflect the fact that dual contraceptive use was driven by the combined use of permanent and barrier methods.

- This cohort of harder-to-reach women living with HIV rely heavily on condom use.

- The use of permanent contraceptive methods is substantial within this cohort, particularly among older women.

- Few women rely solely on hormonal contraceptives.

- Treatment outcomes are suboptimal among this ART-experienced

- This cohort is at risk of poor HIV clinical outcomes and reproductive health.
Limitations

- Small sample size
- Self reported variables - subject to recall bias
- No data on partner serostatus
- Data on male partner sterilization not consistently collected.
- No data on consistency of contraceptive use
Future Considerations.

- Defining optimal contraceptive methods for use by WLWH represents a key reproductive health priority\(^6\).

- What factors influence relatively low use of hormonal contraceptive methods among this group of harder-to-reach HIV positive women?

- How might women centered care benefit this cohort of harder-to-reach HIV positive women?

- Has the potential to improve HIV and reproductive health outcomes among HIV positive women\(^7,8\).
References


Acknowledgements

• LISA participants and research team.

• Co-authors Kate Salters, Wendy Zhang, Yalin Chen, Gina Ogilvie, Robert Hogg, Angela Kaida.

• Staff at the BC Centre for Excellence in HIV/AIDS

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