Evaluating the impact of combination prevention on increasing condom use among female sex workers in Central America

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Background

No single prevention strategy will be sufficient for controlling the HIV pandemic.

The Pan-American Social Marketing Organization (PASMO) began implementing a Combination Prevention Program for HIV with partners in 2011 across 6 Central American countries.

The program links behavioral, biomedical and complementary services for a range of key populations including FSWs.
The USAID Combination Prevention Program for HIV in Central America

- 5-year program: Oct 2010 – Sep 2015

**Objective:** To support the USAID Regional Combination Prevention Strategy, which focuses on providing sustainable, cost-effective interventions designed to promote access to HIV prevention interventions for key populations at greater risk for HIV and people living with HIV

**Combination Prevention and Minimum Package**

- **Behavioral**
  - Behavior change communication activities
  - Access to water-based lubricant and latex condoms

- **Biomedical**
  - Voluntary counseling and testing for HIV
  - STI diagnosis / screening

- **Structural**
  - RH/FO services and counseling
  - Referrals to support groups (stigma and discrimination, legal support, violence, nutrition for PLHA, etc.)
  - Referrals to alcohol and drug treatment centers

**Target populations = key populations**

- People living with HIV
- Transgender women
- Men that have sex with men (MSM)
- Female sex workers (FSW)
- Men at-risk and Caribbean populations

- Implemented by
  - PASMO
  - PSI

- Program partners
  - Ministries of Health/ National AIDS Programs in the region
  - NGOs and civil society organizations
  - Private sector, etc.

- Other key partners
  - Ministries of Health/ National AIDS Programs in the region
  - NGOs and civil society organizations
  - Private sector, etc.
We conducted a mid-term evaluation to determine program effectiveness, testing associations between exposure to program components and HIV risk behaviors such as:

- Consistent condom use with clients
- Consistent condom use with regular partners
- HIV test in the last 12 months
Methods

Time location sampling

Population

- Female sex workers
- Fixed & Street-based
- Age 18 - 49 years
- Residents of study cities
- (5 cities per country, 3 in Panama)

Analysis

- Created statistically equivalent groups of exposed and non-exposed respondents
- Coarsened exact matching on SES, age, length of time working as a FSW, education
- Average treatment effects for HIV testing and condom use outcomes estimated by country using logistic regression in the matched sample
Results

Descriptive behavioral statistics

- Consistent condom use any client
- Consistent condom use regular partner
- HIV test

Countries: Belize, Guatemala, El Salvador, Nicaragua, Costa Rica, Panama

Bar chart showing the percentage of consistent condom use and HIV testing across different countries.
### Results

#### Evaluation measures

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Exposure</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistent condom use with any client</td>
<td>IPC</td>
<td>Not found</td>
</tr>
<tr>
<td></td>
<td>IPC+BIO</td>
<td>Not found</td>
</tr>
<tr>
<td></td>
<td>IPC+BIO+Structural</td>
<td>Not found</td>
</tr>
<tr>
<td>Consistent condom use with regular partners</td>
<td>IPC</td>
<td>Costa Rica/Belize</td>
</tr>
<tr>
<td></td>
<td>IPC+BIO</td>
<td>Costa Rica/Panamá</td>
</tr>
<tr>
<td></td>
<td>IPC+BIO+Structural</td>
<td>El Salvador</td>
</tr>
<tr>
<td>HIV Test</td>
<td>IPC</td>
<td>Not found</td>
</tr>
</tbody>
</table>

No impact found in Guatemala and Nicaragua for any behavior.
Results

Consistent condom use with regular partners

Belize
Exposure to IPC

Costa Rica
Exposure to IPC+BIO

Costa Rica
Exposure to IPC

Panamá
Exposure to IPC+BIO

El Salvador
Exposure to IPC+BIO+STR

El Salvador
Exposure to IPC+BIO+STR

Panamá
Exposure to IPC

Costa Rica
Exposure to IPC+BIO

Belize
Exposure to IPC

Consistent condom use with regular partners

El Salvador
Exposure to IPC+BIO+STR

Panamá
Exposure to IPC

Costa Rica
Exposure to IPC+BIO

Belize
Exposure to IPC
Study Limitations

• This study uses a **post-only design** that relies on retrospective exposure and outcome measurement, which can be prone to **recall bias**.

• CEM only matches along observed covariates and does not account for **unobserved covariates**. The effects of unobserved covariates are accounted for insomuch as they are correlated with those that are observed.

• Another potential limitation is the process of variable coarsening, which introduces variability between matched pairs. CEM faces a **tradeoff between increasing the number of matched pairs at the expense of less exact matching**.
Conclusion

- Findings suggest Combination Prevention strategies can contribute to condom use with regular partners among FSWs in Central America.

- Multiple interventions and services allow target groups to address deeper factors that influence their behaviors.

- Programs should continue offering combination prevention interventions and services to FSWs.
Acknowledgements

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