Strategies to improve HIV–Family Planning programmatic linkages for prevention of unwanted pregnancies among women living with HIV/AIDS in Mumbai, India

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HIV status in India

- Adult (15-49 years) HIV prevalence at national level declined from 0.41% in 2001 to 0.27% in 2011 (ANC-0.35%)
- Mothers receiving PPTCT prophylaxis increased from 18% in 2007 to approximately 32% by 2011
- Nearly 49,000 pregnancies occur among WLHIV every year
- 14,500 children are infected every year through parent-to-child transmission
- Fertility ratio of HIV positive women is higher than non infected women in the younger age group
- HIV Prevalence increasing in states with high unmet need for contraception and poor reproductive health indicators

NACO Technical Report 2013-14
**Background**

- **Unplanned repeat pregnancies** was significantly higher in HIV-positive (70%) than HIV-negative (36%) women (OR=4.1, CI: 2.0-8.7). *(Suryavanshi et al., 2008)*
- Majority (57%) were using only condoms and only half of them were using it regularly. 31% were using other methods along with condoms and 12% were using other methods but not condom *(Chitlange et al., 2009)*
- One third of men and one fourth of women reported inconsistent condom use with regular sexual partners *(Chakrapani V et al., 2010)*
- 30% were counselled on family planning or pregnancy planning. 85% had no intentions to have any more children. **Unmet need for contraception** -18% in males and 14% in females *(Beena Joshi et al., 2011)*
Objectives

- Assess existing status of linkages between HIV (ICTC/PPTCT) and FP services - facility survey and provider’s interview
- Operationalize a strategy for providing linked services
- Pilot test the interventions in a sample of HIV positive women after assessing their unmet need
- Compare impact of intervention at the end of stipulated period of the implementation of the strategy with a control group

Methodology

- **Situation analysis**
  Facility survey and KI interviews
  \[
  \text{Exp} - \quad X_1 \quad \text{Intervention} \quad X_2 \\
  \text{Control} - X_3 \quad X_4
  \]
  Randomly selected

- **Sample size:** All eligible women attending services over 9 months
- **Inclusion criteria:** Married women Living with HIV, Currently sexually active and in child bearing age, not undergone permanent sterilization, currently non pregnant, not using any method/using only condom, do not want to have a child for at least one year
- Enrollment over 9 months and follow up for 1 year every 3 months

- **Ethical clearances**
Situation Analysis

7 Hospitals – Program Managers, Doctors, Nurses, Counselors

Program/Policy level
- PPTCT Guidelines are focused mainly on the pregnant women
- No Operational framework on HIV-FP linkage
- MIS does not capture data on abortion/contraceptive use
- Missed opportunities to address FP issues at ICTC, ART and by ORW at PPTCT

Facility level
- ICTC and FP centers in separate buildings, no documentation of referrals, registration procedures were not uniform
- IEC material explaining condom for dual protection - very sparse

Service Provider level
- FP not a mandate at ICTC/ART
- Referrals on demand
- Myths, misconceptions prevail on use of other methods by PLHIV
- Repeat pregnancies on rise and women report late

All providers agreed that FP linkage is needed and useful. Their involvement would need support: training, manpower, IEC material, documentation and monitoring.
Strategies to provide contraception to PLHIV

Integration

HIV services

Family Planning

Linkages

Unidirectional all eligible couples

High risk behavior

Low HIV prevalence
Linkage Strategy

ICTC/PPTCT

Assessment of current contraceptive use, future fertility desire

Counselling and eligible clients referred to FP clinic, provision of referral slip

Registration for FP, Information and counselling at FP Clinic, contraceptive eligibility assessment by doctors

FP center

Provision of method along with condom

Method accepted

MIS maintained at both sites
Package of intervention at experimental site

- **Training staff** of PPTCT/ICTC and family planning centers and repeat sensitization
- Improvement in knowledge (mean score improved from 6.2±3.2 to 9.2±2.4) and attitude about providing contraception to PLHIV
- **Referral to family planning** clinics using referral slip
- **Maintenance of records** at both ICTC (no. of children, fertility desire, current contraceptive use and PPTCT and family planning centers)

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**Referral slip**

**Poster**

**Counseling Chart**
# Socio-demographic Characteristics and HIV status

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Control (n=150)</th>
<th>Experimental (n=150)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Mean±SD)</td>
<td>28.4 ±4.3</td>
<td>28.9±4.7</td>
</tr>
<tr>
<td>Literate (%)</td>
<td>77.3</td>
<td>72</td>
</tr>
<tr>
<td>Concordant (%)</td>
<td>72.7</td>
<td>72</td>
</tr>
<tr>
<td>Disclosed status (%)</td>
<td>98.7</td>
<td>100</td>
</tr>
<tr>
<td>On ART</td>
<td>42</td>
<td>43.3</td>
</tr>
<tr>
<td>No of living children (Mean± SD)</td>
<td>1.8 (±0.95)</td>
<td>2.0 (±1.0)</td>
</tr>
</tbody>
</table>

At the end of 1 year

LFU-10  Deaths -4  Widows-9
Accessed Family Planning Services

• 60% reached FP centers as against 8% in control

Clients did not reach FP center
• psychologically not prepared to think of family planning after hearing their test result for the first time (13.7%)
• needed time to decide (32.6%)
• happy with only condom use/having infrequent sexual act (20%)
• priority was illness and medicines (2%)
• decision depended on spouse or other family members (15.7%)
• if they felt it was not ideal time of menstrual cycle to start using contraceptives (5%)
• A few preferred to visit health facilities close to their homes due to time and financial constraints (11%).
Acceptance of dual methods

Dual methods accepted and continued

<table>
<thead>
<tr>
<th>Method accepted</th>
<th>Control (n=142)</th>
<th>Experimental (n=141)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>39</td>
<td></td>
</tr>
</tbody>
</table>

Consistent Contraceptive Use (%)

<table>
<thead>
<tr>
<th>Time</th>
<th>Control</th>
<th>Exp</th>
<th>P value</th>
</tr>
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<tbody>
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<td>Enrol.</td>
<td>76.8%</td>
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<tr>
<td>n=121</td>
<td>n=110</td>
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<td></td>
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<tr>
<td>1 FU</td>
<td>88%</td>
<td>89%</td>
<td>0.003</td>
</tr>
<tr>
<td>n=120</td>
<td>n=119</td>
<td></td>
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</tr>
<tr>
<td>2 FU</td>
<td>80%</td>
<td>93.4%</td>
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<tr>
<td>n=111</td>
<td>n=122</td>
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<td>81.2%</td>
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<tr>
<td>n=117</td>
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Type of Contraceptive methods accepted

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<th>Control</th>
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<tbody>
<tr>
<td>OC pills</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Injectables</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>IUD</td>
<td>4</td>
<td>19</td>
</tr>
<tr>
<td>Tubectomy</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Vasectomy of</td>
<td>0</td>
<td>2</td>
</tr>
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<td>0</td>
</tr>
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**Fertility Desire and Pregnancies**

**Control**
- Desire more children
  - Yes, n=12
    - Unplanned-3
      - 1-MTP + TL
      - 2- Sp. Abortion
  - No, n=138
    - Plan-4
    - All delivered
    - Unplanned-17
      - MTP+ TL 2, MTP-6, Sp. Abo.-3, Still birth
      - 1Delivery-5

**Experimental**
- Desire more children
  - Yes, n=14
    - Planned-1
    - Delivered
    - Unplanned-3
      - MTP +OCP- Preg- Delivered + TL- 1
      - MTP- 1
  - Not Decided, n=2
  - No, n=134
    - Planned-5
    - 3 delivered, TL-1, 2 ANC
    - Unplanned-10
      - MTP+IUD 3, MTP+Inj -2, MTP + TL-4, & Sp. Abo. - 1

**Total number of unintended pregnancies**
- Control- 20
- Experimental group- 13

* All are regular condom user
**Protection offered due to intervention**

- The Cumulative contraceptive protection offered by use of dual methods due to intervention was 8.5% more in the experimental group compared to control.
- The relative risk of unintended pregnancies in the control group was 1.528 (p=0.2).
- Number needed to treat was 21.
- 36% (AR %) of unintended pregnancies in the control group could be attributed to not being exposed to interventions i.e. counseling and access to family planning services.

✓ **Scaling up of the interventions and measuring its impact at district hospital settings is initiated**

Need to draft National Guidelines

- Delivery of linked services
- Medical Eligibility guidelines for providing contraception to PLHIV
Acknowledgement

- **ICMR, NACO**
- **Project investigators**
  - Dr. Gajanan Velhal, Dr. Sanjay Chauhan, Dr. Ragini Kulkarni, Dr. Shahina Begum
- **Site investigators**
  - Dept of OBGYN and Microbiology, Sion and Nair Hospitals, Mumbai
  - ICTC/PPTCT staff
- **Project Team**
  - Nitya, Suman, Manisha, Vasundhara, Praveen and Renuka
- **PLHIV**
- **NGOs**
  - GMNCH organisers
THANK YOU
Elements of PPTCT Strategy

**Prong 1**
Prevention of HIV infection among individuals planning to have children

**Prong 2**
Prevention of unintended pregnancies in HIV+ women

**Prong 3**
Prevention of transmission from an HIV+ woman to their newborns

**Prong 4**
Support for HIV infected mother and family

Moved from SdNVp to Option B plus since 2014

Condum promotion
Impact of Intervention on Awareness/ Knowledge

**Dual protection**

- **Control**
  - Enrolment: 80%
  - FU_4: 90.8%
- **Exp.**
  - Enrolment: 69.3%
  - FU_4: 100%

**Need to use condom if both are positive**

- **Control**
  - Enrolment: 65.3%
  - FU_4: 73.2%
- **Exp.**
  - Enrolment: 72.7%
  - FU_4: 99.3%
Challenges

1. Since there are no policy directives for linkages there were administrative challenges to roll out the strategy for linked services, maintain and monitor the MIS and sustain the linkages.

2. Providers use different cut offs of CD4 count to decide on eligibility of client to use a method or fitness to undergo operative procedure.

3. Women need repeated reminders to get motivated to use additional method. This is the limitation at ICTC as there is no scope for follow-up visit. This could be better done at ART centers.

Recommendations

1. Uniform national guidelines to provide family planning services to HIV positive people need to be formulated.

2. A broad framework needs to be developed and operationalised to provide comprehensive reproductive health care to PLHIV.
Due to intervention the cumulative failure rate of contraception in the experimental group reduced and prevented 12 women from risk of pregnancy in one year of dual method use.

<table>
<thead>
<tr>
<th>Method</th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Failure rate</td>
<td>No. of users</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Regular condom use</td>
<td>3</td>
<td>68</td>
</tr>
<tr>
<td>Irregular condom use</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>OC pills</td>
<td>0.3</td>
<td>3*</td>
</tr>
<tr>
<td>Injectable</td>
<td>0.3</td>
<td>4*</td>
</tr>
<tr>
<td>IUD</td>
<td>0.6</td>
<td>18*</td>
</tr>
<tr>
<td>Tubal ligation</td>
<td>0.5</td>
<td>12*</td>
</tr>
<tr>
<td>Vasectomy</td>
<td>0.1</td>
<td>2*</td>
</tr>
<tr>
<td>Non users</td>
<td>.85</td>
<td>1</td>
</tr>
<tr>
<td>Cumulative failure rate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Difference - 12
Role of ART Centers/ORWs

Methods accepted during follow-ups in experimental group:

- 1st FU, 22
- 2nd FU, 8
- 3rd FU, 4
- 4th FU, 9
Publications

Accepted

- Beena Joshi, Srabani Mukherji, Anushree Patil, Ameya Purandare, Sanjay Cahuhan and Rama Vaidya “A cross sectional study of Polycystic Ovarian Syndrome (PCOS) among adolescent and young girls in Mumbai, India“ India Journal of Endocrinology and Metabolism

- Rama Vaidya and Beena Joshi,“Adolescent Obesity and PCOS: A dual emergence during childhood and /or pubertal transition” a book chapter in Obesity and PCOD ,An IJCP publication
MIS being maintained at ICTC (Jan 12-Sept 13)

Sexually active 1003 (68.8%)

Male 685 (68.3%)
Female 325 (32.4%)

Contraceptive use (N=609)
- Condom - 469
- TL - 71
- Inj - 1
- Condom+TL - 67
- Condom+IUD - 1
- NON USE - 61

Contraceptive use (N=297)
- Condom - 191
- Condom+OCP - 2
- TL - 48, Inj - 1
- Condom+TL - 54
- NON USE - 17

Total - 1456
- Male 886 (60.8%)
- Female 570 (39.2%)

Only 16.2% males and 22.7% females desired more children

Average eligible client load at ICTC 30-35/month
Discontinuation and pregnancies

- Injectable users (7) followed by OC pill users (5)
- Injectable users discontinued after 2 injections (6mths) while OC pill discontinued after 2-3 months
- Fertility desires changed over time due to a number of reasons such as family pressure, newly detected status of the previous child, health status
- Pregnancies reported in both groups control (24) and experimental (19)
- Unplanned pregnancies were reported more in control (20) compared to experimental (13)
- However unplanned pregnancies in experimental group reported early and underwent abortions (90%) compared to control (60%)
- Acceptance of methods after abortions
Details of acceptors

- 83- reached FP center (Sion 61, NGO-11, BMC-7, Pvt -4)
- (37/83 who reached FP center but did not accept) 9 only condom use, 5 fear about side effects, 3 felt not fit and healthy to use other methods, 2 declared unfit by MO, 16 wanted to undergo TL at a later date, 1 no support from family and 1 needed time to decide Unplanned 13 – only condom (12) irregular pill and condom use (1)
- All planned were regular condom use
- Discontinue
- OC pill – side effects and ill health (2), irregular use (3)
- Injectable- side effects (2), ill health (1) planned pregnancy (1) , cannot afford(1)
- IUD- PID (1)
Summary

- Intervention effective in improving use of dual methods along with consistent condom use
- Women with HIV have similar socio cultural issues that affect contraceptive decision making coupled with HIV related health morbidities – Choice limited
- Abortion/Sterilisation procedures at tertiary care very time consuming
- Cost incurred- training, IEC material, incorporation of FP referral on the existing slip, inclusion in MIS
- Support group meetings - involvement of ORWs and NGOs
- Guidelines for assessing client eligibility if positive (CD4)
- Role of multiple HIV service delivery sites in promoting contraception
- Injectable and Emergency Contraception availability
- Supportive supervision and inclusion in MIS
- Need for conducting further implementation research in different settings with varying HIV prevalence and contraceptive prevalence rate
Recommendations

1. Outline of Service Delivery Package for effective HIV- FP linkages
   - Identifying cases with unmet need for contraception at ICTC /PPTCT and promotion of dual methods along with consistent use of condoms at all HIV service sites
   - Develop MIS to capture information on pregnancies, abortions and contraceptive use
   - Develop advocacy IEC material on dual method use and flip charts for counseling
   - Make referrals to Family Planning services through referral slips and ensure easy access to services
   - Trained providers to assess eligibility of positive people to use contraceptives
   - Strengthen cross talk between HIV and Family planning providers and check cross referrals
   - Repeated counseling and promotion of dual method use at ART centers and Outreach workers

2. Uniform national guidelines to provide family planning services to HIV positive people need to be formulated.

3. Conduct an implementation research project to test the results in larger and different setups
Accepted methods and discontinued

Reasons
Side effects, ill health, Can’t afford injectables, PID, irregular use
Extrapolating the results

<table>
<thead>
<tr>
<th>Population of Mumbai</th>
<th>12,478,447</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult HIV prevalence</td>
<td>0.3%</td>
</tr>
<tr>
<td>Total infected people in Mumbai</td>
<td>37,435</td>
</tr>
<tr>
<td>Adult prevalence (93%)</td>
<td>34,814</td>
</tr>
<tr>
<td>Infected Females- 39%</td>
<td>13,577</td>
</tr>
<tr>
<td>Women in the age group 15-45 (89%)</td>
<td>12,083</td>
</tr>
<tr>
<td>Unmet need for contraception (13%) at risk of unwanted pregnancies</td>
<td>1,570</td>
</tr>
<tr>
<td>If intervention given to these women, the number of women who would be protected from risk of pregnancy</td>
<td>125</td>
</tr>
</tbody>
</table>
## Challenges

<table>
<thead>
<tr>
<th>HIV -TB linkage</th>
<th>HIV –FP Linkage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referral slip gives direct access to services</td>
<td>Seperate OPD paper</td>
</tr>
<tr>
<td>TB is a disease where patient is motivated to access care</td>
<td>Family Planning is not a dire emergency and is least on their mind at ICTC</td>
</tr>
<tr>
<td>Immediate health benefits</td>
<td>Indirect health benefits not very visible</td>
</tr>
</tbody>
</table>
| Compulsory referral – 60% reach ensured by followup                           | Time constraints
|                                                                                | No followup done                                                             |
| Access to free TB drugs limited outside public settings                        | Family planning access more wider in public dispensaries or private doctors/NGOs |
| Initiation of treatment does not depend on any underlying health conditions    | Female centric methods are dependent on the day of menstrual cycles           |
|                                                                                | Decision making
|                                                                                | Constraints on eligibility to use methods                                       |
Four prong strategy of PPTCT

The United Nations PPTCT strategy outlines four approaches necessary for reducing mother-to-child transmission:

1. preventing HIV infection among individuals planning to have children – *Condom promotion, safe sex*

2. preventing unintended pregnancies among HIV-infected women

3. providing HIV counseling and testing to expectant mothers and providing antiretroviral prophylaxis HIV-infected mothers and their newborns – *Option B plus*

4. supporting HIV-infected mothers and their families – *public private partnership, PLHIV networks*
Benefits of investing in Prong 2

- Existing ARV-PPTCT likely averted 8.1% of infections and 8.5% of deaths. Family Planning use likely averted 19.7% of infections and 13.1% of deaths (Hladik W, Stover et al., 2009)

- For any given amount of money, increasing contraceptive use averted 22% more HIV-positive births than did the traditional PPTCT strategy. Reducing unmet need for contraception was more cost-effective for preventing HIV-positive births than was the current programmatic emphasis on HIV counseling and testing coupled with nevirapine provision. FHI (2007)
Participant enrollment and follow-up

Total Enrollment (n=300)

Experimental
- FU – 1 148
- FU – 2 148
- FU – 3 142
- FU – 4 141

Control
- FU – 1 147
- FU – 2 143
- FU – 3 142
- FU – 4 142

LFU – 5
Death -4
Widow – 4

LFU – 8
Widow=5
Contraceptive methods used before and after HIV

- **Pre HIV**
  - Non Users: 79.3%
  - Only Condom: 25.3%
  - OCP: 5.7%
  - IUD: 6.3%
  - Injectable: 0.7%
  - Multiple methods: 2%

- **Post HIV**
  - Only Condom: 71.7%
  - OCP: 5.7%
  - IUD: 1.3%
  - Injectable: 0%
  - Multiple methods: 1.7%
Condom Use

Condom use among sexually active participants over time: Control group

<table>
<thead>
<tr>
<th>Time Reference</th>
<th>Control</th>
<th>Experimental</th>
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Condom use among sexually active participants over time: Experimental group

% Condom use among sexually active participants over time: Control group

% Condom use among sexually active participants over time: Experimental group