HIV Care in India: A Multifaceted Epidemic

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Global Health Grand Rounds
5/01/13
Overview

• Global Epidemic
• History HIV in India
• HIV/TB
• MTCT/Breastfeeding
  World Health Organization Guidelines:
• Diagnosis/Management in resource Limited Settings
• Prevention Efforts
• Work in Andhra Pradesh
Globally, 34.0 million people living with HIV in 2011

• Including 3.3 million children less than 15 years

• 2.5 millions new infections (including 330,000 children); 22% less than in 2001

• 1.7 million people died of AIDS in 2011

• Each day almost 7,000 people newly infected

• Each day 3,950 more people on antiretroviral therapy
Adults and children estimated to be living with HIV | 2011

Total: 34.0 million [31.4 million – 35.9 million]
Estimated adult and child deaths from AIDS | 2011

- Western & Central Europe: 7000 (6100 – 7500)
- Middle East & North Africa: 23,000 (18,000 – 29,000)
- Sub-Saharan Africa: 1.2 million (1.1 million – 1.3 million)
- Eastern Europe & Central Asia: 92,000 (63,000 – 120,000)
- East Asia: 59,000 (41,000 – 82,000)
- South & South-East Asia: 250,000 (190,000 – 340,000)
- Caribbean: 10,000 (8200 – 12,000)
- Latin America: 54,000 (32,000 – 81,000)
- North America: 21,000 (17,000 – 28,000)
- Oceania: 1300 (<1000 – 1800)

Total: 1.7 million (1.5 million – 1.9 million)
Percentage of pregnant women living with HIV receiving antiretrovirals for preventing mother-to-child transmission of HIV in low- and middle-income countries by region, 2005, 2008 and 2009
Estimated number of children (<15 years) newly infected with HIV 2011

Total: 330 000 [280 000 – 390 000]
New HIV infections and AIDS-related deaths

Globally new HIV infections peaked in 1997
UN/World Bank Classification of Countries by Income

Economies are divided according to 2010 GNI per capita, calculated using the World Bank Atlas method:

- **low income**: $1,005 or less
- **lower middle income**: $1,006 - $3,975
- **upper middle income**: $3,976 - $12,275
- **high income**: $12,276 or more
Total number of people dying from AIDS-related causes in low- and middle-income countries, 1995–2011

- Without antiretroviral therapy
- With antiretroviral therapy
Antiretroviral therapy coverage in low- and middle-income countries, adults and children [combined], December 2011

<table>
<thead>
<tr>
<th>Geographical region</th>
<th>Estimated number of people receiving ARV therapy</th>
<th>Estimated number of people needing ARV therapy</th>
<th>Antiretroviral therapy coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Saharan Africa</td>
<td>6 200 000</td>
<td>11 000 000</td>
<td>56%</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>580 000</td>
<td>850 000</td>
<td>68%</td>
</tr>
<tr>
<td>East, South and South-East Asia</td>
<td>1 100 000</td>
<td>2 400 000</td>
<td>46%</td>
</tr>
<tr>
<td>Europe and Central Asia</td>
<td>130 000</td>
<td>510 000</td>
<td>25%</td>
</tr>
<tr>
<td>North Africa and the Middle East</td>
<td>17 000</td>
<td>116 000</td>
<td>15%</td>
</tr>
<tr>
<td>Total</td>
<td>8 000 000</td>
<td>14 800 000</td>
<td>54% [50–60%]</td>
</tr>
</tbody>
</table>
Disparities in ART coverage between regions and populations, December 2011

* 2010 HIV case reporting (18 countries)
HIV in India

- India is one of the largest and most populated countries in the world, with >1 billion inhabitants
- Estimated 2.4 million people currently living with HIV
- HIV emerged later in India than it did in many other countries and infection rates soared throughout the 1990’s
- Today epidemic affects all sectors of Indian society, not just the groups – such as sex workers and truck drivers – with which it was originally associated
Figure 1: India as Percent of World Population and Global and Regional HIV/AIDS Prevalence, End 2005\textsuperscript{1,5}

India as Percent of:

- Global Population: 20%
- Global HIV/AIDS Prevalence: 15%
- South/South East Asia HIV/AIDS Prevalence: 75%
History of HIV in India

- First documented HIV infection was among sex workers Chennai, Tamil Nadu, in 1986
- Pattern of epidemic thought to occur first among most vulnerable populations (IVDU and female sex workers), then spread to 'bridge' populations (clients of sex workers and sexual partners of IVDU) and then finally enter the general population
- First case report and subsequent reports, including those from NE India describing HIV infection among IVDUs, were received with skepticism and denial by academicians, politicians, and sociologists
Government Response

• Govt established a National AIDS Committee under the Ministry of Health & Family Welfare to formulate a strategy for responding to HIV/AIDS. National AIDS Control Program (NACP) launched in 1987

• NACO, established in 1992 by the Ministry with support from World Bank, is the implementing entity of the NACP. Phase I of the program started with HIV prevention goal to improve blood safety
Government Initiatives

• **1999: NACP stage II** aim to reduce HIV through behavior change Prevention of mother to child transmission and free ART implemented for first time

• **2007: NACP III** priority placed on reaching 80% high risk groups (MSM, IVDU, CSW)
  Expanded HIV counseling/testing and Rx for STD’s
  Improved education on prevention/Condom use
  Improved access to safe blood by increasing proportion of voluntary blood donation (payment for donation assoc. high-risk donors)
  Expanded programs for preventing mother-to-child transmission
2007: NACP III

• Program provides labs, such as CD4, and meds free of charge

• Immediate priorities to start pts on 1\textsuperscript{st} line regimens, to achieve high rates of compliance through supervised therapy and intensive counseling; build infrastructure

• 5 first-line ART provided: nucleoside analogues lamivudine, stavudine, and zidovudine; NNRTI’s EFV and NVP

• More expensive 1\textsuperscript{st} line meds (i.e., tenofovir and emtricitabine) not provided; 2\textsuperscript{nd} line meds /expensive labs such as HIV viral load not included
Routes of Transmission of HIV, India, 2010-11

- Heterosexual: 87.4%
- Parent to Child: 5.4%
- Homosexual/Bisexual: 1.3%
- Injecting Drug Use: 1.6%
- Blood and Blood Products: 1.0%
- Unknown: 3.3%

Source: NACO-CMIS
HIV Situation analysis

2.31 million estimated PLHA
0.34% adult prevalence

Category of Districts

| A | More than 1% ANC/PPTCT prevalence in district in any time in any of the sites in the last 3 years |
| B | Less than 1% ANC/PPTCT prevalence in all the sites during last 3 years Associated with More than 5% prevalence in any HRG group (STD/CSW/MSM/IDU) |
| C | Less than 1% in ANC prevalence and Less than 5% in all STD clinic attendees or any HRG WITH KNOWN HOT SPOTS (Migrants, Truckers, Large aggregation of, Factory workers, Tourist etc) |
| D | Less than 1% in ANC prevalence in all sites during last 3 years with Less than 5% in all STD clinic attendees or any HRG OR No or Poor HIV Data With No Known Hot Spots/Unknown |

Districts by category:
- A – 156
- B – 39
- C – 296
- D – 118
Epidemiology of HIV

- Prevalence of .3% may seem low but with India's large population, even 0.1% increase in the prevalence would increase the number of adults living with HIV/AIDS by >500,000 people.

- Move from high risk groups to general pop.

- About 90% of the total reported AIDS cases occur in the sexually active and economically productive 15 - 44 age group.
Age-adjusted HIV prevalence among antenatal attendees aged 15–24 from 2000 to 2007 in high-prevalence southern states (Andhra Pradesh, Karnataka, Maharashtra and Tamil Nadu) and northern states of India.

Source: Arora et al. (2008)
MTCT... India

• MTCT can occur during pregnancy, birth/breastfeeding and accounts >10% of all new HIV infections globally
• About 28 million deliveries annually
• Estimated 84,000 deliveries annually PLHIV women
• Without any intervention, ~30-45% of these babies will become infected with HIV
• High prevalence states of Maharashtra, Tamil Nadu, AP, Karnataka, Manipur and Nagaland: > 1 % HIV prevalence pregnant women; potential for higher number of vertically infected babies being born annually
MTCT

- Skilled health care personnel attend <50% births
- Infant mortality is ~55/1000 live births
- In 2004 ~4% of all pregnant women received HIV counseling and testing, and only about 2% of HIV+ pregnant women received ART prophylaxis, usually consisting of a single peripartum dose of nevirapine
- Evidence that HIV+ pregnant women benefit from antepartum combination ART for their own health. Under NACP-III, goal for more pregnant women to receive monitoring of CD4 cell counts, ART, and regimens designed to prevent HIV transmission (including combinations of ART drugs), and other services
Antiretroviral drug regimens for pregnant women in low and middle income countries in 2008
World Health Organization
Breastfeeding

• For HIV+ women in low/middle-income countries, advice on infant feeding differs from high income countries due to presence of limited resources and infrastructure; poor access to clean water, sanitation and health services

• Not breastfeeding can increase the risks of disease and even the death of the baby. If women cannot safely formula feed their infants, breastfeeding is the only realistic option available
<table>
<thead>
<tr>
<th>2006 WHO Infant Feeding Guidelines</th>
<th>2010 WHO Infant Feeding Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARVs from 28th week of pregnancy until 1 week after labour, initiate amount of time if the mother is taking ARVs for their own health.</td>
<td>Mother takes ARVs from 14th week of pregnancy until 1 week after labour, or for an indefinite amount of time if the mother is taking ARVs for their own health.</td>
</tr>
<tr>
<td>Long ARV regimen during breastfeeding period for either mother and/or infant</td>
<td>Long ARV regimen during breastfeeding period for either mother and/or infant</td>
</tr>
<tr>
<td>Exclusive breastfeeding for 6 months</td>
<td>Exclusive breastfeeding for 6 months</td>
</tr>
<tr>
<td>Rapidly wean from breastmilk</td>
<td>Gradually wean from breastmilk</td>
</tr>
<tr>
<td>No mixed feeding</td>
<td>Mixed (complementary) feed after 6 months</td>
</tr>
<tr>
<td>Not recommended to breastfeed after 6 months</td>
<td>Recommended to breastfeed and mix feed in conjunction with ARVs</td>
</tr>
</tbody>
</table>
Access to Care

• Many HIV positive women will not be able to obtain an extended course of ARV drugs that includes both the period when they are pregnant and the breastfeeding period.

• India 2009: 727,600 HIV + pregnant women received ARVs to prevent mother-to-child transmission, but nearly 60% of these women only received single dose nevirapine or an intermittent regimen.
Challenges in PMTCT

• ARV therapy - Choice, availability, affordability, duration, long term safety, treatment options to women and children for future
• Breastfeeding choices and alternatives.
• Less known or understanding of the determinants influencing vertical transmission.
TB and HIV in India

- Highest TB burden in the world
  - 1.8 million TB cases per year
- 3rd highest HIV burden
  - 2.3 million PLHA (2007)
  - Prevalence 0.34% (adult population)
Estimated HIV/TB-co-infected: 55-65,000
National Framework for Joint HIV/TB Collaborative Activities

To decrease the morbidity and mortality due to TB in PLHAs and to decrease the impact of HIV in TB patients by:

- Developing co-ordination mechanisms at National, State and district level
- Rolling out **Intensified HIV/TB Package** in the 9 high prevalence states
- Better Linkages to ART and Care & Support
- Capacity building
- Operational research
Intensified Package for HIV/TB

• Rolled out for nine states (321.4 millions) (Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu, Manipur, Nagaland, Goa, Mizoram and Pondicherry)

• This package includes:

1. Routine referral of all TB patients for HIV counseling and testing

2. Provision of care to all HIV-TB co-infected patients through decentralized delivery

3. Expanded recording and reporting including shared confidentiality of HIV status with TB program.
Diagnostic Challenges in Resource Limited Settings

WHO Clinical Staging
WHO Staging System for HIV/AIDS: Overview

• Tool used to guide management of HIV patient in resource limited settings with limited laboratory access
• Clinically based; CD4 count not required
• Simple, flexible and widely used
• Recently revised: Interim African version 2005
• Utilizes 5 clinical stages based on the degree of immunocompromise and prognosis
  – Primary HIV Infection, I, II, III, IV
WHO Staging System for HIV/AIDS: Overview (2)

• Performed at each clinical visit
  – Diagnosis
  – Entry to clinical care (pre-ART)
  – Follow-up

• Stage assessment can be adjusted upwards or downwards over time according to response to ART and/or clinical progression
WHO Staging of HIV/AIDS

• Primary HIV Infection
• Stage I - asymptomatic
• Stage II - mild disease
• Stage III - moderate disease
• Stage IV - advanced immunocompromise
WHO Stage I

- Asymptomatic or
- Persistent generalized lymphadenopathy (PGL)
WHO Stage II

- Moderate unexplained weight loss (<10% of presumed or measured body weight)
- Recurrent respiratory tract infections (RTIs, sinusitis, bronchitis, otitis media, pharyngitis)
- Herpes zoster
- Angular cheilitis
- Recurrent oral ulcerations
- Papular pruritic eruptions
- Seborrhoeic dermatitis
- Fungal nail infections of fingers
Pruritic Papular Eruption (PPE)

• Epidemiology
  – Substantial cause of HIV-related morbidity in sub-Saharan Africa
  – Prevalence ranges from 12-46%
  – Uncommon in HIV negative patients (PPV of 82-87%; may play role in diagnosing HIV)
  – Probably related to hypersensitivity to arthropod bites
Pruritic Papular Eruption (2)

• Clinical Manifestations
  – Intensely pruritic, discrete, firm, papules; variable stages of development
  – Excoriation results in pigmentation, scarring and nodules
  – Predilection for extremities, but may involve trunk and face
  – Severity of rash correlates with CD4 count

• Treatment
  – Topical steroid and oral antihistamines; however often refractory
Pruritic Papular Eruption
WHO Stage III

- Presumptive diagnosis made on the basis of clinical signs or simple investigations
  - Severe weight loss (>10% of presumed or measured body weight)
  - Unexplained chronic diarrhea for > 1 month
  - Unexplained persistent fever (intermittent or constant >1month)
  - Oral candidiasis
  - Oral hairy leukoplakia
  - Pulmonary tuberculosis (TB) diagnosed in last two years
  - Severe presumed bacterial infections (e.g. pneumonia, empyema, pyomyositis, bone or joint infection, meningitis, bacteremia)
  - Acute necrotizing ulcerative stomatitis, gingivitis or periodontitis
WHO Stage III

- Conditions where confirmatory diagnostic testing is necessary
  - Unexplained anemia (<8 g/dl), and or
  - Neutropenia (<500/mm³) and or
  - Thrombocytopenia (<50 000/ mm³) for more than one month
Oral Candidiasis

Courtesy of Samuel Anderson, MD

Courtesy of Dr. R. Ojoh
WHO Stage IV

- Conditions where a presumptive diagnosis can be made on the basis of clinical signs or simple investigations
  - HIV wasting syndrome
  - Pneumocystis pneumonia
  - Recurrent severe or radiological bacterial pneumonia
  - Chronic herpes simplex infection (orolabial, genital or anorectal of more than one month’s duration)
  - Oesophageal candidiasis
  - Extrapulmonary TB
  - Kaposi’s sarcoma
  - Central nervous system (CNS) toxoplasmosis
  - HIV encephalopathy
WHO Stage IV (2)

- Conditions where confirmatory diagnostic testing is necessary:
  - Extrapulmonary cryptococcosis including meningitis
  - Disseminated non-tuberculous mycobacteria infection
  - Progressive multifocal leukoencephalopathy (PML)
  - Candida of trachea, bronchi or lungs
  - Cryptosporidiosis
  - Isosporiasis
  - Visceral herpes simplex infection
WHO Stage IV (3)

• Conditions where confirmatory diagnostic testing is necessary:
  – Cytomegalovirus (CMV) infection (retinitis or of an organ other than liver, spleen or lymph nodes)
  – Any disseminated mycosis (e.g. histoplasmosis, coccidiomycosis, penicilliosis)
  – Recurrent non-typhoidal salmonella septicemia
  – Lymphoma (cerebral or B cell non-Hodgkin)
  – Invasive cervical carcinoma
  – Visceral leishmaniasis
Disseminated Cutaneous Cryptococcosis

Courtesy of Samuel Anderson, MD
Clinical Staging/When to start ART in Specific Populations?

<table>
<thead>
<tr>
<th>Target population</th>
<th>Clinical condition</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asymptomatic individuals (including pregnant women)</td>
<td>WHO clinical stage 1</td>
<td>Start ART if CD4 ≤ 350</td>
</tr>
<tr>
<td>Symptomatic individuals (including pregnant women)</td>
<td>WHO clinical stage 2</td>
<td>Start ART if CD4 ≤ 350</td>
</tr>
<tr>
<td></td>
<td>WHO clinical stage 3 or 4</td>
<td>Start ART irrespective of CD4 cell count</td>
</tr>
<tr>
<td>TB and hepatitis B coinfections</td>
<td>Active TB disease</td>
<td>Start ART irrespective of CD4 cell count</td>
</tr>
<tr>
<td></td>
<td>HBV infection requiring treatment*</td>
<td>Start ART irrespective of CD4 cell count</td>
</tr>
</tbody>
</table>

* The current standard definition of chronic active hepatitis in industrialized countries is mainly based on histological parameters obtained by liver biopsy, a procedure not usually available in the large majority of resource-limited settings. A global definition of chronic active hepatitis for resource-limited settings based on clinical and more simple laboratory parameters is under discussion.
TREATMENT: 2010 WHO Guidelines
Recommendations at a Glance

• When to start: CD4<350 regardless of symptoms; pts w/ severe disease (stage 3 or 4) should start regardless of CD4

• What to use 1\textsuperscript{st} line: 1\textsuperscript{st} line therapy should consist of an NNRTI or 2 NRTI’s one of which should be AZT or TDF. Emphasis to decrease use of d4T stavudine due to toxicities.

• What to use 2\textsuperscript{nd} line: Ritonavir boosted PI + two NRTI’s based on prior hx. Preferred ATV/r or LPV/r
Recommendations
Lab Monitoring

• Pts should have access to CD4 testing to optimize pre-ART and ART management

• Viral load testing is recommended to confirm suspected treatment failure

• Drug toxicity monitoring should be symptom related
<table>
<thead>
<tr>
<th>Failure</th>
<th>Definition</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical failure</strong></td>
<td>New or recurrent WHO stage 4 condition</td>
<td>Condition must be differentiated from immune reconstitution inflammatory syndrome (IRIS)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Certain WHO clinical stage 3 conditions (e.g. pulmonary TB, severe bacterial infections), may be an indication of treatment failure</td>
</tr>
<tr>
<td><strong>Immunological failure</strong></td>
<td>Fall of CD4 count to baseline (or below) OR 50% fall from on-treatment peak value OR Persistent CD4 levels below 100 cells/mm³</td>
<td>Without concomitant infection to cause transient CD4 cell decrease</td>
</tr>
<tr>
<td><strong>Virological failure</strong></td>
<td>Plasma viral load above 5000 copies/ml</td>
<td>The optimal viral load threshold for defining virological failure has not been determined. Values of &gt;5 000 copies/ml are associated with clinical progression and a decline in the CD4 cell count</td>
</tr>
</tbody>
</table>
Recommended Second Line Anti-Retroviral Therapy

<table>
<thead>
<tr>
<th>Target population</th>
<th>2010 ART guideline*</th>
<th>2006 ART guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV+ adults and adolescents</td>
<td>If d4T or AZT used in first-line therapy</td>
<td>TDF + 3TC (or FTC) + ATV/r or LPV/r</td>
</tr>
<tr>
<td></td>
<td>If TDF used in first-line therapy</td>
<td>AZT + 3TC (or FTC) + ATV/r or LPV/r</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ABC + ddl or TDF+ ABC or ddl +3TC or TDF + 3TC (± AZT) plus ATV/r or FPV/r or IDV/r or LPV/r or SQV/r</td>
</tr>
</tbody>
</table>
Accessibility and Feasibility

• Countries should select regimen as preferred option on basis of factors such as:
  
  – Number of people starting ART with HIV/TB or HIV/HepB
  – Anemia (due to malnutrition, intestinal parasites, repeated pregnancies, etc)
  – Pregnant women/women of reproductive age
  – Predicted expenditure/person needing ART; in country cost of drug regimens
ART Scale up in India

Art Scale Up In India

<table>
<thead>
<tr>
<th></th>
<th>Mar-05</th>
<th>Mar-06</th>
<th>Mar-07</th>
<th>Mar-08</th>
<th>Mar-09</th>
<th>Dec-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of patient on 1st line</td>
<td>6845</td>
<td>37368</td>
<td>69016</td>
<td>140654</td>
<td>223223</td>
<td>384726</td>
</tr>
<tr>
<td>Ever Registered</td>
<td></td>
<td></td>
<td>194,507</td>
<td>428,056</td>
<td>686,913</td>
<td>1,169,050</td>
</tr>
<tr>
<td>No. of ART centre</td>
<td>25</td>
<td>54</td>
<td>107</td>
<td>147</td>
<td>211</td>
<td>292</td>
</tr>
</tbody>
</table>

Source NACO-CMIS
Cumulative outcome of PLHA on ART

- Alive & on ART: 77%
- Died: 13%
- LFU: 6%
- Missed: 3%
- Stopped Treatment: 1%

Source: NACO-CMIS
Prevention
Main driving forces for HIV/AIDS

Immediate Determinants
- Frequent and multiple partners
- Early sexual initiation
- Sex with partner who has multiple partners and/or has STI
- Previous and/or current STI
- Lack of use of protection (condoms)

Sexual Transmission

Proximal Determinants
- Gender inequalities
- Poverty
- Illiteracy
- Mobility, migration
- Lack of access to information & services
- Stigma & discrimination

Proximal Determinants

Other Determinants
- Limited Political commitment
- Poor infrastructures
- Limited human capacity
- Legal barriers
- Conflict and Disasters
- Low rates of economic growth
Risk Perception: Percentage of Sexually Active Women (15–19) Who Think They Are not at Risk of Getting AIDS

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guatemala</td>
<td>87%</td>
</tr>
<tr>
<td>Brazil</td>
<td>87%</td>
</tr>
<tr>
<td>Niger</td>
<td>87%</td>
</tr>
<tr>
<td>Chad</td>
<td>60%</td>
</tr>
<tr>
<td>Mali</td>
<td>46%</td>
</tr>
<tr>
<td>Togo</td>
<td>45%</td>
</tr>
<tr>
<td>Haiti</td>
<td>63%</td>
</tr>
<tr>
<td>Kenya</td>
<td>36%</td>
</tr>
<tr>
<td>Uganda</td>
<td>21%</td>
</tr>
<tr>
<td>Zambia</td>
<td>52%</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>50%</td>
</tr>
</tbody>
</table>

HIV prevalence rate in women attending antenatal care clinics in major urban areas (at time of survey).

HIV Prevention – What Works?

• Voluntary counseling and testing (VCT)
  – Risk assessment
  – Risk reduction
  – Testing

• Behavioral interventions to reduce risk behavior

• Condoms

• Sexually transmitted infection (STI) prevention and treatment
HIV Prevention – What Works?
continued

• Antiretroviral (ARV) and breastfeeding interventions to prevent mother-to-child transmission (MTCT)
• Safe transfusion practices
Prevention

**Condoms**
- Most effective method to prevent HIV and STI
- Male and female condoms available
- Pts need education regarding proper use
- Consistent use must be emphasized

**Barriers to Use**
- Family Values
- Gender
- Marital Issues
- Cultural Beliefs
Behavioral Interventions

• Education
• Recognition of risks
• Recognition of barriers to risk reduction
• Motivation to change
• Risk reduction plan
Risk Assessment

- Age < 25 yrs
- Single
- Sexual behavior: woman or partner
  - More than one partner in last 3 months
  - Multiple partners
  - New or casual partner
- Mobile population
  - Refugee
  - Husband in military or long-distance truck driver
- STIs: woman or partner
  - History
  - Signs or symptoms
- History of substance abuse
- Pregnant
- History of tuberculosis (TB)
- Sex worker
- Signs or symptoms suggesting HIV
Outreach Methods

- **Field Counseling:**
  - Group sessions
  - 1-on-1 sessions
    - Behavior Change Assessment and Communication

- **Education:**
  - Condom distribution and demos
  - Pamphlets

- **Phone follow up**

- **On site HIV testing**

- **Hospital Referrals**
  - STI and HIV Testing, general check ups

Schneider, J. University of Chicago
Global Health Initiative
Barriers to Prevention for Women

• Stigma of HIV
• Women often unaware of partner’s infection status or level of risk
• Women may be unable to negotiate safer sex practices
  – Sexual coercion
  – Domestic violence
  – Economic vulnerability
Stigma

• Women less likely than men to seek testing, and less able to afford treatment
• HIV+ women were more likely than men to take care of their partners and neglect their own health
• After having been the primary caregivers for their husbands, women were often asked to leave the house of their in-laws after the husbands died and denied their inheritance
• Women were often blamed by their in-laws for infecting their husbands by not controlling their husbands’ urges to have sex with other women
• Quality of care provided to HIV+ women by family was also significantly poorer than that provided to men.

Social Stigma as Barrier to Care

• More recently- HIV+ Indian women reported that they have had their morality questioned
• Many Indian women are afraid to disclose their HIV status, which can result in the use of disclosure avoidant strategies:
  – hiding one’s medications
  – lying about the reason for clinic visits
• Behaviors have in turn been shown to cause delay in accessing, or suboptimal use of, health-care facilities

HIV+ Mothers

• HIV infected mothers face additional challenges:
  – inheritance issues
  – access to education for their children
• These issues have all resulted in anxiety and hesitation about disclosing status, even in health care settings

Prevention Considerations

• Focusing on high-risk groups is not enough
• Risk behavior and vulnerability should be emphasized
• Knowledge and awareness are important but not sufficient
  – Life skills training (sexual negotiation)
  – Condom promotion
  – Long-term change in social norms
Prevention Considerations

• Socioeconomic interventions to reduce vulnerability are needed
  – Education of girls
  – Protection of human rights
  – Reduction of stigma
Perspective

HIV in India — The Challenges Ahead

Robert Shembrook, M.D.

On April 1, 2007, India will launch a new phase of its National AIDS Control Program (NACP). It aims...
Challenges

• In scaling up treatment, India's domestic pharmaceutical industry has a critical role
• Paradox that Indian companies have become major suppliers of low-cost generic antiretroviral medications to low- and middle-income countries in Africa and elsewhere at a time when there are still major unmet needs for HIV treatment in India
• Cipla, a company based in Mumbai, manufactures the largest range of HIV drugs and has the largest market share. Cipla exports 18 times as much antiretroviral medication as it sells domestically
• Retail drug prices are higher in India than in Africa, in part because of taxes

Steinbrook, NEJM 2007
Challenges

• Patients with HIV infection in India can receive care in the private sector that is indistinguishable from that provided in leading treatment centers around the world

• Relevant medications and lab tests are available
• HIV medications, like other drugs, are sold over the counter
• Some doctors and pharmacists, however, provide treatments that do not make sense:
  – “..instances in which a patient was told to take ineffective regimens, such as one zidovudine tablet twice a day for 21 days”
  – Provision of ineffective regimens and the development of drug resistance are major concerns

Steinbrook, NEJM 2007; 356: 1197-1201
Challenges

• Inevitable that national program will have to cover additional first-line treatments, second-line treatments, and measurement of HIV viral load; Protocols will eventually reflect updated recommendations of WHO

• But costs of such tests and second-line medications which, at about $2,000 a year, are about 10 times those of some first-line regimens — remain formidable

• Policy of covering additional drugs is “a big responsibility. Once the government says it will provide you with these drugs, it is a commitment forever”

• Steinbrook, NEJM 2007; 356: 1197-1201
UNAIDS Commitments and targets for 2015

1. Reduce sexual transmission of HIV by 50% by 2015
2. Reduce transmission of HIV among people who inject drugs by 50% by 2015
3. Eliminate new HIV infections among children by 2015 and substantially reduce AIDS-related maternal deaths
4. Reach 15 million people living with HIV with lifesaving antiretroviral treatment by 2015
5. Reduce tuberculosis deaths in people living with HIV by 50 percent by 2015
Andhra Pradesh is a state located in SE of the country. Total population ~76 million. ~6 million live in or around Hyderabad.

2007 HIV prevalence:
- antenatal clinics ~1%
- STD clinics ~17%
- MSM ~17%
- Female sex workers ~9.7%
- IDU’s ~3.7%
వాయనకు సందర్భం మాత్రమే

చిత్రాల సంకేతాలు
ATT Ward,
2006 to 2013 March total outpatients: 7832
Total inpatients: 13915
HIV-TB Co-infection Patients: 841
Prevention of mother to child transmission:
  HIV + pregnant: 315

263/315 delivered
154 babies HIV (-) after 18 months
Global Health Initiative Principles

• Support country ownership and invest in country-led plans.

• Implement a woman and girl-centered approach – to both improve health outcomes for women and recognize that women are central to the health of families and communities.

• Increase impact through strategic coordination and integration – for patients and for those involved in providing or paying for services.

• Strengthen and leverage key multilateral organizations, GH partnerships and private sector engagement – because improving health outcomes is a shared responsibility.

• Build sustainability through health systems strengthening.

• Improve metrics, monitoring and evaluation.

• Promote research and innovation to identify what works.
The UNAIDS VISION

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ZERO NEW HIV INFECTIONS.
ZERO DISCRIMINATION.
ZERO AIDS-RELATED DEATHS.