HIV-1, STDs and RH situation in China and the need for MPT

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Sexual Transmission of HIV-1 has become the major route.

Data in 2009 showed that sexual transmission accounted for 56% of new infections. Heterosexual transmission increased from 40.3% in 2008 to 47.1% in 2009; MSM increased from 5.9% in 2008 to 8.6% in 2009.
Some characteristics of HIV epidemic in China

• The overall prevalence in China is low but there are a number of high prevalence areas. In 2009 there were 5 counties with prevalence higher than 1-7%; , Yunnan, Guangxi, Henan, Sichuan, Xinjiang and Guangdong account for 77.1% of the total cases.

• In Guangdong, more than 50% new cases of HIV/AIDS were identified in the migrant workers. While in Dongguan where has the most migrant workers, over 90% of new cases were in the migrant population;

• Sexual transmission has seen a dramatic increase, particularly homosexual transmission. Many of MSM in China are not open homosexual and often have families.

• In contrast to the global AIDS epidemic that the hardest hit regions tend to be the economically disadvantaged, economically well developed Guangdong is one of the highest epidemic provinces in China. Expert even termed it “Guangdong phenominon”
Annual Reported STDs in China, 1985-2000
Changing STD Epidemic Profiles

1991年全国性病构成

- 生殖器疱疹: 2.60%
- 梅毒: 1.08%
- NGU: 5.64%
- 尖锐湿疣: 25.12%
- 淋病: 65.22%

2005年全国性病构成

- 生殖器疱疹: 3.94%
- 梅毒: 16.17%
- 尖锐湿疣: 18.85%
- NGU: 36.78%
- 淋病: 24.14%

Characteristics

- **Before middle of 1990s:** Gonorrhea (red) and Genital warts (green) were the major STDs.
- **Late 1990s to 2005:** NGU (pink) was the major STD, with Gonorrhea (red), Genital warts (green) and syphilis (yellow) also widely spread.
- **After 2006:** syphilis became the major STD, with Chlamydia, Gonorrhea (red), and Genital warts (green) widely spread.

2008年全国105个监测点性病构成

- 生殖器疱疹: 3.94%
- 梅毒: 16.17%
- 尖锐湿疣: 18.85%
- NGU: 36.78%
- 淋病: 24.14%
- 衣原体感染: 20.69%
- 梅毒: 37.50%
Example: Reported cases of syphilis

The highly prevalent regions tend to be economically developed with high percentage of migrant workers.
The HIV-1 and Syphilis prevalence have significant geographic overlaps.

In contrast to the global AIDS epidemic that the hardest hit regions tend to be the economically disadvantaged, economically well developed Guangdong is one of the highest epidemic provinces in China. Expert even termed it “Guangdong phenomenon”
Demography of syphilis sero-positivity

**MSM**: Range: 10.6%-18.7%, Mean: 14.56%

**FSW**: Range: 4.95% - 17.8%, Mean: 12.49%
  - Mid cost FSW: 4.0% - 8.8%
  - Low end FSW: 32.2% - 33.1%

**IVD**: Range: 5.01% - 11.17%, Mean: 6.81%

**FSW client**: Range: 2.99% - 5.79%, Mean: 3.04%

Pre-marrige check: Range: 0.31% - 1.43%, Mean: 0.66%

Pregnant women: Range: 0.29% - 0.6%, Mean: 0.45%
### 表 3 各类人群监测哨点梅毒抗体阳性率分布

<table>
<thead>
<tr>
<th>监测人群</th>
<th>哨点数</th>
<th>未检出</th>
<th>&lt;1%</th>
<th>1% ~ 5%</th>
<th>≥5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV 哨点</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>吸毒者</td>
<td>303</td>
<td>27</td>
<td>126</td>
<td>119</td>
<td>39.7</td>
</tr>
<tr>
<td>男男同性行为者</td>
<td>108</td>
<td>5</td>
<td>33</td>
<td>66</td>
<td>62.9</td>
</tr>
<tr>
<td>吸烟者</td>
<td>520</td>
<td>128</td>
<td>251</td>
<td>80</td>
<td>15.4</td>
</tr>
<tr>
<td>男性 STD</td>
<td>370</td>
<td>67</td>
<td>132</td>
<td>136</td>
<td>36.8</td>
</tr>
<tr>
<td>男性长途司机</td>
<td>58</td>
<td>23</td>
<td>23</td>
<td>12</td>
<td>20.7</td>
</tr>
<tr>
<td>流动人口</td>
<td>87</td>
<td>43</td>
<td>15</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>孕产妇</td>
<td>376</td>
<td>185</td>
<td>44</td>
<td>3</td>
<td>0.8</td>
</tr>
<tr>
<td>青年学生</td>
<td>66</td>
<td>16</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>小计</td>
<td>1888</td>
<td>494</td>
<td>613</td>
<td>404</td>
<td></td>
</tr>
</tbody>
</table>
### FSW at various locations and their risks of infections

<table>
<thead>
<tr>
<th>Location</th>
<th>Syphilis infection</th>
<th>HIV-1 infection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No of people</td>
<td>%</td>
</tr>
<tr>
<td>A</td>
<td>2179</td>
<td>3.4</td>
</tr>
<tr>
<td>B</td>
<td>2808</td>
<td>5.6</td>
</tr>
<tr>
<td>C</td>
<td>1295</td>
<td>12.8</td>
</tr>
<tr>
<td>Total</td>
<td>6282</td>
<td>6.3</td>
</tr>
</tbody>
</table>

χ² P<0.001

A: Karaoke、Disco、Teahouse、star-rated hotel
B: hair salon、massage parlor、beauty salon、foot massage、roadside guesthouse, etc.
C: roadside call girl、rental apartment、
The economic migrants are of particular concerns with respect to HIV and STDs.

2009 data showed that there were 211m migrant population, 16.5% of the total population; mean age 27.3yr old;

78.7% of the migrants were from countryside with agriculture “Hu Kou” (registered residence) and poorly educated (<20% have any skill training);

Most of the migrants do not have adequate health insurance and do not use medical facilities (52% do not have any Insurance policy);

They mostly worked in manufacture, retail and service industries, and concentrated in low pay and high risk businesses;
Population changes during 2000-2010

The coastal regions have the highest growth.
The central regions have negative growth.
Most of the population growth concentrates at the economically developed provinces.
Floating population constitutes a significant portion of the population in many cities

And, most of the floating population are Sexually active young adults
IUD and sterilization are the dominant contraceptive methods

Key observations

- IUD gaining in popularity – low cost and difficult to remove after installation
- Condom usage increased with urbanization, increased income and easy access
- OC/Inj. usage decreased due to SE and decreased Govt. purchased
- Implant – local Govt. replaced Implant with IUD

![Usage of different contraceptive methods, China](chart)

**Courtesy: Dr. Chandiok**
Condom use is less frequent in low income groups
Why does China need MPTs?

- HIV continues to spread, mainly through sexual transmission and homosexual transmission is on the rise in recent years;

- STDs has emerged as one of the major public health concerns, both as diseases and as risk factors for HIV; Some of the pathogens are known to have significant overlaps in the affected population;

- Huge floating population that may facilitate HIV and other STDs spreading;

- Inadequate public health infrastructure and approach to identify, monitor, and intervene;

- Insufficient healthcare coverage, social welfare, particularly for people at low income sector, to receive medical service.
What should be the initial focus for MPTs in China?

Indications:
- HIV & STIs
- STI & Pregnancy
- HIV & Pregnancy

Dosage Forms:
- Sustained release
- Topical over oral
- Pericoital over daily

There are significant knowledge gaps on the end users’ perspectives, preferences and acceptability.
Opportunities and Challenges

Opportunities:
• Improving the quality of reproduction is a national priority
• Control of HIV spreading has become a key national research and development focus
• Significant investment has been made to accomplish goals outlined in the prioritized areas
• An existing service network for reproductive health, and the leadership aims to provide quality reproductive service to 60% of the areas in the next 5 years

Challenges:
• There are many knowledge gaps
• The research, development, public health and the end users remain fragmented
• Regulatory pathway is unclear
• The policy makers need education on MPTs
Thank You