Gender Imbalance, Migration and HIV Transmission Risk

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HIV Epidemic in China

- The trend of HIV epidemic

Figure 1: Reported HIVAIDS cases in China 1985-2009
HIV Epidemic in China

- Key results of HIV/AIDS estimates in China

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2007</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survive cases</td>
<td>650,000 (540,000~760,000)</td>
<td>700,000 (550,000~850,000)</td>
<td>740,000 (560,000~920,000)</td>
</tr>
<tr>
<td>New cases</td>
<td>70,000 (60,000~80,000)</td>
<td>50,000 (40,000~60,000)</td>
<td>48,000 (41,000~55,000)</td>
</tr>
<tr>
<td>Prevalence rate</td>
<td>0.050% (0.042%~0.058%)</td>
<td>0.054% (0.042%~0.065%)</td>
<td>0.057% (0.043%~0.071%)</td>
</tr>
</tbody>
</table>
HIV Epidemic in China

- Large differences among provinces in reported cases

Figure 2: Geographic distribution of cumulative reported HIV positives in China (at end of 2009)
HIV Epidemic in China

- Large differences among provinces in estimated cases

Figure 3: Geographical distribution of estimated 740,000 PLHIV in China in 2009
HIV Epidemic in China

• Patterns of HIV transmission in reported cases

Figure 4. Annual transmission breakdowns of reported HIV/AIDS cases in China, 1985-2009
HIV Epidemic in China

• Patterns of HIV transmission on estimation

Figure 5: Pattern among PLHIV in 2007
Figure 6: Pattern among PLHIV in 2009
Figure 7: Pattern among new infections in 2009
HIV Epidemic in China

- Turning point in HIV epidemic?
- Up or down?
Demographic Changes

• Trends of sex ratio at birth (SRB)

Figure 8: SRB in China 1982-2009
Source: China Population Statistics Yearbooks, Statistical Communiqué of the People’s Republic of China
Demographic Changes

- Differences among urban, town and rural areas

Figure 10: SRB by Area in 1990, 2000 and 2005
Source: China’s Population Census in 1990, 2000 and China’s 1% Population Sample Survey in 2005
Demographic Changes

• SRB by province in 1982, 1990, 2000 and 2005
Surplus male population and marriage squeeze

Poston and Glover (2005) estimated, the number of surplus males is 23 million of births born from 1978 to 2000 in China.

If SRB remains at the level of 2000, surplus males aged 20-50 will be 60 millions in 2050 (Li & Jiang, 2006)
Demographic Changes

**Implications for public health**

- The dramatic overabundance of adult males relative to adult females usually stimulated the rapid development of sex industry, as well as serve as an most important driver of homosexual behaviors. (Hudson, 2004)

- Along with the remarkable ideological and cultural changes which have shaped the sexual behaviors, the “surplus men” are speculated to engage in higher sexual risk behaviors to spread the HIV/STDs. Especially when these surplus men congregate in the cites by migration. (Tucker & Henderson, 2005)
Demographic Changes

• 1.2 Floating population and migrants (in millions)

Figure 11: The Size of Migrant Population in China 1982-2009
• The direction of migration

- Xinjiang
- Hebei
- Henan
- Hubei
- Hunan
- Guizhou
- Yunnan
- Guangxi
- Guangdong
- Dongbei
- Beijing
- Jiangsu
- Anhui
- Shanghai
- Shang hai
- Hebei
- Central
- Sichuan
- Hainan
Demographic Changes

- Migration with gender imbalance will further accelerate the risk of HIV/STDs prevalence

- For economic and marriage chances, the forced bachelors should be the main subgroup floating from rural areas to cites.

- Convenient access to sex service and open environment in cities should increase the sexual risk of unmarried male migrants.
China is at the edge of HIV disaster, just like the great ship, Titanic, sailing to the huge iceberg. (UNAIDS)
Sexual Attitudes and HIV Risk

Data and measures
- A survey was conducted across 28 provinces and 125 counties of China in 2005. The samples were limited to 18-69 years old.

- The sexual attitudes including patronizing sex workers and homosexuality attitudes were measured with a 5-point Likert scale.
Sexual Attitudes and HIV Risk

- Changes of sexual attitudes over time

![Bar Chart: Patronizing sex workers]

- 1940s or before: 3.50%
- 1950s-1960s: 4.80%
- 1970s: 5.50%
- 1980s: 8%
Sexual Attitudes and HIV Risk

- Changes of sexual attitudes over time

### Homosexuality

<table>
<thead>
<tr>
<th>Decade</th>
<th>National Sample</th>
<th>Unmarried Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940s or before</td>
<td>7.70%</td>
<td>14.30%</td>
</tr>
<tr>
<td>1950s-1960s</td>
<td>11.10%</td>
<td>19.20%</td>
</tr>
<tr>
<td>1970s</td>
<td>15.50%</td>
<td>28.80%</td>
</tr>
<tr>
<td>1980s</td>
<td>25.10%</td>
<td>23.40%</td>
</tr>
</tbody>
</table>
Sexual Attitudes and HIV Risk

- Changes of sexual attitudes over time

**Patronizing sex workers**

- National sample
- Male migrants
- Unmarried male migrants

- 1940s or before: 3.50%
- 1950s-1960s: 4.80%
- 1970s: 5.50%
- 1980s: 8.90%

- 12.50%
- 7.20%
- 6.40%
- 8%
- 0.00%
Sexual Attitudes and HIV Risk

- Changes of sexual attitudes over time

### Homosexuality

- National sample
- Male migrants
- Unmarried male migrants

<table>
<thead>
<tr>
<th>Time Period</th>
<th>National Sample</th>
<th>Male Migrants</th>
<th>Unmarried Male Migrants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940s or before</td>
<td>7.70%</td>
<td>10.00%</td>
<td>11.90%</td>
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<td>1950s-1960s</td>
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<td>22.30%</td>
<td>37.50%</td>
</tr>
<tr>
<td>1980s</td>
<td>23.40%</td>
<td>31.80%</td>
<td>35.80%</td>
</tr>
</tbody>
</table>

1940s or before  | 1950s-1960s  | 1970s          | 1980s          |
Sexual Attitudes and HIV Risk

- Sexual attitudes of old-unmarried males

![Chart showing sexual attitudes of old-unmarried males]

- Patronizing sex worker: 8.10% urban, 1.60% rural
- Homosexuality: 27.20% urban, 14.80% rural
Sexual Attitudes and HIV Risk

- Sexual attitudes of old-unmarried males
Sexual Attitudes and HIV Risk

- Sexual attitudes of unmarried male migrants

Unmarried male migrants

- Patronizing sex worker
- Homosexuality

- Income categories:
  - Below 10,000
  - 10,000-15,000
  - Above 15,000
Conclusion

• Even the changes of sexual attitudes over time was considered, the sexual attitudes has been more open in the subgroups of unmarried males, especially in the unmarried male migrants.

• Comparing with the attitude of patronizing sex workers, the homosexuality was more broadly accepted by unmarried males and unmarried male migrants over different ages.

• The old unmarried males who live in urban areas or floating to cities are more open to risk sexual attitudes. the unmarried male migrating to middle developed province are even more open.
Implications

- Along with the changes of sexual attitudes over times, the surplus men under gender imbalance with increase the risk of HIV spread, especially when they migrate to urban areas.
- The unmarried males will prefer to engage in homosexual behavior. So, the risk of HIV spread through homosexual contact will increase dramatically.
- Under the migration pattern, HIV epidemic will be more likely to break out in middle developing provinces as they has more forced bachelors with low education.
Thank you!