HIV/AIDS Topics in Tokyo

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1. Trend of HIV/AIDS in Japan
Trend of newly registered HIV/AIDS cases in Japan
The number of HIV/AIDS cases newly registered in Japan (2015) = 1434
The number of HIV/AIDS cases (1434) by Transmission Category in 2015

<table>
<thead>
<tr>
<th>Transmission Category</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heterosexual sexual contact</td>
<td>291 (20.3%)</td>
</tr>
<tr>
<td><strong>Same-sex sexual contact</strong>*</td>
<td>941 (65.6%)</td>
</tr>
<tr>
<td>Injection Drug User</td>
<td>5 (0.3%)</td>
</tr>
<tr>
<td>Mother to Child Transmission</td>
<td>1 (0.1%)</td>
</tr>
<tr>
<td>Others</td>
<td>27 (1.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>169 (11.8%)</td>
</tr>
</tbody>
</table>

* All cases are MSM (men who have sex with men)
The number of HIV/AIDS cases (1434) by Nationality, Gender in 2015

Japanese = 1288

- Male: 1239 (96.2%)
- Female: 49 (3.8%)

Non-Japanese = 146

- Male: 118 (80.8%)
- Female: 28 (19.2%)
The number of HIV/AIDS infection among Japanese has been still increasing mainly with MSM.

**MSM** = men who have sex with men
2. Trend of HIV/AIDS in Tokyo
The patients in Tokyo account for 30% of the total HIV cases in Japan.
Trend of newly registered HIV/AIDS cases in Tokyo
The number of HIV/AIDS cases newly registered in Tokyo (2015) = 435
Age distribution of HIV patients in Tokyo (2015)

n = 435
The number of HIV/AIDS cases (435) by Nationality, Gender in Tokyo, 2015

Japanese 374

- Male 363 (97.1%)
- Female 11 (2.9%)

Non-Japanese 61

- Male 57 (93.4%)
- Female 4 (6.6%)
3. HIV testing and facility
Testing and Counseling facility (Free of charge, anonymous)
- Public Health Centers
- Minami-Shinjuku Testing and Counseling Office

Hospitals and Clinics
- Core Hospitals (44 Hospitals)
- Other Medical Facilities (Hospitals and Clinics)
Minami-Shinjuku Testing and Counseling Office

- 3 min. walk from south exit of Shinjuku station
- Testing Hours
  Mon – Fri: 15:30 – 19:30   Sat, Sun: 13:00 – 16:30
- Free of charge, anonymous
- Reservations possible from mobile phone site
Reported cases according to medical facility in Tokyo

- Public Health Centers
- Minami-Shinjuku Office
- Core Hospitals
- Other Medical Facilities


Cases: 0, 50, 100, 150, 200, 250, 300, 350, 400, 450
HIV positive rate at public health centers in Tokyo

Minami-Shinjuku Office

- 2005: 0.93%
- 2006: 1.15%
- 2007: 1.16%
- 2008: 0.87%
- 2009: 0.83%
- 2010: 1.09%
- 2011: 0.92%
- 2012: 0.95%
- 2013: 0.86%
- 2014: 0.83%
- 2015: 0.79%

Public Health Centers

- 2005: 0.25%
- 2006: 0.34%
- 2007: 0.38%
- 2008: 0.38%
- 2009: 0.32%
- 2010: 0.48%
- 2011: 0.41%
- 2012: 0.41%
- 2013: 0.29%
- 2014: 0.42%
- 2015: 0.44%
HIV testing by postal mail

- One of the HIV-self testing.
- All procedures from application to checking the result are available at website.
- This service is offered by several companies.
- HIV testing by postal mail is not authorized by the Ministry of Health and Welfare, Japan.
HIV testing by postal mail

Application of the HIV testing through website and the testing kits is delivered.

Taking a blood sample by yourself and return it anonymously.

Checking the result at website.
Trend of the number of HIV testing by postal mail and at public health centers

Number of testing

At public health centers

By postal mail

N=128,241

N=85,629
Problems of HIV testing by postal mail

- Differences in correspondence or support by companies.
- Accuracy control is not mandatory.
- Possibility of false negative.
- Mass examination for sex workers without privacy.
Challenges of recommendation for taking HIV test

- MSM living in rural areas
- MSM in middle and old ages
- Infected patients by heterosexual contact

MSM: men who have sex with men
4. Antiretroviral Therapy (ART)
360 core AIDS treatment hospitals
Of the 44 core hospitals in Tokyo, approximately 70% of outpatients are concentrated at 5 particular hospitals.
AntiRetroviral Therapy (ART)

Side effect ↓
Drug Resistance ↓
STR is selectable

(STR : single tablet regimen)
STR (single tablet regimen)

- RPV/TDF/FTC
- DTG/ABC/3TC
- EVG/COBI/FTC/TDF
- EVG/COBI/FTC/TAF
<table>
<thead>
<tr>
<th>Recommended combinations</th>
<th>Tablets taken in one day</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRV+RTV+TDF/FTC</td>
<td><img src="image1" alt="Red Pill" /> <img src="image2" alt="White Pill" /> <img src="image3" alt="Blue Pill" /></td>
</tr>
<tr>
<td>RAL+TDF/FTC</td>
<td><img src="image4" alt="Pink Pill" /> + <img src="image3" alt="Blue Pill" /></td>
</tr>
<tr>
<td>DTG+TDF/FTC</td>
<td><img src="image5" alt="Orange Pill" /> <img src="image3" alt="Blue Pill" /></td>
</tr>
<tr>
<td>DTG/ABC/3TC</td>
<td><img src="image4" alt="Pink Pill" /> <img src="image3" alt="Blue Pill" /></td>
</tr>
<tr>
<td>EVG/cobi/TDF/FTC</td>
<td><img src="image6" alt="Green Pill" /> <img src="image3" alt="Blue Pill" /></td>
</tr>
<tr>
<td>EVG/cobi/TAF/FTC</td>
<td><img src="image6" alt="Green Pill" /> <img src="image3" alt="Blue Pill" /></td>
</tr>
<tr>
<td>RPV/TDF/FTC</td>
<td><img src="image4" alt="Pink Pill" /> <img src="image3" alt="Blue Pill" /></td>
</tr>
<tr>
<td>Category</td>
<td>Anti-HIV Drugs</td>
</tr>
<tr>
<td>----------</td>
<td>----------------</td>
</tr>
<tr>
<td>NRTI</td>
<td>AZT</td>
</tr>
<tr>
<td></td>
<td>3TC</td>
</tr>
<tr>
<td></td>
<td>ABC</td>
</tr>
<tr>
<td></td>
<td>TDF</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
</tr>
<tr>
<td></td>
<td>ABC/3TC (EZC)</td>
</tr>
<tr>
<td></td>
<td>TDF/FTC (TVD)</td>
</tr>
<tr>
<td>NNRTI</td>
<td>EFV</td>
</tr>
<tr>
<td></td>
<td>RPV</td>
</tr>
<tr>
<td>PI</td>
<td>RTV</td>
</tr>
<tr>
<td></td>
<td>LPVr</td>
</tr>
<tr>
<td></td>
<td>ATV</td>
</tr>
<tr>
<td></td>
<td>DRV</td>
</tr>
<tr>
<td>INSTI</td>
<td>RAL</td>
</tr>
<tr>
<td></td>
<td>DTG</td>
</tr>
<tr>
<td>STR</td>
<td>EVG/COBI/FTC/TDF (STB)</td>
</tr>
<tr>
<td></td>
<td>RPV/TDF/FTC (CMP)</td>
</tr>
<tr>
<td></td>
<td>DTG/ABC/3TC (TRI)</td>
</tr>
<tr>
<td></td>
<td>EVG/COBI/FTC/TAF (GEN)</td>
</tr>
</tbody>
</table>
Trend of newly introduced ART (Key drug)

- **2011** (N=58)
  - PI

- **2012** (N=99)
  - PI
  - NNRTI

- **2013** (N=44)
  - PI
  - INSTI

- **2014** (N=54)
  - STR

- **2015** (N=36)
  - STR
TasP
Treatment as Prevention
The number of patients receiving treatment: increased 22folds.

The number of death related to AIDS: decreased by 40%.

Reports of UNAIDS 2015/7/14
“Cascade” Strategy

The goal is achievement of 90–90–90

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic rate of all patients</td>
<td>90%</td>
</tr>
<tr>
<td>Regular visit at HIV clinic</td>
<td>90%</td>
</tr>
<tr>
<td>Effective treatment</td>
<td>90%</td>
</tr>
</tbody>
</table>
“Cascade” in the US

The number of HIV infected patients: 1.2 million

(estimate in 2011)

![Bar chart showing the percentage of diagnosed, engaged in care, prescribed ART, and virally suppressed patients.]

MMWR November 28, 2014 / 63(47);1113–1117

- Number of outpatients: 1318
- Anti-retroviral therapy (ART): 1265 (96.0%)
- Viral Suppression: 1238 (97.9%)
Drug adherence rates between the US and Japan

General pharmacy users in the US: 69%
Specialized pharmacy users in the US: 74%
Survey in 2012 (Japan): 97%

2). 「Questionnaires regarding life and compliance. 」2012
PrEP
Pre-Exposure Prophylaxis
Medical cost for Antiretroviral therapy (ART) is Approximately 200,000 Yen (1,800 US $) /Month

70% of medical cost is covered by insurance

We have a system for subsidizing the remained cost

Final costs is 0~20,000 Yen (0~180 US $) /Month

* The payments are decided by income.
5. Aging and Non-AIDS Comorbidities
Cumulative HIV+ cases (Komagome Hospital)

(～2014) 2506 cases
Age distributions of outpatients

(Komagome Hospital)

2014  n=1260

23.8%
Non-AIDS Comorbidities

- Cardiovascular disease
- Liver disease
- Chronic kidney disease
- Osteoporosis
- HIV associated neurocognitive disorders (HAND)
- Non-AIDS-Defining Malignancies (NADM)
Causes of death of HIV outpatients at Komagome hospital

- **AIDS-related illness**
- **Other cause of death**
AIDS-defining malignancies (ADM)

Kaposi's sarcoma
Non-Hodgkin lymphoma
Cervical cancer

non-AIDS-defining malignancies (NADM)

Other malignancies
Changes in causes of death
(A Cohort Study in Switzerland)

Changes in causes of death (Komagome hospital)

- **1985–1996**: n=100
  - AIDS-defining diseases
  - Bacterial infections
  - Liver diseases
  - NADM
  - Others
  - Unknown

- **1997–2002**: n=51
  - AIDS-defining diseases
  - Bacterial infections
  - Liver diseases
  - NADM
  - Others
  - Unknown

- **2003–2009**: n=71
  - AIDS-defining diseases
  - Bacterial infections
  - Liver diseases
  - NADM
  - Others
  - Unknown
Trend of non-AIDS-defining malignancies (NADM)

- Head & neck tumors
- Lung tumors
- Gastric tumors
- Colon tumors
- Hepato-Biliary-Pancreatic tumors
- Urinary System tumors
- Anus tumors
- Others
## Causes of death in 2015 at Komagome hospital

<table>
<thead>
<tr>
<th>Case</th>
<th>Age</th>
<th>First Visit</th>
<th>Cause of Death</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>71</td>
<td>1997.3.31</td>
<td>unknown</td>
<td>Home</td>
</tr>
<tr>
<td>2</td>
<td>68</td>
<td>2006.10.31</td>
<td><strong>Liver-related</strong></td>
<td>Home</td>
</tr>
<tr>
<td>3</td>
<td>60</td>
<td>1997.7.15</td>
<td><strong>Cerebral hemorrhage</strong></td>
<td>Other hospital</td>
</tr>
<tr>
<td>4</td>
<td>68</td>
<td>2004.3.4</td>
<td><strong>Liver-related</strong></td>
<td>Home</td>
</tr>
<tr>
<td>5</td>
<td>63</td>
<td>2015.6.1</td>
<td><strong>AIDS-related illness (PCP, CMV)</strong></td>
<td>Hospital</td>
</tr>
<tr>
<td>6</td>
<td>58</td>
<td>1999.6.29</td>
<td><strong>Chronic kidney disease (Dialysis)</strong></td>
<td>Home</td>
</tr>
<tr>
<td>7</td>
<td>56</td>
<td>2015.4.10</td>
<td><strong>AIDS-related illness (PML)</strong></td>
<td>Hospital</td>
</tr>
<tr>
<td>8</td>
<td>30</td>
<td>2015.3.16</td>
<td><strong>Nasal cancer</strong></td>
<td>Hospital</td>
</tr>
<tr>
<td>9</td>
<td>48</td>
<td>2010.1.21</td>
<td>unknown</td>
<td>Home</td>
</tr>
<tr>
<td>10</td>
<td>44</td>
<td>2005.5.9</td>
<td><strong>Gastric cancer</strong></td>
<td>Hospital</td>
</tr>
<tr>
<td>11</td>
<td>89</td>
<td>2000.6.23</td>
<td>unknown</td>
<td>Home</td>
</tr>
</tbody>
</table>
Many of the HIV/AIDS patients are MSM.

Increase of elderly patients living alone.
Needs for medical system supporting aging society.

- Cooperation with other departments in community
- Hospitals possible for long stay
- Medical care service at home
Thank you for your attention