Speed up! Nieuwe wetenschappelijke inzichten in de strijd tegen hiv/aids uit het NCHIV

22 November 2016
Royal Tropical Institute,
Amsterdam
Session 1
Preventing HIV transmission

Chairs: Catherine Hankins & Marc van der Valk

22 November 2016
Royal Tropical Institute, Amsterdam
HIV Prevention in Europe
Making it Happen

Bacterial STIs in MSM, 2005-14

Sheena McCormack

Chlamydia: 26%
Gonorrhoea: 32%
Syphilis: 46%

2013-14:
- Chlamydia: ↑ 26%
- Gonorrhoea: ↑ 32%
- Syphilis: ↑ 46%
HIV Prevention in Europe - Making it Happen

Sheena McCormack

So make it happen

- Make the easy changes
  - use champions and social media to promote testing and raise awareness of PrEP
  - shorten the time to treatment
  - reward staff attitudes that reduce stigma

- Partner with community to
  - agitate for PrEP and more testing
  - deliver PrEP safely
Informal PrEP use among MSM in Europe – first results from the EU Flash PrEP survey

Medical Check-ups

<table>
<thead>
<tr>
<th>Prior (kidney/liver)</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>150 (48.1)</td>
</tr>
<tr>
<td>No</td>
<td>162 (51.9)</td>
</tr>
</tbody>
</table>

Creatine use and informal PrEP use: 17.7%

During use

<table>
<thead>
<tr>
<th>During use</th>
<th>overall N (%)</th>
<th>Daily N (%)</th>
<th>Interm. N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once before start</td>
<td>27 (18.2)</td>
<td>16 (16.2)</td>
<td>9 (25)</td>
</tr>
<tr>
<td>Every three months</td>
<td>96 (64.9)</td>
<td>71 (71.7)</td>
<td>16 (44.4)</td>
</tr>
<tr>
<td>Irregularly</td>
<td>25 (16.9)</td>
<td>12 (12.1)</td>
<td>11 (30.6)</td>
</tr>
</tbody>
</table>

HIV testing

<table>
<thead>
<tr>
<th>HIV testing</th>
<th>A lot lower than before N (%)</th>
<th>Lower than before N (%)</th>
<th>The same N (%)</th>
<th>Higher than before N (%)</th>
<th>A lot higher than before N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>2 (1.3)</td>
<td>4 (2.6)</td>
<td>69 (45.4)</td>
<td>51 (33.6)</td>
<td>26 (17.1)</td>
</tr>
<tr>
<td>Intermittent</td>
<td>2 (1.4)</td>
<td>3 (2.1)</td>
<td>90 (63.4)</td>
<td>39 (27.5)</td>
<td>8 (5.6)</td>
</tr>
</tbody>
</table>
Motivations for joining AMPrEP

Elske Hoornenborg GGD Amsterdam

- I want better protection against HIV
- I want to worry less for HIV
- I want to contribute to scientific research
- I want to worry less about sex
- My partner is HIV positive

Graph showing motivations for joining AMPrEP with data points for each reason and two types of PrEP: Daily PrEP and Event based PrEP.
NCHIV 2016

Session 2
Challenging issues in HIV care

Chairs: Eline op de Coul & Guido van den Berk

22 November 2016
Royal Tropical Institute, Amsterdam
Alexander Pastoors HVN
HCV treatment cascade of care

Number of patients

- Chronic HCV: 260
- Planned for DAA: 236
- Started with DAA: 224
- Virologic outcome: 147

Job Saris 5e jaars medisch student AMC/UvA
Immune activation by HIV-1 enhances sexual transmission of Hepatitis C virus by human primary Langerhans cells

- Immature LCs do not transmit HCV
- Coinfection with HIV-1 enhances HCV transmission by LCs
- HIV replication is necessary for increased HCV transmission
- Activated LCs transmit HCV to hepatocytes independent of productive HCV replication
Alarmingly high rate of primary HIV drug resistance in infants in Nigeria

Kim Sigaloff AIGHD/AMC
Session 3
Optimising the HIV care continuum

Chairs: Suzanne Geerlings & Maarten Schim van der Loeff

22 November 2016
Royal Tropical Institute, Amsterdam
Integrase inhibitor use is an independent risk factor for immune reconstitution inflammatory syndrome (IRIS) in HIV-1 late presenters in the Dutch ATHENA cohort

Cox regression analysis:

<table>
<thead>
<tr>
<th></th>
<th>IRIS French + clin. HR (95%CI), p-value</th>
<th>IRIS French HR (95%CI), p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of INI</td>
<td>2.69 (1.63-4.44), 0.0001</td>
<td>2.62 (1.35-5.10), 0.0045</td>
</tr>
<tr>
<td>Female gender</td>
<td>1.64 (0.97-2.78), 0.067</td>
<td>-</td>
</tr>
<tr>
<td>Diagnosed with CM</td>
<td>3.71 (1.55-8.88), 0.0033</td>
<td>11.6 (4.77-28.3), &lt;0.0001</td>
</tr>
<tr>
<td>Diagnosed with MAC</td>
<td>2.46 (1.04-5.84), 0.041</td>
<td>-</td>
</tr>
<tr>
<td>Diagnosed with CMV</td>
<td>2.25 (1.06-4.79), 0.035</td>
<td>4.23 (1.84-9.74), 0.0007</td>
</tr>
</tbody>
</table>

No other investigated parameters were significant predictors of IRIS.
No interactions between use of INI and any of the other parameters.
400 (95% CI, 260 – 660) people living with HIV were still undiagnosed by the end of 2015.

Amsterdam HIV care continuum in 2015

Total population

<table>
<thead>
<tr>
<th>Stage</th>
<th>Number of Individuals</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living with HIV</td>
<td>6,150</td>
<td>100%</td>
</tr>
<tr>
<td>Diagnosed and linked to care</td>
<td>5,772</td>
<td>94%</td>
</tr>
<tr>
<td>Retained in care</td>
<td>5,349</td>
<td>87%</td>
</tr>
<tr>
<td>Antiretroviral treatment</td>
<td>5,176</td>
<td>84%</td>
</tr>
<tr>
<td>Viral suppression</td>
<td>4,868</td>
<td>79%</td>
</tr>
</tbody>
</table>

UNAIDS

94%
ART Guidelines: Conclusions

– ART today is highly active, safe and tolerable, convenient, increasingly available, and prolongs healthy life.

– ART in 10 years will be:
  • Highly active, including against drug-resistant strains
  • Even more safe and tolerable (including long-term)
  • Even more convenient, including long-acting and implantable formulations
  • Even more widely available and affordable
  • Associated with a normal life expectancy for HIV-infected people (compared to the general population)

Roy Gulick, Weill Cornell Medicine, NY
NCHIV 2016

Session 4
The road to cure

Chairs: Tokameh Mahmoudi & Daniel Kuritzkes

22 November 2016
Royal Tropical Institute, Amsterdam
Viable pathways towards a durable remission/cure: Gene therapy

Viable pathways towards a durable remission/cure: Early ART

Viable pathways towards a durable remission/cure: Shock and kill

Viable pathways towards a durable remission/cure: Immunotherapy

Combination strategies will likely be needed to achieve a durable remission

A number of viable combinations should be available for testing in a few years

Steven Deeks, San Francisco
gRNA-guided CRISPR/Cas9 nuclease

Combinations of guideRNA’s needed to make it work

Repair by the error-prone non-homologous end joining (NHEJ) machinery.

Mutations in HIV-1: impaired functioning
A bright future for Dutch HIV research

Elevator pitches by recipients of the Aids Fonds’ high risk, high-gain grants

• A costimulatory power-boost for HIV-specific T-cells through GITR activation
  *M. Fernanda Pascutti (Sanquin Research)*

• Development of a natural drug "mimic" derived from dendritic cells that activate latent HIV-1 and potentially could cure infected patients
  *Thijs van Montfort (AMC)*

• Can the CRISPR-Cas9 system be used to cure HIV-1 infected cells?
  *Atze Das (AMC)*

• The FIND study: fine-needle biopsies to detect the hidden HIV reservoirs in hard-to-reach tissue compartments of well-controlled and uncontrolled HIV-patients
  *Annemarie Wensing (UMC Utrecht)*

• New, less cumbersome screening method for anal (pre)cancer, based on DNA changes, in HIV+ men who have sex with men
  *Olivier Richel (AMC)*

• Peer empowered Volunteery Extended Network Testing for Ethnic Minority-MSM
  *Eline op de Coul (RIVM)*
23-27 July 2018
AMSTERDAM, NETHERLANDS

22ND INTERNATIONAL AIDS CONFERENCE (AIDS 2018)

INTERNATIONAL CHAIR: LINDA-GAIL BEKKER, SOUTH AFRICA
LOCAL CHAIR: PETER REISS, NETHERLANDS
For further information

Please visit our website ([www.hiv-monitoring.nl](http://www.hiv-monitoring.nl)) and read or download the new digital HIV Monitoring Report.

- Fully searchable PDF, with appendix figures and tables included
- All figures available separately as powerpoint file at [www.hiv-monitoring.nl](http://www.hiv-monitoring.nl)
- Summary and Recommendations on website & in print (see NCHIV bag)
Anna de Lang  (1978-2016)