Why are we not reaching the mark with HIV infected children?

DNDi 10th anniversary
Nairobi June 5th 2013

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MSF South Africa
We have come a long way from this....
....to TasP and PMTCT B+
Major Progress in EMTCT

- 3.4 million children infected
- 330,000 new infections in 2011 — 90% in SSA
- 230,000 children died of AIDS
But ART coverage for infected children remains low.

- 560,000 children on treatment in 2011
- 28% coverage of need

Source: Pepfar 2013
Active case finding and early identification of HIV exposed children

- Identify HIV children:
  - at birth
  - at end of BF
  - later
- Identify (newly) infected mothers and siblings

Age at ART initiation
MSF multicentric cohort end 2012
N=16,320

- < 24 months & HIV+ confirmed: 19%
- < 24 months & HIV unknown: 3%
- 24-59 months: 27%

Source: MSF & Epicentre
### Access to early infant diagnosis: Light at the end of the tunnel?

#### SA: HIV-exposed children accessing PCR testing 2008 - 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimated # HIV-exposed infants born</th>
<th>All ages: Total tests</th>
<th>&gt; 2 mo: Total tests</th>
<th>≤2 mo: Total tests</th>
<th>≤2 mo: Pos tests</th>
<th>≤2 mo: % positivity</th>
<th>EID coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>193,350 (178,031 - 209,024)</td>
<td>146,514</td>
<td>85,755</td>
<td>60,759</td>
<td>5,006</td>
<td>8.2%</td>
<td>31.4%</td>
</tr>
<tr>
<td>2009</td>
<td>185,370 (171,407 - 200,144)</td>
<td>177,329</td>
<td>93,494</td>
<td>83,835</td>
<td>4,855</td>
<td>5.8%</td>
<td>45.2%</td>
</tr>
<tr>
<td>2010</td>
<td>185,370 (171,407 - 200,144)</td>
<td>196,254</td>
<td>94,935</td>
<td>101,319</td>
<td>4,329</td>
<td>4.3%</td>
<td>54.7%</td>
</tr>
</tbody>
</table>
Access: Decentralization of ART initiation is slow

ART cohort – Thyolo, Malawi, 2012
Blue: adults  Orange: pediatric
The Long Road to Simplification: ART Initiation criteria in infants

<table>
<thead>
<tr>
<th>Immunological Marker</th>
<th>Age-specific recommendations for initiating ART</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008: all &lt; 12M regardless of cd4</td>
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<tr>
<td></td>
<td>2010: all &lt; 24M regardless of cd4</td>
</tr>
<tr>
<td></td>
<td>2013: all &lt; 5y regardless of cd4</td>
</tr>
</tbody>
</table>

| CD4 count            | <1500 cells/mm³ | <750 cells/mm³ | <350 cells/mm³ | <200 cells/mm³ |

If the CD4 count and CD4% are discordant i.e. one parameter indicating severe immunodeficiency and the other non-severe immunodeficiency, the child should be classified into the severe category and worked-up for ART.
Retention in care: Children compare well to adults

Paediatric Retention In Care at 12 months for patients initiated in 2011 in MSF OCB projects

- Gulu: 100%
- Thyolo: 97%
- Roma: 91%
- Khayelitsha: 87%
- Murumbinda: 85%
- KZN: 85%
- Conakry: 83%
- Kinshasa: 81%
- Mavala: 77%
- Kibera: 65%
Viral load: Aiming for Undetectable

- Specific problems in young children
  - High viral load
  - Transmitted NNRTI resistance
  - Poor Adherence
  - Stigma and disclosure
LPV/r superior to NVP-based HAART even in children not exposed to sd-NVP

The IMPAACT P1060 trial compared:
- nevirapine based regimen versus a lopinavir/r based regimen
- in infants peri-natally exposed or non exposed to nevirapine

24-week primary endpoint:
21.5% overall difference (p <0.001)
Protease Inhibitor formulation for small children remains a major barrier.

**NNRTI**
- FDCs available
- Baby and junior
- Scored tablets
- Can be crushed
- Easy dosing

**PI**
- < 15 kg: 100/25 mg
- > 15 kg: 100/25 mg
- Liquid only currently -> no FDC
- Bitter taste, 42% ethanol
- Needs cold chain, difficult dosing
- Stigma: hard to hide
CHAPAS-2 LPV/r sprinkles

Registration of LPV/r sprinkles

Dual NRTIs dispersible tablets

DNDi
Drugs for Neglected Diseases initiative

Modular concept

LPV/r +2NRTIs granules clinical batch

FINAL 4-in-1

2012 2013 2014
Conclusions

• Despite major progress in PMTCT, HIV-infected children will remain a reality for next decade
• Sub-standard regimen combined with health services problems lead to a median survival of less than 10 years
• Field feasibility studies for PI-containing paediatric FDC are urgently needed
• Accelerated regulatory and ERB support is essential to move forward on key field studies
Acknowledgements:

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Asante Sana