HIV Treatment Optimization for Adolescents and YPLHIV

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Outline

• UNAIDS Global Goal
• ART initiation and follow up
• Available treatment options
• Treatment advancements
• Challenges and recommendations
• Co-morbidities and complexities
UNAIDS Global Goal

• Prevention and 1st 90
  • Partners in discordant relationship
  • HIV self testing
  • Partner notification services (PNS)

• Combination prevention
• Pre exposure Prophylaxis (PrEP)
• Consistent and correct condom use
• HAART for prevention
2nd 90 – initiated and retained on ART

- Test and Treat (as soon as possible)
- Disclosure counselling
- Adherence to treatment
- Individualized care/differentiated care
- Operation Triple Zero (OTZ)
OPERATION TRIPLE ZERO
‘OTZ’ Overview

Voluntary enrolment to OTZ

Commitment to 3 Zeroes

Motivation of self & others

ZERO VIRAL LOAD

ZERO MISSED APPOINTMENT

ZERO MISSED DRUGS

Slide courtesy of CDC WK
# July - Sept 2017 cohort
## Suppression 6 months post OTZ

<table>
<thead>
<tr>
<th>Eligible for VL</th>
<th>VL Uptake</th>
<th>VL result availability</th>
<th>Non suppression</th>
<th>Suppression</th>
<th>True Suppression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
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<td>10</td>
<td>2</td>
<td>8</td>
<td>5</td>
</tr>
</tbody>
</table>

| % Achievement   | 100%      | 100%                   | 20%             | 80%         | 50%             |

*80% suppression from a baseline of 68%

*Slide courtesy of FACES Kenya*
# July - Sept 2017 cohort
## Suppression 12 months post OTZ

### Month 12 July – Sep 2017 Cohort

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>46</td>
<td>46</td>
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<td>0</td>
<td>46</td>
<td>3</td>
</tr>
<tr>
<td><strong>% Achievement</strong></td>
<td>100%</td>
<td>100%</td>
<td>0%</td>
<td>100%****</td>
<td>7%***</td>
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</table>

100% suppression 12 months post OTZ

***Data being reviewed***
ART initiation and follow up

• Optimization: making the best/most effective use of a resource
• Key principles of ARV Drug Optimization
  a) Reduce toxicity
  b) Improve palatability/pill burden
  c) Increase resistance barrier
  d) Reduce drug interactions
  e) Safe use across different age groups and populations (“Harmonization”)
  f) Reduce cost
Available treatment options

- Below 14 years: ABC/3TC/EFV
- ≥15 years – Adult regimen TDF/3TC/EFV or TDF/3TC/DTG – FDC
- Dolutegravir (DTG) – Integrase strand inhibitor
  - It is better tolerated
  - Has a high genetic barrier for resistance
  - Few drug-drug interactions
    - Rifampicin, EFV, ETR lowers DTG
    - Antacids: 2 hours before or 6 hours after
    - Use lower dose of Metformin
- Side Effects: Insomnia, headache, nausea, diarrhea
  - Low fat meal – may improve insomnia
- Faster virological suppression/higher antiretroviral potency
- Higher risk of Immune reconstitution Inflammatory Syndrome (IRIS)
Dolutegravir & pregnancy

- World Health Organization, President’s Emergency Plan for AIDS Relief, US Food & Drug Administration (US FDA), European Medicines Agency (EMA), Southern African HIV Clinicians Society (SAHCS)
  - DTG should not be used for women of childbearing age who are intending to become pregnant or are not on effective contraception
  - Pregnant women who are currently on DTG should continue, but consult their HCW

- Other points
  - Exclude pregnancy before starting DTG (EMA, FDA, SAHCS)
  - If pregnancy is confirmed in the first trimester, switch to a non-DTG containing regimen (EMA, SAHCS)
  - Literacy & Integration of FP & ARVS
  - Counselling and assessment on pregnancy Intention at every visit
Viral Load (VL) Monitoring

• PCR positive HEI infants- VL as a baseline test
• 0-24 years - VL every 6 months
• > 25 years- VL at 6 months of ART, 12 months on ART and then annually
• Pregnant and Breastfeeding
  • At confirmation of pregnancy (if already on ART),
  • 3 months after ART initiation (if initiated in pregnancy or during breastfeeding)
  • Every 6 months until complete cessation of breastfeeding
• Regimen Substitution
  • Before any drug substitution ( if no VL available in the last 6 months).
  • VL 6 months after any regimen modification

Kenya National AIDS & STI Control Program (NASCOP) September 2018
Treatment advancements

- Phase III trial
- Carbotegravir (Integrase inhibitor) and Rilpivirine (NNRTI)
- Long acting – injected once a month
- Given to those with maintained viral suppression for at least 6 months
- Maintained viral suppression at 48 weeks
- Reduced treatment burden-improved adherence
Challenges and Recommendations

• Adherence- affects viral load suppression
  • Disclosure and psychosocial challenges
    • Timely and gradual disclosure needed
    • Psychosocial interventions needed
  • Fatti G et al: Community based support in South Africa
    • Reduced loss to follow up/Improved retention
    • Reduced mortality
  • Treatment interruptions
    • Cannot be guaranteed to be safe (viral rebound)
    • Only in carefully monitored research setting

• Comorbidities & complexities

• Readiness for transition
Co-morbidities: Prevention & Treatment

• Education and empowerment to foster self management
  • Live positively, cope effectively, recognize symptoms, attend hospital

• Community level uptake of recommended preventive interventions
  • Immunization, cotrimoxazole, multivitamin, TB screening, insecticide treated nets, clean drinking water, prevent HIV transmission

• Nutritional advice, counselling and support

• Healthcare worker training, support and continued mentoring
  • HIV chronic care model

• Improvement of health care infrastructure
  • Facilitate chronic patient management

*Kenya National manual for the management of HIV-related opportunistic infections and conditions*
Co-morbidities

- Nutrition: Assess for balance and adequacy then supplement
- Vaccinate for preventable diseases in childhood
- Bacterial Respiratory Tract Infections: frequent and recur
  - Cotrimoxazole, early diagnosis and treatment
- Diarrheal diseases: Hygiene, hands, water, food, waste disposal
  - Cotrimoxazole
- Malaria: General prevention, cotrimoxazole, ART initiation
- **Cotrimoxazole**: Common bacterial infections, diarrhea (Isospora belli, malaria, Toxoplasmosis, pneumocystis pneumonia
  - Bacterial resistance

*Kenya National manual for the management of HIV-related opportunistic infections and conditions*
Co-morbidities & complexities

• Cryptococcal meningitis
  • Serum crag for all patients with CD4 below 200
  • Take precaution even as you prioritize ART initiation

• Tuberculosis
  • Take precaution in TB Meningitis during ART initiation
  • Prevention: Isoniazid prophylaxis – 300mg + 50mg pyridoxine daily- 6 months
  • TB LAM (lipoarabinomannan)- a urine dipstick TB test for
    • All patients with CD4 test below 100
    • Patients with advanced HIV disease/very ill
    • Patients admitted in the ward
  • Managing shared adverse drug events e.g rash and liver function

• Renal failure and dose adjustments
• Close monitoring for IRIS
References

• Kenya National AIDS & STI Control Program (NASCOP) September 2018
• IAS summary 2017
• Family AIDS Care and Education Services (FACES)
• Kenya National manual for the management of HIV-related opportunistic infections and conditions
Thank you