MINISTRY OF HEALTH
BARBADOS

UPDATE ON THE CLINICAL MANAGEMENT OF HIV IN BARBADOS

82nd UWI/ BAMP CME

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BARBADOS ASSOCIATION OF MEDICAL PRACTITIONERS

OBJECTIVES

1. Epidemiology of HIV in Barbados
2. Programmatic Response
3. Services at the Ladymeade Reference Unit
4. Management of PLHIV
5. Expansion of HIV care services

EPIDEMIOLOGIC UPDATE

- HIV prevalence among 15-49 years old – 1.6% (2016)

  - Men are disproportionately affected by HIV

- HIV prevalence in MSM – 11.8% (2017)
- MTCT rate = 1.6% (2004-2013)
- Approximately 39% cases are late stage (CD4 <200)

Cumulative number of HIV cases, AIDS cases and HIV Deaths by sex 1984-2013

Sex	HIV Cases	AIDS Cases	HIV Deaths
Male	2,392 (63.0%)	1,697 (67.9%)	1,237 (72.3%)
Female	1,405 (37.0%)	802 (32.1%)	475(27.7%)
Total	3, 797	2,499	1, 712

HIV PROGRAMMATIC RESPONSE IN BARBADOS

- Expanded National HIV programme implemented in 2001
  - Comprehensive HIV and STI medical care and supportive services implemented
  - Noteworthy impact as a direct result of public health approach to HIV (PAHO, 2012)

- To achieve the 2020 and 2030 targets, we must:
  1. Enhance access to key HIV services, especially ART
  2. Focus on increasing efficiency and sustainability

THE LADYMEADE REFERENCE UNIT (LRU)

- Clinic was established in 2002 and is the main facility for the treatment of HIV in Barbados.
- Our clinic's aim is to provide high quality, comprehensive, medical and supportive care services for PLHIV and for STIs.

SERVICES AT THE LRU

1. HIV testing services (HTS)
2. HIV management
3. STI management
4. PMTCT services
5. PEP
6. Pharmacy services
7. Psychosocial supportive services
8. Nutritional support services
9. HIV Food Bank

THE FIRST CLINIC VISIT

- Demographic information and complete medical history taking
- Contact tracing
- Psychosocial evaluation
- Counselling
- Physical examination
- HIV test, CD_4, VL, HIV Drug Resistance
- Baseline: FBC, UE, LFT, Lipids, FBS
- STI screen: Hep B,C, HTLV I, 2, C. Trachomatis, N. Gonorrhea, Syphilis,
- Mantoux test (PPD), Chest X-ray (if indicated)

HIV MANAGEMENT: TREATMENT WITH ART

- **When to stART**
- **Treat All**, at any CD4 count/disease stage (WHO, 2015)
  - Evidence from the START, TEMPRANO trials
- Adopted by the MOH in December 2016
- WHO recommends rapid initiation of ART (2017)

WHO ARV Guidelines Evolution: 2002 to 2016

Topic	2002	2003	2006	2010	2013	2016
When to start	CD4 ≤200	CD4 ≤ 200	CD4 ≤ 200 - consider 350 - TB at CD4 ≤ 350	CD4 ≤ 350 - TB,HBV at any CD4	CD4 ≤ 500 - CD4 ≤ 350 as priority - TB, HBV, PW, SDC at any CD4	**Treat All** - CD4 ≤ 350 as priority - Programmatic focus on KPs
Earlier initiation						
1st Line ART	8 options - AZT preferred	4 options - AZT preferred	8 options - AZT/TDF preferred - d4T dose reduction	6 options (FDC) - AZT/TDF preferred - d4T phase out	1 preferred option (FDC) - TDF/EFV preferred (all pops)	1 preferred option (FDC) - TDF/EFV preferred (all pops) - transition to new alternative ARV options (DTG, EFV_{400})
Simpler treatment						
2nd Line ART	Boosted and non-boosted PIs	Boosted PIs -IDV/r LPV/r, SQV/r	Boosted PIs - ATV/r, DRV/r, FPV/r LPV/r, SQV/r	Boosted PIs - Heat stable co-formulation: ATV/r, LPV/r	Boosted PIs -Heat stable co-formulation: ATV/r, LPV/r	Boosted PIs - Heat stable co-formulation: ATV/r, LPV/r - new alternative options (DRV/r, LPV/r+ RAL)
Less toxic, more robust regimens						
3rd Line ART	None	None	None	DRV/r, RAL, ETV	DRV/r, RAL, ETV	DRV/r, RAL, ETV, DTG
Viral Load Testing	No	No (Desirable)	Yes (Tertiary centers)	Yes (Phase in approach)	Yes (preferred for monitoring, use of PoC, DBS)	Yes (preferred for monitoring, scale up all technologies) - CD4 monitoring can be stopped if patient virally supressed
Better and simpler monitoring						

Vitoria et al., Curr Opin HIV/AIDS, 2013, 8: 12

HIV MANAGEMENT: TREATMENT OPTIONS

- **What to stART**
- WHO (2013) guidelines
- **1st line : NNRTI + 2 NRTIs**
- **EFV +XTC/TDF (Atripla® or Telura®)**
- **2nd line: Protease inhibitor + 2 NRTI's**
- **3rd line: INSTI's + 2 NRTI's**

- **Regimen is chosen according to patient factors**
  - **Psych hx, comorbidities**
- **Adherence is critical**
- **Response to therapy is determined by Viral Load (VL) - 1, 3, 6 months**

FIRST LINE ARV THERAPY IN ADULTS AND ADOLESCENTS

PREFERRED AND ALTERNATIVE FIRST-LINE ART REGIMENS

First-line ART	Preferred first-line regimen	Alternative first-line regimens[1,2]
Adults	TDF + 3TC (or FTC) + EFV	AZT + 3TC + EFV (or NVP) TDF + 3TC (or FTC) + DTG[3,4] TDF + 3TC (or FTC) + EFV_{400}[3,4,5] TDF + 3TC (or FTC) + NVP
Pregnant/breastfeeding women	TDF + 3TC (or FTC) + EFV	AZT + 3TC + EFV (or NVP) TDF + 3TC (or FTC) + NVP
Adolescents	TDF + 3TC (or FTC) + EFV	AZT + 3TC + EFV (or NVP) TDF (or ABC) + 3TC (or FTC) + DTG[3,4] TDF (or ABC) + 3TC (or FTC) + EFV_{400}[3,4,5] TDF (or ABC) + 3TC (or FTC) + NVP

- WHO 2013 preferred regimen (**TDF+XTC+EFV**) is maintained across populations (including pregnant women, TB and viral hepatitis B).
- Inclusion of **INSTI (DTG)** and **EFV400** as alternative options (pending evidence in pregnant women and TB) in 2016
- Preference for **FDC and once-daily regimens**.

CHANGE IN HIV GUIDELINES

- Recent WHO recommendations, 2016
- Heading to 1st line of: DTG + XTC/TDF
- Superior efficacy to EFV
- Lower side effect profile
- Available in a single FDC pill
- Available at LRU in 2018?

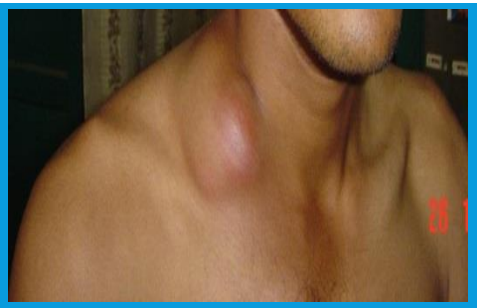
Summary of optimization profiles of new ARVs recommended in 2016 WHO ARV guidelines - comparative analysis

Optimization criteria		DTG	EFV400	DRV/r	RAL
Efficacy and safety	High virologic potency	✓	✓	✓	✓
	Low toxicity	✓	✓	✓	✓
	High genetic barrier to resistance	✓	✗	✓	✗
Simplification	Available as generic FDC	✓	✓	✗	✗
	Low pill burden	✓	✓	✗	✗
Harmonization	Use in pregnant women	?	?	✓	✓
	Use in children	?	✗	✓	✓
	Use in HIV-associated TB	?	?	✗	✓
	Few drug interactions	✓	✗	✗	✓
Cost	Low price	✓	✓	✗	✗

✓ yes ✗ no ? ongoing studies

MAJOR GAPS ON CLINICAL USE OF DTG

CNS side effects: higher than expected rate of DTG discontinuation due **insomnia** in cohort studies (higher rates compared with RCTs) but very low occurrence of other side effects.



Risk of IRIS in PLHIV with advanced HIV disease: increased risk observed in cohort studies but not detected in RCTs with other INSTIs (REALITY trial)

HIV-associated TB: need to adjust dose if rifampin is used (pK and clinical studies with ongoing)

Pregnant/BF women: limited safety data. Very high DTG concentrations in blood cord at birth (pK and clinical studies ongoing)

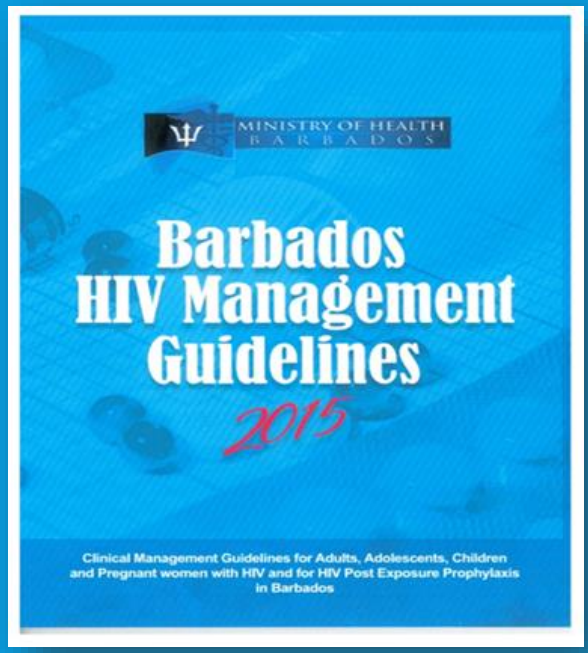
AVAILABLE ARVS AT LRU PHARMACY (2017)

NRTIs	NNRTIs	PIs	INSTIs
• Zidovudine (AZT) • Lamivudine (3TC) • AZT/3TC • ~~Stavudine (d4T)~~ • Tenofovir/ Emtricitabine (TDF/ FTC) • Abacavir (ABC) • ABC/3TC • ~~Didanosine (ddI)~~	• Nevirapine (NVP) • Efavirenz (EFV)	• Lopinavir/ ritonavir (LPV/r) • Atazanavir (ATV) • Saquinavir (SQV) • Ritonavir (RTV) • Darunavir (DRV) • Fosamprenavir (FPV)	• Raltegravir (RAL)
• EFV+TDF+FTC			
• EFV+TDF+3TC			

New additions : STRIBILD – TDF/FTC/EVG/cobi
Fixed drug combination and once daily regimens are preferred to reduce pill burden
Stavudine, didanosine have been phased out because of toxicities (WHO)

LONG TERM CARE OF PLHIV

- Baseline CD4 count, q 4 to 6 months, then q 6-12
- months
- VL: 1, 3, 6 initially, then q 6-12 months
  - Monitor for virologic response
- Assessment of risk and monitoring for OIs (CD4 <200)
- Prophylaxis for various OIs as indicated
- Adherence, side effects, drug interaction monitoring
- Management of comorbidities and STIs
- Refer to necessary support services



WHO RECOMMENDATION: DIFFERENTIATED CARE PACKAGES

Meeting the varying needs of patients

- One size (care package) does not fit all!

Patients presenting Well
- Started on ART
- Adherence and retention support
- VL 6-12 months after ART
- Then VL once yearly

Patients presenting with advanced disease
- Treatment of OI
- OI Prophylaxis
- Started on ART
- Aim to reduce morbidity and mortality
- Adherence and retention support

Stable Patients
- 12 month appts
- Longer tranches of meds
- yearly VL
- Eligible for referral to alternative site

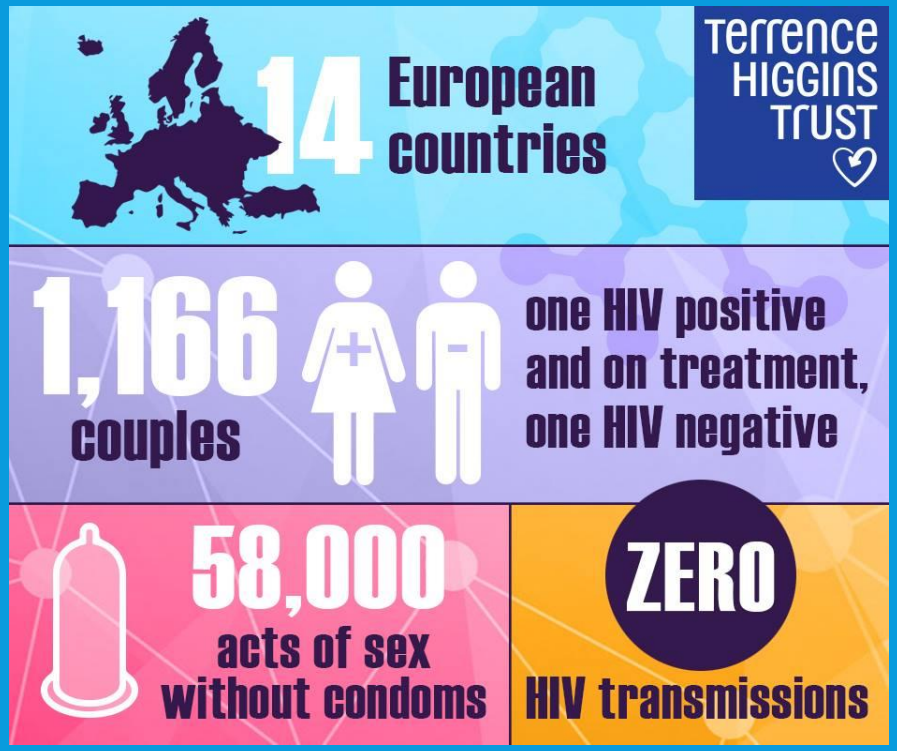
Unstable Patients
- Adherence support
- Retention support
- Counselling
- OI screening
- OI prophylaxis
- Shorter appointments
- Closer follow up

THE BENEFITS OF ART: PERSONAL

- Reduced morbidity and mortality
- Improved health and quality of life
- Better prognosis, prolonged life expectancy
- Reduced hospitalizations
- Reduced unemployment
- Possibility for "normal" life
- Reduce risk of MTCT
- Reduced risk for partner transmission in serodiscordant couples

THE PUBLIC HEALTH BENEFITS OF ART TREATMENT

- Treatment is Prevention!
- Reduced vertical and horizontal transmission
- Reduced morbidity and mortality
- Reduced public health burden
- Data from The PARTNER study



EXPANSION OF HIV CARE SERVICES IN BARBADOS

1. Integration of services

- HIV/SRH (sexual reproductive health)/MCH (maternal child health) services at other sites

2. Access to HIV care at Select Polyclinics
   - RPPC, MBPC

3. Shared Care with:

- BFPA
- Private Physicians
- Patients must be registered with the LRU

WHERE WE ARE NOW…

- We started with approximately 400 patients in 2002. We have >2,200 registered patients
- **71.8 % of patients at the LRU are on ART**
- **84.8% are virally supressed (VL <1000 copies/ml)**

REFERENCES

1. WHO Policy Brief: Consolidated Guidelines on the use of antiretroviral drugs for treating and preventing HIV Infection. What's new. (2015)
2. Barbados HIV Management Guidelines (2015)
3. Standard Operating Procedures of the LRU clinic (2013)
4. What's new in the WHO guidelines on HIV treatment and care (2017) by Marco Vitoria, WHO
5. Roger et al. (2016). Sexual Activity without condoms and risk of HIV transmission in serodiscordant couples when the HIV positive partner is using suppressive antiretroviral therapy. JAMA. 316 (2), 171-181

THANK YOU FOR YOUR ATTENTION!

Questions?