

Treatment outcomes in HIV infected and uninfected drug resistant tuberculosis patients in Khayelitsha, Cape Town

Sizulu Moyo, Jennifer Hughes, Johnny Daniels, Odelia Muller,
Amir Shroufi, Gilles van Cutsem, Vivian Cox, Lynne Wilkinson, Helen Cox

Presented by Dr. Vivian Cox

Background

- Population ~ 500,000
- 50% live in informal dwellings
- Antenatal prevalence 34% (2012)
- Mother-to-child transmission 1.7% (2012)
- ~ 6,000 TB cases registered each year (75% HIV infected)
- ~ 200 drug-resistant TB (DR-TB) cases diagnosed each year
- ~ 46% success rate, 20% mortality rate for DR-TB
- 11 health facilities providing TB and HIV care; 28 738 patients on ART (March 2014)



MSF project overview

- Started in 1999 with PMTCT
- Feasibility of ART provision in public sector
- ART service handover completed 2010
- Decentralization of DR-TB treatment from late 2007
- Direct patient care was handed over 2010-2011
- DR-TB service handover completed in 2013
- **TODAY:** Innovative pilot strategies to support increased uptake, improved outcomes and long term retention in HIV/TB care

DR-TB CAN BE CURED



WITH TREATMENT AND
SUPPORT IN OUR
COMMUNITY



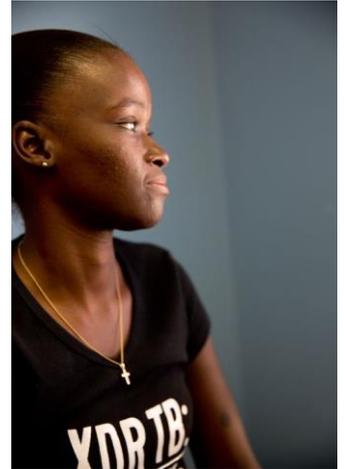
Research question and methodology

- ART known to improve outcomes in drug-sensitive TB
- Limited data on outcomes of DR-TB patients on ART
- High ART coverage among DR-TB patients in Khayelitsha

Methodology

- Retrospective analysis of routine DR-TB data
- Patients started on DR-TB treatment from 2008 - 2011
- Analysis of treatment outcomes and mortality* from 2008 - 2013

**from clinic records, counselors and staff, and linkage to death registry*



Results: *Patients diagnosed with DR-TB*

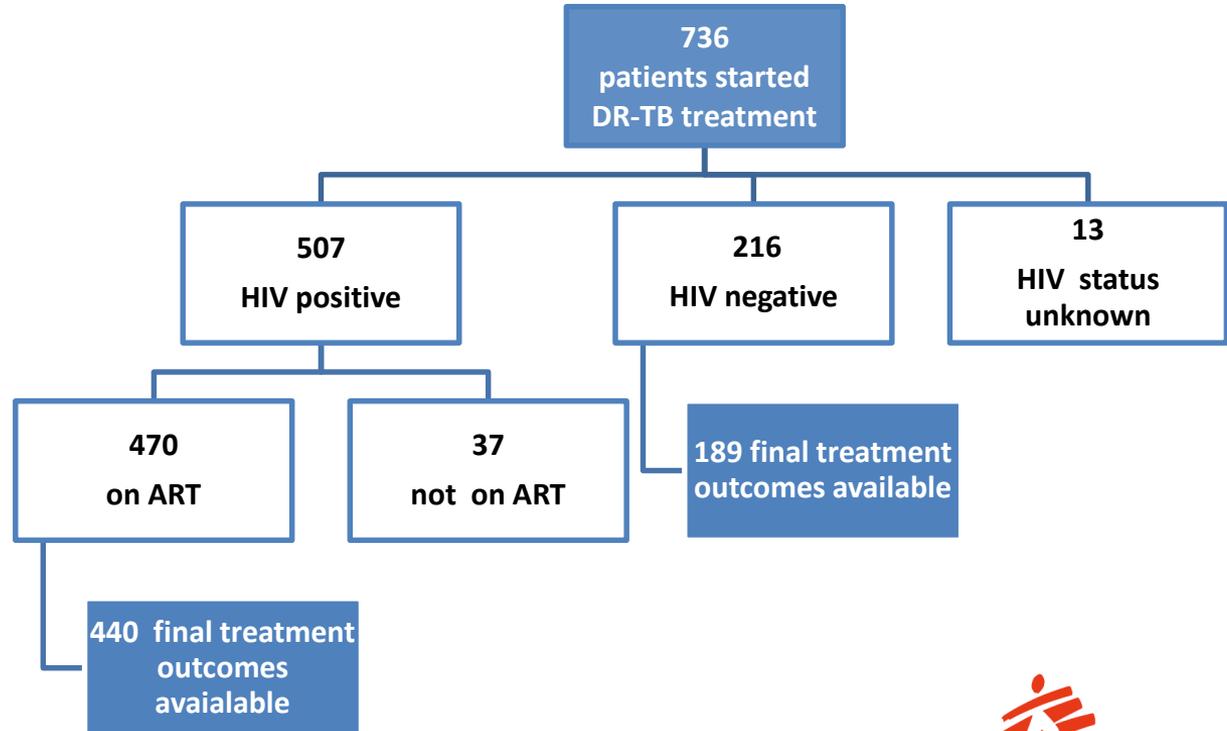
DR-TB Classification	HIV+ n= 607 (%)	HIV- n=232 (%)	HIV status unknown n=36
Presumed MDR-TB	9 (1)	26 (11)	
Rifampicin mono-resistance	129 (21)	28 (12)	
MDR-TB	373 (61)	144 (62)	
MDR TB plus 2 nd line resistance	96 (16)	34 (15)	



Total = 839

Results: *Patients starting treatment*

- 116 (100 HIV+) did not start treatment
- 62 died before treatment start
- 55 HIV+ (89%)
7 HIV- (11%)
($p < 0.001$)



Results: *DR-TB* treatment outcomes

Outcome	HIV+	HIV-	p value
	n= 440	n= 189	
Treatment success [#]	213 (48%)	88 (47%)	> 0.05
Lost from treatment (default)	120 (27%)	70 (37%)	0.01
Treatment failure	26 (6%)	14 (7%)	> 0.05
Died	81 (18%)	17 (9%)	0.004

[#] Cure and treatment completion



Results: *Mortality post treatment*

Mortality post treatment	HIV positive		HIV negative	
		Time to death, months (IQR)		Time to death, months (IQR)
Died after LFT (default)	31/120 (26%)	6.7 (2.5-16.1)	15/70 (21%)	5.5 (3.5-13.3)
Died after treatment failure	20/26 (77%)	0 (0-0.2)	7/14 (50%)	5.7 (1.5-17.5)

Results: *Overall mortality*

Overall mortality after treatment initiation				
HIV positive		HIV negative		
n*	IR/100pys (95% CI)	n*	IR/100pys (95% CI)	IRR (95% CI)
132	19 (16-22)	39	17(12-22)	1.14 (0.80-1.67)



*Includes mortality during treatment, post lost from treatment, and post treatment failure

Discussion

- Greater mortality in HIV+ (on ART) prior and during DR-TB treatment
- Greater LFT (default) among HIV- with 21% mortality thereafter
- LFT masks mortality in both HIV+ and HIV- patients
- In the presence of ART, treatment success and long-term mortality is similar in HIV+ and HIV- DR-TB patients

Conclusions

- Diagnose and treat earlier: increase active screening of HIV+ patients for DR-TB
- More tolerable and effective DR-TB drug regimens and innovative patient support strategies to keep patients in care
- Make it easier for patients to stay on treatment in continuation phase by providing longer supply
- Increase efforts to bring patients back into care at initial treatment interruption

Acknowledgements

- MSF team
- City of Cape Town Health Department
- Western Cape Province Health Department
- Khayelitsha clinic staff
- People suffering from drug-resistant TB in Khayelitsha

