ART uptake, its timing and relation to anti-tuberculosis treatment outcomes among HIV-infected TB patients

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Setting: All public health facilities in two provinces of Zimbabwe.

Objective: To determine, among tuberculosis (TB) patients with human immunodeficiency virus (HIV) registered in 2010, 1) the proportion started on antiretroviral treatment (ART), 2) the timing of ART in relation to the start of anti-tuberculosis treatment, and 3) whether timing of ART influenced anti-tuberculosis treatment outcomes.

Design: Retrospective cohort study.

Results: Of the 2655 HIV-positive TB patients, 1115 (42%) were documented as receiving ART. Of these, 178 (16%) started ART prior to anti-tuberculosis treatment. Of those who started after anti-tuberculosis treatment, 17% started within 2 weeks, 43% between 2 and 8 weeks and 40% after 8 weeks. Treatment success in the cohort was 82%, with 14% deaths before completion of anti-tuberculosis treatment. Not receiving ART during anti-tuberculosis treatment was associated with lower anti-tuberculosis treatment success (adjusted RR 0.70, 95%CI 0.53–0.91) and more deaths (adjusted RR 3.43, 95%CI 2.2–5.36). There were no differences in TB treatment outcomes by timing of ART initiation.

Conclusion: ART uptake is low given the improved treatment outcomes in those put on ART during anti-tuberculosis treatment. Better integration of HIV and TB services is needed to ensure increased coverage and earlier ART uptake.

Like other sub-Saharan African countries, Zimbabwe has a high burden of human immunodeficiency virus (HIV) infection, with 75% of tuberculosis (TB) patients having HIV co-infection.¹ HIV-associated TB is associated with high case fatality and low treatment success rates.² A recent review of mortality data in two large cities in Zimbabwe indicated that TB and HIV were responsible for 70% of deaths in the 15–44 year age group from the early 1990s, with a gradual decline in deaths being noted from 2004 onwards,³ which coincided with the introduction of antiretroviral treatment (ART) in public health sector facilities.

ART initiated during anti-tuberculosis treatment,^{4,5} and the additional use of cotrimoxazole preventive therapy (CPT), reduces TB case fatality.⁶ Three randomised clinical trials have clarified the question about when best to start ART in relation to start of anti-tuberculosis treatment: in patients with advanced immunosuppression (CD4 counts <50 cells/mm³), early initiation of ART within 2–4 weeks of start of anti-tuberculosis treatment significantly reduces death rates compared with a later start of ART, while in patients with higher CD4 counts, the benefit of early ART initi-

ation is less clear and can therefore be deferred to between 2 and 8 weeks.^{7–9}

Despite World Health Organization (WHO) recommendations in 2010¹⁰ to initiate ART during the initial phase of anti-tuberculosis treatment among HIV-infected TB patients, regardless of CD4 count, these guidelines were only implemented in April 2011 in Zimbabwe,¹¹ and until this time the previous (2006) WHO guidelines were used.¹² Routine National Tuberculosis Programme (NTP) data in 2010 showed that a small proportion of eligible HIV-infected TB patients were accessing this life-saving therapy.¹ The NTP needs more data to determine the extent and timing of ART access and whether ART administered in the routine setting influences TB treatment outcomes.

The objectives of the present study were to use routinely collected data to determine, in two provinces in Zimbabwe, 1) the proportion of HIV-infected TB patients who were started on ART, 2) the timing of ART in relation to the start of anti-tuberculosis treatment, and 3) whether the timing of ART influenced TB treatment outcomes.

METHODS

Study design

This was a retrospective cohort study using routinely collected programme data.

Setting

A one-stage cluster sampling technique was used to randomly select two of the 10 provinces in Zimbabwe: Mashonaland West and Matebeleland South. From these selected provinces, all TB patients registered between 1 January and 30 June 2010 were included in the study. Mashonaland West, situated in northern Zimbabwe, comprises seven districts and has a population of 1 300 011; Matebeleland South, in the southern region, comprises six districts and has a population of 693 230.¹³ Mashonaland West has 128 health facilities and Matebeleland South has 105, of which 85% in each province are rural health facilities. Each province has a designated provincial hospital and each district has a district hospital; all of these facilities offer smear microscopy-based TB diagnostic services and ART initiation services.¹³ All public health facilities country-wide offer general health services integrated with TB treatment services; ART initiating clinics are situated at central-, provincial- and district-level hospitals and other selected faith-based hospitals. Follow-up ART clinics are situated at selected primary health care clinics as static follow-up or outreach clinics to which stable

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ART patients are transferred out, as part of decentralisation.¹⁴ In 2010, there were 12 ART-initiating sites and 39 ART follow-up sites in Mashonaland West, and 10 ART-initiating sites and 51 ART follow-up clinics in Matebeleland South.¹⁵

Diagnosis and management of HIV-infected TB patients

In Zimbabwe, TB is diagnosed according to national guidelines,¹⁶ which are based on the WHO TB treatment guidelines;¹⁷ the national guidelines were published in 2010. Patients with new TB are treated with a standardised 6-month regimen consisting of a 2-month initial phase of rifampicin (RMP), isoniazid (INH), pyrazinamide and ethambutol followed by a 4-month continuation phase of RMP and INH, regardless of HIV status. Patients with recurrent or previously treated TB are treated according to national¹⁶ and international guidelines.¹⁷ Monitoring is done clinically for smear-negative pulmonary TB (PTB) and extra-pulmonary TB (EPTB) patients, while those with new smear-positive PTB have sputum specimens examined for acid-fast bacilli at 2, 5 and 6 months. Those with previously treated smear-positive PTB have sputum examined at 3, 5 and 8 months. Smear-negative patients who complete treatment and smear-positive patients who complete treatment with or without negative smears are regarded as 'successfully completing treatment'.

Patients are offered HIV counselling and testing (opt-out provider-initiated testing) upon diagnosis of TB.¹⁸ CPT is started together with anti-tuberculosis treatment for HIV-infected TB patients, provided there are no contra-indications. These patients are then referred to their nearest ART initiating clinics in their districts, where a clinician initiates ART and provides HIV/AIDS (acquired immune-deficiency syndrome) care and support.¹⁹

In 2010, based on the previous 2006 WHO guidelines, ART was recommended between 2 to 8 weeks after commencing anti-tuberculosis treatment for all HIV-infected TB patients with CD4 counts of ≤ 350 cells/mm³, all those with EPTB regardless of CD4 count and those with PTB with unavailable CD4 counts. Those with PTB and no other WHO Stage III or IV event and CD4 counts of >350 cells/mm³ had ART deferred, and were re-evaluated for ART 8 weeks after commencing anti-tuberculosis treatment and also after completing treatment.¹⁹ In 2010, the preferred first-line ART regimen during anti-tuberculosis treatment was one containing efavirenz (EFV).

Study population

All HIV-infected TB patients who were registered in the district TB registers for Mashonaland West and Matebeleland South provinces between 1 January and 30 June 2010 were included in the study. The minimum required sample size was 912 patient records, assuming a 28% proportion of HIV-infected TB patients accessing ART, a significance level of 5% and a precision of 1%.

Data collection and validation

Data on HIV-infected TB patients were abstracted from district TB registers and ART-initiating facility ART registers into data abstraction forms by two trained data collectors between October and November 2011. Data drawn from district TB registers included TB registration date, TB treatment commencement date, age, sex, type and category of TB, TB diagnosing centre, TB directly observed treatment (DOT) centre, use of CPT, and, if recorded, the baseline pre-ART CD4 cell count, ART use and ART initiation date. To verify or record undocumented ART use and ART initiation dates for those patients abstracted from TB registers per district, we abstracted and line-listed all patients initiated or substituted to an EVF-containing first-line ART regimen at all ART initiating

facilities in each district between 1 January 2010 and 30 June 2011. Data were then matched using patients' names, sex and age.

Data analysis

Data were single-entered into an electronic database using Epi-Data version 3.1 (The EpiData Association, Odense Denmark) and cleaned for errors and analysed using Stata, version 10 (Stata Corporation, College Station, TX, USA). Frequencies and proportions were generated for categorical variables, while medians (interquartile ranges [IQRs]) were used to summarise skewed continuous variables. Multivariate adjusted relative risks (RRs) were used to establish associations between timing of ART initiation among other variables and anti-tuberculosis treatment outcomes (treatment success and death) using Poisson regression with error variance.²⁰

Ethics approval

Ethics approval was granted locally by the Medical Research Council of Zimbabwe and the International Union Against Tuberculosis and Lung Disease (The Union) Ethics Advisory Group. Privacy and confidentiality of information drawn from the hospital registers was ensured by excluding patient names from the electronic data entry. All data abstractions were kept in a safe and secure place accessible only to the investigator.

TABLE 1 Clinical characteristics among HIV-infected TB patients in Zimbabwe (N = 2655)

Characteristic	n	% (95%CI)*
TB category		
New	2296	86.5 (84.2–88.5)
Retreatment	351	13.2 (11.2–15.5)
Missing data	9	0.3 (0.1–0.7)
Type of new TB		
Smear-positive PTB	444	19.3 (17.2–21.7)
Smear-negative PTB	937	40.8 (32.6–49.6)
EPTB	271	11.8 (8.9–15.6)
Smear not performed PTB	641	28 (19.7–38)
Missing data	3	0.1 (0.0–0.5)
Type of retreatment PTB		
Relapse	45	12.8 (4.4–31.9)
Treatment after default	11	3.1 (0.9–10.5)
Treatment after failure	3	0.9 (0.2–4.0)
Retreatment others	157	44.7 (32.2–58.0)
Missing data	135	38.5 (22.4–57.5)
Type of DOT centre		
District hospital	287	10.8 (4.7–23)
Rural clinic	1413	53.2 (41.3–64.8)
Faith-based (mission) hospital	207	7.8 (3.5–16.4)
Private facility	5	0.2 (0.0–1.0)
Rural hospital	125	4.7 (2.3–9.2)
Central/provincial hospital	181	6.8 (1.4–27.3)
Municipal clinic	353	13.3 (6.2–26.1)
Missing data	84	3.2 (0.9–10.3)
CPT use		
Yes	1778	67.0 (44.5–83.7)
No	11	0.4 (0.2–1.0)
Missing data	866	32.6 (16.0–55.2)
Documented baseline pre-ART CD4 count		
Yes	146	5.5 (2.1–13.7)
No	2509	94.5 (86.3–97.9)
Baseline pre-ART CD4 count level, cells/mm ³		
<50	30	20.6 (11.7–33.7)
50–200	75	51.4 (40.3–62.3)
>200	41	28.1 (21.5–35.7)

*Percentages may not always total 100 due to rounding.

HIV = human immunodeficiency virus; TB = tuberculosis; CI = confidence interval; PTB = pulmonary tuberculosis; EPTB = extra-pulmonary tuberculosis; DOT = directly observed treatment; CPT = cotrimoxazole prophylaxis; ART = antiretroviral therapy.

RESULTS

A total of 2655 HIV-positive TB patients were registered between 1 January and 30 June 2010 from the two selected provinces: the median age was 35 years (IQR 28–42); 1394 (54%) were females and 1219 (46%) males, with sex data missing for 42 patients. Males were older than females: 36 years (IQR 30–44) vs. 33 years (IQR 27–41, $P < 0.001$). There were 1461 (55%) patients from Mashonaland West Province and 1194 (45%) from Matebeleland South Province. The clinical and immunological characteristics of the HIV-positive TB patients are shown in Table 1. The majority of the patients ($n = 2296$, 87%) had new disease; of these, 1578 (69%) had negative sputum smears or smears not performed. Of those with previously treated TB, 157 (45%) were classified as 're-treatment others'. Cotrimoxazole uptake was documented in 1778 (67%) patients. Only 146 (6%) patients were documented as having had CD4 counts measured at baseline prior to starting ART. Of those with CD4 counts, the median count was 128 cells/mm³ (IQR 59–210), with no differences between males and females.

The documentation of ART uptake and the timing of ART in relation to start of anti-tuberculosis treatment among HIV-positive TB patients is shown in Table 2. Overall, 1115 (42%) patients had any documentation about whether or not ART had been given. Of those with documentation, 16% had started ART prior to anti-tuberculosis treatment. Of those starting ART after anti-tuberculosis treatment, 17% started within 2 weeks, 43% started between 2 and 8 weeks and 40% started after 8 weeks. Table 3 shows the timing of ART after starting anti-tuberculosis treatment in relation to ART eligibility. Of those eligible for ART with EPTB or PTB with CD4 counts of ≤ 350 cells/mm³ and those with PTB but undocumented CD4 counts, respectively 85 (48%) and 186 (38%) delayed ART initiation until the continuation phase of anti-tuberculosis treatment.

Of the 2655 patients who started anti-tuberculosis treatment, treatment outcomes were as follows: treatment success ($n = 2159$, 82%), death ($n = 370$, 14%), lost to follow-up ($n = 55$, 2%), transferred out ($n = 49$, 2%), failure ($n = 4$, <1%); no data were available for 18. Table 4 shows multivariate adjusted RRs (aRR) for associations between patient characteristics and ART status with treatment success or death during anti-tuberculosis treatment. The treatment success rate among those aged >15 years was lower than in those aged ≤ 15 years. The treatment success rate was higher for new TB patients than for those previously treated for TB (aRR 0.94, 95% confidence interval [CI] 0.88–1.00, $P = 0.034$). Of note, those HIV-positive TB patients documented as not starting ART had lower anti-tuberculosis treatment success (aRR 0.70, 95%CI 0.53–0.91, $P = 0.008$) and significantly more deaths (aRR 3.43, 95%CI 2.2–5.36, $P < 0.001$), while those with undocumented ART status had lower treatment success (aRR 0.94, 95%CI 0.90–0.97, $P = 0.001$) and more deaths (aRR 1.39, 95%CI 1.13–1.72, $P = 0.002$) than those documented as being on ART.

TABLE 2 ART use and timing in HIV-infected TB patients

ART use in relation to anti-tuberculosis treatment	<i>n</i>	% (95%CI)
ART initiation status		
ART use documented	1115	42.0 (31.6–53.2)
No ART used	37	1.4 (0.7–2.8)
ART use not documented	1503	56.6 (45.2–67.3)
ART use documented		
ART started before anti-tuberculosis treatment	178	16.0 (10.2–24.1)
ART started after anti-tuberculosis treatment	670	60.1 (49.9–69.5)
ART timing not indicated	267	24.0 (17.5–31.8)
ART started after anti-tuberculosis treatment, weeks		
<2	112	16.7 (8.9–29.1)
2–8	287	42.8 (29.1–57.8)
>8	271	40.5 (29–53.1)

*Percentages may not always total 100 due to rounding.

ART = antiretroviral treatment; HIV = human immunodeficiency virus; TB = tuberculosis.

Those starting ART after commencing anti-tuberculosis treatment had fewer deaths (aRR 0.56, 95%CI 0.35–0.88, $P = 0.012$) than those started on ART prior to TB diagnosis; however, there were no differences in treatment success. There were also no differences in treatment success rates by timing of ART initiation after commencing anti-tuberculosis treatment. Successful anti-tuberculosis treatment was better (aRR 1.13, 95%CI 1.08–1.18, $P < 0.001$) and deaths fewer (aRR 0.24, 95%CI 0.09–0.64, $P = 0.004$) for those with documented pre-ART CD4 counts compared to those without.

DISCUSSION

This study raises the important programmatic issue of poor ART uptake during anti-tuberculosis treatment among HIV-infected TB patients. More than half of the HIV-infected TB patients had no documentation about whether ART had been started, and this was also a problem for the documentation of CPT. Potential reasons include poor record keeping, poor ART coverage or, indeed, poor integration of TB and ART services.²¹ Half of these patients accessed DOT at rural clinics, which in Zimbabwe are not ART-initiating clinics, and therefore a lack of co-location or integration of TB and HIV services may have been a barrier to initiation of ART. Elsewhere, non-integrated TB and ART services have been associated with low acceptance of ART,²² or delays in ART initiation among HIV-infected TB patients.^{23,24}

Likewise, very few patients were recorded as having their baseline CD4 counts measured, which may indicate poor patient access to CD4 testing services given that only 15 of all 22 ART initiating clinics in both provinces had equipment for measuring CD4

TABLE 3 Timing of ART after starting anti-tuberculosis treatment in relation to ART eligibility*

Timing of ART initiation	ART eligibility		
	EPTB/PTB CD4 ≤ 350 cells/mm ³ (<i>n</i> = 178) <i>n</i> (%)	PTB no CD4 count (<i>n</i> = 489) <i>n</i> (%)	PTB CD4 > 350 cells/mm ³ (<i>n</i> = 1) <i>n</i> (%)
<2 weeks after start of anti-tuberculosis treatment	31 (17.4)	80 (16.4)	0
2–8 weeks after start of anti-tuberculosis treatment	62 (34.8)	223 (45.6)	1 (100)
>8 weeks after start of anti-tuberculosis treatment	85 (47.8)	186 (38.0)	0

*2 patients excluded due to missing information on type of TB.

ART = antiretroviral treatment; PTB = pulmonary tuberculosis; EPTB = extra-pulmonary tuberculosis.

TABLE 4 Patient characteristics in relation to anti-tuberculosis treatment outcomes (TB treatment success and death)

Variables†	TB treatment outcome*			
	Treatment success		Death	
	n (%)	aRR (95%CI)	n (%)	aRR (95%CI)
Sex				
Female	1151 (82.8)	Reference	181 (13.0)	Reference
Male	980 (80.9)	0.98 (0.95–1.02)	182 (15.0)	1.13 (0.94–1.37)
Age group, years				
<15	193 (88.1)	Reference	23 (10.5)	Reference
15–25	157 (78.9)	0.89 (0.82–0.97)	30 (15.1)	1.50 (0.90–2.50)
26–44	1376 (82.1)	0.92 (0.88–0.98)	229 (13.7)	1.36 (0.90–2.05)
45–54	260 (80)	0.90 (0.84–0.97)	53 (16.3)	1.60 (1.00–2.55)
≥55	163 (79.1)	0.89 (0.82–0.97)	33 (16.0)	1.62 (0.98–2.68)
TB category				
New	1886 (82.6)	Reference	308 (13.5)	Reference
Previously treated	270 (77.1)	0.94 (0.88–1.00)	62 (17.7)	1.28 (1.0–1.64)
New TB type				
Smear-positive PTB	370 (84.1)	Reference	57 (13.0)	Reference
Smear-negative PTB	755 (80.8)	0.95 (0.90–1.00)	140 (15.0)	1.22 (0.91–1.62)
EPTB	216 (80.6)	0.95 (0.89–1.02)	42 (15.7)	1.26 (0.87–1.83)
PTB, smear not performed	542 (84.8)	0.99 (0.93–1.04)	69 (10.8)	0.93 (0.66–1.30)
Retreatment TB type				
Relapse	38 (84.4)	Reference	6 (13.3)	Reference
Treatment after default	8 (72.7)	0.96 (0.68–1.34)	1 (9.1)	0.43 (0.12–1.54)
Treatment after failure	2 (66.7)	0.70 (0.31–1.59)	1 (33.3)	5.0 (0.66–37.9)
Retreatment others	122 (77.7)	0.92 (0.79–1.06)	31 (19.8)	1.76 (0.69–4.50)
Missing data	100 (74.6)	0.89 (0.76–1.04)	23 (17.2)	1.45 (0.54–3.85)
ART initiation status				
ART use documented	956 (85.9)	Reference	117 (10.5)	Reference
No ART used	22 (59.5)	0.70 (0.53–0.91)	14 (37.8)	3.43 (2.2–5.36)
ART use not documented	1181 (79.4)	0.94 (0.90–0.97)	239 (16.1)	1.39 (1.10–1.70)
ART use documented				
Before anti-tuberculosis treatment	150 (84.3)	Reference	25 (14)	Reference
After anti-tuberculosis treatment	593 (88.5)	1.03 (0.96–1.11)	48 (7.2)	0.56 (0.35–0.88)
ART timing not indicated	213 (80.4)	0.96 (0.87–1.04)	44 (16.6)	1.19 (0.71–1.78)
ART started after anti-tuberculosis treatment, weeks				
<2	96 (85.7)	Reference	11 (9.8)	Reference
2–8	245 (85.4)	0.99 (0.91–1.09)	21 (7.3)	0.76 (0.38–1.52)
>8	252 (93.0)	1.08 (1.00–1.17)	16 (5.9)	0.60 (0.28–1.28)

*18 patients with missing TB treatment outcomes were excluded from this analysis.

†Denominators for each variable differ as they exclude those with missing data for each respective variable, including the 18 patients with missing TB treatment outcomes.

TB = tuberculosis; aRR = adjusted relative risk; CI = confidence interval; PTB = pulmonary TB; EPTB = extra-pulmonary TB; ART = antiretroviral treatment.

count.²⁵ The few data on HIV-positive TB patients with documented CD4 counts indicate that TB-HIV patients present late for treatment with very low CD4 counts; according to the current scientific evidence these patients should be starting ART at an early stage of anti-tuberculosis treatment.^{7–9}

Among ART-eligible patients who started ART after anti-tuberculosis treatment, less than one fifth commenced ART within 2 weeks, while about half delayed ART initiation until the continuation phase of anti-tuberculosis treatment. Data from South Africa show that even when there is a national policy to start ART early, this is very difficult to achieve unless there is integration of TB and HIV services.²¹

In terms of treatment outcomes, young patients and those with new, rather than previously treated, TB had better treatment success. Those documented to be on ART had better treatment success and lower death rates than those not started on ART, reinforcing the point that ART for HIV-infected TB patients is important for TB treatment outcomes.^{26,27} Routine data showed little difference in treatment success in relation to when ART was started. The data from this study differ from recent data showing that earlier initiation of ART saves lives in HIV-infected patients

with TB, particularly those with CD4 cell counts of <50 cells/mm³, in whom the risk of death is minimised by starting ART within the first 2–4 weeks of anti-tuberculosis treatment.^{7–9} This is one of the limitations of programme data, as those patients starting ART later may be less sick compared to those who are severely immune suppressed who may already have died before the end of the initial phase of anti-tuberculosis treatment.²⁶ This limitation is augmented by challenges with the completeness and accuracy of routinely collected programme data and lack of any data on disease severity. However, the strengths of this study were that it was conducted within a programme setting using a large patient sample, and hence the findings may be generalised to the whole country.

In conclusion, there is an urgent need to scale up the provision of ART for all HIV-positive patients initiated on anti-tuberculosis treatment through expansion of decentralisation or integration of TB and HIV treatment and care services at all health facilities. The programmes also need to focus on better and more complete data collection, and this probably requires education and, most importantly, supervision.²⁸ Despite ART eligibility of all HIV-infected TB patients regardless of CD4 count, provision of affordable CD4 count testing technologies, such as the Pima Point-of-Care CD4

(Alere Technologies, Waltham, MA, USA), may be considered additional criteria²⁹ that can assist clinicians in deciding whether to initiate ART early or late in resource-limited settings. Finally, further research is also necessary to establish the accuracy and proper classification of TB diagnosis among PTB with no smear microscopy, unclassified retreatment TB cases and 'retreatment other' TB cases.

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Cadre : L'ensemble des services de santé publique dans deux provinces du Zimbabwe.

Objectif : Déterminer parmi les patients atteints de tuberculose (TB), infectés par le virus de l'immunodéficience humaine (VIH) et enrégistrés en 2010, 1) la proportion de patients chez qui le traitement antirétroviral (ART) a été commencé, 2) le moment de la mise en route de l'ART en rapport avec le début du traitement antituberculeux, et 3) dans quelle mesure le moment de la mise en route de l'ART a eu une influence sur les résultats du traitement de la TB.

Méthode : Etude rétrospective de cohorte.

Résultats : Sur les 2655 patients TB infectés par le VIH, 1115 (42%) ont été répertoriés comme traités par l'ART. Parmi ces derniers, 178 (16%) ont commencé l'ART avant le traitement TB. Parmi les patients qui ont commencé l'ART après le traitement TB, 17% l'ont commencé dans les 2 semaines, 43% entre 2 et 8 semaines et 40% après

8 semaines. Dans la cohorte, le taux de succès du traitement a été de 82%, avec 14% de décès avant l'achèvement du traitement antituberculeux. Le fait de ne pas bénéficier de l'ART au cours du traitement TB a été en association avec une diminution du succès du traitement TB (RR ajusté 0,70 ; IC95% 0,53–0,91) et une augmentation du nombre de décès (RR ajusté 3,43 ; IC95% 2,2–5,36). On n'a pas noté de différence dans les résultats du traitement TB en fonction du moment de la mise en route de l'ART.

Conclusion : L'utilisation de l'ART est faible vu la prévalence importante de la co-infection VIH et l'amélioration des résultats du traitement antituberculeux chez les patients qui ont bénéficié de l'ART durant le traitement de la TB. Une meilleure intégration des services VIH et TB est nécessaire afin d'assurer une couverture plus importante et une utilisation plus précoce de l'ART.

Marco de referencia: Todos los centros públicos de atención de salud en dos provincias de Zimbabue.

Objetivo: Determinar en los pacientes con tuberculosis (TB) e infección por el virus de la inmunodeficiencia humana (VIH) registrados en el 2010 los siguientes aspectos: 1) la proporción de pacientes que comenzaron el tratamiento antirretrovírico (ART); 2) el momento del comienzo del ART con respecto a la pauta antituberculosa; y 3) la influencia del ART en el desenlace terapéutico de la TB.

Método: Estudio retrospectivo de cohortes.

Resultados: Se documentó la administración del ART en 1115 de los 2655 (42%) pacientes seropositivos frente al VIH con TB y 178 de ellos (16%) lo habían comenzado antes del tratamiento antituberculoso. De los pacientes que comenzaron a recibir medicamentos ART después del inicio de la pauta antituberculosa, el 17% comenzó en las 2 primeras semanas, el 43% entre la segunda y la octava semana y 40% después de 8 semanas de tratamiento contra la TB. El

éxito terapéutico en la cohorte estudiada fue 82% y 14% de pacientes fallecieron antes de completar el tratamiento antituberculoso. El hecho de no recibir medicamentos ART durante el tratamiento contra la TB se asoció con un menor éxito terapéutico (aRR 0,70; IC95% 0,53–0,91) y una mayor mortalidad (aRR 3,43; IC95% 2,2–5,36). No se observaron diferencias en el desenlace del tratamiento antituberculoso en función del momento de iniciación de los medicamentos ART.

Conclusión: La utilización del ART es baja, si se considera la alta prevalencia de coinfección por TB e infección por el VIH y la mejoría del desenlace terapéutico en los pacientes que reciben medicamentos ART durante la pauta antituberculosa. Se precisa una mayor integración de los servicios de atención de estas dos enfermedades, con el fin de ampliar la cobertura del ART y comenzar más temprano su administración.