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Community-based treatment of drug-resistant tuberculosis in Khayelitsha, South Africa

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SUMMARY

SETTING: Khayelitsha, South Africa, a peri-urban township with high burdens of tuberculosis (TB), drug-resistant tuberculosis (DR-TB), and human immunodeficiency virus (HIV) infection.

OBJECTIVE: To describe case detection and patient outcomes in a community-based DR-TB programme.

DESIGN: DR-TB management was integrated into primary health care in Khayelitsha from 2007 onwards. Implementation was incremental, and included training and clinician support, counselling and home visits, tuberculous infection control, a local in-patient service, and routine monitoring. Patients received treatment rapidly through their local clinic, and were only hospitalised if clinically unwell.

RESULTS: DR-TB case notification (any rifampicin resistance) increased from 28 per 100 000 population per year (2005–2007) to 55/100 000/year in 2009–2011 (72% HIV-infected). From 2008 to 2011, 754 patients received treatment (86% of those diagnosed). The median time between diagnostic sputum and treatment decreased over the years of implementation to 27 days in 2011 ($P < 0.001$). Treatment success was 52% in 2010, with 31% default, 13% death and 4% treatment failure. Two-year survival was 65%, with poorer survival in those with HIV (HR 2.0, 95%CI 1.4–2.8), second-line drug resistance (HR 3.3, 95%CI 2.2–4.8), and diagnosis in earlier programme years (HR 1.4, 95%CI 1.1–2.0).

CONCLUSION: Community-based DR-TB management is feasible, and contributes to improved case detection, reduced treatment delay and improved survival. Treatment outcomes remain poor, highlighting the poor efficacy, tolerability and lengthy duration of current treatment.

KEY WORDS: MDR-TB; treatment; ambulatory; outcomes

AMONG the estimated 650 000 prevalent cases of multidrug-resistant tuberculosis (MDR-TB) globally, less than 10% were notified and started on appropriate second-line treatment in 2011.[1,2] Controlling this epidemic requires dramatic scale-up in providing diagnosis and treatment. Rapid case detection, timely access to quality-assured second-line drugs, and the building of capacity to deliver treatment effectively are required.[3] To date, this has not occurred in most high MDR-TB burden settings. The majority of programmes are specialised and hospital-based, treating tens or hundreds of cases instead of the thousands requiring treatment.[4] South Africa is currently second only to the Russian Federation in the number of MDR-TB cases diagnosed and treated.[2] While this is laudable, only 4143 (46%) of the 9070 MDR-TB cases diagnosed in 2009 in South Africa started treatment, often with considerable delays.[4–6]

Community-based treatment for drug-resistant TB (DR-TB, defined in this study as any rifampicin [RMP] resistance) is a more viable model of care for scale-up, and has been successfully demonstrated in several settings, including South Africa.[7–10] Although treatment outcomes have been better than or comparable to those reported generally,[11] there are few published outcomes from settings with a high human immunodeficiency virus (HIV) burden.[12–14]

In late 2007, a pilot programme to provide community-based DR-TB diagnosis and treatment was initiated in Khayelitsha, Cape Town. The present paper aims to describe case detection and patient outcomes in this high HIV prevalence setting, both before and during the implementation of community-based DR-TB treatment.

METHODS

Setting

The Khayelitsha township in Cape Town (population:

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approximately 400 000[15]) has one of the highest HIV and TB burdens in the country and worldwide. In 2010, antenatal HIV prevalence was 33% and the TB case notification rate was at least 1500 per 100 000 population per year.[16,17] In 2008, DR-TB was identified among 4.5% and 11.2% of new and previously treated TB cases, respectively.[18]

Model of care for community-based DR-TB management

DR-TB care and management were integrated into existing primary care TB and HIV services through direct collaboration between government health services and Médecins Sans Frontières, Brussels, Belgium. The programme was based on respect for individual patient rights as well as public health protection, and an understanding that the majority of transmission occurs before treatment initiation. Implementation was incremental, starting with extensive training of primary care clinic staff, tuberculous infection control and paper registers in clinics. Additional inputs included individual-specific DR-TB counselling, social assistance and support groups, routine home visits, clinician support, strengthening of the standard DR-TB drug regimen, and a local subacute (nurse-managed) in-patient service. Patients were hospitalised only if they were clinically unstable and unable to attend their clinic daily. Patients were eligible if they resided in Khayelitsha or were diagnosed in one of the 10 primary care facilities in the subdistrict. Treatment was provided under direct observation by facility-based health care workers.[19]

Drug susceptibility testing

Until October 2011, drug susceptibility testing (DST) was available only for TB cases considered at high risk of DR-TB, i.e., those not responding to first-line anti-tuberculosis treatment, those previously treated for TB, close DR-TB contacts, health care workers, and those with mining or prison contact. Over this time period, DST for RMP and isoniazid (INH) was performed using line-probe assay (LPA, Hain Lifesciences, Nehren, Germany) on positive cultures, with subsequent DST for ofloxacin (OFX), amikacin, and ethionamide (ETH) using culture-based DST on solid media.[20] From October 2011, all those with suspected TB underwent diagnosis with the Xpert® MTB/RIF test (Cepheid, Sunnyvale, CA, USA),[21] followed by confirmation with LPA. Throughout the study, treatment was monitored for initially sputum culture-positive patients through monthly sputum smear and culture. Further second-line DST was conducted for patients remaining sputum culture-positive at 4 months of treatment or upon request.

Treatment regimens

In late 2007, the standard treatment regimen in Khayelitsha for DR-TB (RMP resistance) included OFX, kanamycin, ethambutol, ETH and pyrazinamide. In September 2009, cycloserine was added to the standard regimen, and was replaced by terizidone in April 2010. Moxifloxacin (MFX) has been used in Khayelitsha since 2008, initially only for patients with demonstrated OFX resistance, but extended to all DR-TB patients in September 2009.

The standard regimen was adapted once second-line DST results were received or in the event of treatment failure. Additional drugs included capreomycin and para-aminosalicylic acid and, more recently, high-dose INH, clofazimine and linezolid. All drug doses were in line with World Health Organization (WHO) recommendations.[22] The injectable agent was given post culture conversion for 4 months, for a minimum of 6 months. Per South African guidelines, after culture conversion total treatment duration was at least 18 months.[23]

Since 2008, all HIV-infected DR-TB patients have been immediately eligible for antiretroviral treatment (ART), regardless of CD4 level, with the aim of initiating ART as soon as possible. First-line ART included zidovudine (or stavudine), lamivudine and efavirenz (or nevirapine).[23] Use of tenofovir was avoided during aminoglycoside treatment.

Data collection

Data from DR-TB patients diagnosed and treated before 2008 were collated retrospectively through medical record review. Due to the lack of a register, cases who were diagnosed but did not start on treatment were under-represented in medical records. From January 2008, all data on cases diagnosed, treatment, and patient outcomes were prospectively collected from paper-based registers at clinic level, with monthly data entry into an electronic database. A passive surveillance system for following patients (from 2008) not in direct clinical care included notification of deaths, re-initiation of treatment elsewhere, and current clinical status.

To ascertain completeness of mortality data, particularly after completion of treatment, civil identification (ID) numbers, where available, were cross-checked with the national death registry to ascertain dates of death. This data linkage has been previously shown to have high levels of sensitivity and specificity for Khayelitsha.[24]

Data analysis

Treatment outcomes were defined in accordance with WHO recommendations, except for the definition for treatment failure.[22] As mortality is high among HIV-infected patients who do not respond to treatment, patients whose sputum cultures do not convert to negative within 6–8 months were considered to be treatment failures, per national guidelines.[23] Diagnosis was defined by the date of sputum sampling on which RMP resistance was first identified.

All analyses were conducted using PASW Statistics 18 (Statistical Product and Service Solutions, Chicago, IL, USA, 2009). Comparisons of proportions were conducted using the χ^2 test, with $P < 0.05$ considered significant. Time to death (from diagnostic sputum sample) was calculated using Life Table analyses, and associations with mortality were explored using a Cox regression model. Patients were censored at the most recent date that they were reported to have been alive.

Evaluation of the Khayelitsha DR-TB programme, including linkage with the death registry, was approved by the University of Cape Town Human Ethics Review Committee, Cape Town, South Africa (540/2010).

RESULTS

Case detection

Between January 2005 and December 2011, 1208 individuals were diagnosed with DR-TB in Khayelitsha. The number of diagnosed cases increased from 61 in 2005, peaked at 233 in 2009, and stabilised thereafter (223 and 204 in 2010 and 2011, respectively) (Table 1). The case notification rate increased from an average of 28/100 000/year for the years 2005–2007 before implementation of the programme to an average of 55/100 000/year for the years 2009–2011. Overall, 50% of patients were female and 7% were children aged ≤15 years. The median age of adults was 33 years (interquartile range 27–40). The proportion of patients tested for HIV infection was consistently high, while the proportion testing positive for HIV increased during programme implementation to a high level similar to that observed among drug-susceptible TB cases (Table 1).[17]

All adult cases were confirmed bacteriologically, whereas the majority of the children were diagnosed clinically with presumed DR-TB based on close contact with a known DR-TB case (Table 2). Since 2007, the proportion of patients diagnosed with RMP monoresistance has remained relatively constant, at approximately 18%. Before programme implementation, second-line DST was not routinely requested for MDR-TB patients; diagnosis of second-line resistance and extensively drug-resistant TB (XDR-TB, defined as MDR-TB plus resistance to both an aminoglycoside and a fluoroquinolone) was thus incomplete. By 2009, when close to 90% of MDR-TB strains were tested, 27 patients (18% of those with second-line DST results available) were diagnosed with MDR-TB with additional resistance to either OFX or an aminoglycoside (pre-XDR-TB) or both (XDR-TB). This proportion increased to 23% for 2010 and 2011 combined (Table 2).

Treatment initiation and delay

The number of DR-TB cases started on appropriate second-line treatment increased with programme implementation. Between 2008 and 2011, 754 individual patients initiated treatment (522 HIV-infected, 69%), excluding those transferred to Khayelitsha after starting treatment elsewhere and those restarted on treatment after previous default or treatment failure (Table 3). This figure represents 86% (754/874) of all diagnosed patients over this period. The most common reason for not starting treatment was death before receiving a diagnosis of DR-TB (73/874, 8%, died before treatment, at a median of 25 days after diagnosis).

The time between diagnosis and initiation of treatment decreased significantly by year, from a median of >2 months before programme implementation to a median of 27 days in 2011 (Table 3, $P < 0.001$). From 2009 to 2011, 20% (115/589) of patients starting treatment were initiated on treatment in the referral hospital. In addition, 12% (70/589) of patients were initiated on treatment at the local sub-acute facility (primarily patients with comorbid conditions, e.g., diabetes mellitus or HIV, requiring additional medical management).

Treatment outcomes

Final treatment outcomes were available for patients initiating treatment in 2010 and earlier (Table 4). Despite the threefold increase in cases initiating

Table 1 Clinical and demographic factors of diagnosed DR-TB cases (confirmed and presumed rifampicin resistance) by year of diagnosis

Year	DR-TB diagnosed *n*	Female *n* (%)	Children (age ≤15 years) *n* (%)	HIV-tested *n* (%)	HIV-infected *n* (% of tested)
2005	61	22 (36)	5 (8)	60 (98)	33 (55)
2006	117	54 (46)	6 (5)	100 (85)	66 (66)
2007	156	86 (55)	7 (4)	140 (90)	110 (79)
2008	211	115 (55)	9 (4)	197 (93)	144 (73)
2009	233	127 (55)	22 (9)	224 (96)	164 (73)
2010	226	120 (53)	19 (8)	218 (96)	159 (73)
2011	204	77 (38)	13 (6)	199 (98)	139 (70)
Total	1208	601 (50)	81 (7)	1138 (94)	815 (72)

DR-TB = drug-resistant tuberculosis; HIV = human immunodeficiency virus.

Table 2 DR-TB cases diagnosed, availability of second-line DST results, and classification of drug resistance by year of diagnosis

		Classification of drug resistance						
				Second-line DST not available (% of all MDR-TB)	Second-line DST available			
Year	DR-TB* diagnosed *n*	Presumed *n*	RMP monoresistance (% of total) *n* (%)	MDR-TB *n* (%)	MDR-TB *n*	Pre-XDR-TB† *n*	XDR-TB‡ *n*	Any second-line resistance *n* (%)
2005	61	0	2 (3)	57 (97)	1	0	1	
2006	117	1	16 (14)	96 (96)	1	2	1	
2007	156	2	29 (19)	77 (62)	27	9	12	
2008	211	5	46 (22)	38 (24)	94	16	12	
2009	233	16	47 (20)	18 (11)	125	13	14	27 (18)
2010	226	13	40 (18)	25 (14)	112	27	9	36 (24)
2011	204	9	32 (16)	14 (9)	118	23	8	31 (21)
Total	1208	46	212 (18)	325 (34)	478	90	57	

*Any RMP resistance.
†MDR-TB plus resistance to either an aminoglycoside or a fluoroquinolone.
‡MDR-TB plus resistance to both an aminoglycoside and a fluoroquinolone; any second-line resistance refers to pre-XDR and XDR combined. The proportions of pre-XDR-TB and XDR-TB among MDR-TB cases are not reported before 2009 due to the inconsistency of second-line testing during this period.
DR-TB = drug-resistant tuberculosis; DST = drug susceptibility testing; RMP = rifampicin; MDR-TB = multidrug-resistant TB; XDR-TB = extensively drug-resistant TB.

treatment and the fact that the majority initiated at primary care level, proportional treatment success did not deteriorate and in fact may have improved somewhat over time ($P = 0.059$, χ^2 for trend). In 2010, 52% of patients initiating treatment were successfully treated (cured and treatment completion); treatment success was higher among children with presumed DR-TB (75%), lower for pre-XDR and XDR-TB (25%), and similar to rates overall for MDR-TB patients without second-line resistance (51%) and those with RMP monoresistance (58%).

Treatment default is a major contributor to poor treatment outcomes, remaining at close to 30% across all years. Although HIV infection did not significantly impact overall treatment success ($P = 0.32$), default was significantly lower among HIV-infected patients ($P = 0.01$) and there was a trend toward increased death among HIV-infected patients ($P = 0.08$) (Table 4).

Survival

Mortality was assessed only for patients enrolled in the programme from 2008 onwards, as retrospective data before this were considered unreliable and no civil ID numbers were available for these patients. ID numbers were available for 414/874 (47%) patients diagnosed between 2008 and 2011; 396 (96%) of these were deemed to be valid through linkage with the death registry. Among these 396 patients, 94 deaths were recorded through the DR-TB registers and through passive surveillance. An additional 12 deaths were determined only by linkage with the death registry, predominantly among patients who were no longer residing in the same province. Overall, 89% of deaths among patients with civil ID numbers were previously known through our system. This figure remained similar, at respectively 91% and 82%, for patients who did not start treatment and for defaulters.

Using previously recorded deaths and those newly identified through the death registry, 2-year survival for all patients diagnosed between 2008 and 2011 was 65% (Figure). On univariate analysis, factors significantly associated with an increased hazard of death were HIV infection, second-line resistance (aminoglycoside and/or fluoroquinolone resistance),

Table 3 Treatment initiation and delay

Year	DR-TB initiating treatment *n*	Days to treatment* Median [IQR]	Treatment initiation at PHC level *n* (%)	Treatment initiation at local sub-acute facility *n* (%)	Treatment initiation at specialised DR-TB hospital *n* (%)
2005	39	58 [25–91]	2 (5)	NA	37 (95)
2006	80	70 [46–95]	12 (15)	NA	68 (85)
2007	97	73 [48–98]	19 (20)	NA	78 (80)
2008	165	54 [28–80]	99 (60)	NA	66 (40)
2009	213	41 [28–54]	155 (73)	18 (8)	40 (19)
2010	193	31 [18–45]	122 (63)	32 (17)	39 (20)
2011	183	27 [15–39]	127 (69)	20 (11)	36 (20)
Total	970		536	70	364

*Calculated from date of diagnostic sputum test to first day of second-line treatment.
DR-TB = drug-resistant tuberculosis; IQR = interquartile range; PHC = primary health care; NA = not available.

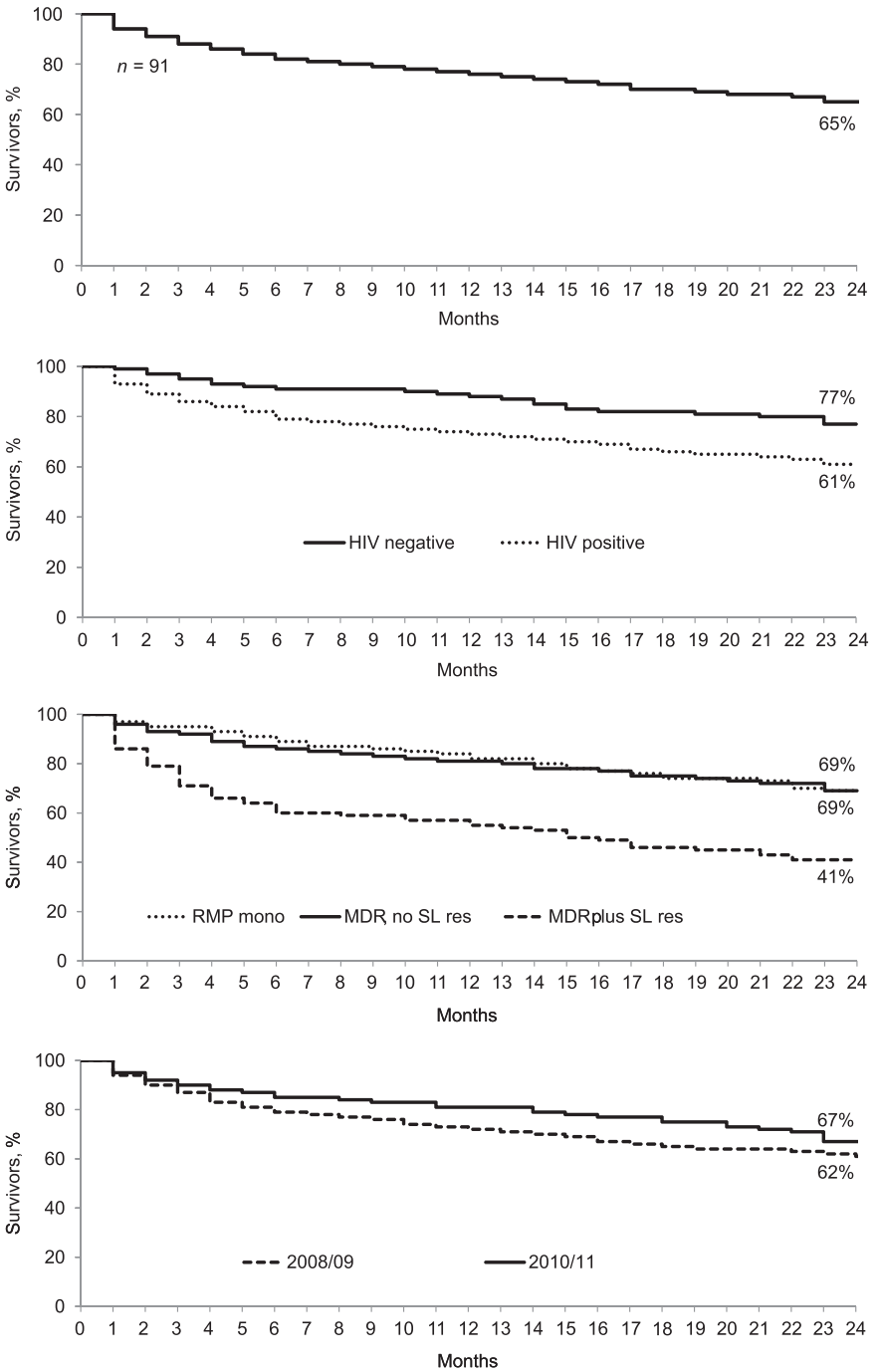

Figure Survival among DR-TB patients diagnosed between 2008 and 2011 inclusive (months from diagnosis): total, by HIV status, by drug resistance profile, and by year of programme (factors significant on multivariate analysis, Table 4). HIV = human immunodeficiency virus; RMP mono = rifampicin monoresistance; MDR = multidrug-resistant; SL res = second-line resistance; DR-TB = drug-resistant tuberculosis.

and diagnosis in 2008/2009 compared with 2010/2011. These factors remained significant on multivariate analysis (Table 5, Figure).

DISCUSSION

DR-TB case notification increased substantially between 2008 and 2011 in Khayelitsha, coinciding with the introduction of community-based care. These data suggest an average DR-TB case notification rate of 54/100 000/year for the period 2008–2011. The majority of these patients were started on appropriate second-line treatment, with reduced delays to treatment initiation. In 2011, the period between sputum sampling and treatment initiation had dropped to a median of 27 days. This compares

Table 4 Final treatment outcomes for patient cohorts (includes only patients initiated on treatment), combined and by HIV status (excluding unknown HIV status)

Treatment outcome	2005–2007 *n* (%)	2008 *n* (%)	2009 *n* (%)	2010 *n* (%)	2008–2010 HIV-negative *n* (%)	2008–2010 HIV-infected *n* (%)
Total initiating treatment*	206	153	195	164	149	351
Cured	55 (27)	47 (31)	72 (37)	60 (37)	34 (23)	143 (41)
Completed	30 (15)	12 (8)	18 (9)	26 (16)	29 (20)	24 (7)
Success	85 (41)	59 (39)	90 (46)	86 (52)	63 (42)	167 (48)
Default	59 (29)	50 (33)	52 (27)	50 (31)	56 (38)	90 (26)
Death	43 (21)	25 (16)	38 (20)	22 (13)	18 (12)	66 (19)
Failure of treatment	19 (9)	19 (12)	15 (8)	6 (4)	12 (8)	28 (8)

*Excludes patients transferred from Khayelitsha before treatment completion; 'success' refers to outcomes of cured and completed combined.
HIV = human immunodeficiency virus.

extremely favourably with the delays of many months reported elsewhere.[5,6,25]

Reduced diagnostic delay, improved patient tracing and access to treatment in primary care have all likely contributed to high proportions of diagnosed patients initiating treatment more rapidly. Since the launch of the programme, the proportion of diagnosed cases initiating treatment has consistently been above 85%, higher than the 42% nationally in 2012 and other South African sites.[26,27] Very few patients refuse treatment outright, and the most common reason for not initiating treatment is death, often before laboratory results are received. The combination of increasing case detection, reduced delays and increased treatment initiation are expected to result in overall reduced community infectiousness and therefore, ultimately, reduced transmission of DR-TB.

Treatment outcomes in Khayelitsha, however, remain suboptimal. Overall 52% of patients initiating treatment in 2010 were successfully treated. This is lower than the 62% treatment success derived from a systematic review of MDR-TB treatment globally,[11] but is comparable to or higher than the few published outcomes reported for MDR-TB programmes in high HIV settings.[12,13]

Improvements in survival were observed over time, with patients diagnosed in more recent years having a reduced hazard of death in multivariate analysis. In addition to higher rates of treatment initiation and reduced delays, the strengthened treatment regimen, and particularly the inclusion of MFX for all patients since late 2009, may have contributed to this. Other significant factors associated with high mortality were the presence of second-line resistance and HIV infection. Previous reports have suggested extremely high mortality among HIV-infected DR-TB patients.[13,28,29] While HIV is a significant contributor to mortality in multivariate analysis, survival among HIV-infected individuals in Khayelitsha remains higher than that reported elsewhere. Efforts to initiate ART more

Table 5 Univariate and multivariate survival analysis of factors potentially associated with time to death among patients diagnosed from 2008 to 2011 inclusive ($n = 864$)

	Univariate		Multivariate	
Variable	HR (95%CI)	*P* value	HR (95%CI)	*P* value
Sex				
Male	1.0 (reference)	0.84		
Female	0.98 (0.8–1.3)			
Age, years				
16–24	0.7 (0.4–1.1)	0.14		
25–34	1.0 (0.7–1.4)	0.92		
35–44	1.1 (0.8–1.7)	0.55		
≥45	1.0 (reference)			
HIV status				
HIV-negative	1.0 (reference)	<0.001	1.0 (reference)	<0.001
HIV-infected	2.1 (1.5–2.9)		2.0 (1.4–2.8)	
Resistance pattern				
RMP monoresistance	1.0 (reference)		1.0 (reference)	
MDR-TB, no second-line resistance	1.2 (10.8–4.4)	0.44	1.3 (0.9–1.8)	0.2
MDR-TB, plus second-line resistance	3.0 (2.1–4.4)	<0.001	3.3 (2.2–4.8)	<0.001
MDR-TB, unknown second-line resistance	1.8 (1.2–2.9)	0.009	2.0 (1.3–3.2)	0.003
Year of diagnosis				
2010–2011	Reference	0.01	1.0 (reference)	0.01
2008–2009	1.4 (1.1–1.7)		1.4 (1.1–2.0)	

HR = hazard ratio; CI = confidence interval; HIV = human immunodeficiency virus; RMP = rifampicin; MDR–TB = multidrug–resistant tuberculosis.

rapidly may be contributory in Khayelitsha. Overall, these data suggest that earlier case detection and treatment initiation, combined with more patient-centred care, may result in improved survival.

While these data suggest some improvement in treatment outcomes since the implementation of community-based care, comparisons using routine data between community-based models of care and centralised treatment in specialist hospitals remain problematic. Anecdotal reports suggest that centralised care is associated with extremely high levels of initial default (failure to initiate treatment) and long delays in treatment initiation. Given high early mortality, particularly among HIV-infected patients, many do not survive to be admitted and receive treatment. Furthermore, as data are often recorded centrally, patients who do not reach the specialised hospital are not registered or reported. This reality is reflected in the large difference between laboratory DR-TB diagnoses in South Africa and numbers initiating treatment.[27] As a result, patient cohorts from specialised hospitals are not representative of all DR-TB patients diagnosed in the community.

While progress to date in Khayelitsha is encouraging, a number of challenges remain. Treatment outcomes remain poor, in large part due to high default rates. Initiation of treatment for many patients who would not otherwise be treated may contribute to the high rate of treatment default seen in Khayelitsha. However, default most likely reflects the difficulties in adhering to a relatively ineffective treatment regimen, with often debilitating side effects, for the required duration, despite intensive counselling and patient support. These data highlight the urgent need for shorter, more tolerable treatment regimens, including new or re-purposed drugs (such as linezolid), with improved efficacy.[30] While such regimens will potentially negate some of the difficulties experienced with adherence to and default from treatment, an increased focus on innovative strategies to better support patients in completing treatment are still required.[31]

The global burden of DR-TB requires massive mobilisation of resources to scale up treatment. One of the barriers to scale-up has been the lack of appropriate models of care for high-burden settings. Experience in Khayelitsha suggests that community-based DR-TB management is feasible in a densely populated urban setting, and that it contributes to improvements in case detection, time to treatment initiation and survival, without compromising treatment outcomes. Integrating DR-TB treatment with existing TB and HIV care in the primary health care system represents efficient use of existing resources, while a more patient-centred approach both respects human rights and allows patients to access appropriate care and support within their community.

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None of the authors declare any competing interests beyond that mentioned above.

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RESUME

CONTEXTE : Khayelitsha, un township périurbain avec une prévalence élevée de tuberculose (TB), de TB résistante (TB-DR) et d'infection par le virus de l'immunodéficience humaine (VIH).

OBJECTIF : Décrire la détection des cas et le devenir des patients avec un programme de lutte contre la DR-TB à base communautaire.

SCHÉMA : La prise en charge de la TB-DR a été intégrée aux services de soins de santé primaires depuis 2007. La mise en œuvre a été progressive, et incluait la formation et le soutien médical, le conseil et les visites à domicile, la lutte contre l'infection tuberculeuse, un service d'hospitalisation de proximité et un suivi de routine. Les patients recevaient rapidement leur traitement au dispensaire local et n'étaient hospitalisés que lorsqu'ils ne se sentaient pas bien.

RÉSULTATS : La notification des cas de TB-DR (toute résistance à la rifampicine) est passée de 28/100 000/an (2005–2007) à 55/100 000/an (2009–2011, 72% VIH positifs). De 2008 à 2011, 754 patients ont reçu un traitement (86% des patients diagnostiqués). Le temps médian écoulé entre le diagnostic par analyse des crachats et le début du traitement a diminué au fil des années de mise en œuvre du programme, à 27 jours en 2011 ($P < 0{,}001$). Le taux de réussite du traitement était de 52% en 2010, avec 31% d'abandon, 13% de décès et 4% d'échecs du traitement. La survie à 2 ans était de 65%, avec un taux plus faible en cas d'infection VIH (HR 2,0 ; IC95% 1,4–2,8), de résistance aux médicaments de deuxième ligne (HR 3,3 ; IC95% 2,2–4,8) et de diagnostic dans les premières années du programme (HR 1,4 ; IC95% 1,1–2,0).

CONCLUSION : La prise en charge communautaire de la TB-DR est faisable et contribue à une meilleure détection des cas, un moindre retard de traitement et une meilleure survie. Les résultats du traitement restent médiocres, et illustrent la faible efficacité, la mauvaise tolérance et la longue durée du traitement.

RESUMEN

MARCO DE REFERENCIA: Khayelitsha es un municipio periurbano que presenta una alta carga de morbilidad por tuberculosis (TB), TB farmacorresistente (TB-DR) e infección por el virus de la inmunodeficiencia humana (VIH).

OBJETIVO: Describir la detección de casos y el desenlace clínico de los pacientes en el marco de un programa comunitario de atención de la TB-DR.

MÉTODO: A partir del 2007 se integró el manejo de la TB-DR a la atención primaria de salud. La aplicación de la iniciativa fue progresiva y comportó las siguientes actividades: capacitación y apoyo médico, orientación y visitas domiciliarias, medidas de control de la infección tuberculosa, un servicio local de hospitalización y una supervisión sistemática. Los pacientes recibieron el tratamiento de manera oportuna en su consultorio local y solo se hospitalizaron cuando lo exigió su estado clínico.

RESULTADOS: La notificación de casos de TB-DR (toda resistencia a rifampicina) aumentó de 28 por 100 000 por año (del 2005 al 2007) a 55/100 000/año (del 2009 al 2011; 72% coinfectados por el VIH). Del 2008 al 2011 recibieron tratamiento 754 pacientes (86% de los casos diagnosticados). La mediana del lapso entre la recepción de la muestra diagnóstica de esputo y el comienzo del tratamiento disminuyó con los años de aplicación del programa hasta 27 días en el 2011 ($P < 0{,}001$). Se alcanzó una tasa de tratamiento eficaz de 52% en el 2010, con 31% de abandonos, 13% de defunciones y 4% de fracasos terapéuticos. La supervivencia a los 2 años fue de 65%, con resultados menos favorables en los pacientes infectados por el VIH (HR 2,0; IC95% 1,4–2,8), en los casos de resistencia a los medicamentos de segunda línea (HR 3,3; IC95% 2,2–4,8) y cuando el diagnóstico se estableció en los primeros años del programa (HR 1,4; IC95% 1,1–2,0).

CONCLUSIÓN: La coordinación asistencial y el tratamiento de los casos de TB-DR a nivel comunitario son factibles y contribuyen a mejorar la detección de casos, disminuir el retraso del tratamiento y aumentar la supervivencia. Los desenlaces terapéuticos siguen siendo deficientes, lo cual pone de manifiesto la ineficacia, la escasa tolerabilidad y la prolongada duración del tratamiento actual.