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Burden, spectrum and outcomes of children with tuberculosis diagnosed at a district-level hospital in South Africa

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SUMMARY

SETTING: The Khayelitsha subdistrict has the highest burden of reported tuberculosis (TB) cases in Cape Town, Western Cape Province, South Africa.

OBJECTIVES: To characterise the TB burden, spectrum and treatment outcomes among children managed at a district-level hospital, the Khayelitsha District Hospital.

DESIGN: Retrospective medical record review of all children (age <13 years) diagnosed with TB in January–July 2014. A lay health care worker completed daily surveillance and supported linkage to TB care. Symptoms and investigations at presentation, TB disease spectrum, referral pathways and outcomes were reported.

RESULTS: Most children were aged ⩽2 years (84/99, 85%), 18/96 (19%) were infected with the human immunodeficiency virus, 31/91 (34%) were malnourished and 80/99 (81%) had pulmonary TB only. The majority of the children (63/80, 79%) presented with cough of acute onset (<2 weeks). Only 5/36 (14%) eligible child contacts had documentation of receiving isoniazid preventive therapy. Twelve (13%) children had bacteriologically confirmed pulmonary TB. Overall, 93/97 (96%) children successfully continued TB care after hospital discharge. Favourable TB treatment outcomes were recorded in only 77 (78%) children.

CONCLUSIONS: Children with TB managed at this district-level hospital were young, and frequently had acute symptoms and substantial comorbidities. Missed opportunities for TB prevention were identified. Linkage to care support resulted in excellent continuation of TB care; however, treatment outcomes could be further improved.

KEY WORDS: diagnosis; HIV; pathways; presentation

THE 2016 WORLD HEALTH ORGANIZATION (WHO) global tuberculosis report indicated that South Africa remained one of the countries with the highest tuberculosis (TB) incidence in the world.[1] In 2015, children aged <15 years accounted for 29 137 (10%) cases of the overall national reported new and relapse TB case load ($n = 287\,224$) in South Africa.[1]

Children have a high risk of progressing to TB disease following infection with *Mycobacterium tuberculosis* and a high risk of developing severe forms of disease.[2] In settings with a high burden of TB and human immunodeficiency virus (HIV), such as South Africa, paediatric TB contributes significantly to TB-related morbidity and mortality.[3–5] HIV-infected children have higher rates of progression to TB disease and poorer TB treatment outcomes, even with the use of antiretroviral therapy.[6,7]

The paucibacillary nature of childhood TB disease in younger children and difficulties confirming diagnosis often result in children being managed on the basis of clinical symptoms and chest radiography (CXR) alone. This poses challenges, particularly in young children who may present with acute symptoms and atypical CXRs that may be difficult to interpret.[8] In addition, respiratory specimen collection in young children is time-consuming and invasive. Children presenting at primary health care (PHC) facilities are therefore often referred for investigation and diagnosis at hospital level.

Data in the literature regarding the diagnosis, management and outcomes in paediatric TB are frequently from tertiary academic hospitals.[9–13] Children managed at these centres are likely to have complicated or severe forms of disease, and possibly poor outcomes. The burden, spectrum and outcomes in children with TB managed at a district-level hospital might be very different, but these have not been well described in the literature. Insight into disease burden and spectrum managed at all levels of

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health care is important to ensure appropriate planning for resources at each level.

The objective of the present study was to characterise the burden and spectrum of disease, clinical presentation, diagnostic investigations and outcomes of children with TB diagnosed at a district-level hospital in a peri-urban, high TB-HIV burden setting in South Africa.

SETTING

In 2011, the estimated population of Khayelitsha was 391 748 people; nearly one third were aged <15 years and 74% of households had a monthly income of ⩽3200 South African rand.[14] The Khayelitsha health subdistrict contributed 3972 (17%) to the total TB caseload (23 846) in the City of Cape Town during 2016; 2378 (59.9%) were HIV-infected and 321 (8%) were children aged <15 years (unpublished data, City Health, City of Cape Town). TB services are provided at nine PHC facilities in the subdistrict.

KDH has been providing primary and secondary level paediatric health care to children aged <13 years in the Khayelitsha subdistrict since February 2012. At the time of the present study, the KDH Paediatric Department consisted of one paediatrician (Department Head), a shared family physician and five medical officers. The department has 38 dedicated paediatric beds, a paediatric emergency centre, a 12-bed neonatal nursery and a 10-bed Kangaroo Mother Care unit. A paediatric out-patient clinic (POPD) operates 3 days per week. In 2014, KDH had 4290 paediatric admissions and 25 607 POPD/emergency consultations. Children typically present to PHC facilities, and are referred to hospital for further investigations and management only if clinically indicated. Following a hospital diagnosis of TB, children are referred to their local PHC facility at discharge for treatment continuation. TB treatment outcome definitions are aligned with WHO recommendations, and outcomes are documented in the TB treatment registers.

The 2013 South African National TB Programme (SANTP) Childhood TB guidelines introduced a paediatric diagnostic algorithm based on one specimen sent for Xpert® MTB/RIF (Cepheid, Sunnyvale, CA, USA) testing in addition to smear and mycobacterial culture.[15] In addition, HIV testing, the tuberculin skin test (TST), CXR and clinical examination remained part of the diagnostic algorithm. Until September 2014, Western Cape provincial guidelines restricted the use of Xpert to sputum, induced sputum and tracheal aspirates.

METHODS

During 2013–2014, as part of a childhood TB health systems strengthening study in Khayelitsha (Kidcare), a lay health care worker completed hospital-based surveillance and linkage to care activities at KDH. Daily surveillance was implemented in the paediatric wards, POPD and the Emergency Department to identify all children diagnosed with or treated for TB. Linkage to care activities included structured disease-specific education for parents/care givers, referral support for clinical personnel and telephone follow-up after hospital discharge.

All children (age <13 years) routinely diagnosed with TB at KDH from January to July 2014 were included. Data on demographics, clinical, diagnostic and referral pathways were collected through a retrospective review of medical records by a trained study nurse, and recorded on a standard case report form. Bacteriological records were accessed via the National Health Laboratory Services (NHLS) website. TB treatment outcome information was collated from hospital records, paper-based TB treatment registers at PHC facilities and provincial electronic TB registers (ETR.Net and EDRweb).

Malnutrition included any nutritional deficiencies (wasted, underweight, stunted, marasmus, kwashiorkor, malnutrition, severe acute malnutrition or moderate acute malnutrition) documented in clinical notes.

All data were dual captured into a central database using unique study identifiers, and were de-identified before analyses.

Statistical analysis

Statistical analysis was descriptive, and was performed using STATA v14 (StataCorp, College Station, TX, USA). Numbers and percentages are reported for categorical variables.

Regulatory approvals

The study protocol was approved by the Western Cape Department of Health, Cape Town, and the Human Research Ethics Committee, Stellenbosch University, Cape Town (N14/10/135).

RESULTS

The hospital-based clinical surveillance strategy identified 113 children with TB managed at KDH during the 7-month study period. Eleven children diagnosed outside the study period or admitted with an already established TB diagnosis were excluded. Of the remaining 102 children, 99 (97%) hospital records were available for review.

Table 1 provides an overview of the clinical presentation and TB disease spectrum. Most children were aged ⩽2 years (84, 85%), and 69 (67%) were male. Of the 88 children admitted, 70 (81%) stayed in hospital for ⩾3 days. Cough (80, 81%) and failure to thrive/weight loss (78, 79%) were the most frequently reported symptoms. The majority of the

Table 1 Demographics, clinical presentation and type of disease among children with TB diagnosed at a district-level hospital, Cape Town, South Africa ($n = 99$)

	n (%)*
Age category, years	
<1	37 (37)
1–2	47 (48)
3–4	9 (9)
⩾5	6 (6)
Male sex	69/98 (67)
Admitted to hospital as in-patient†	88 (89)
Duration of hospitalisation, days	
<3	16/86 (18)
3–6	46/86 (54)
7–13	16/86 (19)
>14	8/86 (9)
More than 5	5/99
Symptoms and signs suggestive of TB recorded	
Cough, weeks	80 (81)
⩾2	17/80 (21)
<2	63/80 (79)
Failure to thrive or weight loss	78 (79)
Failure to thrive with/without weight loss	70/78 (90)
Only weight loss	8/78 (10)
Fever, weeks	62 (62)
⩾2	6/62 (10)
<2	56/62 (90)
History of TB contact	
TB exposure history documented	96 (97)
Exposure to an infectious TB source case documented	38/96 (40)
Documentation of IPT (in eligible children)‡	5/36 (14)
Nutritional status	
Any form of malnutrition documented§	31/91 (34)
Severe acute malnutrition	8/91 (9)
Type of TB disease	
PTB only	79 (80)
EPTB only	2 (2)
Both PTB and EPTB	18 (18)
Disseminated TB	18 (18)
TB meningitis	1 (1)
Miliary TB	2 (1)
Abdominal TB¶	15 (15)

* The denominator is 99, except where otherwise indicated due to missing data.
† 11 (10%) children were seen and followed up at the KDH Paediatric Out-Patient Department only. All 11 had full work-up, including bacteriological testing.
‡ Of 38 children with a history of TB exposure, 36 (95%) were aged <5 years or HIV-infected and therefore eligible for IPT according to the 2013 SANTP guidelines.
§ 31/91 children were diagnosed with some form of nutritional deficiency during hospitalisation. We included all children clinically described by attending physicians as wasted, underweight, stunted, SAM, MAM, or diagnosed with marasmus, kwashiorkor or malnutrition.
¶ Children with abdominal TB mostly had uncomplicated abdominal lymph nodes (12/15) detected on ultrasound; splenic micro-abscesses were seen in 2/15, and pericardial effusion on 1/15 ultrasounds.
TB = tuberculosis; IPT = isoniazid preventive therapy; PTB = pulmonary TB; EPTB = extra-pulmonary TB; SAM = severe acute malnutrition; MAM = moderate acute malnutrition; KDH = Khayelitsha District Hospital; SANTP = South Africa National TB Programme; HIV = human immunodeficiency virus.

children with cough reported symptoms for <2 weeks (63/80, 79%). Most children presenting with fever also reported acute onset of <2 weeks (56/62, 90%). History of TB exposure was documented in 96 (97%) children; 58 (60%) had no known TB exposure, and 38 (40%) had household or other close contact TB exposure. Among children with reported TB exposure, 36/38 were aged <5 years or were HIV-infected and therefore eligible for TB preventive therapy. However, only 5/36 (14%) had documentation of receiving isoniazid preventive therapy (IPT) before hospital admission.

Malnutrition was documented in 31/91 (34%) children, 8 (9%) with severe acute malnutrition. The spectrum of TB included 79 (80%) children with only pulmonary TB (PTB), 2 (2%) with only extra-pulmonary TB (EPTB) and 18 (18%) with both PTB and EPTB. Two children were diagnosed with miliary TB and one with TB meningitis.

Table 2 provides an overview of TB diagnostic investigations. HIV status was documented in 96 (97%) children, of whom 18 (19%) were HIV-infected. Of the 18 HIV-infected patients, 10 (56%) were known to be infected before hospital admission (6 were on antiretrovirals at the time of hospital admission), and 7 (39%) were newly diagnosed at the time of hospital presentation, including 5 (71%) who were aged ⩽18 months.

Fifty-eight (59%) children received a TST. Of 41 (71%) children with a documented result, 20 (49%) were TST-positive (⩾5 mm in HIV-infected and ⩾10 mm in HIV-negative children). All children underwent CXR, with documented clinician reviews reported in 97/99 (98%). CXR was reported as 'suggestive of TB' in 95/97 (98%) children. Of these, 78/95 (82%) had 'typical CXR signs', defined in the SANTP guidelines as hilar nodes, expansile pneumonia, compression/collapse, pleural effusions, miliary TB, apical infiltrates or cavities. Hilar adenopathy was the most common finding on CXR (61/78, 78%). Respiratory specimens from 92 (93%) children were sent for bacteriological investigation; most of the specimens ($n = 84$, 91%) were gastric aspirates, 10 of which were collected successfully from out-patients in POPD. TB diagnosis was bacteriologically confirmed on respiratory specimens in 12 (13%) children (Xpert-positive specimens, 2/10 [20%]; MGIT [BD, Sparks, MD, USA] mycobacterial culture-positive specimens, 11/90 [12%]).

Type of TB treatment, referral care pathways and treatment outcomes are given in Table 3. During initial presentation at hospital, 83 (84%) children were started on anti-tuberculosis treatment. Of the 16 children followed up after the initial presentation without starting anti-tuberculosis treatment,12 started treatment within 30 days and only 4 (25%) had a >30-day delay in treatment initiation from initial presentation. Two of these children had positive mycobacterial cultures (culture took >30 days) and two did not improve clinically after oral antibiotics and follow-up. Most children (96, 97%) were started on first-line drug regimens. The three children who started second-line multidrug-resistant TB (MDR-TB) regimens either had bacteriologically confirmed resistance ($n = 2$) or reported MDR-TB exposure ($n = 1$).

Table 2 Diagnostic investigations completed for children diagnosed with TB at a district-level hospital, Cape Town, South Africa ($n = 99$)

	n (%)
HIV testing ($n = 99$)	
HIV status documented	96 (97)
HIV-negative	78/96 (81)
HIV-infected	18/96 (19)
Timing of HIV diagnosis in relation to hospital admission ($n = 18$)	
Known to be with HIV infection before hospital admission*	10/18 (56)
Diagnosed with HIV infection during hospital admission†	7/18 (39)
Time of HIV diagnosis not documented‡	1/18 (5)
TST	
Recorded that TST had been performed	58 (59)
Documentation of TST result	41/58 (71)
TST-positive§	20/41 (49)
CXR	
Number of children recorded to have undergone CXR	99 (100)
CXR findings recorded by clinician	97/99 (98)
CXR reported as suggestive of TB¶	95/97 (98)
One or more typical CXR signs of TB reported according to SANTP guidelines#	78/95 (82)
Bacteriological testing on respiratory samples	
Children with results of respiratory bacteriological investigations at NHLS	92 (93)
Type of respiratory specimens sent for TB microbiological testing	
First specimen gastric aspirate	84/92 (91)
First specimen sputum	8/92 (9)
Number of respiratory specimens per child sent for TB investigations	
1	16/92 (16)
2	52/92 (57)
$\geqslant 3$	24/92 (25)
Xpert ($n = 92$)	
Total number of patients who underwent Xpert	10/92 (11)
Positive Xpert	2/10 (20)
RIF resistance detected on Xpert result	1/10 (10)
Mycobacterial culture (MGIT™) ($n = 92$)	
Total number of patients who underwent culture	90 (98)
Positive *M. tuberculosis* culture	11/90 (12)
No susceptibility results available**	5/11 (45)
Drug resistance identified on culture††	1/11 (9)
Total bacteriologically confirmed cases	12/92 (13)

* 6/10 children known to be HIV-infected were on ART before hospital admission, 3 children not on ART were diagnosed within 1 month before admission.
† Of the 7 diagnosed during admission, 5 were aged $\leqslant 18$ months.
‡ No information relating to HIV diagnosis documented in folder or available on NHLS.
§ According to SANTP guidelines: HIV-negative $\geqslant 10$ mm; HIV-infected $\geqslant 5$ mm.
¶ CXR was reported as not being suggestive of TB ($n = 2$). Both children had extra-pulmonary TB only.
# Typical CXR signs defined as hilar nodes (61/78, 78%), expansile pneumonia (27/78, 35%), pleural effusions (2/78, 3%), miliary TB (2/78, 3%), cavities (2/78, 3%). Atypical CXR reported as suggestive of TB included lobar/paratracheal infiltrates or paratracheal nodes. CXR was only reported as suggestive of TB with no specific signs documented in 6.
** Culture-positive specimens were subject to drug susceptibility testing only if specifically requested by the clinician.
†† Drug resistance pattern identified as isoniazid monoresistance.
TB = tuberculosis; HIV = human immunodeficiency virus; TST = tuberculin skin test; CXR = chest radiograph; SANTP = South Africa National TB Programme; NHLS = National Health Laboratory Service; RIF = rifampicin; MGIT™ = Mycobacteria Growth Indicator Tube; ART = antiretroviral treatment.

Most children 89 (90%) were discharged to community PHC facilities for further treatment, and 79/89 (89%) were scheduled for hospital follow-up at the POPD, although 63/89 (80%) had already been started on anti-tuberculosis treatment. Attendance of hospital follow-up visits was good (67/79, 85%). Of 10 children (10%) referred for tertiary care, eight were referred back to KDH and eventually to a PHC facility for treatment completion. Of 97 children referred to PHC facilities, 93 (96%) were successfully linked to community-based TB care following hospital diagnosis. Overall, 89/99 (90%) were included in routine TB surveillance data (ETR.Net/EDRWeb). Favourable TB treatment outcomes were recorded in 77 (78%) children. Unfavourable outcomes included 11 (11%) children lost to follow-up, 9 (9%) not evaluated and 2 (2%) transferred out.

DISCUSSION

Based on the data presented here, surveillance of paediatric TB at a district-level hospital provides important insights into the burden and spectrum of disease, including the basis for diagnosis in children managed for TB at this level of health care. The study identified a large burden of children diagnosed with

Table 3 Type of anti-tuberculosis treatment, referral care pathways and TB treatment outcomes of children diagnosed with TB at a district-level hospital, Cape Town, South Africa ($n = 99$)

	n (%)
Type of anti-tuberculosis treatment initiated	
Treated for drug-susceptible TB	96 (97)
Treated for drug-resistant TB*	3 (3)
Referral pathways at hospital discharge	
Discharged to PHC facilities with a hospital POPD follow-up†	79 (80)
Discharged to PHC facilities with no hospital follow-up	10 (10)
Referred to tertiary hospital‡	10 (10)
Continuity of TB care between hospital and PHC facilities	
TB care successfully linked with PHC facility following hospital discharge	93/97 (96)
TB treatment outcomes§	
Cured	1 (1)
Treatment completed	76 (77)
Transferred out	2 (2)
LTFU¶	11 (11)
Not evaluated#	9 (9)

* Two cases were bacteriologically confirmed (1 culture-positive, isoniazid monoresistance; 1 Xpert-positive with rifampicin resistance); 1 treated due to history of exposure to MDR-TB.
† Mainly for verification of culture results; 67/79 (85%) attended their scheduled follow-up.
‡ Characteristics of referred children were as follows: 3 HIV-infected (1 with disseminated MDR-TB, 1 with tuberculous meningitis and 1 with PTB) and 7 HIV-negative children (5 with PTB and 2 with disseminated TB). All these children had other comorbidities such as malnutrition and sepsis.
§ Outcomes of 89/99 (90%) of children were obtained from routine TB surveillance sources (ETR.Net and EDR.Web).
¶ Included 7 children with an LTFU outcome in ETR, and 4 children LTFU after hospital discharge before accessing care at the PHC clinic.
# Included children with no documented outcomes, as well as one child with an illegible outcome in the PHC register.
TB = tuberculosis; PHC = primary health care; POPD = Paediatric Out-patient Department; LTFU = lost to follow-up; MDR-TB = multidrug-resistant TB; HIV = human immunodeficiency virus; PTB = pulmonary TB.

TB at a district-level hospital in a high TB-HIV burden community, nearly 100 in a 7-month period. Children were very young (85% were aged <2 years), and mostly presented with acute symptoms of short duration (<2 weeks). There was a high prevalence of HIV infection (19%) and malnutrition (34%), while significant missed opportunities for TB prevention were identified. Simple linkage to care activities successfully supported clinical continuity of TB care between district hospital and community-based health care services for nearly all children.

According to our study findings, children diagnosed with TB at this district hospital were thoroughly investigated for TB, with almost all undergoing HIV testing, CXR and bacteriological investigations. The diagnostic process followed was appropriate based on national guidelines, with the exception of bacteriological testing.[15] Provincial guidelines were only revised after the study at the end of 2014, allowing Xpert testing on gastric washings. Current guidelines recommend one Xpert test in addition to culture in all paediatric respiratory specimens. Although Xpert has lower sensitivity than culture to detect *M. tuberculosis* in children, it does allow for more rapid confirmation in acutely ill children.[16,17] Most children in our study were investigated using culture, and given the lower sensitivity of Xpert we do not expect its roll-out to impact significantly on confirmation rates in this setting; it could, however, potentially reduce the time to diagnosis/confirmation.

Given the paucibacillary nature of paediatric TB, bacteriological confirmation of diagnosis in children treated for TB varies between 25% and 40%.[18–20] In our study, only 13% of children had a bacteriologically confirmed diagnosis, potentially indicating the lower proportion of children with complicated forms of intrathoracic (pulmonary) TB and disseminated TB. CXR was an important diagnostic tool for paediatric TB at this hospital. However, CXR interpretation, particularly in young children, can be challenging, even for experts.[21–23] Taking into account the young age of children managed at this hospital, the associated comorbidities and the extremely high burden of TB in the surrounding community, one would expect a high index of suspicion for TB among clinicians. Some degree of overdiagnosis would therefore be expected and even acceptable, given the high risk of disease progression and severe forms of TB in young and HIV-infected children.[2,6] Verification of diagnostic accuracy was beyond the scope of this study. Our results, however, highlight the urgent need for new, improved diagnostic tests that are child-friendly, more sensitive, specific and capable of informing real-time clinical management to reduce over- and underdiagnosis of TB in young children in high-burden settings.

TB care remains an important opportunity for HIV care in children. We observed that 7/18 (39%) HIV-infected children were diagnosed with HIV after presenting to hospital with symptoms of TB (5 of them were aged ⩽18 months). This is of concern, as there has been a long-standing local Prevention of Mother-To-Child Transmission (PMTCT) programme, which reported only 2.6% vertical transmission in 2012–2013.[24] A national review, however, has identified multiple losses in the implementation of the PMTCT service cascade in South Africa.[25]

We also identified missed opportunities for initiating TB preventive therapy in children with documented TB exposure, similar to findings from other studies in South Africa.[26–28] As highlighted by a recent systematic review of child contact management in high-burden countries, high TB burden settings continue to face many challenges in the implementation of TB preventive therapy in child contacts.[29] Strategies to support the implementation of preventive therapy should be prioritised to improve child contact management and prevention of TB in children.[30]

The majority of children diagnosed at this district hospital did not require further specialist/tertiary-

level care, and were referred to community-based PHC facilities for further management and continuation of anti-tuberculosis treatment. However, the majority were admitted for >3 days, possibly reflecting the considerable severity of respiratory disease in this young cohort. Underpinned by the acute presentation of many children in our study, this highlights the need to better understand the role that TB plays in childhood pneumonia in high-burden settings.[31] It also emphasises TB-related morbidity in young children and the need for adequate resource allocation at this level of health care.

Our results also showed successful follow-up in the majority of the children who were asked to attend out-patient hospital follow-up after discharge, mainly to facilitate verification of culture results. For patients for whom the decision to treat for TB had already been taken, follow-up could potentially have been more feasibly done at the PHC facilities. However, in those patients for whom the decision to treat was not yet established, hospital follow-up provided a valuable opportunity for a review of clinical and culture results.

Linkage to care activities resulted in 96% of children successfully continuing TB care after hospital discharge and 90% included in routine TB surveillance data (ETR.Net/EDRWeb). This is considerably higher than previously reported (62%) by the large, tertiary-level hospital that serves KDH; however, the tertiary-level hospital also caters to a larger catchment area.[10] Favourable TB treatment outcomes were observed in nearly 80% of children. A study evaluating routine TB treatment register data in the City of Cape Town found a higher proportion of children (85.9%) with favourable outcomes.[32] The large proportion of children lost to follow-up during anti-tuberculosis treatment and with no evaluated outcome in our study is worrying. Interventions to strengthen treatment support and completeness of documentation could further improve outcomes.

This retrospective study had several limitations. Reliable surveillance data were only available for a fixed time period, resulting in a limited sample size. Data collection was limited to clinical documentation by routine health services staff. As an additional identification strategy, laboratory surveillance could have identified children missed by clinical hospital surveillance. However, as the paediatric department consists of a small team of clinicians, with one paediatric consultant conducting daily ward rounds and standardising care, we do not expect the lack of laboratory surveillance to substantially affect our results. Verification of diagnostic accuracy was beyond the scope of the study, but should be considered in future research. Despite these limitations, these routine data provide valuable insights into TB epidemiology in children at a district hospital, and give a more complete picture of the true burden of TB in South African children, complementary to data from PHC facilities and referral hospitals.

CONCLUSIONS

Investigation into the burden and spectrum of paediatric TB managed at all levels of health care services in high TB burden settings provides important information for hospital and public health managers. Our study provides a new perspective, characterising the epidemiology of paediatric TB at a district-level hospital. In our study, children with TB managed at a district-level hospital were very young, with substantial comorbidities. New diagnostic tools that can improve diagnostic accuracy in young children will greatly assist clinicians working in high-burden settings. Missed opportunities for TB prevention in child contacts were identified. Although most children successfully continued with TB care with simple linkage support activities, further research is needed to explore specific support interventions to improve TB treatment outcomes.

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RÉSUMÉ

CONTEXTE : Le sousdistrict de Khayelitsha a le taux le plus élevé de cas de tuberculose (TB) rapportés au Cap, Province du Cap Ouest, Afrique du Sud.

OBJECTIF : Caractériser le poids, le spectre et l'évolution de la TB pédiatrique prise en charge dans l'hôpital de district de Khayelitsha.

SCHÉMAY : Revue rétrospective des dossiers médicaux de tous les enfants (<13 ans) ayant eu un diagnostic de TB de janvier à juillet 2014. Un agent de santé de base a noté la surveillance quotidienne et la liaison au soutien des soins de TB. Les symptômes et investigations lors de la présentation, le spectre de la maladie TB, les parcours de référence et les résultats sont rapportés.

RÉSULTATS : La majorité des enfants (84/99 ; 85%) avaient <2 ans, 18/96 (19%) étaient infectés par le virus de l'immunodéficience humaine, 31/91 (34%) étaient malnutris et 80/99 (81%) avaient seulement une TB pulmonaire. La majorité des enfants se sont présentés avec une toux de début brutal (<2 semaines) (63/80 ; 79%). Seulement 5/36 (14%) enfants contacts éligibles avaient la preuve d'un traitement préventif par isoniazide. Douze (13%) enfants avaient une TB pulmonaire bactériologiquement confirmée. Dans l'ensemble, 93/97 (96%) enfants ont poursuivi avec succès le traitement de TB après la sortie de l'hôpital. Seulement 77 enfants (78%) ont eu des résultats favorables du traitement de la TB.

CONCLUSION : Les enfants atteints de TB pris en charge dans cet hôpital de district ont été jeunes, ont fréquemment eu des symptômes aigus et des comorbidités importantes. Des opportunités manquées de prévention de la TB ont été identifiées. Le lien avec le soutien au traitement a abouti à une excellente continuité de la prise en charge de la TB, mais les résultats du traitement pourraient être améliorés.

RESUMEN

MARCO DE REFERENCIA: El subdistrito de Khayelitsha notifica la más alta carga de morbilidad por tuberculosis (TB) en Ciudad del Cabo, en la Provincia Cabo Occidental de Suráfrica.

OBJETIVO: Describir la carga de morbilidad, los tipos de TB y los desenlaces terapéuticos en los casos de TB pediátrica tratados en el hospital distrital del distrito de Khayelitsha.

MÉTODO: Se llevó a cabo una revisión retrospectiva de las historias clínicas de todos los niños (<13 años) con diagnóstico de TB tratados de enero a julio del 2014. Un trabajador de salud lego completaba la vigilancia diaria y reforzaba la vinculación al servicio de atención de la TB. Se describen los síntomas y las investigaciones iniciales, los tipos de enfermedad tuberculosa, los mecanismos de remisión y los desenlaces clínicos.

RESULTADOS: La mayoría de los niños (84/99; 85%) tenía ⩽2 años de edad, 18/96 (19%) sufrían infección por el virus de la inmunodeficiencia humana, 31/91 (34%) presentaban malnutrición y 80/99 (81%) presentaban TB de localización pulmonar exclusiva. La mayoría de los niños (63/80; 79%) acudió con tos de presentación aguda (<2 semanas). En solo cinco de los 36 contactos pediátricos (14%) se pudo documentar que habían recibido tratamiento preventivo con isoniazida. En 12 niños (13%) se obtuvo la confirmación bacteriológica del diagnóstico de TB pulmonar. En general, 93/97 niños (96%) continuó de manera satisfactoria el tratamiento de la TB después del alta hospitalaria. Se registraron desenlaces favorables del tratamiento antituberculoso en solo 77 niños (78%).

CONCLUSION: Los niños tratados por TB en este hospital distrital eran pequeños, con frecuencia presentaban síntomas agudos e importantes enfermedades concurrentes. Se reconocieron oportunidades desaprovechadas de prevenir la TB. La vinculación a los servicios de atención dio lugar a una excelente continuación del tratamiento de la TB, pero aún es posible mejorar los desenlaces terapéuticos.