PNG SUPPLEMENT

TB treatment delay associated with drug resistance and admission at Daru General Hospital in Papua New Guinea

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Setting: Daru General Hospital, Daru Island, Papua New Guinea, where high rates of tuberculosis (TB) have been reported. Prompt diagnosis and effective treatment are needed for improving TB outcomes and to prevent nosocomial transmission.

Objective: To assess the time to treatment initiation and the risk factors associated with delayed treatment for patients started on TB treatment at Daru General Hospital from January to September 2017.

Design: This was a retrospective cohort study that entailed reviewing the records from treatment, admission, discharge and presumptive TB registers.

Results: The study included 360 patients on TB treatment. The median time from presentation to treatment initiation was 7 days [IQR 3–11]. Treatment was started <7 days for 215 patients (60%); however, only 16.2% commenced treatment <2 days. Risk factors for delayed treatment were diagnosis of TB as an inpatient (OR 2.67, 95% CI 1.35–5.28, $P = 0.005$) and having drug-resistant TB (OR 2.65, 95% CI 1.5–4.68, $P = 0.001$).

Conclusion: A high proportion of TB patients commenced treatment <7 days. Inpatient status, DR-TB and lack of microbiological confirmation were associated with delays in treatment initiation. We recommend that programmes monitor the time from presentation to treatment initiation, and propose that a period of >3 days from presentation to treatment initiation be considered as delayed treatment initiation.

result from the exposure of susceptible individuals to active TB disease in health facilities.¹⁴ The staff of health facilities have been shown to be at increased risk of tuberculous infection and active TB disease relative to the general population.^{15–18}

On Daru Island, Western Province, Papua New Guinea (PNG), there is a high burden of TB, with a case notification rate of over 1% in the population.¹⁹ Person-to-person transmission of DR-TB is apparent, with 69% of cases infected by primary transmission in 2017. An emergency response was commenced in Daru in 2015. Key components of the response included early access to rapid diagnostics and effective treatment. The Daru General Hospital also implemented the FAST strategy (Finding TB cases Actively, Separating safely, and Treating effectively), which emphasises rapid diagnosis and effective treatment.¹¹ Despite this, hospital staff have reported a number of challenges to early diagnosis and delays in treatment initiation.

The time taken from patient presentation to treatment initiation has not been quantified following the commencement of the Emergency Response Taskforce for MDR and XDR-TB, and little is known about the factors that might influence the timeliness of diagnosis and treatment.

This study aims to assess the timeliness of treatment initiation for TB patients presenting at Daru General Hospital and to identify patient characteristics associated with delayed treatment initiation.

METHODS

Design

This was a retrospective cohort study reviewing routine programme data. The study included all TB patients started on treatment for DS-TB and DR-TB at Daru General Hospital from 1 January to 30 September 2017.

Setting

Daru Island has a surface of approximately 15 km² and a population of 15,142.²⁰ Daru General Hospital—the provincial referral hospital—includes inpatient facilities and weekly specialist consultation clinics. The child and adult outpatient departments screen for TB symptoms and refer symptomatic patients to the TB diagnostic centre.

At the diagnostic centre, these patients are registered as presumptive TB cases (defined as a person

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KEY WORDS

DR-TB; treatment delay

Timely screening, diagnosis and treatment initiation are critical components for effective tuberculosis (TB) services. Studies from different countries have found an association between delayed treatment initiation and unfavourable treatment outcomes for drug-susceptible TB (DS-TB).^{1–4} There is less evidence on the impact of delayed treatment initiation for drug resistant TB (DR-TB), although this may be due to methodological limitations in existing studies and programmatic factors that obscure any such effect.^{5,6}

Early diagnosis and prompt, effective TB treatment is important for infection control and for preventing transmission.^{7–12} Infectiousness rapidly decreases once patients initiate effective treatment.^{9,10} This is particularly important for preventing the transmission of DR-TB, which is more complex and costly to treat, and has lower treatment success rates globally compared to DS-TB.¹³ Early, effective TB treatment is an important strategy for managing the infection risks that can

Received 13 September 2018
Accepted 11 December 2018

PHA 2019; 9(S1): S50–S56
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who presents with one or more symptoms suggestive of TB including a cough for >2 weeks, coughing up blood, fever with chills, night sweats, loss of appetite and unexplained weight loss). Chest X-rays are performed and two sputum samples are collected for smear microscopy and GeneXpert® MTB/RIF (Cepheid, Sunnyvale, CA, USA) testing. Patients are instructed to return after 2 days for their results.

Inpatients are screened for TB symptoms upon admission and during ward rounds. Among inpatients, presumptive TB cases are registered at the diagnostic centre and specimens are sent for TB diagnosis. Gx-Alert software (SystemOne, Springfield, MA, USA) is used to send automated emails to clinicians notifying them of positive Xpert results. Extrapulmonary TB (EPTB) samples, including gastric aspirate, fine needle aspirate, pleural or abdominal aspirate, are also collected and tested using microscopy and Xpert. If microbiology samples are negative, a clinical diagnosis is made if the patient's signs, symptoms and radiology are consistent with TB.

Diagnosed patients are registered and commenced on treatment, mainly as ambulatory patients. TB patients are only admitted as inpatients if they are severely ill or have no accommodation in Daru.

Data

Outpatients started on TB treatment were identified from the TB treatment register and the data on their presentation and diagnosis were retrieved from the presumptive TB register and the laboratory TB registers. Inpatients started on TB treatment were identified from the discharge register and their data were extracted from the registers and patient charts. Data were extracted for patient demographic characteristics, clinical characteristics, TB investigation, diagnosis and treatment. These included age, sex, patient address, human immunodeficiency virus (HIV) status, diagnostic test results, admission status and TB treatment initiation details. Data on these patients were extracted from hard copy and Excel versions (Microsoft Corp, Redmond, WA, USA) of these registers into a structured data form and entered into EpiData v.3.1 (EpiData Association, Odense, Denmark). The data were checked extensively using Stata v.15 (StataCorp, College Station, TX, USA). Data uncertainties were validated against the original registers or patient charts. Analysis was conducted in Stata v.15.

Analysis and statistics

The number of outpatients presenting to the TB diagnostic centre was used to calculate the proportion of TB treatment initiation among all presumptive outpatients. The frequency and proportion of demographic and clinical characteristics among inpatients and outpatients were calculated.

The number of days between the following key time points in the diagnostic and treatment process were calculated: 1) the time from presentation to treatment initiation, 2) the time from presentation to diagnosis, and 3) the time from diagnosis to treatment initiation. For outpatients, the date the patient was first seen at the TB diagnostic centre was used as the date of presen-

tation. For inpatients, the date of admission to the ward was used.

Patients were categorised into those who started treatment within <7 days of presentation; those who did not were referred to as patients with delayed treatment. The cut-off was set at 7 days to reflect what could feasibly be achieved if programme protocols and national guidelines are followed where smear and Xpert are available on site. Univariable logistic regression was used to calculate odds ratios (ORs) and confidence intervals (CIs) for the demographic, clinical and health service factors to identify those associated with delayed treatment. Significance was set at $P < 0.05$.

Ethics approval

Ethics approval was obtained from the PNG Medical Research Advisory Committee (Port Moresby, PNG) and the Alfred Hospital Ethics Committee (Melbourne, VIC, Australia).

RESULTS

From 1 January to 30 September 2017, 1270 patients seen for TB evaluation were screened as outpatients at Daru General Hospital and a total of 385 patients were registered for TB treatment. For our study, we retrieved the presentation and diagnostic data for 360 (93.5%) of these patients: 321 outpatients and 39 inpatients. Data for 25 (6.5%) patients started on treatment were missing, and these were excluded from the study. The characteristics of those included in the study are presented in Table 1. A total of 251 (70.3%) patients were from Daru and 61 (16.9%) patients had DR-TB. Among the 310 patients with a known HIV status, 11 (3.1%) were HIV-positive.

Data to calculate from the time of presentation to treatment initiation were available for 359 patients. The time taken from presentation to treatment initiation is shown in Table 2, by demographic and clinical characteristics. The median time from presentation to treatment initiation was 7 days, (interquartile range [IQR] 3–11). Treatment was initiated <7 days of presentation for 215 (59.9%) patients: 58 (16.2%) started between 0–2 days and 157 (43.7%) started within 3–7 days.

Table 3 shows the results of univariable analysis of the association between patient characteristics and treatment initiation >7 days after presentation. The major risk factors associated with a delay from presentation to treatment initiation of >7 days were diagnosis as an inpatient rather than as an outpatient (OR 2.67, 95%CI 1.35–5.28, $P = 0.005$) and having DR-TB vs. DS-TB (OR 2.65, 95%CI 1.5–4.68, $P = 0.001$). Microbiological confirmation was associated with a lower odds of a delayed treatment initiation compared with no microbiological confirmation (OR 0.61, 95%CI 0.38–0.98, $P = 0.043$).

The data to calculate the time from presentation to diagnosis were available for 294 (81.4%) patients and from diagnosis to treatment initiation for 292 (80.9%) patients. The time taken for these processes is shown by place of diagnosis and by resistance profile in Table

ACKNOWLEDGEMENTS

The investigators thank following individuals who contributed to the protocol development, the data collection/analysis or the programme from which the operational research topic was developed: P Dakulala, O Tugo, B Kombuk, C Burkot, L Gonzalez and P Ustero.

This research was conducted as part of the first Operational Research Course for Tuberculosis in Papua New Guinea (PNG). The specific training programme that resulted in this publication was developed and implemented by the Burnet Institute (Melbourne, VIC, Australia) in collaboration with the PNG Institute of Medical Research (Goroka) and University of PNG (Port Moresby), and supported by the PNG National Department of Health Emergency Response Taskforce for MDR and XDR-TB, the National TB Programme and Western Provincial Health Office, Daru, PNG. The model is based on the Structured Operational Research and Training Initiative (SORT IT), a global partnership led by the Special Programme for Research and Training in Tropical Diseases at the World Health Organization (WHO/TDR). The training programme was delivered as part of the Tropical Disease Research Regional Collaboration Initiative, which is supported by the Australian Government and implemented by Menzies School of Health Research (Darwin, NT, Australia) and the Burnet Institute (Grant 1132089). The views expressed in this publication are the authors' alone and are not necessarily the views of the Australian or PNG Governments. The funder had no role in study design, data collection and analysis, decision to publish or preparation of the manuscript. Conflicts of interest: none declared.

TABLE 1 Demographic and clinical characteristics of TB patients in Daru General Hospital, Daru, Papua New Guinea, from January to September 2017

Variable	Total (N = 360) n (%)	Place of diagnosis		OR (95%CI)	P value
		Outpatient (N = 321) n (%)	Inpatient (N = 39) n (%)		
Age group, years					
0–4	34 (9.4)	25 (7.8)	9 (23.1)	3.98 (1.67–9.48)	0.002
5–14	37 (10.3)	31 (9.7)	6 (15.4)	2.14 (0.81–5.63)	0.124
≥15	289 (80.3)	265 (82.6)	24 (61.5)	Reference	
Sex*					
Male	192 (53.5)	170 (53.1)	22 (56.4)	Reference	
Female	167 (46.5)	150 (46.9)	17 (43.6)	0.88 (0.45–1.71)	0.698
Patient origin*					
Daru	251 (70.3)	221 (69.5)	30 (76.9)	Reference	
Outside Daru	106 (29.7)	97 (30.5)	9 (23.1)	0.68 (0.31–1.49)	0.333
HIV status					
Negative	299 (83.1)	270 (84.1)	29 (74.4)	Reference	
Positive	11 (3.1)	10 (3.1)	1 (2.6)	0.93 (0.12–7.53)	0.947
Unknown	50 (13.9)	41 (12.8)	9 (23.1)	2.04 (0.90–4.63)	0.086
Resistance pattern					
Drug-susceptible TB	299 (83.1)	262 (81.6)	37 (94.9)	Reference	
Drug-resistant TB	61 (16.9)	59 (18.4)	2 (5.1)	0.24 (0.06–1.02)	0.054
Site of TB					
Pulmonary	245 (68.1)	231 (72.0)	14 (35.9)	Reference	
Extrapulmonary	115 (31.9)	90 (28.0)	25 (64.1)	4.58 (2.28–9.21)	<0.001
Bacteriologically confirmed					
No	94 (26.1)	62 (19.3)	32 (82.1)	Reference	
Yes	266 (73.9)	259 (80.7)	7 (17.9)	0.05 (0.02–0.12)	<0.001

*Unrecorded categories with $n < 10\%$ of the total sample have been omitted from the table and from the univariable analysis.

TB = tuberculosis; OR = odds ratio; CI = confidence interval; HIV = human immunodeficiency virus.

4. For outpatients, the median time from presentation to diagnosis was 4 days [IQR 2–6], while the median time from diagnosis to treatment was 1 day [IQR 0–4]. For inpatients, the median time from presentation to diagnosis was less than 1 day [IQR 0–10] and from diagnosis to treatment was 3 days [IQR 1–9]. Comparing DS-TB and DR-TB patients, the median times from presentation to diagnosis were similar: 4 days [IQR 2–6] vs. 3 days [IQR 1–4]. Median times from diagnosis to treatment were longer in DR-TB patients (5 days [IQR 3–7]) compared with DS-TB patients (1 day [IQR 0–3]).

DISCUSSION

This is a retrospective cohort study of the timeliness of TB diagnosis and treatment in a rural hospital in PNG. Our study highlights the challenges of rapid diagnosis and effective TB treatment in remote settings, even when resources have been specifically mobilised in an emergency TB response. The median time of 7 days from presentation to treatment initiation indicates there are significant health system delays in initiating TB treatment in Daru. The fact that less than 1 of 5 patients were diagnosed and initiated on treatment >2 days of presentation further highlights the need for more prompt diagnosis and treatment initiation in this setting.

Health system delays are not uncommon in rural contexts: excessive health system delays ranging from 27 to 60 days were commonly reported in rural TB programmes prior to Xpert availability.^{4,21} Following the introduction of Xpert, some studies have

reported a median time to treatment initiation of <5 days.²² In a cluster randomised trial in South Africa, those diagnosed on Xpert had a median time to treatment initiation of 7 days, and 76.5% initiated appropriate TB treatment in <30 days.²³ For DR-TB patients, studies have reported median health system delays of >10 days and frequently >21 days.^{6,24–27} Unlike similar studies, we included all TB patients, including children, and those with extrapulmonary TB, DS-TB and DR-TB.

The World Health Organization's END TB Strategy does not define a specific indicator for measuring treatment delays.²⁸ Among treatment initiation studies, the definition used for assessing delayed time to treatment initiation varies.^{1,3–6,24} The cut-off in our study is similar to that used by other studies which ranged from 7 to 10 days.^{3,6,24} In a large study from China, health system delay for treatment initiation of >10 days was associated with loss to follow-up, but, interestingly, not with death or treatment failure.¹ While efforts are undertaken to initiate treatment as early as possible, it is not only the speed of the diagnostic test, but also health system factors such as sputum transport systems, laboratory capacity, patient tracing and patient counselling and readiness that also affect the time to initiation. On the one hand, a cut-off of 7 days for defining delayed diagnosis seems suitable programmatically when monitoring for all forms of TB, including DR-TB, in rural settings. However, setting a more ambitious target of treatment initiation in <3 days would seem more prudent, given what has been achieved in some settings and the likely impact of future point-of-care diagnostics.

TABLE 2 Time from presentation to treatment initiation for clinically and bacteriologically diagnosed patients, Daru General Hospital, Daru, Papua New Guinea, from 1 January to 30 September 2017

Variable	Total <i>n</i>	0–2 days <i>n</i> (%)	3–7 days <i>n</i> (%)	≥8 days <i>n</i> (%)	Median [IQR]
Total	359	58 (16.2)	157 (43.7)	144 (40.1)	7 [3–11]
Age group, years					
0–4	34	12 (35.3)	9 (26.5)	13 (38.2)	6 [1–10]
5–14	37	5 (13.5)	15 (40.5)	17 (45.9)	7 [3–13]
≥15	288	41 (14.2)	133 (46.2)	114 (39.6)	7 [4–11]
Sex					
Male	192	32 (16.7)	86 (44.8)	74 (38.5)	7 [3–12]
Female	166	26 (15.7)	70 (42.2)	70 (42.2)	7 [3–10]
Unrecorded	1	0 (0.0)	1 (100.0)	0 (0.0)	6 [6–6]
Patient origin					
Daru	250	46 (18.4)	106 (42.4)	98 (39.2)	7 [3–11]
Outside Daru	107	12 (11.2)	49 (45.8)	46 (43.0)	7 [3–13]
Not recorded	2	0 (0.0)	2 (100.0)	0 (0.0)	3 [3–3]
HIV status					
Negative	298	41 (13.8)	138 (46.3)	119 (39.9)	7 [4–11]
Positive	11	6 (54.5)	1 (9.1)	4 (36.4)	2 [1–18]
Unknown	50	11 (22.0)	18 (36.0)	21 (42.0)	6.5 [3–11]
Place of diagnosis					
Outpatient	320	50 (15.6)	150 (46.9)	120 (37.5)	6 [3–10]
Inpatient	39	8 (20.5)	7 (17.9)	24 (61.5)	9 [3–19]
Resistance profile					
Drug-susceptible TB	299	57 (19.1)	134 (44.8)	108 (36.1)	6 [3–10]
Drug-resistant TB	60	1 (1.7)	23 (38.3)	36 (60.0)	9 [7–14]
Site of TB					
Pulmonary	245	33 (13.5)	118 (48.2)	94 (38.4)	6 [3–10]
Extrapulmonary	114	25 (21.9)	39 (34.2)	50 (43.9)	7 [3–13]
Bacteriologically confirmed diagnosis					
No	94	30 (31.9)	18 (19.1)	46 (48.9)	7 [2–18]
Yes	265	28 (10.6)	139 (52.5)	98 (37.0)	6 [4–9]

IQR = interquartile range; HIV = human immunodeficiency virus; TB = tuberculosis.

The factors associated with delays in treatment initiation were diagnosis as an inpatient and having DR-TB. In contrast, microbiological confirmation was associated with lower odds of delayed initiation. This is similar to other studies that have found that smear-negative pulmonary TB and DR-TB are associated with treatment delays.²⁹ In other studies, additional factors associated with delays in treatment initiation included male sex, the type of health facility where patients present, previous TB treatment, patients seeking a second opinion, delays in the availability of TB drugs and delays in TB diagnostic services.^{30–32}

For the two risk factors identified in our study, further breakdown of the period from presentation to treatment initiation reveals differences in where the majority of delays occurred. For inpatients, the majority of delay was between diagnosis and treatment initiation, while for outpatients the major delay was in the time from presentation to diagnosis. A similar pattern is evident when comparing DS-TB to DR-TB: the proportion of early diagnosis is higher, while rapid treatment initiation is lower for DR-TB patients.

The higher proportion of treatment initiation at >7 days from presentation for inpatients suggests a need to intensify TB case finding at the hospital. This should include TB screening on admission for all inpatients and repeat routine screening of patients during admission, with prompt investigation of presumptive patients.

For outpatient diagnosis, there is a need to improve on the proportion of patients diagnosed in <2 days of presentation—an ambition that should be feasible for a programme with smear, Xpert and X-ray services available on site. Other studies have found median delays from presentation to diagnosis can be decreased to 0–1 day.^{22,31} Achieving this at Daru General Hospital will require further identification of the processes and practices that hinder rapid treatment initiation. On the patient side, these can include patients not returning for results and patients not being ready to start treatment. In the health system, areas to investigate include the quality and timeliness of sputum sample collection; availability of Xpert testing, considering workload relative to machine cartridge availability; and the efficiency of systems for transfer of results from the laboratory to the clinician.^{23,33}

This study had several limitations. It was limited to exploring the time between presentation and treatment initiation. Therefore, it was not able to consider delays between the onset of symptoms and care-seeking for TB, even though there is evidence that care-seeking delays are often a substantial component of diagnostic and treatment delays.^{4,30} This was a retrospective study using routinely recorded programme data and may have contained data that were inaccurately recorded. In particular, for the identification of TB inpatients, the ward admission and discharge registers were observed as not being systematically maintained,

TABLE 3 Univariable analysis of risk factors for TB treatment initiation <7 days vs. >7 days from presentation, Daru General Hospital, Daru, Papua New Guinea

Variable	Total (N = 359) n	0–7 days (N = 215) n (%)	>7 days (N = 144) n (%)	OR (95%CI)	P value
Age group, years					
0–4	34	21 (61.8)	13 (38.2)	0.94 (0.4–1.96)	0.879
5–14	37	20 (54.1)	17 (45.9)	1.30 (0.65–2.58)	0.459
≥15	288	174 (60.4)	114 (39.6)	Reference	
Sex					
Male	192	118 (61.5)	74 (38.5)	Reference	
Female	166	96 (57.8)	70 (42.2)	1.16 (0.76–1.78)	0.485
Patient origin					
Daru	251	153 (61.0)	98 (39.0)	Reference	
Outside Daru	106	60 (56.6)	46 (43.4)	1.17 (0.74–1.85)	0.444
HIV status					
Negative	298	179 (60.1)	119 (39.9)	Reference	
Positive	11	7 (63.6)	4 (36.4)	0.86 (0.25–3.00)	0.812
Unknown	50	29 (58.0)	21 (42.0)	1.09 (0.59–2.00)	0.783
Patient pathway					
Outpatient	320	200 (62.5)	120 (37.5)	Reference	
Inpatient	39	15 (38.5)	24 (61.5)	2.67 (1.35–5.28)	0.005
Resistance profile					
Drug-susceptible TB	299	191 (63.9)	108 (36.1)	Reference	
Drug-resistant TB	60	24 (40.0)	36 (60.0)	2.65 (1.50–4.68)	0.001
Disease site					
Pulmonary	245	151 (61.6)	94 (38.4)	Reference	
Extrapulmonary	114	64 (56.1)	50 (43.9)	1.25 (0.80–1.97)	0.323
Bacteriologically confirmed diagnosis					
No	94	48 (51.1)	46 (48.9)	Reference	
Yes	265	167 (63.0)	98 (37.0)	0.61 (0.38–0.98)	0.043

TB = tuberculosis; OR = odds ratio; CI = confidence interval; HIV = human immunodeficiency virus.

and the total number of inpatients admitted in the hospital during the study period was not available to calculate a complete in-hospital TB care cascade. The retrieval of charts for inpatients was also challenging due to a lack of systematic filing and storage of these records, which resulted in some eligible inpatients being

missed. Despite these limitations, the findings in this study are relevant to other rural programmes, especially in PNG, with access to Xpert and chest X-ray facilities.

In this study, the majority of patients were diagnosed as outpatients and initiated on treatment in <7 days of presentation. Inpa-

TABLE 4 Time from presentation to diagnosis and from diagnosis to treatment initiation for bacteriologically and clinically diagnosed patients started on TB treatment, Daru General Hospital, Daru, Papua New Guinea

Variable	Total (N = 294) n (%)	0–2 days (N = 173) n (%)	3–7 days (N = 73) n (%)	≥8 days (N = 44) n (%)	Median [IQR]
Place of diagnosis					
Outpatient					
Presentation to diagnosis	255 (100)	82 (32.2)	146 (57.3)	27 (10.6)	4 [2–6]
Diagnosis to treatment	251 (100)	158 (62.9)	64 (25.5)	29 (11.6)	1 [0–4]
Inpatient					
Presentation to diagnosis	39 (100)	23 (59.0)	5 (12.8)	11 (28.2)	0 [0–10]
Diagnosis to treatment	39 (100)	15 (38.5)	9 (23.1)	15 (38.5)	3 [1–9]
Resistance profile					
Drug-susceptible TB					
Presentation to diagnosis	239 (100)	79 (33.1)	126 (52.7)	34 (14.3)	4 [2–6]
Diagnosis to treatment	236 (100)	160 (67.8)	45 (19.1)	31 (13.2)	1 [0–3]
Drug-resistant TB					
Presentation to diagnosis	55 (100)	26 (47.3)	25 (45.5)	4 (7.3)	3 [1–4]
Diagnosis to treatment	54 (100)	13 (24.1)	28 (51.9)	13 (24.1)	5 [3–7]

TB = tuberculosis; IQR = interquartile range.

tients and patients with DR-TB were identified as being at higher risk for treatment initiation in >7 days. The underlying programmatic services currently in place, including Xpert, radiology, microscopy and ambulatory treatment models, should enable further improvements in the timeliness of treatment initiation. Priority areas for action are ensuring systematic screening for all hospitalised patients; improving turnaround of diagnostic testing; and streamlining pathways from diagnosis to treatment for inpatients and DR-TB patients. Finally, the utility of monitoring the time from presentation to treatment initiation to assess health system delays in initiating TB treatment was illustrated by our study. We recommend that programmes monitor the time from presentation to treatment initiation for all TB patients, using an ambitious but feasible target of 3 days for assessing prompt treatment initiation.

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Contexte : Hôpital Général de Daru sur l'île de Daru en Papouasie Nouvelle Guinée où des taux élevés de tuberculose (TB) ont été rapportés. Un diagnostic rapide et un traitement efficace sont nécessaires pour améliorer l'évolution de la TB et prévenir sa transmission nosocomiale.

Objectif : Evaluer le délai de mise en route du traitement et les facteurs de risque associés à un retard au traitement pour les patients pris en charge à l'hôpital général de Daru de janvier à septembre 2017.

Schema : Une étude rétrospective de cohorte qui a impliqué une revue des registres de traitement, d'admission, de sortie et des cas de TB présumés.

Resultats : L'étude a inclus 360 patients sous traitement de TB. Le délai médian entre la présentation et la mise en route du traitement a

été de 7 jours [IQR 3–11]. Le traitement a débuté < 7 jours pour 215 patients (60%), mais seulement 16,2% ont commencé le traitement < 2 jours. Les facteurs de risque de retard au traitement ont été le diagnostic de TB en cours d'hospitalisation (OR 2,67 ; IC 95% 1,35–5,28; $P = 0,005$) et le fait d'avoir une TB pharmacorésistante (OR 2,65 ; IC 95% 1,5–4,68, $P = 0,001$).

Conclusion : Une proportion élevée de patients TB a débuté son traitement < 7 jours. Le fait d'être hospitalisé, la DR-TB et l'absence de confirmation bactériologique ont été associés au retard à la mise en route du traitement. Nous recommandons aux programmes de surveiller le délai entre la présentation et la mise en route du traitement et proposons qu'un délai de > 3 jours soit considéré comme un retard au démarrage du traitement.

Marco de Referencia: El Hospital General Daru en la Isla Daru en Papúa Nueva Guinea, donde se han comunicado tasas altas de tuberculosis (TB). Es necesario lograr un diagnóstico rápido y un tratamiento eficaz con el fin de mejorar los desenlaces clínicos de la TB y prevenir la transmisión intrahospitalaria.

Objetivo: Evaluar el lapso transcurrido hasta el inicio del tratamiento y los factores de riesgo asociados con el retraso terapéutico en los pacientes que iniciaron el tratamiento antituberculoso en el Hospital General de Daru de enero a septiembre del 2017.

Método: Fue este un estudio retrospectivo de cohortes que comportó el examen de las historias clínicas desde el tratamiento, la hospitalización, el alta hospitalaria y los registros de diagnósticos de presunción.

Resultados: Se incluyeron en el estudio 360 pacientes que recibían tratamiento antituberculoso. La mediana del lapso transcurrido desde

la primera consulta hasta el inicio del tratamiento fue 7 días [amplitud intercuartílica 3–11]. El tratamiento se inició en los primeros 7 días en 215 pacientes (60%), pero solo el 16,2% comenzó el tratamiento en los primeros 2 días. Los factores de riesgo de un retraso del tratamiento fueron el diagnóstico de TB durante una hospitalización OR 2,67; IC 95% 1,35–5,28; $P = 0,005$ y el diagnóstico de tuberculosis farmacorresistente (OR 2,65; IC 95% 1,5–4,68; $P = 0,001$).

Conclusión: Una gran proporción de pacientes con TB comenzó el tratamiento < 7 días. Los factores asociados con un retraso del inicio del tratamiento fueron la hospitalización, la TB farmacorresistente y la falta de confirmación bacteriológica. Se recomienda que los programas supervisen el lapso transcurrido desde la primera consulta hasta el inicio del tratamiento y se propone considerar el retraso en el inicio del tratamiento a partir de los 3 días.