



Accelerating progress to end TB

8th SA

TB

Conference

04 - 07 June 2024

Durban ICC



MISSED OPPORTUNITIES IN TUBERCULOUS MENINGITIS CARE FOR CHILDREN IN CAPE TOWN, SOUTH AFRICA

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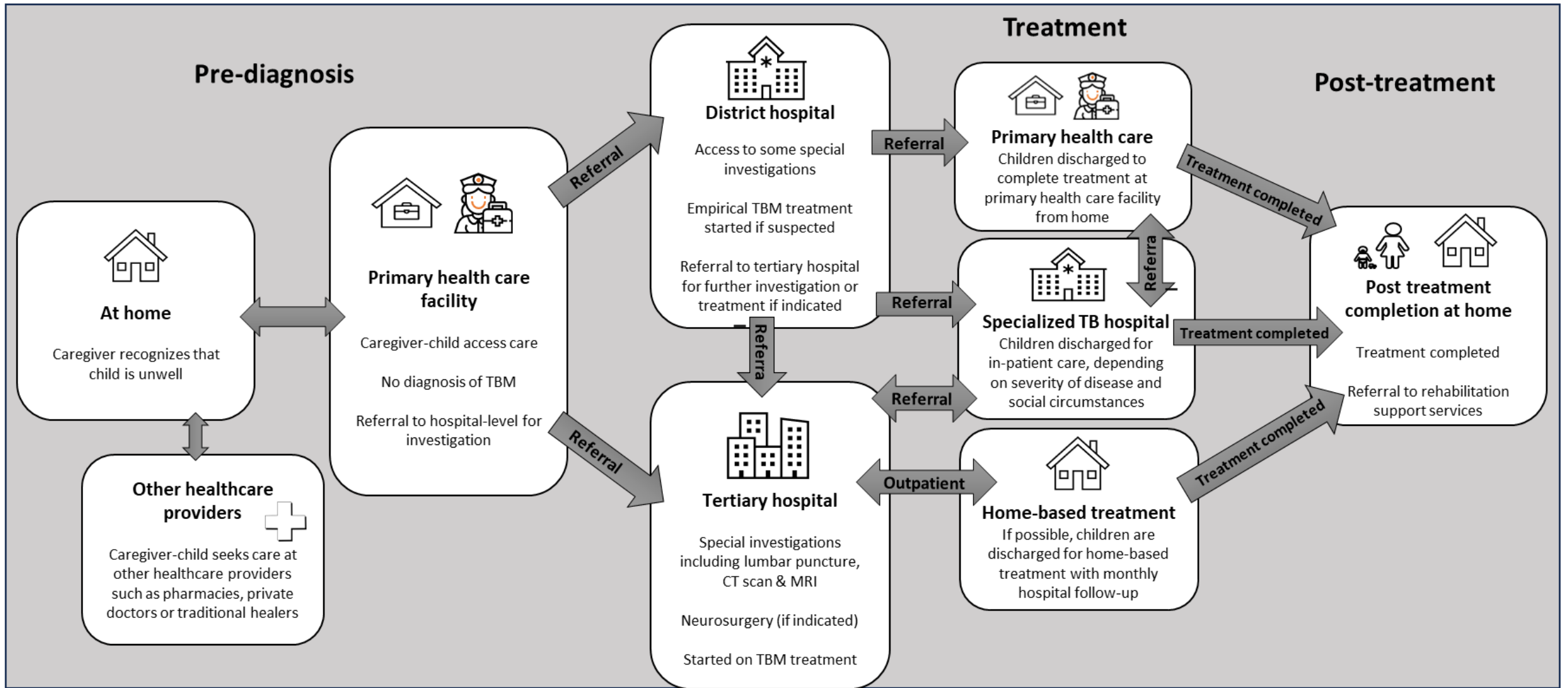
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BACKGROUND

- In 2021, 1.2 million children developed tuberculosis and it remains one of the leading causes of death (WHO, 2022).
- An estimated 24 000 children were diagnosed with tuberculous meningitis (TBM) in 2019 (Du Preez et al, under review Lancet Global Health).
- TBM is one of the most severe forms of TB in children that leads to high mortality (19.3% (95% CI 14.0–26.1) and morbidity (Chiang, 2014).
- Non-specific symptoms especially at early stages of disease.
- Early diagnosis and treatment can prevent severe outcomes and reduce morbidity.
- Prevention strategies: TB Preventive therapy (TPT) and Bacille Calmette-Guerin (BCG) vaccine (Ayieko, 2014 – TPT; Trunz, 2006 – BCG).

Diagnosis



Barriers identified

At the home

Limited awareness and knowledge of TB and TBM, including prevention
Low income and socio-economic circumstances

Primary health care

Lack of training and mentoring for healthcare workers
Missed opportunities for TBM prevention and early TBM symptom recognition and referral

District hospital

Delay in referrals
Lack of medical expertise and equipment to investigate TBM (i.e., CT Scan, MRI & Lumbar puncture)
Lack of intensive care and neurosurgical

Tertiary hospital

Limited communication between referral, treating and reporting facilities
Risk of loss-to-follow-up post-discharge, including linkage to care barriers

On-treatment and post-treatment

Complex multi-directional care pathways whilst on treatment
Social and educational challenges of long-term admissions
Administration of treatment
Availability and access to comprehensive post-TBM care

Barriers identified

AIM OF THE STUDY

We combined quantitative and qualitative research with patients and caregivers to improve the current understanding of barriers to prevention, accessing care and delays in diagnosis.

METHODS

Quantitative Methods

- Medical folder and road to health chart review
- Health systems data
- Descriptive statistics

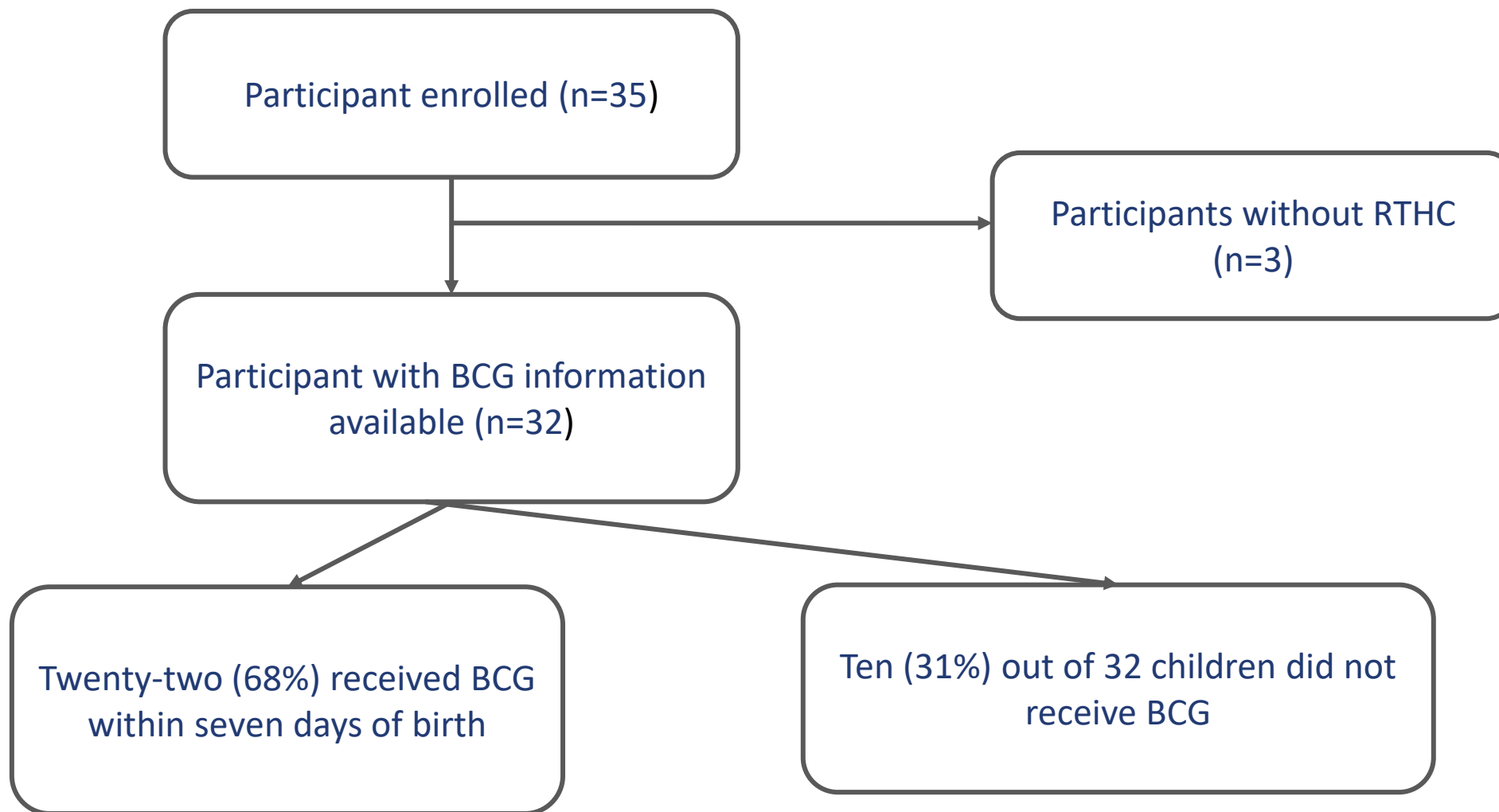
Qualitative Methods

- Semi-structured interview at baseline diagnosis with caregivers
- Thematic analysis

PARTICIPANT CHARACTERISTICS

Total participant enrolled		N=35 (%)
Gender		
	Male	18 (51,4%)
	Female	17 (48,5%)
HIV Status		
	Exposed (uninfected)	6 (17%)
	Negative	26 (74%)
	Positive	3 (8%)
TBM Staging*		
	Stage 1	3 (8.57%)
	Stage 2a	7 (20%)
	Stage 2b	8 (22.9%)
	Stage 3	17(48.5%)
Deaths		3 (8%)

RESULTS: BCG & PREVENTION



RESULTS: TB EXPOSURE AND PREVENTION

- Eighteen of 35 (51%) children had known TB exposure.
- Eleven of 18 (61%) exposed children were under five years.
- Only one participant received TPT, for two weeks only.

RESULTS: QUALITATIVE FINDINGS

Theme: Health systems failure

Underpinned by slow referral process, transport challenges, and low-socioeconomic circumstances.

Case:

Lethu (one-year-old) was diagnosed with stage 3 TBM, after multiple encounters at different health care facilities. Moved in with extended family at a different town. They went to seek care at a facility, which prompted a diagnosis.

RESULTS: QUALITATIVE FINDINGS

Theme: Health systems failure

Underpinned by slow referral process, transport challenges, and low-socioeconomic circumstances.

Case:

Jaylyn (12-year-old) diagnosed with stage 2a TBM. His symptoms progressed overnight, and they called for an ambulance. With no money to find alternative transport, they spent hours waiting for the ambulance. He experienced a seizure in whilst traveling to the hospital.

RESULTS: QUALITATIVE FINDINGS

Theme : Delayed diagnosis

Underpinned by lack of recognition of symptoms, and misdiagnosis with other ailments.

Case:

Kesley (3-year-old) diagnosed with stage 2b with TBM. Multiple encounters, at different facilities. Initially misdiagnosed with lung infection, and infection of tonsils. After his condition worsened, they seek care a day hospital and were referred to a district hospital.

CONCLUDING REMARKS

- To reduce these missed opportunities, we need to collect in-depth patient history and conduct thorough examination of children.
- Scale up contact management and implementation and accessibility of both BCG vaccination and TPT for children is essential.
- Health systems should be strengthened to ensure prevention, early recognition, and prompt treatment initiation of TBM to prevent unnecessary childhood TB mortality and morbidity

ACKNOWLEDGEMENTS

- This research is supported by the Fogarty International Center of the National Institutes of Health under Award Number K43TW011006.

