Perspectives on maternal and infant outcomes of pregnant people treated for DR-TB

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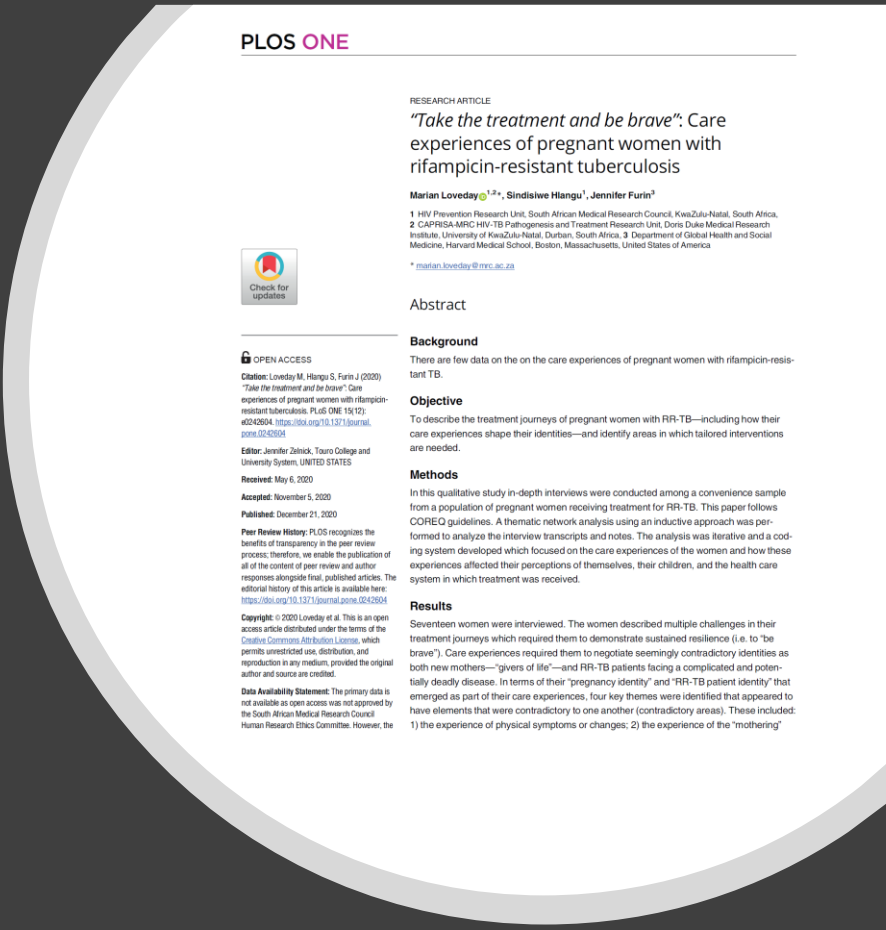
Pregnant People with DR-TB: A Complex and Under-Served Population

- Increased physical vulnerability to all forms of TB;
- Exclusion from studies and, as a result, access to innovation;
- “Limited information” means counseling often creates additional anxiety;
- Fear-based infection control practices lead to discriminatory and harmful practices;
- Result is that pregnant people with DR-TB feels confused, scared, isolated and alone.



PLOS ONE

RESEARCH ARTICLE

“Take the treatment and be brave”: Care experiences of pregnant women with rifampicin-resistant tuberculosis

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Abstract

Background

There are few data on the on the care experiences of pregnant women with rifampicin-resistant TB.

Objective

To describe the treatment journeys of pregnant women with RR-TB—including how their care experiences shape their identities—and identify areas in which tailored interventions are needed.

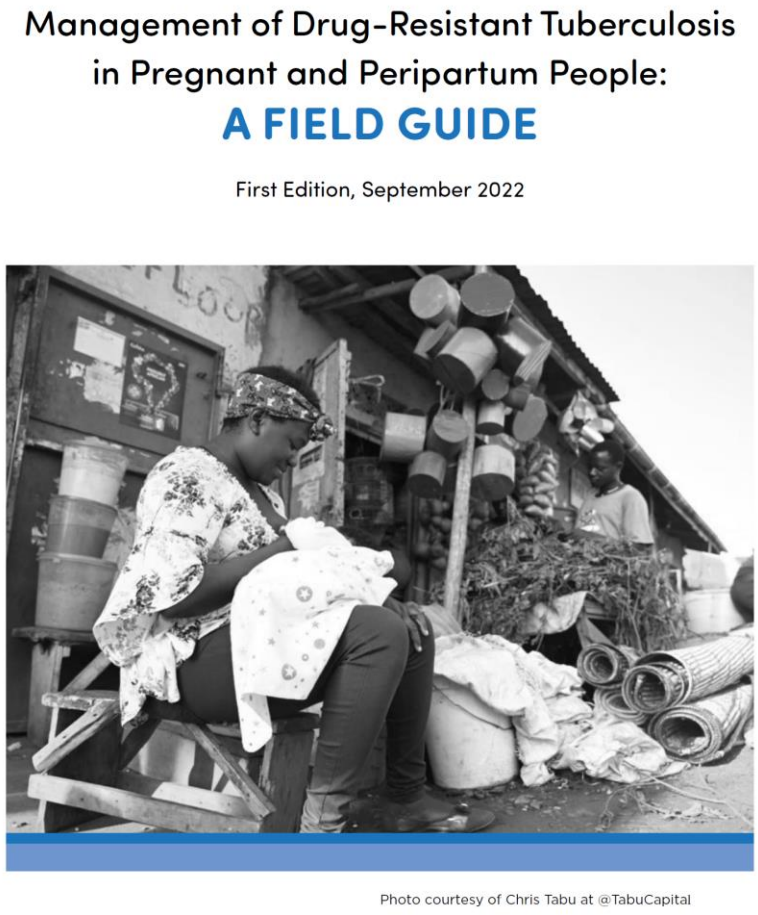
Methods

In this qualitative study in-depth interviews were conducted among a convenience sample from a population of pregnant women receiving treatment for RR-TB. This paper follows COREQ guidelines. A thematic network analysis using an inductive approach was performed to analyze the interview transcripts and notes. The analysis was iterative and a coding system developed which focused on the care experiences of the women and how these experiences affected their perceptions of themselves, their children, and the health care system in which treatment was received.

Results

Seventeen women were interviewed. The women described multiple challenges in their treatment journeys which required them to demonstrate sustained resilience (i.e. to “be brave”). Care experiences required them to negotiate seemingly contradictory identities as both new mothers—“givers of life”—and RR-TB patients facing a complicated and potentially deadly disease. In terms of their “pregnancy identity” and “RR-TB patient identity” that emerged as part of their care experiences, four key themes were identified that appeared to have elements that were contradictory to one another (contradictory areas). These included: 1) the experience of physical symptoms or changes; 2) the experience of the “mothering”

Key recommendations



- **Free family planning services**;
- Pregnant people should be routinely screened using **WHO recommended diagnostic tests**;
- **Compassionate counselling and support** for either continuing or terminating a pregnancy when a pregnant person is diagnosed with DR-TB;
- **Effective treatment** should include new, repurposed and 3rd generation fluoroquinolones even if data on the newer drugs is limited.
- Avoid drugs with **known reproductive toxicity** – pretomanid and the injectables.
- Anyone who has been on effective treatment is no longer infectious after two weeks, so:
  - The routine standard of care should be provided to pregnant people. Discriminatory infection control practices should not be enforced.
  - Newborns should not be separated from their mothers.
  - Newborns should be breastfed if this is the choice of the postpartum parent.
  - The rare exceptions are those started very recently on DR-TB treatment or those who are lost to follow-up.
- **Adherence** challenging post-partum - supportive compassionate counselling necessary.

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Treatment Outcomes Among Pregnant Patients With Multidrug-Resistant Tuberculosis

A Systematic Review and Meta-analysis

Kefyalew Addis Alene, PhD; Megan B. Murray, ScD, MD; Brittney J. van de Water, PhD; Mercedes C. Becerra, ScD; Kendalem Asmare Atalell, MSc; Mark P. Nicol, PhD; Archie C. A. Clements, PhD

10 studies (275 patients)

Treatment outcomes:

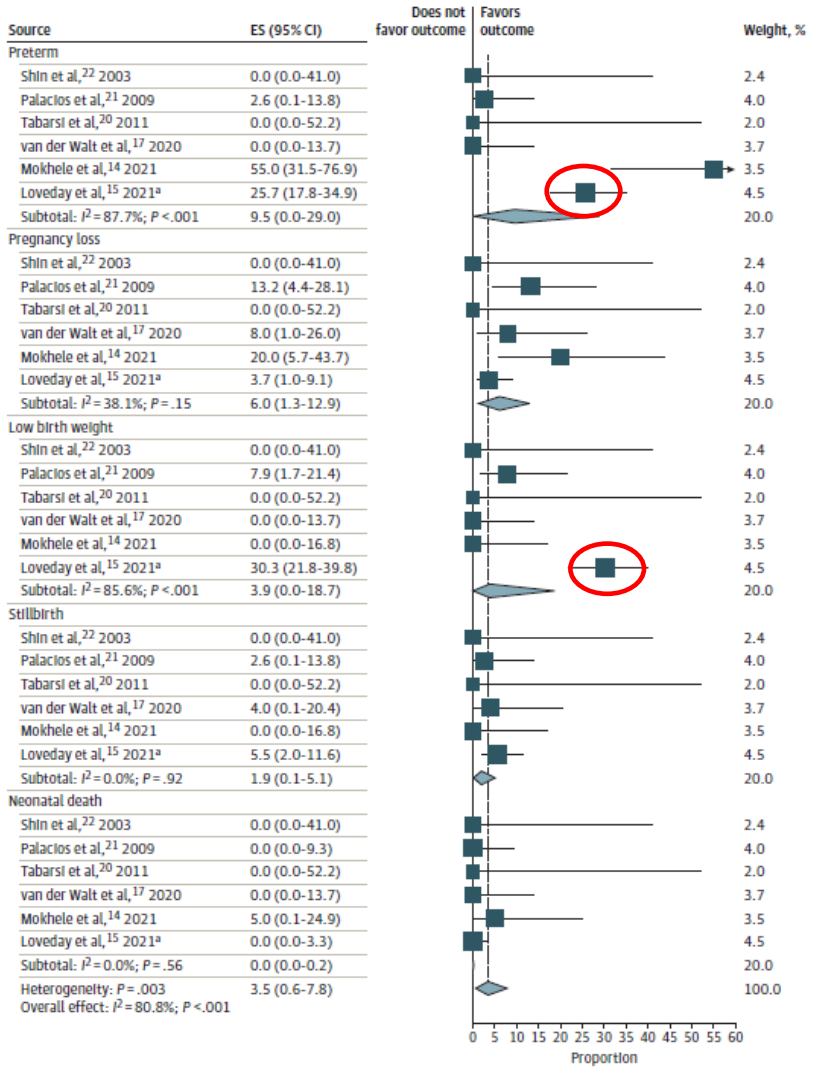
- Treatment success: 72.5%
- Death: 6.8%
- Loss to follow up: 18.4%
- Treatment failure: 0.6%

Lzd associated with treatment success.

Pregnancy outcomes:

- Favorable pregnancy outcomes: 73.2%.
- Preterm birth: 9.5%
- Pregnancy loss: 6.0%
- Low birth weight: 3.9%
- Stillbirth: 1.9%

Figure 3. Pooled Proportion of Pregnancy Outcomes Among Patients With Multidrug-Resistant Tuberculosis



A comparison of maternal treatment, pregnancy and infant outcomes: 1st cohort vs 2nd cohort

	1st cohort	2nd cohort
Still on treatment		11
Maternal treatment outcomes	N=58	N=27
Favourable treatment outcomes	41 (71%)	16 (59%)
Unfavourable treatment outcomes	17 (29%)	11 (41%)
LTFU	11 (19%)	8 (30%)
Pregnancy outcomes	N=49	N=32
Live births	45 (92%)	32 (100%)
Favourable pregnancy outcomes	24 (49%)	19 (59%)
Unfavourable pregnancy outcomes	25 (51%)	13 (39%)
Foetal and neonatal deaths	4	0
Preterm < 37 weeks	13 (29%)	9 (28%)
Low birth weight < 2500g	20 (45%)	10 (31%)
Infant outcomes	N=41	N=23
Favourable infant outcomes	36 (88%)	18 (78%)
Weight gain: Thrive normally	36 (88%)	17 (74%)
Unfavourable infant outcomes	5 (12%)	5 (23%)
Developed TB in 1st year of life	0	3 (13%)

New developments, but back to basics

New developments – an example

- Low BDQ exposure in ante- and postpartum women
- BDQ significantly accumulates in breast milk
- Breastfed infants received equivalent mg/KG doses of BDQ as their mothers

High infant plasma concentrations could have implications for infant safety vs potentially protective in infants exposed to DR-TB

Court R, Gausi K, Mkhize B, et al. Bedaquiline exposure in pregnancy and breastfeeding in women with rifampicin-resistant tuberculosis. Br J Clin Pharmacol 2022;88:3548-58

Challenges

LTFU: Same in shortened BDQ regimen as in 18 – 24-month regimen with an injectable.

Increasing resistance to new drugs.

Back to basics:

- Supportive adherence counselling
- Family centered/differentiated/wholistic management throughout treatment journey
- TB programme not rocket science

But can an effective TB programme be implemented within a weak health system?

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