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**Our Issues, Our Drugs,
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Missed appointments among rifampicin resistant TB patients at a decentralized, drug resistant TB outpatient clinic in Johannesburg, South Africa

Dr Renu Gajee

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Kathryn Schnippel, Nompumelelo Mthupha,
Batanayi Muzah, Rebecca Berhanu



2016

INTRODUCTION

- MDR-TB treatment success rate - 49%
 - 20 – 30% of MDR-TB patients are lost to follow
 - WHO Target is 75% treatment success
- Missed appointments lead to:
 - Treatment interruption -> amplification of resistance
 - Further spread of RR-TB in the Community
 - Higher risk of morbidity and mortality
- No published studies found on missed appointments among DR-TB patients

OBJECTIVE

To describe the occurrence of missed appointments during rifampicin resistant TB treatment delivered through a decentralized outpatient clinic in Johannesburg, in order to inform interventions to improve treatment success



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STUDY SETTING

TB Focal Point Clinic (TBFP)

- Hospital-based outpatient TB clinic
- Located in Helen Joseph Hospital
- Decentralized DR-TB programme from 2012, providing the standardized MDR-TB regimen
- ~250 RR-TB patients currently in care
- Integrated HIV and RR-TB care



APPOINTMENT SCHEDULE: TBFP CLINIC

Diagnosis at
inpatient or
outpatient
facility

Follow-up
visit (initial)
• 2 weeks

Initiation of
RR TB
treatment

Monthly
Follow-up visits
• Month 1 - 24

- Patients may attend their local PHC clinic for daily injections and DOTs
- Patients can be seen on week days during clinic hours if feeling unwell
- **Missed appointment definition:** A monthly (4 weekly) appointment date scheduled by the clinic for which the patient did not have a reported actual appointment date

METHODS

- Retrospective, de-identified medical record review
- *Inclusion criteria*
 - Enrolled for RR-TB treatment at the TB Focal Point Clinic between 1st March 2013 and 31st December 2014
 - Follow-up until the earliest of 28th February 2015 data extraction, 18 months of treatment, death or loss to follow-up
- *Exclusion criteria*
 - < 18 years old
 - Transferred out to another DR-TB treatment site

METHODS

- Analysis
 - Cox proportional hazards regression, to measure associations between time from treatment initiation, to first missed appointment or data censoring, and clinical and demographic characteristics.
- Ethics approval
 - Ethics approval for the study was received from the Human Research Ethics Committee of the University of Witwatersrand

DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS (n = 172)

| Description | | Number | Proportion % |
|--------------------|-------------------------------------|--------|--------------|
| Sex | Male | 85 | 49.4 |
| Age | 18-24 years | 14 | 8.1 |
| | 25-34 years | 51 | 29.7 |
| | 35-44 years | 74 | 43.0 |
| | 45-54 years | 24 | 14.0 |
| | 55 years and older | 9 | 5.2 |
| Education | Secondary | 139 | 80.8 |
| | Tertiary | 11 | 6.4 |
| Citizenship | South African | 144 | 83.7 |
| Employment | Employed or self-employed | 75 | 43.6 |
| Children | Children 5 years or younger at home | 100 | 58.1 |

CLINICAL CHARACTERISTICS (n = 172)

| Description | | Number | Proportion % |
|-----------------------|---------------------------------------|--------|--------------|
| HIV status | Positive | 148 | 86.0 |
| | Negative | 21 | 12.2 |
| CD4 | ≤100 cells/mm ³ | 67 | 48.6 |
| | >100 cells/mm ³ | 55 | 39.9 |
| ART status | On ART at RR-TB treatment initiation | 90 | 60.8 |
| Referring site | Inpatient facility | 79 | 45.9 |
| Site of TB | Pulmonary TB | 155 | 90.1 |
| Smear status | Smear microscopy positive | 51 | 29.7 |
| TB history | No prior TB treatment reported | 103 | 59.9 |
| | Prior TB treatment | 67 | 39.0 |

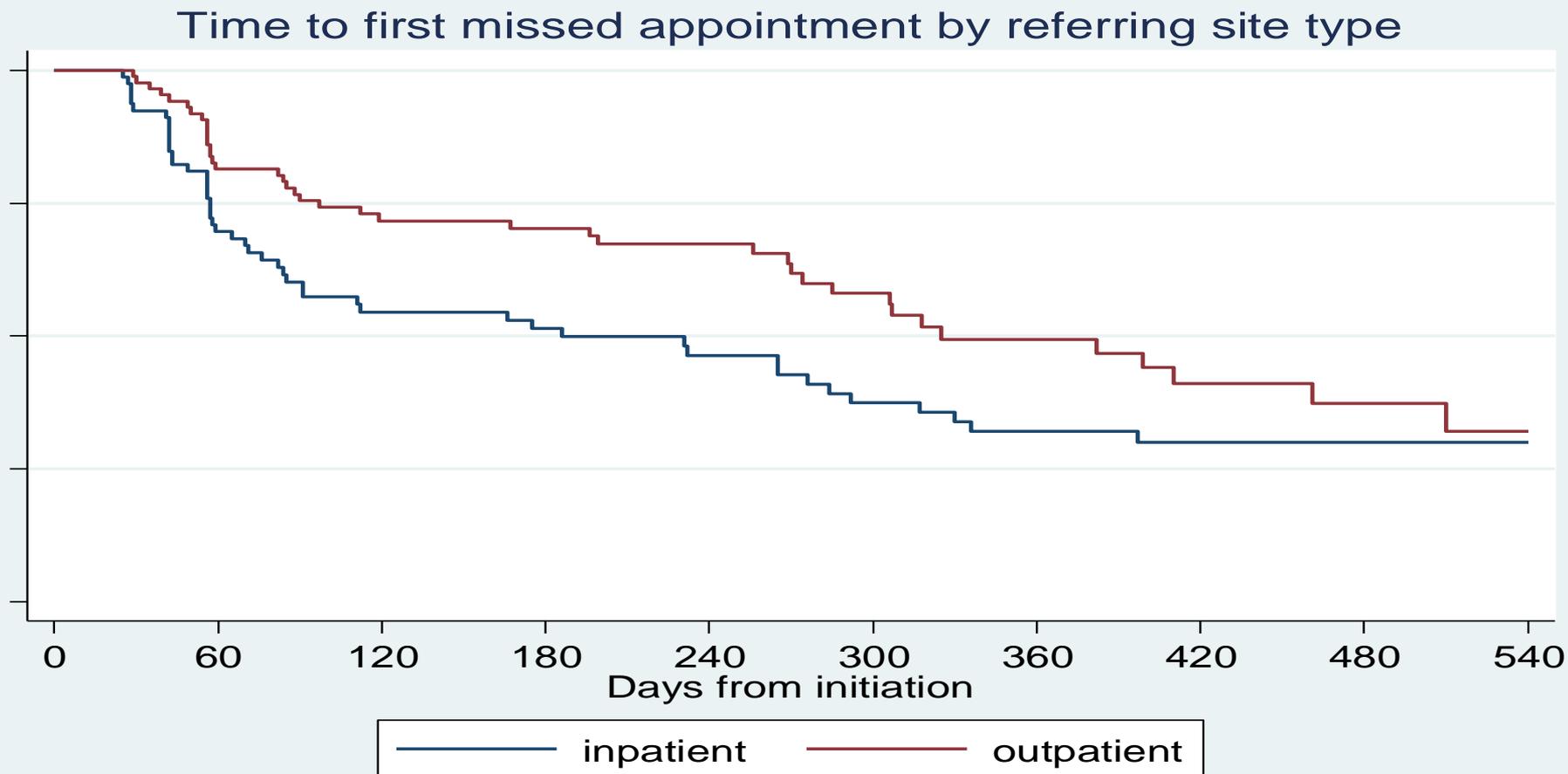
RESULTS

- 53.5% of patients missed at least one appointment
- 39% of patients missed three or more appointments
- 50% of first missed appointments occurred in the first 3 months of treatment; the median number of days from treatment initiation until first missed appointment was 82 days (IQR: 52 – 260.5)

RESULTS

- HIV positive patients with CD4 ≤ 100 were 4.25 times more likely to miss an appointment compared to patients with a CD4 count >100 (95% CI: 1.49 - 12.18)
- Patients aged between 18-24 years were at a 3 times higher risk of missing an appointment compared to 35-44 year olds (aHR: 3.26, 95% CI: 1.20 - 8.84)
- Patients referred from inpatient facilities were 2 times more likely to miss an appointment compared to patients referred from outpatient facilities aHR: 1.96 (95% CI: 1.18 -3.25)
- Patients with a tertiary education were less likely to miss an appointment compared to patients with a primary school education (HR: 0.29, 95% CI: 0.08-0.99)

Kaplan-Meier survival function, time from RR-TB treatment initiation until first monthly appointment missed, by referring site type



Kaplan-Meier survival function

aHR: 1.96 (95% CI: 1.18 - 3.25).

CONCLUSIONS

- High rates of missed appointments among RR-TB patients on outpatient treatment at a decentralized site
- High risk groups for missing appointments:
 - Patients referred from inpatient facilities
 - HIV positive patients with a CD4 count <100
 - Young patients
 - Patients with a primary school education
- Interventions to reduce missed appointments among RR-TB patients in outpatient care are needed to improve outcomes and reduce transmission

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Thank You



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