One-Year Tuberculosis Incidence among People Living with HIV Receiving Isoniazid-Rifapentine Preventive Therapy

Udon Thani Hospital

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กองโรคเอดส์และโรคติดต่อทางเพศสัมพันธ์ Division of AIDS and STIs

1.INTRODUCTION

- Tuberculosis (TB) remains a major opportunistic infection among people living with HIV (PLHIV)
- PLHIV have significantly increased risk of developing active TB
- WHO recommends Tuberculosis Preventive Therapy (TPT) for PLHIV
- 3HP regimen: Isoniazid + Rifapentine once weekly for 3 months : Limited real-world data in Thailand

BACKGROUND

- Thailand is a highTB/HIV burden country
- LTBI screening : limited sensitivity
- Universal TPT may reduce TB incidence

2. OBJECTIVES

Primary Objective

Evaluate one-year TB incidence after 3HP therapy in PLHIV

Secondary Objectives

- Assess adverse drug reactions
- Evaluate treatment adherence
- Determine treatment completion rates

3.METHODS

Study Design
Prospective descriptive cohort study

Setting
Udon Thani Hospital, Thailand

Study Period
December 2023 -February 2026

Intervention (3HP Regimen)
Isoniazid 300 mg +
Rifapentine 300 mg +
Vitamin B6 50 mg
Once weekly for 3 months

Follow-up Visits
- Week 2 (telephone)
- Month 1 (Lab test)
- Month 3 (end of therapy)
- Month 6& 9
- Month 12 (chest X-ray)

4.STUDY FLOW

523 Newly Diagnosed PLHIV
↓
306 Eligible patients
↓
190 Expected compete 1 year follow-up
↓
171 Completed-1 year follow-up

Exclusion	
Tuberculosis	135
Age under 18	6
Cirrhosis/hepatitis.	8
Referral	13
Pregnancy	9
Refuse	7
INH resistance	2
Others.	37
Total	217

5.BASELINE CHARACTERISTICS

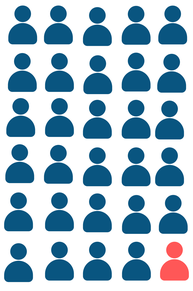
Characteristics	Mean, percentage or number of participants
Total No	190
Age (y,median)	30.25 (18-61)
Male	154(81.05%)
Underlying diseases	15(7.89%)
• Hypertension	2 (1.05%)
• Type 2 Diabetes mellitus	3 (1.57%)
• Dyslipidemia	1 (0.52%)
• Chronic kidney disease	1 (0.52%)
• Others	5 (2.63%)
CD4	
<200	62 (32.63%)
>200	128 (67.37%)

5.BASELINE CHARACTERISTICS

Characteristics	Mean, percentage or number of participants
HIV WHO classification	
Class I	126 (66.31%)
Class II	38 (20%)
Class III	14 (7.36%)
Class IV	12 (6.31%)
Antiretroviral drug	
TLD	190 (100%)
Interval to diagnosis and initiation	
Median (days)	101.99 (28-366)
6 months to 1 years	46
3 months to 6 months	26
< 3 months	118
Presenting Event	
Asymptomatic	**134(70.52%)**
• Check up	68 (35.78%)
• Preoperative finding	55 (28.95%)
• ANC	7 (3.68%)
• Blood donation	4 (2.11%)
Symptomatic	
Infection/Opportunistic infection	**56(29.48%)**
• Syphilis	28 (14.73%)
• Pneunocystic pneumonia	16 (8.42%)
• Cerebral toxoplasmosis	4 (2.11%)
• Candidiasis	4 (2.11%)
• Others	4 (2.11%)
Hospital status at diagnosis time	
Outpatient	148 (77.89%)
Inpatient	42 (22.11%)

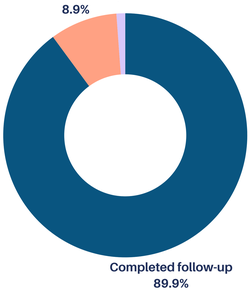
6.RESULTS

6.1 PRIMARY OUTCOME TB INCIDENCE



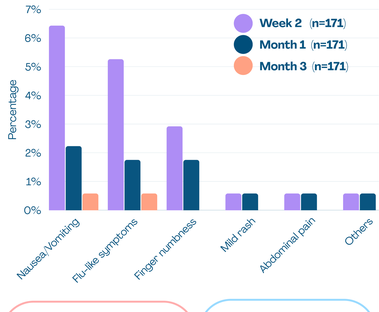
0.58%
(**1**/**171**)
developed active tuberculosis during 1-year follow-up

6.2 TREATMENT COMPLETION OUTCOMES (N= 190)



Completed follow-up	171(90%)
Loss to follow-up	17 (8.94%)
Discontinued therapy	2(1.16%)

6.3 ADVERSE EVENTS (Number of events, %)



SERIOUS ADVERSE EVENT

Severe hepatitis: 1 case (0.58%) in patient with chronic hepatitis C-viral infection
Therapy discontinued

- **No anaphylaxis**
- **No Stevens-Johnson syndrome**
- **No treatment-related death**

7.FOLLOW-UP TIMELINE

	Baseline enrolment	Week 2 Telephone	Month 1 Visit Doctor	Month 3	Month 6 Visit Doctor	Month 9 Visit Doctor	Month 12 Visit Doctor
	Start 3HP			Complete 3HP			
TB symptoms evaluation	✓	✓	✓	✓	✓	✓	✓
Side effects assessment	-	✓	✓	✓	-	-	-
Investigations	CXR	-	• AST/ALT • Haemoglobin • Platelets	-	-	-	CXR

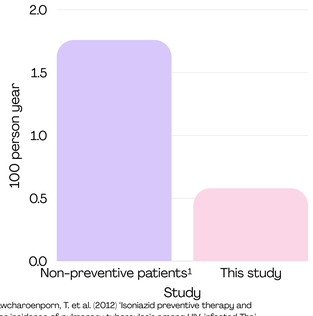
8.TB EVENT CASE

Diagnosed at month 9th month of follow-up
- Pulmonary TB with pleuritis
- Good medication adherence
- Occurred in prison setting (high transmission risk)

9.HEPATOTOXIC CASE

- Severe hepatitis (AST 242, ALT 591 U/L)
- Known untreated chronic hepatitis C viral infection
- Asymptomatic
- Improved after stopping therapy

10.TB EVENT COMPARISON



1.Khawcharoenporn, T. et al. (2012) 'Isoniazid preventive therapy and 4-year incidence of pulmonary tuberculosis among HIV-infected Thai patients', The International Journal of Tuberculosis and Lung Disease, 16(3), pp. 336–341. doi:10.5588/ijtld.11.0402.

11.KEY TAKEAWAY

EFFECTIVE
Very low TB incidence (0.58%) after 3HP therapy

SAFE
Most adverse events were mild; only 1 severe hepatitis case

FEASIBLE
High completion rate and good follow-up in real-world practice

12.CONCLUSION

Three months of weekly isoniazid-rifapentine preventive therapy (3HP) is effective, safe, and feasible in PLHIV, with very low TB incidence over one year

Supports universal TPT implementation in newly diagnosed HIV patients, regardless of LTBI screening

Special attention is needed for high-risk groups and patients with liver disease.

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