L'INITIATIVE
sida, tuberculose, paludisme

IMPLEMENDED BY EXPERTISE FRANCE GROUPE AFD

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THE OPTICAM PROJECT: LESSONS LEARNED FROM THE MANAGEMENT OF LATENT TUBERCULOSIS

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OPTIMIZING TUBERCULOSIS PREVENTIVE TREATMENT INITIATION AMONG PEOPLE WITH HIV IN CAMBODIA – THE OPTICAM STUDY

Sponsor: L'Initiative – Expertise France

Promotor: Institut Pasteur du Cambodge

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1. BACKGROUND
2. OBJECTIVE
3. IDENTIFIED BARRIERS IN TPT DELIVERY (PHASE 1)
4. OPTICAM PHASE 2 - METHOD
5. RESULTS
6. CONCLUSION

1. BACKGROUND

-Sole treatment of active TB cases will not be sufficient to achieve the **End TB Strategy** targets or TB elimination.

-Expanded use of TB preventive therapy (**TPT**) is essential to achieve substantial reductions in the global TB burden by tackling the TB reservoir

-Implementation of TPT sub-optimal in PLHIV

-In 2017, in Cambodia, only 21% of PLHIV initiating ART received TPT.

TB preventive treatment, 2017	
% of HIV-positive people (newly enrolled in care) on preventive treatment	21%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	44% (40–48)

2. OBJECTIVE

General objective:

-Improve the coverage of tuberculosis preventive therapy (TPT) in PLHIV

Specific objectives:

-Identify the system, health care worker & patient-side barriers to TPT initiation

➢ Phase 1

-Design and assess the impact of a comprehensive intervention to improve uptake of TPT, based on previously identified barriers

➢ Phase 2

3. IDENTIFIED BARRIERS IN TPT DELIVERY (PHASE 1)

-In/by PLHIV

-Lack of patient knowledge and patient's demand for TPT;

-Fear of side effects (with consequences on PLHIV social life)

-In/by Health Care Workers

-Lack of adequate training on LTBI and TPT and lack of guidelines;

-Concern over inability to rule out active TB;

-Non systematic screening for TB symptoms;

-Concerns over drug stock-outs;

-Too long treatment for 6H & fear or real lack of adherence of PLHIV with 6H.

-In/by health facilities

-Stock out of films for chest X-ray;

-Challenges in using the GeneXpert machines (turnaround time average of 3.8 d).

4. OPTICAM PHASE 2 - METHODS

-Pragmatic cluster-randomized trial with a stepped-wedge design

-8 HIV clinics consecutively enrolling adult PLHIV attending care.

-Using routinely used data collection tools from the HIV Program

Hypotheses:

-30% pre-intervention TPT coverage

-increase up to 75% overall at the end of the intervention.

Study Intervention

-Gap-oriented training of health care workers on LTBI management

-Job aids, mentoring and supervision sessions for HCWs

-Information package for PLHIV developed with PLHIV representatives

-Use of shorter FDC TPT regimen (3HP)

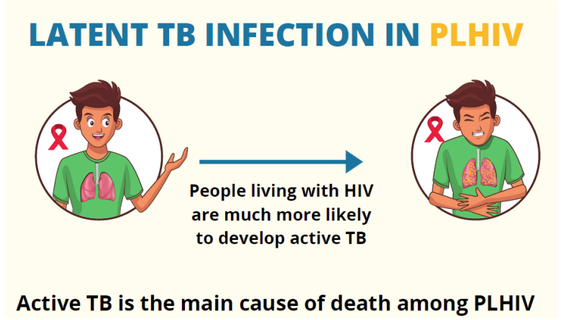
-Reinforcement of the procurement process of TPT drugs

Inclusion criteria

- PLHIV attending the selected adult OI/ART site;
- Age ≥18 years;
- Written informed consent

	Retrospective data collection			Stepped wedge trial period						Prospective follow-up period				
	M-3	M-2	M-1	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11
2 OI/ART clinics	CTL*	CTL*	CTL*	CTL	L	INT	INT	INT	INT	INT	INT	INT	INT	INT
2 OI/ART clinics	CTL*	CTL*	CTL*	CTL	CTL	L	INT	INT	INT	INT	INT	INT	INT	INT
2 OI/ART clinics	CTL*	CTL*	CTL*	CTL	CTL	CTL	L	INT	INT	INT	INT	INT	INT	INT
2 OI/ART clinics	CTL*	CTL*	CTL*	CTL	CTL	CTL	CTL	L	INT	INT	INT	INT	INT	INT

M=Month; CTL= Control; L= Lead-in; INT =intervention; *data collected retrospectively



5. RESULTS: PATIENT CHARACTERISTICS AT STUDY ENTRY

	Patients (N=7814)	Patients whose 1st visit is during Control phase (N=5147)	Patients whose 1st visit is during Lead-in phase (N=405)	Patients whose 1st visit is during Intervention phase (N=2262)
Age*	45.0 [39.0, 52.0]	46.0 [40.0, 52.0]	46.0 [39.0, 51.0]	43.0 [36.0, 51.0]
Sex (Female)*	4220 (54%)	2884 (56.0%)	188 (46.4%)	1148 (50.8%)
Number of visits in the study	3 [1; 4]	4.00 [3.00, 5.00]	1.00 [1.00, 1.00]	1.00 [1.00, 2.00]
ART status*				
No ART initiated	63 (0.8%)	57 (1.1%)	1 (0.2%)	5 (0.2%)
ART started	58 (0.7%)	50 (1.0%)	1 (0.2%)	7 (0.3%)
ART discontinued	8 (0.1%)	7 (0.1%)	1 (0.2%)	0 (0%)
ART continued	7685 (98.3%)	5033 (97.8%)	402 (99.3%)	2250 (99.5%)

*Patients' characteristics at their first visit in the study

From 13/06/2021 to 22/08/2022

5. RESULTS: TPT INITIATION (CONT.)

	ALL patients (N=7814)	Patients with 1st visit during		
		Control phase (N=5147)	Lead-in phase (N=405)	Intervention phase (N=2262)
TPT initiation				
Not initiated	**790 (10.1%)**	566 (11.0%)	21 (5.2%)	203 (9.0%)
Before study entry	2758 (35.3%)	953 (18.5%)	**324 (80%)**	**1481 (65.5%)**
During Control phase	457 (5.9%)	457 (8.8%)	0	0
During Lead-in phase	144 (1.8%)	131 (2.5%)	13 (3.2%)	0
During Intervention	3665 (46.9%)	**3040 (59.1%)**	47 (11.6%)	578 (25.6%)

From 13/06/2021 to 22/08/2022

5. RESULTS: TYPE OF TPT INITIATED (CONT.)

	ALL patients ever initiated (N=7024)	Patients with initiation during		
		Before or at control phase (N=3215)	Lead-in phase (N=144)	Intervention phase (N=3665)
TPT type				
3HP	3612 (51.4%)	0	12 (8.3%)	3600 (98.2%)
6H	3412 (48.6%)	3215 (100%)	132 (91.7%)	65 (1.77%)
3RH	0	0	0	0

From 13/06/2021 to 22/08/2022

5. RESULTS: TPT OUTCOME (CONT.)

	Patients (N=7024)	Patients with TPT initiated during Control phase (N=3215)	Patients with TPT initiated during Lead-in phase (N=144)	Patients with TPT initiated during Intervention phase (N=3665)
TPT outcome				
Completed	5569 (71.3%)	2993 (93.1%)	88 (61.1%)	2488 (67.9%)
Defaulted (LTFU)	18 (0.2%)	7 (21.8%)	0	11 (0.3%)
Failed (Developed TB)	10 (0.1%)	3 (0.1%)	0	7 (0.2%)
Discontinued due to drug Adverse Event and other reason	109 (1.4%)	74 (2.3%)	1	34 (0.9%)
Ongoing	1175 (15.0%)	44 (1.4%)	37 (25.7%)	1094 (29.8%)
Missing	143 (1.8%)	94 (2.9%)	18 (12.5%)	31 (0.8%)

5. RESULTS: STEPPED WEDGE PERIOD (14/09/2021-13/03/2022)

MAIN ANALYSIS excluding data from the lead-in phase

1702 PLHIV with 56.5% females and median age 44.0 [IQR 37.0, 51.0] years, 5857 patient-period observations

Control phase TPT coverage **45.5%** (95% CI: [43.3; 47.8]) Vs 7
Intervention phase TPT coverage **71.3%** (95% CI: [69.8; 72.6])

Effect of intervention on TPT coverage OR: 0.67; 95% CI: [0.18; 2.49], p-value = **0.785**).

Sensitivity analysis including data from the lead-in phase in ITT (intervention)
2107 PLHIV, 7088 patient-period observations
Control phase TPT coverage of 45.5% (95% CI: [43.3; 47.8])
Intervention phase TPT coverage Vs 65.4% (95% CI: [64.1; 66.7]); OR: 0.5; 95% CI: [0.14; 1.73], p-value = 0.444

	Retrospective data collection			Stepped wedge trial period						Prospective follow-up period				
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2 OI/ART clinics	CTL*	CTL*	CTL*	CTL	CTL	CTL	L	INT	INT	INT	INT	INT	INT	INT
2 OI/ART clinics	CTL*	CTL*	CTL*	CTL	CTL	CTL	CTL	L	INT	INT	INT	INT	INT	INT

6. CONCLUSION

An approach including introduction of 3HP, comprehensive health care workers training and PLHIV information based on previously identified barriers led to an increase in TPT coverage from 15% up 86% in adult PLHIV attending HIV clinic.

No proven efficacy of the introduction of the intervention itself within this SW CRT (continued increase).

Limitations:
-Delay of onset of the Phase 2 due to the worldwide shortage of 3HP,
-Study conducted during the COVID 19 pandemic with PLHIV being afraid to come to the hospital, with Multi-Month Dispensation of ARV, HCW being overwhelmed by the management of COVID related activities.
-Use of routinely collected data based on a form developed by the National HIV Program

Sustainability:
-Work with the national programs on the sustainability of this approach that was built and conducted with CENAT and NCHADS, using developed tools and increasing mentoring and supervision at the OI/ART sites.
-Ensure that there is no TPT shortage of stock by ensuring a proper stock management, including orders and distribution.

OPTICAM TEAM

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People living with HIV and health care workers who participated to the study. [12]