Ministry of Health and Sports

Introduction to IR

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Introduction to IR

TDR For research on diseases of poverty
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TDR IMPLEMENTATION RESEARCH TOOLKIT

This toolkit is designed to help you conduct an implementation research (IR) project through a standard process so that you have high quality results that are reliable. Before you get started, we recommend you read the "How to use this Toolkit" section. It is also advisable to take the TDR Massive Open Online Course on IR for a foundation knowledge of IR.

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What is implementation research?

PLOS ONE

RESEARCH ARTICLE

Low implementation of Xpert MTB/RIF among HIV/TB co-infected adults in the International epidemiologic Databases to Evaluate AIDS (IeDEA) program

Kate Clouse[1,2,3], Meridith Blevins[1,4], Mary Lou Lindegren[1,2], Marcel Yotebieng[5], Dung Thi Nguyen[6], Alfred Omondi[7], Denna Michael[8], Djimon Marcel Zannou[9], Gabriela Carriquiry[10], April Pettit[2,3]*, International Epidemiologic Databases to Evaluate AIDS (IeDEA) collaboration[¶]

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¶ Membership of the International Epidemiologic Databases to Evaluate AIDS (IeDEA) collaboration for participating programs is provided in S2 Appendix.

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Abstract

Objective

Xpert MTB/RIF is recommended by the World Health Organization (WHO) as the initial tuberculosis (TB) diagnostic test in individuals suspected of HIV-associated TB. We sought to evaluate field implementation of Xpert among a cohort of HIV/TB co-infected individuals, including availability, utilization and outcomes.

Design

Observational cohort study (patient-level data) and cross-sectional study (site-level Xpert availability data).

Methods

Data were collected at 30 participating International epidemiologic Databases to Evaluate AIDS (IeDEA) sites in 18 countries from January 2012-January 2016. All patients were HIV-infected and diagnosed with TB, either bacteriologically or clinically, and followed until a determination of TB treatment outcome. We used multivariable modified Poisson regression to estimate adjusted relative risk (RR) and 95% confidence intervals for unfavorable TB treatment outcomes.

Results

Most sites (63%) had access to Xpert, either in the clinic (13%), in the same facility (20%) or offsite (30%). Among 2722 HIV/TB patients included, median age was 35.4 years and 41% were female; BMI and CD4 count were low. Overall, most patients (76%) received at least one TB test; 45% were positive. Only 4% of all patients were tested using Xpert: 64% were Xpert-positive, 13% showed rifampicin (RIF) resistance and 30% were extrapulmonary (EPTB) or both pulmonary-EPTB. Treatment outcomes were mostly favorable (77%) and we found little association between Xpert use and an unfavorable TB treatment outcome (RR 1.25, 95%CI: 0.83, 1.90).

Conclusions

In this cohort, Xpert utilization was low even though the majority of sites had access to the test. Our findings show the need for expanded implementation and further research exploring barriers to use in low-resource settings.

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PLOS ONE

Retention and Risk Factors for Attrition in a Large Public Health ART Program in Myanmar: A Retrospective Cohort Analysis

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Abstract

Background: The outcomes from an antiretroviral treatment (ART) program within the public sector in Myanmar have not been reported. This study documents retention and the risk factors for attrition in a large ART public health program in Myanmar.

Methods: A retrospective analysis of a cohort of adult patients enrolled in the Integrated HIV Care (IHC) Program between June 2005 and October 2011 and followed up until April 2012 is presented. The primary outcome was attrition (death or loss-follow up); a total of 10,223 patients were included in the 5-year cumulative survival analysis. Overall 5,718 patients were analyzed for the risk factors for attrition using both logistic regression and flexible parametric survival models.

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Result: The mean age was 36 years, 61% of patients were male, and the median follow up was 13.7 months. Overall 8,564 (84%) patients were retained in ART program: 750 (7%) were lost to follow-up and 909 (9%) died. During the 3 years follow-up, 1,542 attritions occurred over 17,524 person years at risk, giving an incidence density of 8.8% per year. The retention rates of participants at 12, 24, 36, 48 and 60 months were 86, 82, 80, 77 and 74% respectively. In multivariate analysis, being male, having high WHO staging, a low CD4 count, being anaemic or having low BMI at baseline were independent risk factors for attrition; tuberculosis (TB) treatment at ART initiation, a prior ART course before program enrollment and literacy were predictors for retention in the program.

Conclusion: High retention rate of IHC program was documented within the public sector in Myanmar. Early diagnosis of HIV, nutritional support, proper investigation and treatment for patients with low CD4 counts and for those presenting with anaemia are crucial issues towards improvement of HIV program outcomes in resource-limited settings.

PLOS ONE

RESEARCH ARTICLE

Intensified tuberculosis and HIV surveillance in a prison in Northeast India: Implementation research

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Abstract

Structural and individual level factors in prisons create challenges towards detection and management of HIV/tuberculosis. WHO and India's HIV/tuberculosis control programs recommend intensified case finding in prisons. Low HIV and tuberculosis detection rates suggest poor implementation of existing surveillance strategies within the prison healthcare system in Mizoram's capital city of Aizawl. We explored the operational feasibility of implementing the intensified case finding strategy in Aizawl central prison. We implemented the intensified screening through entry screening of new inmates, mass screening of resident inmates and exit screening at release. We set up digital chest radiography, sputum smear microscopy and HIV testing facilities within the prison and referral to external facility for Cartridge Based Nucleic Acid Amplification Test (CBNAAT). We screened 738 inmates (Male: 626; Female: 112). Of 53% inmates having presumptive tuberculosis symptoms, 37% underwent sputum microscopy. We detected 14 new tuberculosis cases; overall tuberculosis positivity 1.9%. We tested 65% of 657 inmates for HIV, of which 41 new cases were detected; overall HIV positivity 16.5%. Three male inmates had HIV-tuberculosis co-infection. It is feasible to implement intensified case detection for tuberculosis/HIV in the prison with inter-departmental coordination, albeit with certain challenges.

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BMC Health Services Research

RESEARCH ARTICLE Open Access

Implementation fidelity of provider-initiated HIV testing and counseling of tuberculosis patients under the National Tuberculosis Control Program in Kathmandu District of Nepal: an implementation research

Randeep Kumar[1*], Ari Probandari[2], Biwesh Ojha[3], Ashmin Hari Bhattarai[1] and Yanri Wijayanti Subronto[4]

Abstract

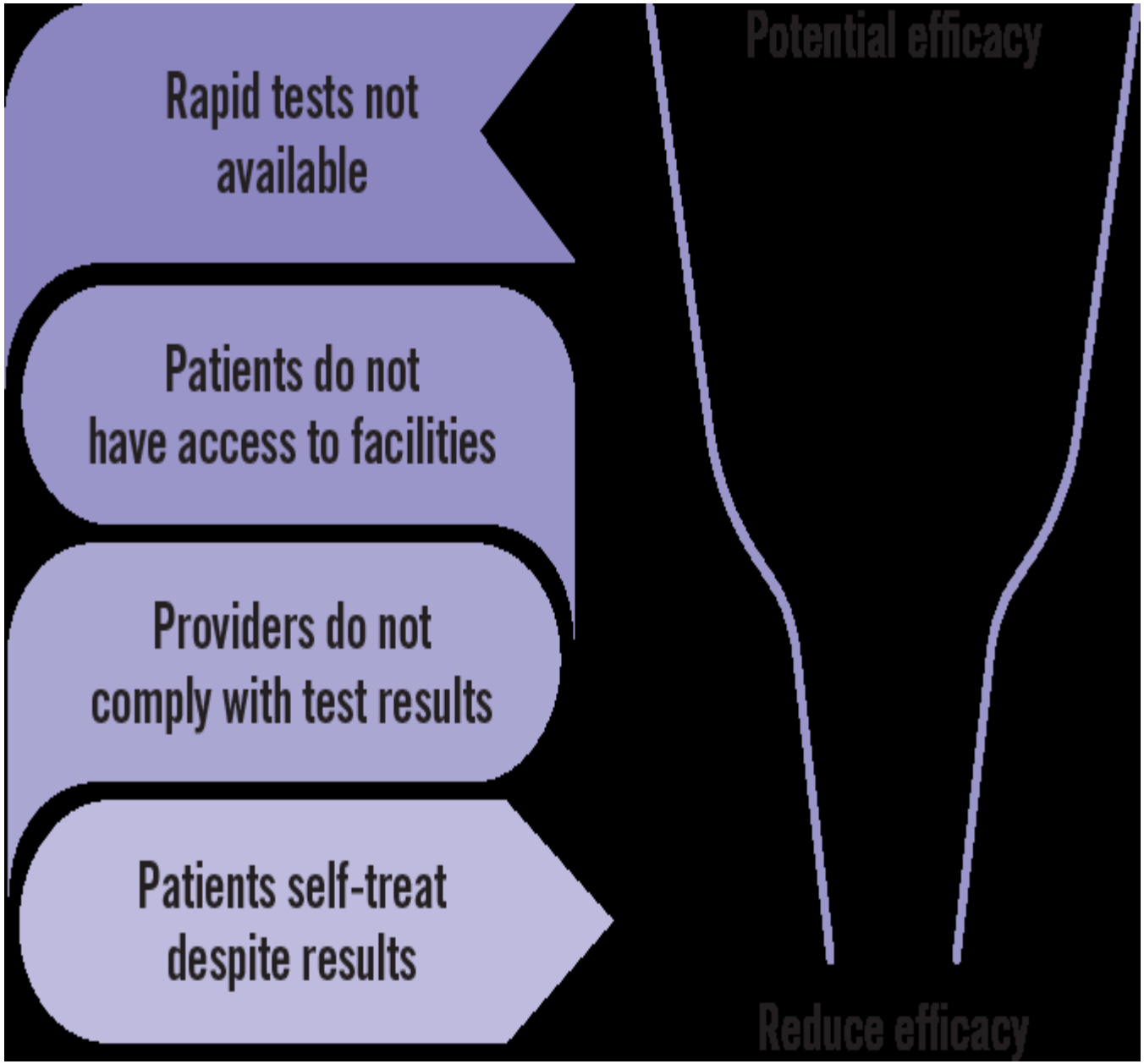
Background: There exists low uptake of Human Immunodeficiency Virus (HIV) testing among Tuberculosis (TB) patients through Provider-Initiated HIV Testing and Counseling (PITC) under the national TB control program in Nepal. The degree and quality of program delivery were explored through determining whether the PITC program is currently implemented as intended. This study aimed to assess three major components of the program's implementation fidelity: adherence to PITC service, exposure, and quality of program delivery in order to optimize and standardize PITC implementation by exploring its barriers and enablers.

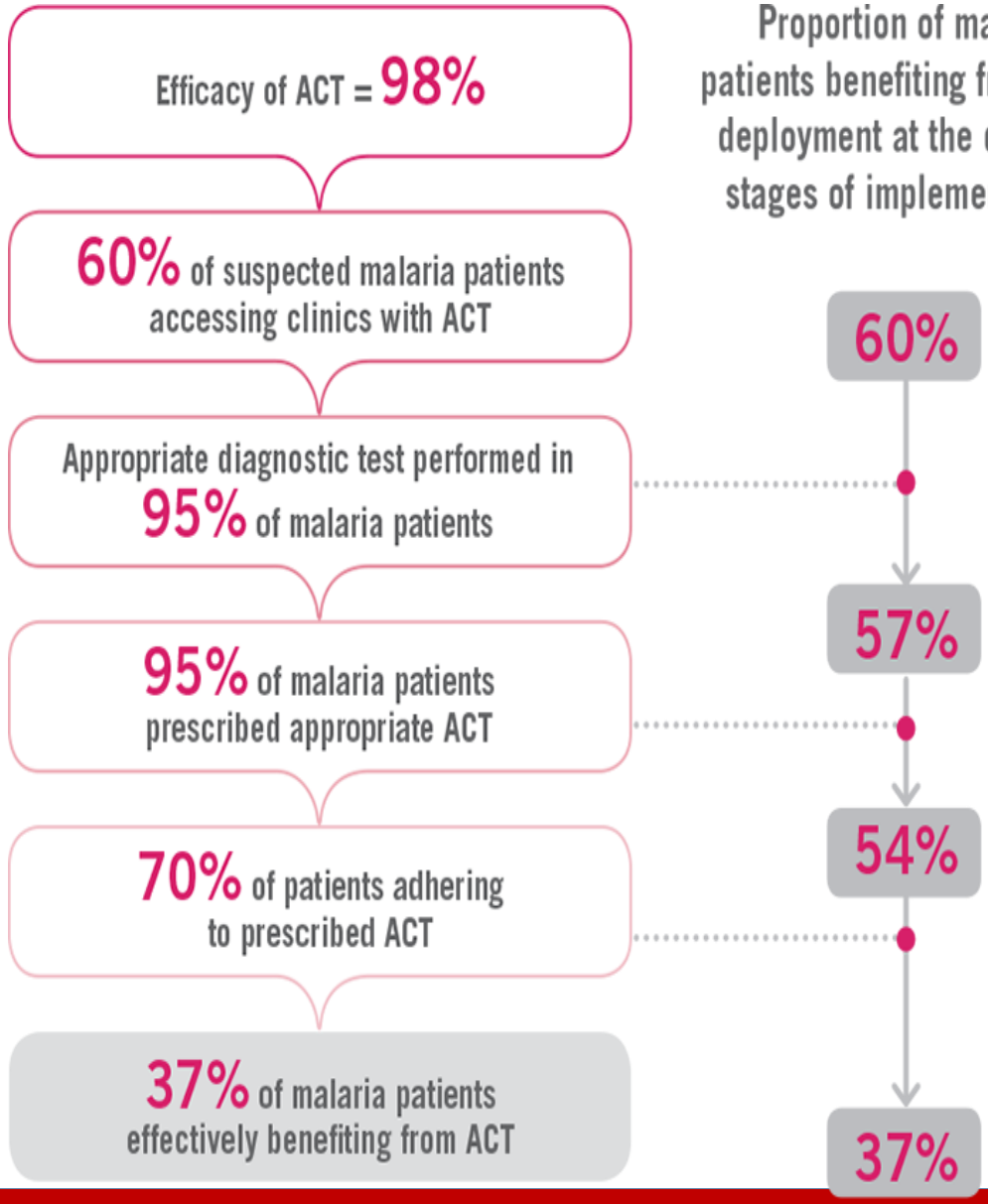
Methods: This research used a sequential explanatory mixed method design. Retrospective cross-sectional study of TB patients enrolled in five TB treatment centers of the Kathmandu district from July 1, 2016, to June 30, 2017 was done to assess PITC adherence to Direct Observed Treatment-Short Course (DOTS) protocols. The centers' TB-DOTS readiness was assessed using the WHO Service Availability and Readiness Assessment checklist. A qualitative study was conducted to explore the barriers and enablers of PITC service implementation.

Results: From a total of 643 TB patients registered, 591 (92.1%) patients were offered HIV test counseling. Amongst those, 571 (96.6%) accepted and 523 (91.5%) were tested. Service providers' HIV knowledge was found to be good although only 2/5 (40%) had participated in PITC training. The key barriers experienced by service providers were: patients feeling offended, stigmatization and lack of human resources in DOTS centers. The main enablers for PITC were national TB program commitment, health workers' motivation, collaboration between stakeholders and external development partners' promotion of program implementation.

Conclusion: In the selected study sites, PITC services are well integrated into the routine TB control program with a high uptake of HIV testing among registered TB patients. This achievement should be sustained by addressing the identified barriers mainly in the quality of the PITC program delivery.

Keywords: Implementation Fidelity, TB, HIV, PITC, DOTS, Nepal


Potential efficacy
Rapid tests not available
Patients do not have access to facilities
Providers do not comply with test results
Patients self-treat despite results
Reduce efficacy


Efficacy of ACT = 98%
60% of suspected malaria patients accessing clinics with ACT
Appropriate diagnostic test performed in 95% of malaria patients
95% of malaria patients prescribed appropriate ACT
70% of patients adhering to prescribed ACT
37% of malaria patients effectively benefiting from ACT
Proportion of malaria patients benefiting from ACTs deployment at the different stages of implementation.
60%
57%
54%
37%

IR is a systematic approach that…

- Identifies implementation bottlenecks
- Identifies optimal approaches
- Promotes Uptake of research findings

Improves health care and its delivery

Demand driven

Research question developed with stakeholders

Implementers are part of the research process

Multidisciplinary team work: a core element of IR

The slide is jointly developed

Questions, comments and suggestion