



**BUSITEMA
UNIVERSITY**
Pursuing Excellence

**FACULTY OF HEALTH SCIENCES
DEPARTMENT OF COMMUNITY AND PUBLIC HEALTH
FINAL YEAR RESEARCH REPORT**

**FACTORS INFLUENCING ISONIAZID PREVENTIVE THERAPY
UPTAKE AMONG CHILDREN LIVING WITH HIV IN MWANZA
REGION IN TANZANIA**

**By
ALLY TUWA
BU/GS19X/MPH/44**

**“This postgraduate final year research report is submitted to the Directorate of Graduate
Studies, Research and Innovative in Partial Fulfillment of the Requirement for
the Award of the Degree of Public Health of
Busitema University.”**

MAY 2022

DECLARATION

I ALLY TUWA declares that the work in this research report is original and my work. It has never been presented for any academic award before, either wholly or partially, to any other institution of higher learning.

SIGNATURE:  _____

DATE: 11/05/2022

APPROVAL

This research report has been submitted with the approval of the following supervisors:

1. DR. DAVID OKIA (MBChB, MPH)

Signature: 

Date: 12/05/2022

2. PROF. DAN KIBUULE (BPHARM, PHD)

Signature: 

Date: 11/05/2022

3. DR. HAYASINTA JAKA (MD, MMed, MHPE, Ph.D)

Signature: 

Date: 30/05/2022

DEDICATION

To Almighty God who grant us strength, grace and health life.

To my family for the support, advice and prayers, this will forever be appreciated.

To children living with HIV, I wish them to grow happy, healthy, productive and strong with great hope.

To caregivers and health workers who gave their time to participate in this study despite of their limited time.

ACKNOWLEDGEMENT

Completing this Research report could not have been possible without the contribution and assistance of many people whose names may not be all enumerated. Their contribution is sincerely appreciated and gratefully acknowledged. However, I would like to express my deep appreciation and indebtedness to the following people.

Dr. David Okia, PROF. DAN KIBUULE and Dr. Hyasinta Jaka for their tremendous guidance in the development of this report.

The Department of German Academic Exchange program DAAD for funding my study through a scholarship program under the DAAD In-Region/ In- Country program and providing me all the necessary stipend I needed during my study

Department of Community and Public Health Busitema University lecturers for their intellectual contributions from the conception of proposal to report development. Dr Agnes Napyo, Dr Joseph Matovu, Dr. David Mukunya, Dr. Wanume Benon and Dr David Soita and Professor Peter Olupot

Lastly, all my colleagues doing Masters of Public Health, especially Mr Alunyo Jimmy Patrick, Onyango Jagire, Apolot Conciliate, Omara Godfrey, Weanani Daniel, Abeso Angella, Nawanga Jasecenti, and Edgar Mugasha.

TABLE OF CONTENTS

DECLARATION	i
APPROVAL	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS.....	x
DEFINITION OF TERMS	xi
ABSTRACT.....	xii
CHAPTER ONE: INTRODUCTION.....	1
1.0 Introduction.....	1
1.1 Background.....	2
1.2 Statement of the problem	2
1.3 General objective	3
1.3.1 Specific objectives	3
1.4 Justification of the study	3
1.5 Scope of the study.....	4
1.6 Conceptual framework.....	4
CHAPTER TWO: LITERATURE REVIEW	6
2.0 Introduction.....	6
2.1 Proportion of isoniazid preventive therapy (IPT) uptake	6
2.2 Factors influencing IPT uptake among children infected with HIV	7
CHAPTER THREE: METHODOLOGY	8
3.1 Study design.....	8
3. 2 Study setting	8
3.3 Quantitative method.....	8
3.3.1 Study population	8
3.3.2 Sample size estimation.....	8
3.3.3 Inclusion criteria	9

3.3.4 Exclusion criteria	9
3.3.5 Sampling strategies	9
3.4 Qualitative method.....	10
3.4.1 Study population	10
3.4.2 Sample size for qualitative approach.....	10
3.4.3 Sampling selection.....	10
3.4.4 Data collection method	11
3.5 Data quality control	11
3.6 Study variables.....	11
3.6.1 Dependent Variable	11
3.6.2 Independent variable.....	11
3.7 Data analysis	11
3.7.1 Quantitative component.....	11
3.7.2 Qualitative component.....	12
3.8 Ethical consideration.....	12
CHAPTER FOUR: RESULTS	13
4.1 Quantitative Component.....	13
4.1.1 Demographic and health related characteristics of the caregivers.....	13
4.1.2 Demographic and clinical characteristics of the children	14
4.1.3 Uptake of isoniazid preventive therapy among children living with HIV in Mwanza.....	15
4.1.4 Relationship between caregiver’s characteristics and IPT uptake in children.....	15
4.1.5 Relationship between children characteristics and Uptake of isoniazid preventive therapy	17
4.2 Qualitative Component.....	18
4.2.1 Characteristics of health workers enrolled for interview	18
4.2.2 Facilitators of IPT initiation among CLHIV from health workers views.....	19
4.2.2.1 Availability of training.....	19
4.2.2.2 Drug effectiveness	19
4.2.2.3 Implementing partners	19
4.2.3 Barriers of IPT initiation among children living with HIV from health workers.....	20
4.2.3.1 Inadequate of IPT medicine	20
4.2.3.2 Pills burden	20

CHAPTER FIVE	22
5.1 Discussion.....	22
5.2 Limitations.....	24
5.3 Strengths	25
5.4 Conclusion	25
5.5 Recommendations.....	26
REFERENCES	27
APPENDICES	i
Appendix 1: Questionnaire for Caregiver- English.....	i
APPENDIX 2: Questionnaire for child caregiver pairs-Kiswahili	iv
APPENDIX 3: Consent Form English Version	vii
APPENDIX 4: Fomu ya Makubaliano ya Ushiriki.....	xi
APPENDIX 5: Interviewer Guide for Health workers.....	xiii
APPENDIX 6: Ethical Clearance Letter from Mbale REC Uganda.....	xv
APPENDIX 7: Ethical clearance form from CUHAS Tanzania.....	xvii
APPENDIX 9: Introduction letter to the district.....	xix

LIST OF TABLES

Table 3.1 shows the enrolled number of participants into the study at each health facility of the district	10
Table 4.2 Demographic and clinical characteristics of the caregivers.....	13
Table 4.3 Demographic and clinical characteristics of children.....	14
Table 4.4 Caregiver’s factors associated with IPT uptake in children	16
Table 4.5 Children’s factors associated with Uptake of isoniazid preventive therapy	17
Table 4.6 Characteristics of health workers enrolled for interview	18

LIST OF FIGURES

- Figure 1.6.1 Conceptual Framework on factors influencing IPT uptake among CLHIV 5
- Figure 4.2 Uptake of isoniazid preventive therapy among children living with HIV in Mwanza 15

LIST OF ABBREVIATIONS

AIDS	Acquired immunodeficiency syndrome
ART	Antiretroviral therapy
CLHIV	Children living with HIV
HIV	Human immunodeficiency virus
IPT	Isoniazid preventive therapy
LTBI	Latent TB infection
MOHCDGEC	Ministry of Health, Community Development, Gender, Elderly, and Children
NTP	National TB programme
PLHIV	People living with HIV
TST	Tuberculin skin test
WHO	World Health Organization

DEFINITION OF TERMS

Child : A person from 1 to 10 years

High-TB-incidence country: A country with a WHO-estimated TB incidence rate of $\geq 100/100\ 000$

IPT : The administration of INH to individuals with latent TB infection to prevent progression to active TB Disease

IPT UPTAKE: The proportion of CLHIV in care and eligible for IPT who had been initiated on the treatment.

Latent tuberculosis infection (LTBI): A state of persistent immune response to stimulation by *Mycobacterium tuberculosis* antigens with no evidence of clinically manifest active TB. There is no gold standard test for direct identification of *Mycobacterium tuberculosis* infection in humans. The vast majorities of infected people have no signs or symptoms of TB but are at risk for active TB disease.

Tuberculosis (TB): The disease state due to *Mycobacterium tuberculosis*. This document is commonly referred to as "active" TB or TB "disease" to distinguish it from LTBI

ABSTRACT

Introduction: WHO recommended the expanded delivery of isoniazid preventive therapy (IPT) to reach those at greatest risk for progressing to TB disease, especially people living with HIV, to receive IPT for at least 6 months as part of comprehensive HIV care. However, IPT enrolment and completion have remained low, especially in low-income countries with a high TB burden

Objective: To determine the factors influencing IPT uptake among children living with HIV aged 1 to 10 years at health care and treatment clinics (CTC) in the Mwanza region.

Methods: Quantitative and qualitative approaches in data collection were employed to determine factors influencing IPT uptake among children living with HIV. The study was done in seven districts of Mwanza. In quantitative arm, the proportion of 415 CLHIV (1 to 10years) for each health facility was obtained and stratified. Systematic selection was applied to get participants. Structured questionnaire was used to collect the data. In qualitative arm, 14 health workers were enrolled into this study and the selection to get them was done purposely. Analysis for data collected using quantitative component was done using STATA whereas thematic framework analysis was used to analyze data collected using qualitative component

Results: The Uptake of isoniazid preventive therapy among children living with HIV in Mwanza was 91%. The study revealed that caregivers engaged in employment (a PR 1.1; 95% CI 1.00-1.13; P-value 0.046), children not on ART (a PR 0.9; 95%CI 0.88-0.95; P-value 0.000) and visiting clinic every month (a PR 1.1; 95%CI 1.04-1.14; P-value 0.000) were significantly associated with IPT uptake. In qualitative approach, availability of training, implementing partners and drug effectiveness were the facilitators of IPT uptake whereas pill burden and IPT shortage were the barriers of IPT uptake

Conclusion and recommendations: This study has demonstrated high IPT uptake among children living with HIV in relation to the set global uptake target, this indicate the improvement in implementation of IPT services delivery compared to the low IPT prevalence reported in the past from Ministry of Health Reports. More efforts should be put in place to unemployed caregivers by empowering them.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

People living with HIV are 18 times more likely to develop active TB disease than people without HIV. Worldwide, TB is one of the leading causes of death among people living with HIV. HIV and TB form a lethal combination, each speeding the other's progress. In 2020, about 215 000 people died of HIV-associated TB (WHO, 2021).

In 2019, approximately 1.2 million children <15 years fell ill with TB globally, accounting for 12% of all incident cases (World Health Organization, 2020).

Isoniazid preventive therapy, also known as chemoprophylaxis, reduces the risk of the first episode of TB occurring in people exposed to an infection or with latent infection and a recurrent episode of TB. Although all people with latent TB infection who take isoniazid benefit, the greatest reduction in infection is observed in HIV-negative patients and tuberculin skin test positive individual (TST)- and HIV-positive individuals (World Health Organization, 2008).

Antiretroviral therapy (ART) alone is not enough in preventing pediatric TB in high TB burden countries (Crook et al., 2016). ART alone reduces the incidence of TB by up to 65%. In comparison, a combination of Isoniazid Preventive Therapy (IPT) and ART reduces the overall incidence and mortality from TB by up to 90% due to synergistic effect between them. Consequently, the WHO recommended the expanded delivery of isoniazid preventive therapy (IPT) to reach those at greatest risk for progressing to TB disease, especially people living with HIV, to receive IPT for at least 6 months as part of comprehensive HIV care. In children infected with HIV, IPT has been shown to reduce mortality by 50% and incidence by more than 70% in high TB-burden countries (WHO, 2011; WHO, 2015; Zunza et al., 2017).

Despite the WHO recommendation, IPT enrolment and completion have remained low, especially in low-income countries with a high TB burden (Thindwa et al., 2018). The study conducted in Ethiopia and Nigeria reported a low IPT coverage among PLHIV with a slightly low completion rate. The reasons cited including stock-outs of isoniazid, adherence issues, fear of developing resistance to isoniazid, pill burden, and fear of side effects (Wasie & Tigabu, 2018).

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