

**FACTORS INFLUENCING THE IMPLEMENTATION OF ISONIAZID
PREVENTIVE THERAPY FOR PEOPLE LIVING WITH HIV IN CARE
AND TREATMENT CENTRES IN SONGEA MUNICIPALITY**

Festo Faustine Komba (MPH)

**Master of Public Health Dissertation
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Muhimbili University of Health and Allied Sciences



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By

Festo Faustine Komba

**A Dissertation Submitted in (Partial) Fulfillment of the Requirements for the Degree
of Master of Public Health of the**

**Muhimbili University of Health and Allied Sciences
October, 2017**

CERTIFICATION

The undersigned certify that he has read and hereby recommend for acceptance by Muhimbili University of Health and Allied Sciences a dissertation entitled “**Factors influencing the implementation of Isoniazid Preventive Therapy for People Living with HIV in Care and Treatment Centres in Songea municipality**” in (Partial) fulfillment of the requirements for the degree of Master of Public Health of Muhimbili University of Health and Allied Sciences.

.....

Dr. Gasto Frumence (PhD)
(Supervisor)

Date:

DECLARATION AND COPYRIGHT

I, **Festo Faustine Komba**, declare that this **dissertation** is my original work and that it has not been presented and will not be presented to any other university for a similar or any other degree award.

Signature:

Date:

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DEDICATION

This dissertation is dedicated to my daughter Evelyne Festo for her tolerance during the whole period of my study.

ABSTRACT

Background: Isoniazid Preventive Therapy (IPT) for people living with HIV/AIDS (PLHIV) is crucial and essential public health intervention in developing countries with high TB and HIV burden. Despite available evidence that IPT is efficacious and the existence of the WHO recommendation since 1998, its implementation is still low in many countries. In Tanzania little is known regarding factors influencing the implementation of IPT for PLHIV.

Broad Objective: This study aimed at exploring factors influencing the implementation of Isoniazid Preventive Therapy for PLHIV in Care and Treatment Centres (CTCs) in Songea municipality.

Materials and Methods: To explore factors influencing the implementation of Isoniazid Preventive Therapy, a cross sectional descriptive study design using both quantitative and qualitative approaches of data collection was employed. The quantitative part aimed to determine IPT coverage of the municipality while the qualitative part aimed to explore factors influencing the implementation of IPT for PLHIV in CTCs in Songea municipality. The study participants for quantitative part included all PLHIV registered in CTCs of the selected health care facilities from January 2015 to January 2017. The qualitative part involved health care providers who were working in the five selected CTCs and adults PLHIV who were provided IPT in the five selected CTCs in Songea municipality. The quantitative data was collected by conducting review of patients' records using structured data collection form while the qualitative data was collected by conducting in-depth interviews and observations using in-depth interview guides and observation checklist respectively. Quantitative data was analyzed using SPSS for windows version 20 statistical software. Descriptive statistics (frequencies and percentage) were employed and data were visualized using tables and bar graphs. All interviews were audio-recorded and analyzed using thematic analysis approach. Data was collected between late July and early August 2017.

Results: Twenty one participants participated in the qualitative study. Of these 13 were health care providers and 8 were patients. Overall Isoniazid preventive therapy coverage of the municipal was estimated to be 45%. Insufficient drug supply and drug stock out, shortage of staff, lack of service privacy, long waiting time, drug side effects, pill burden, distance

from health care facility, cost of transport, and forgetting drug collection date were reported as the main barriers in the implementation of IPT. Availability of IPT training, regular supportive supervision, collaboration between TB and HIV programs, good provider-client communication, availability of IPT guidelines, patient registers, Information Education and Communication (IEC) materials, availability of TB Screening Questionnaires, patients' knowledge of IPT and lack of stigma were identified by health care providers and patients as the main enablers/facilitating factors in the implementation of IPT.

Conclusion: Implementation of Isoniazid preventive therapy in Songea municipality, Tanzania had low coverage. Health managers, drug suppliers and partners working in HIV and tuberculosis programs should be committed to ensure sufficient and an uninterrupted supply of Isoniazid and pyridoxine and full scale implementation of Isoniazid preventive therapy to eligible PLHIV.

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ABBREVIATIONS AND ACRONYMS

ART	-	Ant-Retroviral Therapy
CTC	-	Care and Treatment Centre
GDF	-	Global Drug Facility
GFATM	-	Global Fund to Fight AIDS, Tuberculosis and Malaria
INH	-	Isoniazid
ICF	-	Intensified case finding
IPT	-	Isoniazid Preventive Therapy
LTBI	-	Latent TB infection
MDR	-	Multi-Drug Resistant
MSD	-	Medical Stores Department
MoHCDGEC	-	Ministry Of Health Community Development, Gender, Elderly and children
NTP	-	National TB and Leprosy Programme
PLHIV	-	People living with HIV/AIDS
SOP	-	standard operating procedures
TB	-	Tuberculosis
TST	-	Tuberculin skin test
UNAIDS	-	United Nations Programme on HIV/AIDS
WHO	-	World Health Organization

DEFINITION OF TERMS

Isoniazid preventive therapy (IPT): Is anti-tuberculosis drugs given to individuals (People Living with HIV) with latent infection with *Mycobacterium tuberculosis* in order to prevent the progression to active disease.

IPT coverage: Is defined as the percentage of PLHIV provided IPT among all PLHIV registered in HIV care whom active TB have been excluded (eligible for IPT). IPT implementation will be regarded as high coverage if the implementation is at least 50% while low coverage if it is less than 50%.

IPT implementation: Is the provision of IPT to individuals (PLHIV) with latent infection with *Mycobacterium tuberculosis* in order to prevent the progression to active disease.

Health care provider perceptions: Are opinions that health care providers have about factors that enable or hinder the implementation of IPT for PLHIV based on their working experience.

Patient perceptions: Are opinions that patient (PLHIV) have about factors influencing the implementation of IPT based on their experience of taking IPT.

CHAPTER ONE

INTRODUCTION

1.1 Background Information

Isoniazid Preventive Therapy (IPT) for people living with HIV/AIDS (PLHIV) is crucial and essential public health intervention in developing countries with high TB and HIV burden. IPT is anti-tuberculosis drug provided to individuals who are latently infected with *Mycobacterium tuberculosis* in order to prevent the progression to active disease (1,2). HIV is the most powerful known risk factor for progression from latent infection with *M. tuberculosis* to active disease (2).

The World Health Organization (WHO) recommends IPT as part of the three I's for HIV/TB collaboration. These include, intensified TB case finding, Isoniazid (INH) preventive therapy and Infection control for TB in health care and congregate settings (1–3). According to the WHO, Tanzania is one of the 22 high burden countries for tuberculosis (TB) (4,5). In Tanzania IPT was included in national policy guideline for collaborative TB/HIV activities in 2008 (6). The 2015 national HIV guideline stipulate that all PLHIV should be screened for active TB using WHO screening algorithm that include four clinical symptoms (current cough, fever, weight loss and night sweats). According to the revised guidelines, chest radiography is no longer required as a mandatory investigation before starting IPT and tuberculin skin test (TST) is not a requirement for initiating IPT for PLHIV (1). This simplified symptom-based algorithm should be used for all adults living with HIV, including pregnant women, antiretroviral therapy (ART) clients and those who have successfully completed TB treatment. If no proof of active TB is found, IPT should be provided (1,3,7).

IPT is self administered dose given daily, orally for a period of six months at a dose of 300 mg for adults and 10mg / Kg for children whom active TB is excluded (3,8). When IPT is provided to an eligible PLHIV it provides up to 18 months of protection against TB (7). IPT can be initiated before or after the initiation of antiretroviral therapy (3,7,9).

Several studies demonstrated the benefit of IPT among PLHIV (7,10). A Cochrane review of 12 randomized controlled trials revealed that IPT reduces the risk of developing active TB in PLHIV by 33% (relative risk 0.68, 95 % confidence interval (CI) 0.54 to 0.85) and by 64% when targeted to PLHIV who had a positive tuberculin skin test (TST) (3,10). A

retrospective study done in Rio Brazil 2007 also shows that IPT significantly reduces the incidence of TB among PLHIV who received Ant-Retroviral Therapy (ART). Tuberculosis incidence among patients who received ART and IPT was 0.80/100 PY (95% CI 0.38–1.47) (11). A systematic literature search of randomized control trials revealed that Isoniazid prophylaxis reduces the risk of developing tuberculosis by 59% among children aged ≤ 15 years excluding children initiated during early infancy for primary prophylaxis (RR = 0.41, 95% CI 0.31, 0.55 $p < 0.001$) (12).

Despite available evidence that IPT is efficacious and the existence of the WHO recommendation since 1998, its implementation is still low in many countries (5). In 2014 globally, a total of 933,000 PLHIV were provided with IPT, which is an increase from 600,000 people in a previous year. Of note is that 77% countries did not report provision of IPT as part of HIV care in 2014 (5,13). Moreover, in Africa a total of 875, 886 PLHIV were provided with IPT in 2014. In Tanzania only 23,124 PLHIV provided with IPT in 2014 representing 2% (5).

1.2 Problem statement

The WHO recommends that at least 50% of PLHIV eligible for IPT should be provided with IPT(15). However in Tanzania the implementation of IPT is still low, only 23,124 (2%) of HIV clients provided with IPT among those who were eligible for IPT in 2014 (5). This observed low implementation of IPT for PLHIV might be influenced by patient factors and health care facility factors. These factors which hinder IPT implementation if not well addressed and solved may result to high morbidity and mortality among PLHIV co-infected with TB.

Reviewed literature shows that much is known about IPT in Tanzania. Several studies have been conducted on TB symptoms based screening tool, IPT efficacy, acceptance, adherence and side effects (17–19). Factors influencing the implementation of IPT for PLHIV have been highly reported in other countries (10,15). Amongst the factors that have been pointed out for influencing the implementation of IPT globally are those related to patient factors such as level of education, stigma, social support, distance from the health care facility, pills burden and drug side effects and health care facility factors such as IPT training, supportive supervision, health care providers' attitude towards IPT (fear of

Isoniazid resistance), supply of Isoniazid, IPT guidelines, standard screening tools, client-provider communication and patient registers, service privacy and Information Education and Communication (IEC) materials (13–16).

However, in Tanzania limited evidence is available regarding factors that influence the implementation of IPT for PLHIV. Therefore, this study aimed to reduce such knowledge gap by exploring these factors in care and treatment centres (CTCs) in Songea municipality. It is important to explore these factors in order to improve IPT implementation for PLHIV in CTCs in Songea municipality.

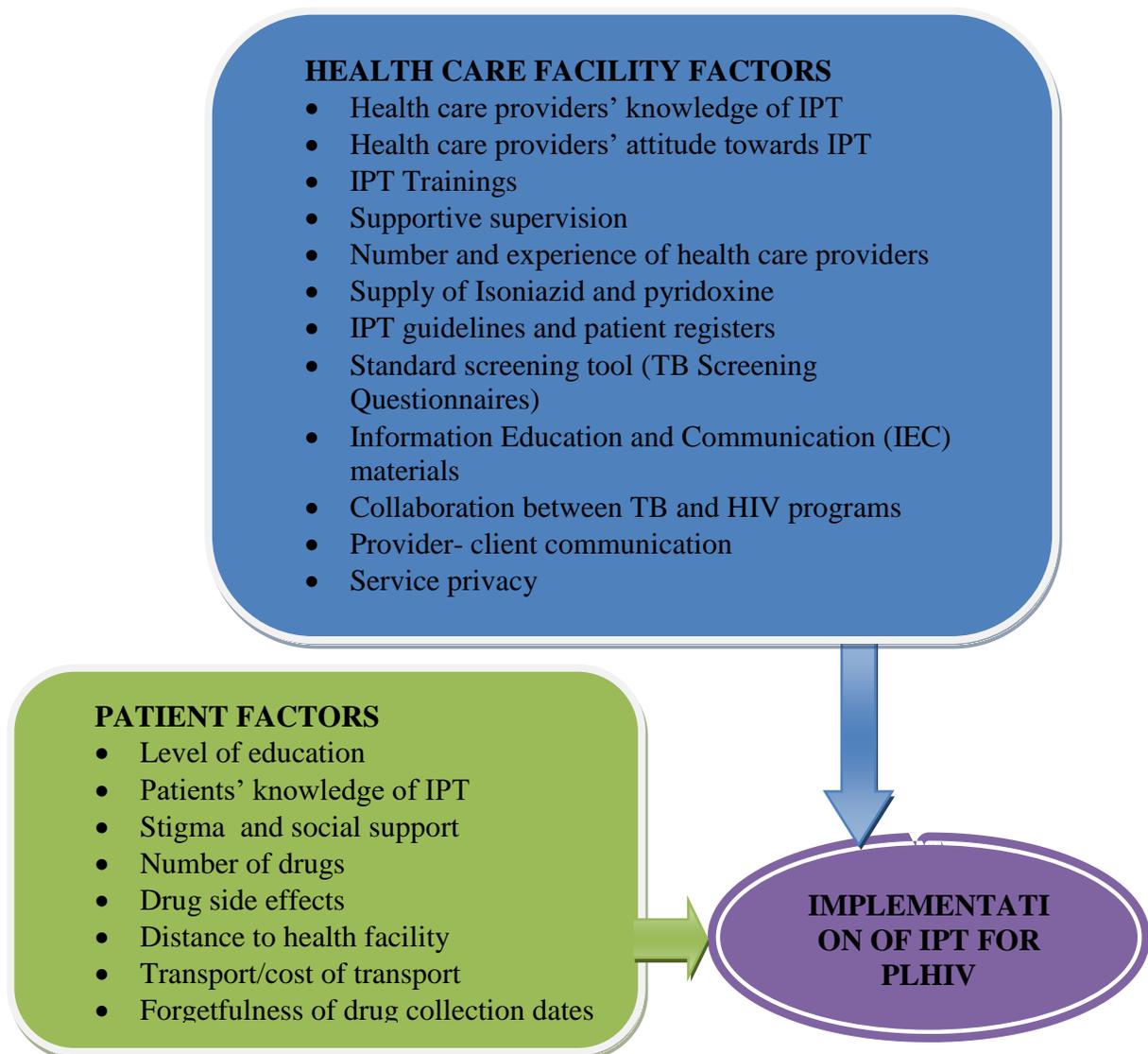


Figure 1: The Conceptual Framework: **IPT Implementation**
(Source: Researcher)

According to this conceptual framework, the implementation of IPT for PLWHIV can be influenced by a number of factors which can be grouped into two major categories: patient factors such as level of education, patients' knowledge of IPT, social support, number of drugs that patient takes, distance to health facility, transport/cost of transport, forgetfulness of drug collection dates and the drug side effects; health care facility factors such as health care providers' knowledge of IPT, health care providers' attitude towards IPT, number of health care providers, IPT trainings, supportive supervision, supply of Isoniazid, Information Education and Communication (IEC) materials, IPT guidelines, patient registers, standard screening tool (TB Screening Questions), provider-client communication and collaboration between TB and HIV programs.

1.3 Rationale of the study

This study aimed to explore factors influencing the implementation of IPT for PLHIV in CTCs in Songea municipality. The generated information from this study is expected to provide information about barriers facing implementation of IPT in Songea municipality and help municipal health authorities in finding the solutions that will solve such barriers and consequently improve/scaling up the implementation of IPT for PLHIV.

1.4 Research questions

1.4.1 Main research question

What are factors influencing the implementation of IPT for PLHIV in CTCs in Songea municipality?

1.4.2 Sub-research questions

1. What is the coverage of IPT implementation for PLHIV in CTCs in Songea municipality?
2. What are patient factors enabling the implementation of IPT for PLHIV in CTCs in Songea municipality?
3. What are patient factors hindering the implementation of IPT for PLHIV in CTCs in Songea municipality?
4. What are health care facilities factors enabling the implementation of IPT for PLHIV in CTCs in Songea municipality?

5. What are health care facilities factors hindering the implementation of IPT for PLHIV in CTCs in Songea municipality?

1.5 Objectives

1.5.1 Broad objective

To explore factors influencing the implementation of IPT for PLHIV in CTCs in Songea municipality

1.5.2 Specific objectives

1. To determine the coverage of IPT implementation for PLHIV in CTCs in Songea municipality.
2. To find out patient factors enabling the implementation of IPT for PLHIV in CTCs in Songea municipality.
3. To explore patient factors hindering the implementation of IPT for PLHIV in CTCs in Songea municipality.
4. To find out health care facilities factors enabling the implementation of IPT for PLHIV in CTCs in Songea municipality.
5. To explore health care facilities factors hindering the implementation of IPT for PLHIV in CTCs in Songea municipality.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviewed the literature from books, journals, policy and guidelines related to the factors influencing the implementation of Isoniazid Preventive Therapy (IPT) for PLHIV. The review was done based on the three specific objectives: Coverage of IPT implementation, patient factors, and health care facilities factors influencing the implementation of IPT for PLHIV.

2.1. The Coverage of IPT Implementation

In 1998, WHO and UNAIDS (Joint United Nations Programme on HIV/AIDS) issued a statement that recognized the effectiveness of IPT among PLHIV and recommended its use as part of an essential care package for these patients (3). It recommended that the implementation of IPT for PLHIV to be at least 50% (15). But since then the coverage of IPT implementation is still low worldwide. Only 49 countries globally reported initiating IPT to PLHIV (5).

In 2014 globally, a total of 933,000 PLHIV were provided with IPT, which is an increase from 600,000 people in a previous year (5,13). Moreover, only 13 of the 41 high TB/HIV burden countries reported provision of IPT and the coverage among PLHIV who were newly enrolled in care was only 41%. The coverage ranges from 5% in Swaziland to 97% in Haiti (5,13). In addition to that, 77% of countries did not report provision of IPT as part of HIV care in 2014, including 68% (28/41) of high TB/HIV burden countries (5). In Africa a total of 875, 886 PLHIV were provided with IPT in 2014 (5). The provision of IPT for PLHIV in Tanzania is still low. For example, in 2014 a total of only 23,124 PLHIV representing 2% were provided with IPT compared to 1,366,402 PLHIV who were registered in HIV CTCs and only 525, 713 PLHIV were screened for TB (5,20).

2.2 Factors influencing the implementation of IPT

According to literatures reviewed, factors influencing the implementation of IPT for PLHIV could be categorized into two groups: patient factors and health care facilities factors.

2.2.1 Patient Factors

2.2.1.1 Patients' level of education and knowledge of IPT

Access to health education and adherence counselling for patients who are eligible to start on IPT is crucial. Health care providers are responsible for providing IPT education and adherence counselling to these patients. Several studies found that INH acceptance and adherence have been associated with health education and counselling a patient received at the start of the therapy and during subsequent follow-ups (14,21–23). Mindachew et al found that Non-adherence was observed among respondents who were not provided with sufficient information about IPT (24). Munseri et al found that IPT completer were enabled/facilitated by understanding the importance of IPT and they received IPT counselling (25). Melaku et al also found that individuals who were informed about the reasons for taking IPT by their doctors/nurses were more likely to be adherent than those who did not have information why they are taking IPT (22).

Level of education of the patient has also been seen as factor influencing IPT completion (25,26). Munseri et al demonstrated that education above secondary level was associated with a higher rate of IPT completion (25). Education is often associated with better understanding and comprehension of instructions and therefore better adherence. Boyle et al found that when patients were asked for their opinions on how to improve treatment, 74% of the total and 95% of the non-compliant patients recommended that they would like more information (26).

2.2.1.2 Stigma and Social support

Some patients are not willing to disclose their sero-status to their family members or to others who are close to them because of their fear of disturbing or losing the normal relationships they had with their families and within their communities (fear of stigma and discrimination) (14). Due to this they lack the courage to take the drugs in public forcing them to miss some of their prescribed medication. A study done in Ethiopia shows that all participants suggested that social support from a family, community, NGOs and others were important factors in assisting them to adhere to their drug regimen (14). A study done in Tanzania found that social support plays key roles in completion of IPT (25). Any disapproval of family members reduced the likelihood of IPT completion while involvement of partners when planning to start IPT critically enable and support IPT completion (25).

2.2.1.3 Number of drugs

Number of drugs a patient taking is a factor that may enable or hinder the implementation of IPT. If the number of drugs a patient takes is high, it may compromise overall adherence and patient's willingness to take drugs. The problem of a pills burden for PLHIV has been reported by several studies (15,27). Reviewed literature found that pills burden has been a result of unavailability of the adult dose of Isoniazid, three tablets of the pediatric doses were provided to adults instead of one tablet (15,27). Moreover, most providers in these studies indicated that they prescribed IPT based on the patients' willingness. They indicated patients' were unwilling to add INH to the ART and Cotrimoxazole due to fear of having many pills, a minimum of 10 tablets per day for those who accepted IPT (15,27,28).

2.2.1.4 Drug side effects

INH has been associated with some side effects. Health education and counselling on IPT adverse effects and treatment completion for patients who are to start IPT are important for ensuring that patients are aware regarding the risks and benefits of Isoniazid therapy. Several studies have found that IPT side effects are one of reasons for non-adherence and discontinuation (25,29,30). Some of the adverse effects reported are gastrointestinal, hepatitis, dermatological and neuropsychiatric adverse effects (29,30). A qualitative study done in Ethiopia found that most health providers reported side effects such as gastrointestinal irritation, peripheral neuropathy and hepatotoxicity as barrier in IPT implementation. Moreover the study reported that some of these side effects like neuropathy are preventable but unavailability of pyridoxine contributed to the problem (15). Studies show that most of these adverse effects make clients eligible for IPT to discontinue taking therapy (27,29,31).

2.2.1.5 Distance to health care facility, transport/cost of transport and forgetfulness to collect drugs

It has also been reported that distance to the health care facility, lack of transport/cost of transport and forgetfulness to collect drug influence the implementation of IPT (14,25,26). A study done in Tanzania found that distance from the clinic increased the risk of IPT cessation (25). Another study done in UK found that non-compliant patients spent more time travelling to the treatment centre than the compliant patients.

The study also shows that of the non-compliant group, 55% indicated that they had not attended the clinics due to financial reasons; therefore the provision of free IPT drugs alone is not sufficient (26). Several studies also reported that one of the factor that most health care providers revealed about their patients is that they forget to take their pills (14,25,32). Some of the reasons reported for forgetfulness are being away from home and being busy (32).

2.2.2 Health Care Facilities Factors

2.2.2.1 IPT Trainings and health care providers' knowledge of IPT

The quantity and quality of staff in terms of knowledge, skills, and attitude is critical for successfully implementation and management of collaborative TB/HIV activities (6). This knowledge can be obtained through training. Therefore training must be tailored to the context in which IPT is implemented. In many cases for the facility to be accredited to provide IPT services it should have adequate capacity for HIV counseling and sufficient trained health care staff (2).

A study done in Zimbabwe shows that there was inadequate formally trained staff as only one formal training was conducted by the district and on job trainings were done in all health facilities in 2013 and 2014 (27). Another qualitative study done in Ethiopia found that most health providers reported the absence of training opportunities with regards to IPT (14,15). Most of these health care providers reported that training should be provided first before the introduction of a program and it should be continued thereafter for new staffs (15). Moreover, lack of health care providers' working experience, knowledge, clarity on the benefits of IPT and unclearness about guidelines by health providers were found to be important barriers for IPT provision in some studies (16,28).

2.2.2.2 Health care providers' attitude towards IPT

Concerns about generating Isoniazid resistance is a major barrier to wider implementation of IPT. It has been found that providing IPT to people living with HIV does not increase the risk of developing Isoniazid (INH)-resistant TB (3). Therefore, concerns regarding the development of INH resistance should not be a barrier to providing IPT (3). Several studies disproves the development of Isoniazid resistant TB

after providing IPT to PLHIV (33,34). Several studies have raised concerns regarding amplifying resistance to Isoniazid through IPT (15,19,28,35). Most clinic staff reported that provision of Isoniazid monotherapy to PLHIV would induce drug resistance, particularly in the South African context of high prevalence of multi-drug-resistant (MDR) and extensive drug-resistant (XDR) TB (28).

2.2.2.3 Number and experience of health care providers

Literatures reviewed shows that for the implementation of IPT to be successful, adequate number of experienced health care providers is needed. Shortage of experienced health care providers for IPT provision has been found to contribute to low IPT implementation (27,36). One of the barriers in the implementation of IPT for PLHIV reported in a study done in Zimbabwe was shortage of staff in some clinics. It was found that health care providers were inadequate and overwhelmed because of many other competing program activities that call for their daily attention (27).

2.2.2.4 Supportive supervision

Health care providers need supportive supervision from higher authorities on the issue of IPT implementation for PLHIV. The district health committee is responsible for providing support for regular monitoring and supervision of collaborative TB/HIV activities in the district (6). Moreover, the committee also needs to coordinate joint supervision visits to the health facilities using developed supervision checklists (6,9). A study done in Ethiopia shows that most health care providers reported poor monitoring and lack of supervision of IPT program by higher managers (15). This may compromise overall implementation of IPT for PLHIV.

2.2.2.5 Supply of Isoniazid and pyridoxine

In Tanzania, procurement of anti-TB medicines and commodities is done by the Government through the development partners such as; the World Health Organization (WHO), the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM). First line and second line for adults and children anti-TB medicines are procured by Global Fund grant through GDF. On the other hand, the GF through medical stores department (MSD) supports procurement of ancillary medicines and laboratory reagents, equipment and supplies. Ancillary medicines are used for the management of side

effects in patients taking anti-TB second line medicines. Furthermore, the GF through GDF procures single therapy Isoniazid tables for INH prophylaxis among PLHIV (37).

MSD is an autonomous institution of the Ministry of Health Community Development, Gender, Elderly and Children (MoHCDGEC) responsible for the procurement (ancillary medicines and laboratory reagents), port clearing, storage and distribution of pharmaceuticals and medical supplies. Monitoring commodity availability at point of service delivery remains to be core function of NTLP as well as overseeing overall resource mobilization for anti-TB medicines (37).

Inadequate record keeping and reporting is one of the challenges facing drug management in most facilities. It results in poor estimations of drug use and may at times create unnecessary shortages in health facilities (37). Several studies have raised concerns about INH stock out which caused failure to start providing IPT to clients or raised health workers concerns about fear of INH resistance (15,27).

2.2.2.6 IPT guidelines and patient registers

The guidelines focus on facilitating the implementation of IPT and Intensified case finding (ICF). They are also intended to underline and toughen the leadership role of national AIDS programmes and HIV stakeholders to scale up the implementation of TB screening and provision of IPT among people living with HIV (3). IPT guidelines provide guidance to health-care providers, policy-makers and health programme managers working in the field of HIV/AIDS and TB. They are also intended for governments, non-governmental organizations, donors and patient support groups that address HIV and TB.

Availability of IPT registers is also important for keeping patients records. Several studies have found that lack of guidelines, standard operating procedures (SOP) and patient registers contributed to low availability and poor uptake of IPT even more than patient related factors (15,38).

2.2.2.7 Information Education and Communication (IEC) materials

Community education through the distribution of posters, fliers and pamphlets is necessary to improve awareness and program uptake. These education materials

provide key messages to educate communities on the benefits of IPT, thereby marketing the program and clearing myths and misconceptions about IPT. The NTLP is responsible for producing education materials to educate the public (21). Several studies found that INH acceptance and adherence can be enhanced by adequate education and counselling at the start of the therapy and during subsequent follow ups (24,25,39). Abdulalim et al found that individuals who received explanation about IPT from health care providers were more likely to adhere to IPT (32).

2.2.2.8 Standard TB screening Tool

Screening tool provide important information on eligibility criteria. Lack of IPT screening tool may result in poor program implementation. The WHO on its revised guidelines of IPT has recommended the use of a simplified screening algorithm that relies on the absence of all four clinical symptoms (current cough, night sweats, fever and weight loss) in identifying PLHIV who are eligible for IPT (3,7). The WHO simplified symptom-based algorithm should be used for all adults living with HIV whether they are pregnant, receiving ART, or successful completed TB treatment (3). Tanzania adopted WHO recommendation and developed TB screening questionnaire (TSQ), which is used to exclude TB in PLHIV (7).

Studies shows that most health care facilities have standard screening tools (27), but if not for economical constrains in poor settings, adding a CXR to the screening tool may improve the sensitivity and specificity of the screening tool (18). Studies found that WHO and National TB and Leprosy control Program (NTLP) symptom-based TB screening tool have high negative predictive value, which is acceptably good for ruling out active TB; however, the high false-negative rate poses risks of suboptimal treatment, unnecessary INH toxicities and drug resistance to patients with active TB who will receive INH monotherapy (18).

2.2.2.9 Provider-client Communication and service privacy

Provider-client communication is very crucial as far as IPT implementation is concerned. It is the manner in which a physician or health care provider communicates information to a patient (24). Clear communication between health care provider and patient help patient to get trust with every treatment procedures which potentially

improve the patient level of adherence to his/her IPT medication (32). Patient who understand his/her health care providers are more likely to accept their health problems, understand treatment options as directed by the provider, modify behavior, and follow their medication schedules. Another study has reported that one of the best predictor of adherence is provider-client communication. It stated that there is a correlation between effective physician- patient communication and improved patient health outcomes (24).

Adherence to IPT has also been associated with service privacy. It has been reported in some studies that respondents who didn't complain the service privacy were more likely to adhere than who complained. It has been reported that service privacy may greatly compromise uptake of proper information, knowledge and behavior by the patient (32).

2.2.2.11 Collaboration between TB and HIV Programs

A strong relationship between HIV and TB in term of morbidity and mortality in high prevalence countries stimulated debates and ultimately influenced policy about integration of TB and HIV services (1,8). In Tanzania National policy guideline for collaborative TB/HIV activities was established in 2008 (6). According to the WHO, the implementation of IPT services is the responsibility of the National HIV program, but in reality INH used as preventive therapy is supplied by National TB Program (NTP) (2).

Several studies found that the integration of these programs faces challenges all the way from higher level to facility level. A qualitative study done in Cameroon shows that one of the reasons for non implementation of IPT in countries is that at program level, it is not clear as to who assume the responsibility for planning and implementing IPT activities (40). Another study done in South Africa showed that, lack of coordination between HIV/TB activities was an operational barrier mentioned by most clinic staff (28). Significant political will and commitment is required if improved service collaboration is to be attained in line with WHO targets (8). Tanzania has adopted the WHO's recommendations on implementation of IPT (2). The Ministry of Health policy statement for IPT states that;

- i. Health facilities with sufficient capacity will be accredited to offer IPT in strict compliance with national and International guidelines.
- ii. INH will be provided to eligible patients free of charge in accredited health facilities.
- iii. The MoHCDGEC will develop a procurement and logistical management plan for sustainable provision and supply of INH at service delivery points.
- iv. The MoHCDGEC will be the accrediting body and will regularly monitor and evaluate the use of IPT in the country.

2.3 Research Gap

Literatures reviewed shows that, in Tanzania much is known about IPT implementation. Several studies have been conducted on TB symptoms based screening tool, IPT efficacy, acceptance, adherence and IPT side effects. However, limited information is available regarding factors influencing the implementation of IPT for PLHIV in Tanzania. Therefore, this study aims to reduce that knowledge gap by determining the coverage of IPT implementation and exploring those factors that influence the implementation of IPT for PLHIV in care and treatment centres in Songea municipality.

CHAPTER THREE

MATERIALS AND METHODS

3.0 Introduction

This chapter presents the study area/setting and explains about the research design, sample size and sampling techniques. It also describes data collection techniques/methods, data collection processes and the data analysis plan.

3.1 Study Area/Setting

The study was conducted in Songea municipality in Ruvuma region in the southern part of Tanzania. Songea municipality is among the districts of Ruvuma region and is the capital city of the Region. Other districts of the region are Songea rural, Mbinga, Nyasa, Namtumbo, Tunduru and Madaba. As of 2012 population census, Songea municipality had a total population of 203,309 people (Males 96,347 and Female 106,962). This study setting was selected because the prevalence of HIV in Ruvuma region was 7% according to Tanzania HIV/AIDS and Malaria indicator survey of 2011/12. This prevalence was higher than the national prevalence of 5.1% (41). Songea municipality has 11 health care facilities providing IPT for PLHIV. Among these health care facilities eight are public facilities, two are military facilities and one is faith based facility. Moreover, among these health care facilities one is regional hospital, one is district hospital, two are health centers and seven are dispensaries. In the municipality, and IPT was initiated in 2014.

3.2 Study Design

This study employed a cross sectional descriptive design using both quantitative and qualitative approaches of data collection. Cross sectional studies forms a class of research methods that involve data collection at one specific point in time (42). This type of study design allows for quick and easy data collection even for a small or large population.

3.3 Study Population

Quantitative part

The study population was all PLHIV registered in CTCs of the selected health care facilities providing IPT in Songea municipality.

Qualitative part

The qualitative part involved two study populations. Firstly, health care providers who were working in the selected CTCs and secondly, adults PLHIV who were provided IPT in the selected CTCs in Songea municipality

3.4 Sample Size

Quantitative part

A total of 2148 records of PLHIV registered in CTC and eligible for taking IPT from January 2015 to January 2017 were reviewed.

Qualitative part

A total of 13 health care providers including ART-nurse and counselors, CTC clinicians and pharmacist from five selected health care facility participated in this study. Moreover, 8 adults PLHIV provided IPT on CTCs of the five selected health care facilities participated in this study. The number of health care providers and PLHIV interviewed depended on information saturation.

3.5 Sampling Techniques

Quantitative part

Purposive sampling technique was used to get study participants. This means that all PLHIV registered in CTC and eligible for taking IPT in the five selected health care facilities in Songea municipality from January 2015 to January 2017 was purposively selected and included in the study for determining the IPT coverage.

Qualitative part

Purposive sampling technique was used to get study participants. Health care providers were selected because they were responsible for providing IPT for PLHIV and PLHIV were selected because they were taking IPT in CTCs of the selected health care facilities in Songea municipality. The study participants were identified and approached with the help of the CTC in-charge of each health care facility selected.

Convenience sampling technique was used to select five out of 11 health care facilities providing IPT in the municipality based on their proximity, time allocated for data collection and the resource available for the research.

3.6 Data Collection Methods and Instruments

Quantitative part

Review of patients' records was conducted using a structured data collection form. Information like the number of PLHIV registered in CTC, number of PLHIV eligible for IPT and number of PLHIV provided with IPT was recorded from each five selected health care facility providing IPT in Songea municipality from January 2015 to January 2017.

Qualitative part

In-depth interviews and observations were conducted in each selected health care facility using well designed in-depth interview guides and observation checklist respectively. In-depth interview guides were written in English and then translated into Swahili for easily understanding of the study participants. In in-depth interview guides, questions were open ended and non directive. Questions for both patient and health care provider in-depth interview guides were asked on factors influencing the implementation of IPT for PLHIV such as health care facilities factors and patient factors.

Observation checklist included issues like presence of IPT guidelines, patient registers, standard screening tool (TSQ), and availability of Isoniazid and pyridoxine and Information Education and Communication (IEC) materials such as posters, fliers and pamphlets.

3.7 Data Collection Process

Quantitative part

Data was collected by the principal researcher with the help of trained research assistants who were knowledgeable on reviewing patients' records and filling the structured data collection forms. The number of PLHIV registered in CTC, number of PLHIV eligible for IPT and number of PLHIV provided with IPT in each selected health care facility providing IPT in Songea municipality from January 2015 to January 2017 were recorded. Data was collected from late July to early August 2017.

Qualitative part

Data was collected by the principal researcher and research assistants who were knowledgeable on how to approach study participants, requesting for informed consent

and conducting in-depth interviews and observations, while maintaining the confidentiality of the collected data. The in-depth interviews were conducted in a separate room close to CTC in each health care facility to ensure privacy and confidentiality of the study participants and their information. Each health care provider interviewee and patient interviewee was asked individually about his/her perception on factors influencing the implementation of IPT for PLHIV based on their experiences of providing and taking IPT respectively. Each interview took about 30-60 minutes. Observation was done at the end of all interviews in each selected health care facility. Data was collected from late July to early August 2017.

3.8 Data management

Quantitative part

All data that were generated from the review of patients' records were checked daily to ensure its correctness and completeness. This was important in order to ensure all needed information from patient records were recorded and documented effectively. Confidentiality of data was ensured; only the researcher and research assistants had access to collected data.

Qualitative part

All data that were generated from the in-depth interviews and observations were checked and cleared daily to insure its correctness and completeness. This was done so as to ensure that all information from the interview and observation were recorded and documented effectively. Management of data was at high level of confidentiality, only those directly involved in the study had access to the collected data. Tape recorders with Audio-recorded data and other collected data were kept in a safe box accessed by the principal investigator alone.

3.9 Training Research Assistants

Three diploma nurses working outside CTCs were selected from three selected health care facilities and received training as research assistants. Training was for two days and included a review of study objectives, data collection methods and instruments practice, skill-building exercises on interviewing, interpersonal communication, and discussion of ethical issues.

3.10 Variables

In quantitative part of the study, the dependent variable was IPT coverage, which was linked with independent variables, which were patient factors and health care facilities factors that enable/facilitate or hinder the implementation of IPT in the study area which were explored using qualitative approach.

3.11 Data Analysis Plan

Quantitative part

Quantitative data were analyzed using SPSS for windows version 20 statistical software. Data were checked for completeness and correctness through proofreading while entering the data into the software. Descriptive statistics (frequencies and percentage) were employed and data were visualized using tables and bar graphs.

Qualitative part

Qualitative data were analyzed using thematic analysis approach. Thematic analysis approach involves identifying, analyzing and reporting patterns (themes) within data. Analysis in this study using thematic approach involved six main steps. Audio-recorded data from the in-depth interviews were transcribed verbatim. This enabled the researcher become familiar with the data and gets the general idea. After transcription, a list of potential and initial codes was created by the researcher through data reduction. Codes helped the researcher to identify features of the data that were interesting and get the meaningful of data. Then themes were searched from the general list of codes created; the focus here was on broad patterns in the data, combining coded data with the proposed themes and examining how relationships were formed between codes and themes and between different levels of existing themes. After themes identification, the principal researcher read and reviewed the coded data to see if they formed coherent patterns. The existing themes were then defined and refined for presentation in the final analysis. The final analysis involved report writing which will convince the reader on the merits and validity of the analysis. Main themes were illustrated with representative quotations.

In this study data were analyzed based on two explored key issues: patient factors and health care facilities factors influencing IPT implementation for PLHIV from health care provider and patient perspectives.

3.12 Pre-Testing

Before the actual data collection process, data collection instruments were pre-tested at Muhimbili National hospital (MNH) CTC to assess the logical flow of questions, completeness and its suitability for exploring factors influencing the implementation of IPT for PLHIV as well as determining the coverage of IPT. The results showed that data collection instrument had logical flow of questions, complete and were able to explore factors influencing the implementation of IPT for PLHIV and determine the coverage of IPT.

3.13 Ethical Consideration

In this study the researcher sought ethical clearance from Muhimbili University of Health and Allied Sciences (MUHAS) Ethical Review Committee in order to obtain the permission to conduct the study. Permission to conduct the study was sought from the Regional Medical Officer, District Medical Officer Songea municipality and officer in charges of the facilities before conducting the study. Thereafter study participants were briefed on the study objectives. Informed consent was obtained from each study participant, and then each participant was requested to sign informed consent form after agreeing to participate in the study. Moreover, to ensure quality data collection, professional relationship such as privacy and confidentiality with participants were maintained. Participants were free to give out their opinions, ideas and even to withdraw from the study at any time.

3.14 Limitations of the study

Quantitative part

The issue of data quality could affect the accuracy of the results. However, data collected from each selected health care facility were compared with that found at the district health authority data base.

Qualitative part

The study was prone to investigator bias: This was because of the researchers' beliefs and assumptions. To mitigate investigator bias triangulation was used, which involve the use of different data collection methods, collecting data from different study participants, and different health care facilities with different characteristics.

The results of this study are not generalizable: This is because of the nature of qualitative study which was not meant to generalize findings but it was intended to get an in-depth understanding of the phenomenon under investigation. Although the results of this study is not generalizable, but it go beyond the study area (be transferable) with similar situations, similar populations, and similar phenomena. For this to be done detailed background data to establish context of study and detailed description of phenomenon in question was provided.

3.15 Ensuring trustworthiness of the qualitative study

The main question in qualitative study is how to ensure trustworthiness of the study. Guba (1981) suggest different concepts used to ensure trustworthiness in qualitative studies instead of validity and reliability as used in quantitative studies. He suggest use of *credibility* (in preference to internal validity); *transferability* (in preference to external validity/generalisability); *dependability* (in preference to reliability); and *confirmability* (in preference to objectivity).

Credibility: refers to how congruent the findings of this study will be with reality. In this study in-depth interview and observation were used because they were appropriate and well recognized research methods for collecting depth information from the study participants and observing reported phenomenon. Triangulation were done using different data collection methods as stated above; involving different types of participants (patients and health care providers); and by collecting data from different health care facilities with different characteristics such as from public, military, and faith based health care facilities. Also among these health care facilities some were dispensaries, health centres, district hospital and regional hospital.

Transferability: is concerned with the extent to which the findings of this study can be applied to other situations. For this study to be transferable detailed background data to establish context of study and detailed description of phenomenon in question has been done. The information include the number of health care facilities taking part in this study, criteria of selecting study participants, the number of participants that were involved in this study, the data collection methods that were employed, the number and length of the in-depth interview and observation sessions, and the time period over which the data was collected.

Dependability: means if this study is to be repeated, in the same context, with the same methods and with the same participants, similar results will be obtained. In order for this study to be dependable in-depth methodological description of the study was done to enabling a future researcher to repeat the work.

Confirmability: is the degree of neutrality or objectivity in the findings of qualitative studies. It means the findings obtained from the study are based on participants' responses and not any potential bias or personal motivations of the researcher. In order for this study to be confirmable triangulation was used to reduce effect of investigator bias. Triangulation involved method of data collection, participant and study site. The reasons for favoring one approach when others could have been taken were explained and weaknesses in the techniques employed were admitted.

CHAPTER FOUR

RESULTS AND KEY FINDINGS

4.0 Introduction

This chapter presents results from both quantitative and qualitative components of the study. The presentation will start with quantitative followed by qualitative results.

4.1 Results from quantitative part of the study

This study collected quantitative data with the aim of informing the coverage of IPT implementation for PLHIV in CTCs in Songea municipality from the review of patients' records, thus be able to link it with the factors influencing the implementation of IPT, which was explored using qualitative approach.

4.1.1 IPT coverage in Songea municipal

Out of the 2460 PLHIV registered in the HIV clinics between January 2015 and January 2017, 2148 (87.3%) were eligible for IPT and only 964 (44.9%) were provided IPT (Fig. 2). All health facilities included in this study started implementation of IPT in the years 2014 to 2016. There were disparity of IPT coverage between health care facilities; two health care facilities had high IPT coverage of (87.6 % and 57.0 %) while three other health care facilities had a much lower coverage of (10.6 %, 18.2 and 35.6 %). Lowest IPT coverage was seen in the health care facility that started IPT implementation late, in 2016 (Table 1).

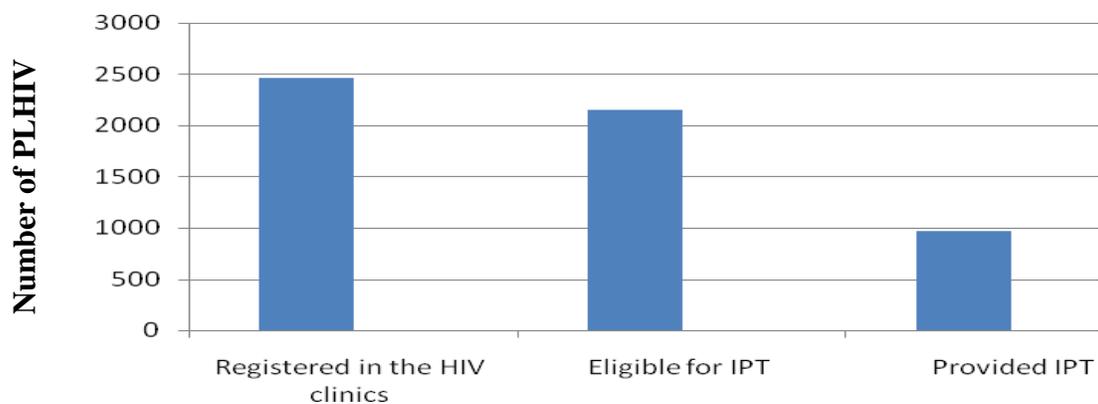


Figure 2: Number of PLHIV provided with IPT in 5 health care facilities of Songea Municipality, Southern Tanzania January 2015 – January 2017

Table 1: IPT start year and coverage of 5 health care facility of Songea Municipality, Southern Tanzania January 2015 – January 2017

Health facility	IPT start year	Number of PLHIV registered in CTC	Number of PLHIV eligible for IPT	Total number of PLHIV provided IPT	IPT Coverage (%) ^x
Facility1	2014	662	497	177	35.6
Facility2	2014	426	391	71	18.2
Facility3	2015	414	395	226	57.0
Facility4	2016	391	348	37	10.6
Facility5	2015	567	517	453	87.6
TOTAL		2460	2148	964	44.9

PLHIV People Living with HIV, IPT Isoniazid Preventive Therapy

^xIPT coverage was determined as the percentage of PLHIV provided IPT among all PLHIV registered in HIV care whom active TB have been excluded (eligible for IPT).

4.2 Results from qualitative part of the study

Qualitative data was collected with the aim of exploring health care facility and patient factors influencing the implementation of IPT for PLHIV in CTCs in Songea municipality from health care providers and patient perspectives. This section is divided into five subsections: the first subsection present demographic characteristics of the interviewed study participants. The second subsection present health facilities factors hindering the implementation of IPT services while the third subsection presents the patient factors hindering the implementation of IPT services in the study areas. The fourth and fifth subsections present health facilities factors and patient factors enabling the implementation of IPT services respectively.

4.2.1 Demographic characteristics of respondents

Twenty one participants participated in the qualitative study (Table 2 and 3). Of these 13 were health care providers and 8 were patients. The mean age (\pm SD) of health care providers was 48.9 (\pm 9.9) years while that of patients was 45.7 (\pm 8.4). Eleven (84.6 %) of health care providers had more than one year working experience in HIV care (Table 2). Seven (53.8%) of health care providers had certificate level of education (Table 2). Seven (87.5%) of patients had education of \leq standard seven (Table 3).

Table 2: Demographic characteristics of health care providers interviewed at 5 HIV clinics of Songea Municipality, Southern Tanzania, 2017

Demographic characteristics		Health care providers (N = 13)	
		N	%
Age (yrs)	<30	2	15.4
	30-60	11	84.6
Sex	Female	5	38.5
	Male	8	61.5
Profession	Nurse	5	38.5
	Pharmacist	3	23.1
	Doctors	5	38.5
Education Level	Certificate	7	53.8
	Diploma	4	30.8
	Advance Diploma	2	15.4
Work experience in HIV care (yrs)	<1	2	15.4
	≥1	11	84.6

Table 3: Demographic characteristics of patients provided IPT interviewed at 5 HIV clinics of Songea Municipality, Southern Tanzania, 2017

Demographic characteristics		Patients (N = 8)	
		N	%
Age (yrs)	<35	0	0.0
	35-70	8	100.0
Sex	Female	4	50.0
	Male	4	50.0
Education Level	≤ Standard seven	7	87.5
	> Standard seven	1	12.5
Marital status	Married	4	50.0
	Divorced	3	37.5
	Widowed	1	12.5

4.2.2 Health care facilities factors hindering IPT implementation

Health care providers and patients asked about health care facilities factors hindering IPT implementation for PLHIV in Songea municipality. The analysis generated four themes namely; insufficient drug supply and drug stock out, shortage of staff, lack of service privacy and long waiting time.

Insufficient drug supply and drug stock out

When health care providers asked about supply of Isoniazid and pyridoxine and occurrence of drug stock out, most health care providers reported that the supply of Isoniazid and pyridoxine is insufficient and irregular. They also said they sometimes run out of stock for these drugs. One of the respondents said that:

“It is a real challenge, like those Isoniazid eeh, that is why we screen many clients but we provide IPT to the few. We check at our stock, and then we check it can accommodate how many clients for six months, we take them as cohort. Therefore every time we receive supply we calculate it in that manner. We avoid to provide IPT to every eligible client because he/she can receive them for a month then stock out may happen which may results to creation of unnecessary drug resistance” R6H1-Doctor

Another respondent had this to say:

“Availability of Pyridoxine for now is a challenge because at first our sponsor (Walter Reeds) was supplying these Opportunistic drugs, but for now the health care facility and the DMO office must purchase. Therefore its availability is poor, we sometimes get very little” R6H1-Doctor

Most of the interviewed patients reported that they were bothered by recurrent problem of insufficient supply and stock out of Isoniazid and pyridoxine in their CTCs. One of the respondents expressed that:

“We request the supply of drugs should be improved because those drugs we receive them by groups, we receive IPT by groups, and we don’t receive all clients as required. Therefore those drugs even when I received it, most of my fellow clients didn’t receive. They divide us into groups because of insufficient supply of drugs eeh” R4H1-Patient

Shortage of staff

Most of the interviewed health care providers raised concern about the number of available staff compared to CTC work load. They mentioned retirement, death, and the government exercise of certificate verification for civil servants as reasons for shortage of staff even in CTCs. They reported that these results to working overtime and burnout. One of the respondents said that:

“.....hospital services have been expanded; staffs are not added as you know the number of staff decrease due to retirement, death and the government exercise of certificate verification for civil servants. All these results to burnout

and poor quality service offered to clients because providers become tired”

R12H4-Nurse

Another respondent had this to say:

“I am a retired staff, I was working here as soldier and a doctor but I retired. Due to shortage of staff they brought me back to add effort” R13H4-Doctor

Lack of service privacy

The health care providers reported that the location of CTC building and the space available compromises with service privacy. They reported that some clients don't seek CTC services because of lack of privacy. One of the health care providers expressed that:

“We have a single room; I deliver service to my clients while data clerks are there. Sometimes even client cannot express himself/herself. Sometimes they don't come to collect their drugs because they see many people” R1H2-Nurse

Another respondent had this to say:

“.....we don't have special CTC although administration is doing whatever it can, there is a building there being renovated. We hope after that privacy will be good. As you can see we are two clinicians and sometimes we share one room which is not principally advised but no way out” R6H1-Doctor

Interviewed patients raised similar concerns about congestion of clients in CTC during service provision and the location of CTC building. They reported that CTC is located in a place which is not user friendly. They also said congestion not only compromises service privacy but also create risks for infections like TB. One of the patients had this to say:

“I request additional building, this building is located in a place which is not user friendly (opposite to RCH), the room is too small but it accommodate many clients, therefore we become congested which is the risk for TB infection”

R5H1-Patient

Long waiting time

Interviewed patients reported that long waiting time was a problem when they seek IPT services in the CTC. They said if waiting time could be reduced they could be able to

save time for their day to day work and earning income for their families as many of them have low income. One of the respondents expressed that:

“We come here early so that we can get service early and proceed with our daily routine work but when we come here at 7:30 am we stay here up to 9:00am, when they start providing services we are already late. In my opinions I request them to add effort and give us service on time so that we can proceed with other duties, otherwise some of us may fail to come for the services”

R24H3-Patient

Another respondent had this to say about waiting time:

“We have low income when we come early our aim is to get service early and leave for other duties at home, they need to come early for proving services”

R21H3-Patient

4.2.3 Patient factors hindering IPT implementation

Health care providers and patients were asked about patient factors hindering IPT implementation for PLHIV in Songea municipality. The analysis generated four themes namely; Distance from health care facility and cost of transport, drug side effects, pill burden and forgetting drug collection dates.

Distance from health care facility and cost of transport

Most health care workers interviewed reported distance from the health care facility and cost of transport were patient factors hindering IPT uptake in Songea municipality.

One of the respondents expressed that:

“.....A client open a file here while he is from Mbinga, when you counsel him on his first visit about distance and cost of transport he say he can afford but in some consecutive visits he miss the dates and when you ask he say he did not have transport fair. It is a challenge and we cannot force to refer them to health facilities close to their residences, they are free to choose where they wish to receive services” R7H1-Doctor

Another respondent had this to say:

“...Other clients do not come in their planned dates, when you ask them when they come they tell you, I did not have fair for transport” R2H1-Nurse

Our study respondents also reported that in their area of residence there are dispensaries but it doesn't have IPT service, therefore they have to travel long distance to get IPT services. One of the respondents said that:

"..I am living in Mwengemshindo, I came here at Mjimwema health centre on foot because in some days I don't have money to take Bodaboda (motorcycle). I am trying to come in every appointment date but I am just pushing myself, it could be very helpful if the government could start providing this service to our dispensary (Mwengemshindo dispensary)" R4H1-Patient

Drug side effects

Some health care providers reported Isoniazid side effect observed from clients they attended and they claimed that this hinder some of the clients from up taking IPT services. Most side effects reported were jaundice, dermatological and neurotic problems. One of the respondents expressed that:

"Some come with jaundice, rashes and neurotic symptoms, when we see that we stop and do investigation. When we agree that those side effects are due to Isoniazid we stop giving them and they proceed with their ARV only" R6H1-Doctor

Another respondent had this to say:

"Usually its is itching and jaundice but we are advised to report to Tanzania Food and Drug Authority (TFDA) and we did that" R18H5-Doctor

When patients were asked about side effects observed when they were using IPT, only one reported to observe side effects of IPT. The respondent expressed that:

".....I once came here and complain about itching and excessive urination especially during the night, the doctor told me to stop taking these drugs" R20H5-Patient

Pill burden

Most health care providers reported that they got complains from their clients about pills burden. They reported that they prescribe drug according to patient's willingness. They reported that some clients refuse to start IPT because of the number of drugs they

have to take. They also said pill burden reduce patient adherence. One of the respondents said that:

“ I try to educate them but others say the number of drugs to take in a day is a lot, others refuse at all to take them, they say I will get TB treatment if I get TB infection, that is a challenge” R11H4-Pharmacist

Another respondent had this to say:

“There are others who say if the number of drug is too large it disturb them, even though IPT is one tablet but there is still pill burden because a client may also be using ART and Cotrimoxazole” R18H5-Doctor

When patients were asked about pill burden most of them reported that they were taking two to three drugs in a day. They said this is a burden because they have to take some of them for life. One of the patients had this to say:

“The number of drug in a day is not that large, am using two drugs in a day, ART and IPT, the problem is that these drug we need to take for life, we don't have option because we are sick. R3H1-Patient

Forgetting drug collection date

Most health care providers reported forgetting as one of the patient factor which hinders clients from taking IPT. They reported that clients who forgot their drug collection dates most of them do that because of being away from home or being busy especially during agricultural periods and travelling. One of the health care providers said this:

“They do forget usually during agricultural period, some migrate to their farms they forget drug collection dates but usually they come within three months” R10H3-Nurse

Another respondent had this to say:

“Forgetting is not only for Isoniazid but also for ART, what we do when he missed one month we make follow up. The other challenge we get when we trace them is that some of the client give wrong addresses and wrong phone numbers” R6H1-Doctor

When patients were asked about forgetting their drug collection dates, no client reported that he/she once forgot his/her drug collection dates. One of the patients said that:

“I have never forgotten drug collection date even if the date which I have been given by a doctor is different from that for ARV collection, sometimes I come when I have stock out even if the date is not reached” R5H1-Patient

4.2.4 Health care facilities factors enabling IPT implementation

Health care providers and patients were asked about health care facilities factors enabling IPT implementation for PLHIV in Songea municipality. The analysis generated seven themes namely; availability of IPT training, regular supportive supervision, availability of IPT guidelines and patient registers, availability of Information Education and Communication (IEC) materials, availability of TB Screening Questionnaires, collaboration between TB and HIV programs, and good provider-client communication.

Availability of IPT training

Regarding the issue of IPT training, most health care providers reported that IPT training was provided in the municipal both before service provision and on job training. They also reported that IPT training enables/facilitate them to provide IPT services. One respondent had this to say:

“.....we went for IPT training before starting this service, we cannot start providing this service before receiving training” R12H4-Nurse.

Another respondent had this to say:

“For those who don’t have 3 I’s training we give them on job training because the government cannot afford to train all health care workers, it is the responsibility of those with training to provide on job training to those who don’t have. That is why here in CTC you cannot find any health care provider who doesn’t know IPT guideline” R16H5-Nurse

Regular supportive supervision

When health care providers were asked about supportive supervision, most health care providers reported that they received regular monitoring and supervision every quarter

of the year from Council Health Management Team (CHMT) and Regional Health Management Team (RHMT). Also they received it from Non-Governmental Organization called Walter Reeds which is the major sponsor of most CTC services in the municipality. They also remarked that supportive supervision provides them with new updates on the implementation IPT services. One of the respondents said that:

“Our health care facility has CTC with larger number of clients among all in the municipality. For that reason we receive several supportive supervisions from the CHMT and RHMT, and from our sponsor (Walter Reeds). We thank them because when they come they provide us with new updates to work on”

R6H1-Doctor

Availability of IPT guidelines and patient registers

Health care providers in all 5 health care facilities reported to have IPT guidelines and patient registers. They reported that IPT guidelines were very helpful for their service provision as they remind them on how to provide services. They reported to use IPT guidelines and patients registers for service provision. One of the respondents expressed that:

“For sure we thank them for these IPT guidelines. You may have IPT training but there are a lot of things to learn. As you can see I was trying to pass through this guideline to validate the service I am offering to my clients”

R12H4-Nurse

Another respondent had this to say:

“We have IPT guidelines and patient registers, for example when we provide IPT to our clients we document in CTC2, but also we record in their TB screening questionnaires. Besides that there in dispensing room is special register in which they record all clients provided with IPT” R6H1-Doctor

Availability of Information Education and Communication (IEC) materials

Most of the interviewed health workers in all health care facilities reported that another important factor facilitating the provision of IPT services was the availability of Information education and communication (IEC) materials such as posters, fliers and pamphlets in the health facilities. They reported that the IEC materials are written in

Swahili; this is the language which most clients who know how to read and write can read and acquires knowledge. One of the respondents reported that:

“ IEC materials are available, even if you try to pass through the facility surroundings you can see we have tried to post them and they are in Swahili language that anyone who know how to read and write can read and understand” R8H1-Pharmacist

Another respondent had this to say:

“Posters and fliers are available and when we have stock out we communicate direct to District AIDS Coordinator (DAC), sometimes DAC communicate to Regional AIDS Coordinator (RAC). Also we get them from our sponsor as I told you before that we are sponsored by Walter Reeds. Not only that but also because we have District TB and Leprosy Coordinator (DTLC) we communicate with them, in case of any problem they come to help” R6H1-Doctor

Availability of TB Screening Questionnaires

Interviewed respondents reported that TB screening questionnaire was not a problem in their health care facilities. They reported to have many TB screening questionnaires for adults and children. They also reported that they use them to identify TB suspects. One of the respondents said that:

“We have more than enough TB screening questionnaires because in any CTC client file you can find one. We don't have problem with them, we have for adults and children and we use them to identify TB suspects” R7H1-Doctor

Another respondent had this to say:

“We have a lot of TB screening questionnaires and they now bring them as books, you just pick them, you don't bother to photocopy as were doing previously, a lot of them are there at reception” R16H5-Nurse

Collaboration between TB and HIV programs

Most health care providers' interviewed reported that there was collaboration between TB and HIV programs in their health care facilities. They said because of this

collaboration, TB screening is done to every HIV client in CTC. They also said this improves identification of TB suspects and increase number of PLHIV eligible for IPT. They reported that provision of IPT is the responsibility of HIV program while the supply of IPT is from TB program (DTLC). In addition to that they said that they have TB and HIV coordinators at the facility level and at the district level that usually do supportive supervision and provide them with new updates and trainings. They reported that this enables the implementation of IPT service in the municipal. One of the respondents said this:

“There is linkage between TB and HIV programs, for example here we are providing HIV care but we are also screening our clients for TB and provide IPT services but when we have clients who are TB suspects, we conduct investigation and when they have confirmed TB infection we refer them to TB department” R2H1-Nurse

Another respondent had this to say:

“We have focal person or TB/HIV coordinator and quality improvement teams (CQY team and QY team) at our facility and from the district level, therefore we communicate with them for new updates and trainings, we are also sending our monthly Isoniazid order to DTLC, the problem is that sometimes we receive INH little than what we have ordered” R6H1-Doctor

Good provider-client communication

Most health workers interviewed reported to have good communication with their clients. They said sometimes they sit down with their patients, providing health education and discuss with them about their problems and reach agreement. One of the health care providers expressed that:

“ When they come during the morning we provide health talk, and health education on the importance of drug adherence because as you know IPT is a long regime, it is for six month and still they are taking ARV which are also lifelong” R6H1-Doctor

Another respondent had this to say:

“The service is provided in a friendly way that is why I told you before that we tell them if we forget to write IPT for them they are free to remind us” R8H1-Pharmacist

When talking about provider-client communication, most clients reported similar findings that they have good communication with their health care providers. One of the patients had this to say:

“We have good communication with our health care providers; they even gave us a phone number for communication when we have problems” R3H1-Patient

4.2.5 Patient factors enabling IPT implementation

Health care providers and patients were asked about patient factors enabling IPT implementation for PLHIV in Songea municipality. The analysis generated two themes namely; patients’ knowledge of IPT and lack of stigma.

Patients’ knowledge of IPT

Most health care providers reported that knowledge of IPT imparted to patients by the health care providers enables patient acceptance and use of IPT services. They also said that such knowledge is necessary for patients’ adherence to medication. One of the health care providers said that:

“If he/she get that health education it enable them accept IPT and adhere to medication but only if they understand it. If client didn’t understand the health education provided he won’t be willing to start and adhere to IPT” R12H4-Nurse

When patients asked what enable/facilitate them to take IPT, most patients reported that they were willing to take IPT after getting health education from health care providers and reading some IEC materials. One of the patients said that:

“We were taught that, it is a prophylaxis and we are vulnerable to different opportunistic diseases and TB. We see our fellows suffering in the streets due to TB, therefore after that education we who were bright it was ease to agree and start using it” R3H1-Patient

In addition, another patient had this to say:

“We were educated about its benefit; I saw it was important for me to use them” R14H3-Patient

Lack of stigma

Lack of stigma was reported by most health care providers and patients as patient factor enabling/facilitating IPT implementation. They reported that in current years there is no stigma to CTC clients because the societies have accepted the problem. This is because the problem has affected many people. One of the health care providers said that:

“The societies have accepted the problem and people are now free, you can fill the form here at CTC for viral load and send them to laboratory, they are free, they go there, take the investigations and leave, they are very free” R7H1-Doctor

Regarding the issue of stigma one of the patients had this to say:

“In the current years for sure there is no stigma, this is because the disease has affected many people, we receive good care from the government and from our health care workers” R4H1-Patient

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Introduction

This chapter discusses key findings obtained from both quantitative and qualitative components of the study. The presentation will start with quantitative followed by qualitative results as presented in chapter four. Descriptive data was obtained through in-depth interviews with health care providers and patients, observation and a review of secondary data from patient registers. The discussion is based on the following key areas (objectives): firstly, IPT coverage for PLHIV in CTCs in Songea municipality. Secondly, health care facilities factors hindering the implementation of IPT for PLHIV in CTCs in Songea municipality. Thirdly, patient's factors hindering the implementation of IPT for PLHIV in CTCs in Songea municipality. Fourthly, health care facilities factors enabling the implementation of IPT for PLHIV in CTCs in Songea municipality. Fifthly, patient's factors enabling the implementation of IPT for PLHIV in CTCs in Songea municipality. The first objective was a quantitative part of the study where the findings were obtained through review of patient records of the 5 selected health care facilities. The second to fifth objectives formed qualitative part of the study where findings were obtained through in-depth interviews and observations. The discussion for qualitative part is based on the findings received from the 21 respondents. Of these 13 were health care providers and 8 were patients. The following sub-sections present the discussion of key findings in more detail.

5.1. IPT Coverage in Songea municipality

In this study IPT coverage was determined as the percentage of PLHIV provided IPT among all PLHIV registered in HIV care whom active TB have been excluded (eligible for IPT). The key findings of this study reveal that the IPT coverage in Songea municipality was estimated to be 45%. This percentage indicates sub-optimal coverage in the municipal since it is below the recommended WHO target level of 50%. Implementation of IPT in Songea municipality started in 2014 and the observed coverage was low despite the fact that in Tanzania IPT was included in national policy guideline for collaborative TB/HIV activities since 2008 (6).

The findings also showed that there were disparities of IPT coverage between health care facilities; the regional referral hospital had high IPT coverage of 87.6 %. This was

because this hospital received special priority from CHMT and RHMT in term of supportive supervision, training and supply of the IPT. The health care facility with the lowest coverage of 10.6 % was the military health care facility. This was because this facility started implementation IPT service late (2016) with insufficient supply of IPT. This study reported low coverage of IPT which is similar finding to the study by Teklay and others in Tigray region in Ethiopia. IPT coverage in Tigray region was reported to be 20%, which was also below the recommended WHO IPT coverage. Insufficient/irregular drug supply and drug stock out were the main reasons for low coverage in both studies (15).

5.2 Health care facilities factors hindering the implementation of IPT

The findings from this study revealed that there were a number of health care facilities factors hindering the implementation of IPT service in Songea municipality, thus unable to achieve at least the 50% coverage of IPT as recommended by WHO. The main identified health care facilities barriers include: Insufficient drug supply and drug stock out, shortage of staff, lack of service privacy and long waiting time.

The implementation of IPT service is mainly depending on the supply of Isoniazid and pyridoxine. In this study most health care providers and patients reported that the supply of Isoniazid and pyridoxine was insufficient/ irregular and they sometimes run out of stock for these drugs. This implies that drugs were not sufficient to all PLHIV eligible for IPT, the situation which impedes the implementation of IPT service. Due to this problem health care providers have adapted a measure. They check on their stock and count how many clients it can support for six months and take that number as a cohort. This aim to avoid providing IPT to every eligible client because he/she can receive them for a month then stock out happen which may results to creation of unnecessary drug resistance. Shortage of Isoniazid and pyridoxine has also been reported in a study done in Ethiopia as a barrier hindering the implementation of IPT services in health care facilities (15). The supply problem of these drugs could arise at the level of quantification, procurement, and/ or distribution. The stock out of pyridoxine in Songea municipality is an example of donor dependence problem. Pyridoxine and other opportunistic drugs were once supplied by Walter Reeds which is a non-governmental organization operating in the southern part of Tanzania but when

it stopped supplying Pyridoxine and hand this responsibility to the local government the supply of this drug start facing some challenges and stock out usually happens.

The key findings of this study revealed that most of the interviewed health care providers reported shortage of staff caused by retirement, death, and the government exercise of certificate verification for civil servants. This implies that due to shortage of health care providers in Songea municipality, the existing staff were overwhelmed with many activities and sometimes forced to work overtime which caused burnout to staff hence implementation of IPT service was affected. Similar studies found that one of the barriers in the implementation of IPT for PLHIV was shortage of staff in some HIV clinics. It was found that health care providers were inadequate and overwhelmed because of many other competing program activities that call for their daily attention (27,36).

Lack of service privacy was reported by most health care providers and patients in selected health care facilities as the reason that contribute to sub-optimal implementation of IPT service in Songea municipal. Lack of service privacy was caused by the location of CTC building and the space available for service provision. Most of the respondents reported that lack of service privacy cause some clients to miss their drug collection dates. This implies that some patients are not willing to start IPT and others are not adhering to medication because of lack of service privacy in their health care facilities. A study on adherence to IPT showed similar results that respondents who don't complain about service privacy were more likely to adhere to IPT than who complained. Service privacy was reported to greatly compromise uptake of proper information, knowledge and behavior by the patient (32).

Long waiting time was found to impede implementation of IPT service in Songea municipality. It was reported by most patients that long waiting time when they seek CTC services reduce their time for doing day to day work for earning their income. This implies that some client decides not to start IPT because they fear to waste their time waiting for IPT service. Long waiting time in Songea municipality was caused by shortage of staff in CTCs. It is documented in other studies that long waiting time affects patient satisfaction and health service delivery, efficiency, quality,

transparency, and accountability (44,45). Similar study shows that long waiting time negatively impact the outcome of ART treatment or any other program. It was regarded as a barrier for accessing ART services and the cause of high dropout rate (45). Similarly shortage of medical staff and medical and laboratory supplies and lack of systematic appointment system are among the factors that were partly contributing to long waiting time (43).

It is worth noting this study has provided key health care facilities factors hindering the implementation of IPT services such as Insufficient Isoniazid and pyridoxine supply and stock out, shortage of staff for IPT services implementation, lack of service privacy and long waiting time. Concerns about resistance development through IPT provision to PLHIV had been disproved in previous studies. However, these studies were done with full supply of IPT and without any interruption. In the current study the concern of frequent interruption of IPT supply was a big challenge for the IPT program implementation.

5.3 Patient factors hindering the implementation of IPT

The findings from this study revealed that the implementation of IPT service in Songea municipality was hindered by a number of patient factors. The main patient barriers that resulted to sub-optimal implementation of IPT service were: Drug side effects, pill burden, distance from health care facility and cost of transport, and forgetting drug collection date.

Drug side effects have been reported by most health care providers and patients as a barrier in the Implementation of IPT service. Most side effects reported were jaundice, dermatological and neurotic problems. Some of these side effects are known to be manageable but due to stock out of pyridoxine the prevalence for these problems is increased. Similar study found similar findings as most health care providers reported side effects such as gastrointestinal irritation, peripheral neuropathy and hepatotoxicity as barrier in IPT implementation. Moreover they reported unavailability of pyridoxine as the reason for failure in managing INH side effects (15). Studies also shows that most of these adverse effects makes clients eligible for IPT to discontinue taking therapy (27,29,31).

Pills burden was reported by most interviewed participants as a barrier hindering uptake of IPT services. The study participants were concerned with the number of drugs they take and the regime. This implies that some patients were unwilling to add INH to ART and Cotrimoxazole due to fear of pills burden, a minimum of 4 tablets per day for those who accepted IPT. Pills burden compromises with adherence and patient's willingness to take drugs in Songea municipality. The problem of pills burden has also been reported by other similar studies (15,27). These studies showed that most providers indicated that they prescribed IPT based on the patients' willingness to take drugs. They indicated that patients' were unwilling to add INH to the ART and Cotrimoxazole due to fear of having many pills, a minimum of 10 tablets per day for those who accepted IPT (15,27,28).

Distance from health care facility and cost of transport was another barrier to IPT service implementation. Key findings showed that most respondents reported that distance from health care facility and costs of transport were barriers to the implementation of IPT service. They further reported that time wasted for travelling could be used for other productive work. This implies that some patients who are living far away from health care facility and those who are poor are in risk of becoming non-compliant to medication and sometimes drug cessation. Similar study done in Tanzania found that distance from the HIV clinic increased the risk of IPT cessation (25). Another study done in UK found that non-compliant patients spent more time travelling to the treatment centre than the compliant patients. The study also showed that of the non-compliant group, 55% indicated that they had not attended the clinics due to financial reasons (26).

Forgetting drug collection dates was another barrier hindering the implementation of IPT service in the study area. Key findings revealed that most respondents reported that the problem of forgetting drug collection dates was common in Songea municipality. The reasons for this problem were being busy with agricultural and business related activities, which sometimes keep them away from home. This implies that forgetfulness compromises IPT adherence hence hindering implementation of IPT service. Other similar studies found that most health care providers reported that one of the barrier in the implementation of IPT service was that their patients forget to take their pill and keep appointments (14,25,32). Some of the reasons reported for

forgetfulness were being away from home and being busy (32).

From this study, we have noted that the main patient factors hindering the implementation of IPT services are drug side effects, pill burden, distance from health care facility, cost of transport, and forgetting drug collection date.

5.4 Health care facilities factors enabling IPT implementation

The findings from this study revealed that the implementation of IPT services in Songea municipality was enabled by several health care facilities factors. The main health care facilities enablers that contributed to the achievement of 45% coverage of IPT implementation were: Availability of IPT training, regular supportive supervision, availability of IPT guidelines and patient registers, availability of Information Education and Communication (IEC) materials, availability of TB Screening Questionnaires, collaboration between TB and HIV programs, and good provider-client communication.

The key findings from this study revealed that most respondents' particularly health care providers reported that it was easy for them to provide IPT services to PLHIV because they were provided with IPT training both before the IPT service provision and on job training. This implies that health care providers in Songea municipality had the capacity to provide adequate information and prescription to the patients eligible for IPT. It is well documented that the provision of IPT trainings to health care providers both before the service provision and on job training impart knowledge, skills and change their attitude towards successful implementation of IPT service (6). This finding is different from other studies done in Ethiopia (14,15) as most of the health care providers in these studies reported that health care providers didn't have the capacity to provide adequate information and prescription to the patients since they were not exposed to IPT trainings prior to the introduction of IPT services.

Most interviewed health care providers reported that they received regular monitoring and supportive supervisions from Council Health Management Team (CHMT), Regional Health Management Team (RHMT) and Non-Governmental Organization working in the municipality. They reported that regular supportive supervision provide

them with new updates on the implementation of IPT services. It is well documented that regular supportive supervisions to health care facilities provide health care providers with new updates on the implementation IPT services (6). This finding entails that smooth implementation of IPT service is highly dependent on regular supportive supervision. It is well narrated in IPT policy of Tanzania that CHMT and RHMT are responsible for providing monitoring and supportive supervision of collaborative TB/HIV activities in any district or region (6). Contrary to our study, another study reported concerns from the health care providers about lack of monitoring and supportive supervisions from the higher authorities as the barrier hindering the implementation of IPT (15).

All interviewed health care providers in all 5 studied health facilities reported to have IPT guidelines and patient registers. IPT guidelines are very useful working tool for IPT service provision. It is well documented that IPT guidelines focus on facilitating the implementation of IPT and Intensified case finding (ICF). Also IPT guidelines aim to underline and toughen the leadership role of national AIDS programmes and HIV stakeholders to scale up the implementation of TB screening and provision of IPT among PLHIV. Lastly IPT guidelines provide guidance to health-care providers, policy-makers and health programme managers working in the field of HIV/AIDS and TB. IPT guidelines are intended for governments, non-governmental organizations, donors and patient support groups that address HIV and TB (3). Availability of patient register is also important tool for keeping patient records. A study done by Makoni and colleagues, also reported that availability of IPT guidelines in the health facilities improves implementation of IPT services (27).

Key findings showed that most of the interviewed health care providers in all health care facilities reported the availability of Information education and communication (IEC) materials. The availability IEC materials impart community members with IPT education through its key messages hence improve community awareness and IPT program uptake. Similar studies have found that Isoniazid (INH) acceptance and adherence can be enhanced by adequate education from health care providers and IEC materials and counselling at the start of the therapy and during subsequent follow ups (25,40). The National TB and Leprosy Program (NTLP) has responsibility for

producing educational materials to educate the public (21). Therefore NTLP should make sure that these IEC materials are supplied to each health care facility providing IPT services.

Most interviewed health care providers reported to have adequate number of TB screening questionnaires for adults and children in their health care facilities. This means that by having and using TB screening questionnaires they were able to identify PLHIV who were eligible for IPT. The WHO on its revised guidelines of IPT has recommended the use of a simplified screening algorithm that relies on the absence of all four clinical symptoms (current cough, night sweats, fever and weight loss) in identifying PLHIV who are eligible for IPT (3,7). Under this recommendation chest radiography is no longer a mandatory investigation before starting IPT. A simplified symptom-based algorithm should be used for all adults living with HIV whether they are pregnant, receiving ART, or successful completed TB treatment (3). Similar studies showed that most health care facilities reported to have standard screening tools (27), but if not for economical constrains in poor settings, adding a Chest X-Ray (CXR) to the screening tool may improve the sensitivity and specificity of the screening tool (18).

Collaboration between TB and HIV programs was reported by most health care providers as an enabler to the implementation of IPT services in their health care facilities. This implies that by having collaboration between the two programs the implementation of IPT service is improved through increasing identification of TB suspects and number of PLHIV eligible for IPT. According to WHO, the implementation of IPT services is the responsibility of National HIV program but INH used is supplied by National TB program(NTP) (2). A similar qualitative study done in Cameroon showed that one of the reasons for non implementation of IPT was that at program level, it was not clear as to who assume the responsibility for planning and implementing of IPT activities (40). Contrary to our study, a study done in South Africa reported lack of coordination between HIV/TB activities as an operational barrier mentioned by most clinic staff (28).

Findings from this study revealed that most health care providers interviewed reported to have good communication with their clients who were taking IPT. Good provider-

client communication is crucial as far as IPT service implementation is concerned. This mean that clear communication between patient and providers in health care facilities in Songea municipality helped patient to build trust with every IPT procedures and improved patient level of adherence to IPT medication. It has been documented that patients who understand his/her health care providers are more likely to accept their health problems, understand treatment options as directed by the provider, modify behavior, and follow their medication schedules (44). Similar studies have reported that one of the best predictors of IPT adherence is provider-client communication (24,40). It is also documented that there is a correlation between effective physician-patient communication and implementation of IPT service (44).

We have seen that the main health care facilities factors facilitating the implementation of IPT services in Songea municipality are availability of IPT training both before and on job training, regular supportive supervision at least once per quarter, availability of IPT guidelines and patient registers, availability of Information Education and Communication (IEC) materials, availability of TB Screening Questionnaires, collaboration between TB and HIV programs, and good provider-client communication.

5.5 Patient factors enabling IPT implementation

The findings from this study revealed that the implementation of IPT services in Songea municipality was enabled by a number of patient factors. The main patient enablers that lead to the implementation of IPT services by 45% were: patients' knowledge of IPT and lack of stigma.

The key findings from this study revealed that most health care providers reported that the knowledge of IPT imparted to patients by the health care providers and the use of IEC materials enable patient acceptance and use of IPT services. The interviewed patients reported that they were willing to take IPT after getting health education from health care providers. This implies that it is very important for health care providers to provide health education and adherence counselling to patients who are eligible to start IPT. Literatures shows that INH acceptance and adherence is associated with health education and counselling a patient received at the start of the therapy and during

subsequent follow-ups (14,21–23). Munseri and colleagues also reported similar findings that IPT completer were enabled by understanding the importance of IPT and received IPT counselling (25). Melaku and colleagues also found that individuals who were informed about the reasons for taking IPT by their doctors/nurses were more likely to be adherent than those who did not have information about why they are taking IPT (22).

Lastly, findings from this study showed that lack of stigma associated with HIV/AIDS was reported by most health care providers and patients as patient factor that enable IPT implementation. Most of the interviewed participants reported that there is lack of stigma in recent years. The reason for lack of stigma mentioned was that, societies have accepted the disease (HIV/AIDS) due to having health education and presence of large number of people affected by the disease. This implies that because societies have accepted PLHIV, this make them feel free to disclose their sero status to their family members and they can even take drug in public without discrimination. Lack of stigma enable patient not to miss prescribed IPT.

The current study provides insight into the main patient factors facilitating the implementation of IPT services like patients' knowledge of IPT obtained from health care providers and IEC materials and lack of stigma in the society.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The implementation of IPT in Songea municipality was low with only 45% of eligible PLHIV covered, which is lower than the WHO recommended IPT coverage of 50%. This low coverage of IPT in Songea Municipality was a result of a number of barriers, which need attention of policy makers and implementers of IPT services. The identified barriers were health care facility barriers which includes insufficient drug supply and drug stock out, shortage of staff, lack of service privacy and long waiting time in all selected health care facilities providing IPT services. In addition to that were patient barriers which were drug side effects, pill burden, distance from health care facility, cost of transport, and forgetting drug collection date.

Despite low coverage of IPT, the study found that there were a number of factors enabling the implementation of IPT. These were health care facility enablers which includes availability of IPT training in the municipality, regular supportive supervision from CHMT and RHMT, Collaboration between TB and HIV programs, good provider-client communication and availability of IPT guidelines, patient registers, Information Education and Communication (IEC) materials, and TB Screening Questionnaires in all selected health care facilities providing IPT services. In addition to that were patient factors/enablers which include patients' knowledge of IPT and lack of stigma.

6.2 Recommendations

- i. Health managers, drug suppliers and partners working in HIV-TB programs should be committed to ensure that there are adequate resources allocated for a regular and sufficient Isoniazid and pyridoxine supply for the success of IPT service implementation.
- ii. The government should employ adequate number of health care providers in Songea municipality that match with the workload available in the health care

facilities. This will reduce long waiting time, thus improve IPT service implementation.

- iii. The government should plan to build special CTC building or provide rooms with enough space in Songea municipality to ensure service privacy in health care facilities for the success of IPT service implementation.
- iv. Health managers in Songea municipal council should come up with a plan to open more IPT services centres so as to expand the provision of IPT services, which in turn may benefit more PLHIV and reduce congestion in the available IPT service centers.

6.3 Recommendations for Future Studies

This study was conducted in one urban district, we recommend that future studies should be done involving more districts (both urban and rural districts) so as to understand the IPT coverage and associated factors country wide. Furthermore, in this study the concern of frequent interruption of IPT supply was a big challenge for the IPT program implementation in the municipal. I recommend that future studies should also focus on the risk of Isoniazid resistance development through IPT in settings like Songea with irregular or insufficient supplies and frequent interruption of IPT.

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APPENDECES

Appendix A: IPT coverage data collection form (Adapted from CTC2)

IPT coverage of 5 selected health care facilities in Songea municipality from January 2015 to January 2017.

Health care facility	IPT start year	Number of PLHIV registered in CTC from January 2015 to January 2017	Number of PLHIV eligible for IPT from January 2015 to January 2017	Total number of PLHIV provided IPT from January 2015 to January 2017	IPT coverage (%) ^x
Facility 1					
Facility 2					
Facility 3					
Facility 4					
Facility 5					
Total					

Appendix B: Informed consent form for health care providers (English Version)

ID. NO

CONSENT FORM FOR PARTICIPATING IN A RESEARCH STUDY

Hello greetings! My name is I am studying Master of Public Health (MPH) at Muhimbili University of Health and Allied Sciences (MUHAS). I am doing research on factors influencing the implementation of IPT for PLHIV in CTCs in Songea municipality.

The aim of the Study

This study aims to explore factors influencing the implementation of IPT for PLHIV in CTCs in Songea municipality. The findings of this study will provide depth information about factors influencing the implementation of IPT for PLHIV in the municipality. That information will help municipal health authorities in identifying factors that enable or hinder IPT implementation consequently improve/scaling up the implementation of IPT for PLHIV.

Procedure

I would like you to participate in this study. You are selected because you are responsible for providing IPT for PLHIV and your opinions will help to improve the intervention in the near future. If you choose to participate you will be interviewed for about 30-60 Minutes. During interview I will be taping the session because I don't want to miss any of your comments and I can't be quick enough to write everything you say.

Confidentiality

All responses will be kept confidential. This means that your interview responses will only be shared with research team members and MUHAS for academic purposes when necessary. I will ensure that any information included in my report does not identify you as the respondent.

Right to refuse or withdraw

It is your choice to participate in this study. Also you don't have to talk about anything you don't want to and you may end the interview at any time. However, I encourage you to participate because your views are very important in this study.

Benefit

Your participation in this study will provide useful information for improving IPT implementation for PLHIV.

Risks

There will be no any harm to you as a result of participation in this study although some questions will be personal.

Whom to Contact

In case of any inquiry please contact the principal investigator, Mr. Komba Festo (MPH) from MUHAS, P. O. BOX 65001, Dar es Salaam, mobile number 0717 216 189. If you ever have questions about your rights as a participant, you may call Dr. Joyce Masalu Chairperson of the (Research and Publications Committee, MUHAS. P.O. Box 65001, Dar es Salaam-Tanzania, Tel +2552150302-6)

I have read the contents of this form and understand. My questions have been answered. I agree to participate in this study.

Signature of participant..... Date.....

Signature of researcher/research assistant

Kiambatanisho C: Fomu ya ridhaa kwa mhudumu wa afya (kwa kiswahili)NAMBA YA FOMU **FOMU YA IDHINI YA KUSHIRIKI KATIKA UTAFITI**

Habari, naitwanasoma digrii ya uzamiri nikibobea katika masuala ya afya ya jamii katika Chuo Kikuu cha Afya na Sayansi Shirikishi Muhimbili (MUHAS). Ninafanya utafiti kuangalia mambo yanayoweza au yanayokwamisha/zuia utoajia wa kinga ya kifua kikuu kwa watu wanaoishi na VVU katika vituo vya huduma (CTC) katika manispaa ya Songea.

Lengo la Utafiti

Utafiti huu unalenga kuangalia mambo yanayoweza au yanayokwamisha/zuia utoajia wa kinga ya kifua kikuu kwa watu wanaoishi na VVU katika vituo vya huduma (CTC) katika manispaa ya Songea. Matokeo ya utafiti huu yatatoa taarifa za kina kuhusu mambo yanayoweza au yanayokwamisha/zuia utoajia wa kinga ya kifua kikuu kwa watu wanaoishi na virusi vya Ukimwi katika vituo vya huduma (CTC) vya manispaa. Taarifa hizo zitausaidia uongozi wa afya wa manispaa kuyajua mambo yanayoweza au kuzuia utoaji wa kinga ya kifua kikuu kwa watu wanaoishi na VVU na kuchangia kuboresha au kuongeza wigo wa utoaji wa huduma hiyo.

Utaratibu

Ningependa ushiriki katika utafiti huu. Umechaguliwa kwasababu unahusika katika kutoa huduma hii na mawazo yako yatasaidia uboreshaji wa huduma hii kwa siku za baadae. Ukiamua kushiriki katika utafiti huu utahusishwa katika majadiliano yatakayochukua dakika 30 hado 60. Majadiliano yatarekodiwa kwakuwa sitaki kukosa mchango/wazo lolote ulilotoa. Na pia sitaweza kuandika kuandika maoni yako yote kwa haraka.

Usiri

Majibu yote utakayotoa yatakuwa siri, Hii inamaana ya kuwa majibu yako yatatumiwa na mtafiti kwa lengo la utafiti huu na kama kunaulazima yatatumiwa na Chuo Kikuu Muhimbili. Tunakuhakikishia kwamba taarifa zote tutakazozijumuisha katika utafiti hazitakufanya ujulikane kama ndiye mshiriki, namba zitatumika badala ya jina lako.

Haki ya kukataa au kujitoa

Ushiriki katika utafiti huu ni wa hiari. Pia hulazimishwi kuongea jambo lolote ambalo usingependa kuliongea. Unaweza kusitisha mahojiano wakati wowote endapo utaona ni vyema kufanya hivyo. Licha ya hayo tungependa ushiriki wako katika utafiti huu kwani maoni yako yanaumuhimu mkubwa.

Faida

Kama utakubali kushiriki katika utafiti huu, tunategemea kwamba taarifa tutakazozipata kutoka kwako zitasaidia katika kuboresha utoaji wa kinga ya kifua kikuu kwa watu wanaoishi na VVU.

Madhara

Hatutegemei ya kwamba utapata madhara yoyote kwa kushiriki kwako katika utafiti huu japo baadhi ya maswali utakayoulizwa ni ya binafsi zaidi.

Watu wa kuwasiliana nao

Kama una maswali katika utafiti huu unaweza kuwasiliana na mtafiti mkuu, Mr.Komba Festo (MPH) kutoka Chuo Kikuu cha Afya na Sayansi shirikishi Muhimbili, S.L.P. 65001, Dar es Salaam. Simu namba 0717 216 189. Kama utakua na swali kuhusu haki yako ya ushiriki,unaweza kupiga kwa Dr. Joyce Masalu (Mwenyekiti wa kamati ya utafiti na machapisho, MUHAS. S.L.P 65001, Dar es Salaam-Tanzania, Tel +2552150302-6)

Mimi.....nimesoma fomu hii ya idhini na nimeielewa. Maswali yangu yamejibiwa. Nakubali kushiriki katika utafiti huu.

Saini ya mshiriki..... Tarehe.....

Saini ya mtafiti/ mtafiti msaidizi

Appendix D: Informed consent form for patient (English Version)

ID. NO

CONSENT FORM FOR PARTICIPATING IN A RESEARCH STUDY

Hello greetings! My name is I am studying Master of Public Health (MPH) at Muhimbili University of Health and Allied Sciences (MUHAS). I am doing research on factors influencing the implementation of IPT for PLHIV in CTCs in Songea municipality.

The aim of the Study

This study aims to explore factors influencing the implementation of IPT for PLHIV in CTCs in Songea municipality. The findings of this study will provide depth information about factors influencing the implementation of IPT for PLHIV in the municipality. That information will help municipal health authorities in identifying factors that enable or hinder IPT implementation consequently improve/scaling up the implementation of IPT for PLHIV.

Procedure

I would like you to participate in this study. You are selected because you are taking IPT and your opinions will help to improve the intervention in the near future. If you choose to participate you will be interviewed for about 30-60 Minutes. During interview I will be taping the session because I don't want to miss any of your comments and I can't be quick enough to write everything you say.

Confidentiality

All responses will be kept confidential. This means that your interview responses will only be shared with research team members and MUHAS for academic purposes when necessary. I will ensure that any information included in my report does not identify you as the respondent.

Right to refuse or withdraw

It is your choice to participate in this study. Also you don't have to talk about anything you don't want to and you may end the interview at any time. However, I encourage you to participate because your views are very important in this study.

Benefit

Your participation in this study will provide useful information for improving IPT implementation for PLHIV.

Risks

There will be no any harm to you as a result of participation in this study although some questions will be personal.

Whom to Contact

In case of any inquiry please contact the principal investigator, Mr. Komba Festo (MPH) from MUHAS, P. O. BOX 65001, Dar es Salaam, mobile number 0717 216 189. If you ever have questions about your rights as a participant, you may call Dr. Joyce Masalu Chairperson of the (Research and Publications Committee, MUHAS. P.O. Box 65001, Dar es Salaam-Tanzania, Tel +2552150302-6)

I have read the contents of this form and understand. My questions have been answered. I agree to participate in this study.

Signature of participant..... Date.....

Signature of researcher/research assistant

Kiambatanisho E: Fomu ya ridhaa kwa mgonjwa (kwa kiswahili)NAMBA YA FOMU **FOMU YA IDHINI YA KUSHIRIKI KATIKA UTAFITI**

Habari, naitwanasoma digrii ya uzamiri nikibobea katika masuala ya afya ya jamii katika Chuo Kikuu cha Afya na Sayansi Shirikishi Muhimbili (MUHAS). Ninafanya utafiti kuangalia mambo yanayoweza au yanayokwamisha/zuia utoajia wa kinga ya kifua kikuu kwa watu wanaoishi na VVU katika vituo vya huduma (CTC) katika manispaa ya Songea.

Lengo la Utafiti

Utafiti huu unalenga kuangalia mambo yanayoweza au yanayokwamisha/zuia utoajia wa kinga ya kifua kikuu kwa watu wanaoishi na VVU katika vituo vya huduma (CTC) katika manispaa ya Songea. Matokeo ya utafiti huu yatatoa taarifa za kina kuhusu mambo yanayoweza au yanayokwamisha/zuia utoajia wa kinga ya kifua kikuu kwa watu wanaoishi na virusi vya Ukimwi katika vituo vya huduma (CTC) vya manispaa. Taarifa hizo zitausaidia uongozi wa afya wa manispaa kuyajua mambo yanayoweza au kuzuia utoaji wa kinga ya kifua kikuu kwa watu wanaoishi na VVU na kuchangia kuboresha au kuongeza wigo wa utoaji wa huduma hiyo.

Utaratibu

Ningependa ushiriki katika utafiti huu. Umechaguliwa kwasababu unatumia huduma hii na mawazo yako yatasaidia uboreshaji wa huduma hii kwa siku za baadae. Ukiamua kushiriki katika utafiti huu utahusishwa katika majadiliano yatakayochukua dakika 30 hado 60. Majadiliano yatarekodiwa kwakuwa sitaki kukosa mchango/wazo lolote ulilotoa. Na pia sitaweza kuandika kuandika maoni yako yote kwa haraka.

Usiri

Majibu yote utakayotoa yatakuwa siri, Hii inamaana ya kuwa majibu yako yatatumiwa na mtafiti kwa lengo la utafiti huu na kama kunaulazima yatatumiwa na Chuo Kikuu Muhimbili. Tunakuhakikishia kwamba taarifa zote tutakazozijumuisha katika utafiti hazitakufanya ujulikane kama ndiye mshiriki, namba zitatumika badala ya jina lako.

Haki ya kukataa au kujitoa

Ushiriki katika utafiti huu ni wa hiari. Pia hulazimishwi kuongea jambo lolote ambalo usingependa kuliongea. Unaweza kusitisha mahojiano wakati wowote endapo utaona ni vyema kufanya hivyo. Licha ya hayo tungependa ushiriki wako katika utafiti huu kwani maoni yako yanaumuhimu mkubwa.

Faida

Kama utakubali kushiriki katika utafiti huu, tunategemea kwamba taarifa tutakazozipata kutoka kwako zitasaidia katika kuboresha utoaji wa kinga ya kifua kikuu kwa watu wanaoishi na VVU.

Madhara

Hatutegemei ya kwamba utapata madhara yoyote kwa kushiriki kwako katika utafiti huu japo baadhi ya maswali utakayoulizwa ni ya binafsi zaidi.

Watu wa kuwasiliana nao

Kama una maswali katika utafiti huu unaweza kuwasiliana na mtafiti mkuu, Mr.Komba Festo (MPH) kutoka Chuo Kikuu cha Afya na Sayansi shirikishi Muhimbili, S.L.P. 65001, Dar es Salaam. Simu namba 0717 216 189. Kama utakua na swali kuhusu haki yako ya ushiriki,unaweza kupiga kwa Dr. Joyce Masalu (Mwenyekiti wa kamati ya utafiti na machapisho, MUHAS. S.L.P 65001, Dar es Salaam-Tanzania, Tel +2552150302-6)

Mimi.....nimesoma fomu hii ya idhini na nimeielewa. Maswali yangu yamejibiwa. Nakubali kushiriki katika utafiti huu.

Saini ya mshiriki.....

Tarehe.....

Saini ya mtafiti/ mtafiti msaidizi

Appendix F: In-depth Interview Guide for health care providers (English Version)

This is a health care provider in-depth Interview Guide for exploring factors influencing the implementation of IPT for PLHIV in CTCs in Songea municipality. Health care providers will be asked based on their experiences of providing IPT for PLHIV.

DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENT

1. Health care facility number.....
2. Respondent number.....
3. Profession.....
4. Age (years).....
5. Sex.....
6. Level of education.....
7. Work experience in CTC (years).....

INTERVIEW QUESTIONS

8. Based on your knowledge and experience of providing IPT for PLHIV; what do you understand about Isoniazid preventive therapy?

Probe about;

- Benefit and protective effect of IPT
- Eligibility criteria for provision of IPT
- IPT Dosage for adults and children and
- Treatment Regimen

9. WHO recommended the provision of IPT for PLHIV; what is your opinion about that?
 - Probe about drug resistance

10. What do you think are health care facility factors that enable the implementation of IPT for PLHIV?

Probe about;

- IPT Training
- Number of health care providers compared to the workload in CTC
- Monitoring and supervision from CHMT, RHMT and sponsors
- IPT guidelines and patient registers

- Information Education and Communication (IEC) materials (posters, fliers and pamphlets)
- Supply of Isoniazid and pyridoxine
- Standard TB Screening tool (TB Screening Questionnaires)
- Collaboration between TB and HIV programs
- Provider- client communication
- Service privacy

11. What do you think are health care facility factors that hinder the implementation of IPT for PLHIV?

Probe about;

- IPT Training
- Number of health care providers compared to the workload in CTC
- Monitoring and supervision from CHMT, RHMT and sponsors
- IPT guidelines and patient registers
- Information Education and Communication (IEC) materials (posters, fliers and pamphlets)
- Supply of Isoniazid and pyridoxine
- Standard TB Screening tool (TB Screening Questionnaires)
- Collaboration between TB and HIV programs
- Provider- client communication
- Service privacy

12. What do you think are patient factors that enable them to take IPT

Probe about;

- Patients' knowledge of IPT
- Stigma
- Social support
- Number of drugs
- Drug side effects
- Distance to health care facility
- Transport/cost of transport

- Forgetfulness of drug collection dates

13. What do you think are patient factors that hinders them to take IPT

Probe about;

- Patients' knowledge of IPT
- Stigma
- Social support
- Number of drugs
- Drug side effects
- Distance to health care facility
- Transport/cost of transport
- Forgetfulness of drug collection dates

14. What are your recommendations for future effort to scale up the program (implementation of IPT for PLHIV) in Songea municipality?

CLOSING

Is there anything more you would like to add?

Thank you for your time

Kiambatanisho G: Mwongozo wa majadiliano na mhudumu wa afya (kwa kiswahili)

Huu ni mwongozo wa majadiliano na mhudumu wa afya unaolenga kuangalia mambo yanayowezesha au yanayokwamisha/zuia utoajia wa IPT kwa watu wanaoishi na VVU katika kliniki za VVU (CTC) katika manispaa ya Songea. Wahudumu wa afya wataulizwa maswali kutokatana na uzoefu wao wa kutoa IPT Kwa watu wanaoishi na VVU.

TAARIFA BINAFSI ZA MSHIRIKI WA UTAFITI

1. Namba ya kituo cha afya.....
2. Namba ya mshiriki.....
3. Kada
4. Umri (miaka).....
5. Jinsia.....
6. Kiwango cha elimu.....
7. Uzoefu wa kazi katika kliniki ya VVU (CTC)

MASWALI YA MAJADILIANO

8. Kutokana na ufahamu na uzoefu wako wa kutoa IPT kwa watu wanaoishi na VVU; Unaelewa nini kuhusiana na IPT?

Dodosa kuhusu;

- Faida na uwezo wa kukinga wa IPT
- Sifa za kutoa IPT
- Dozi ya IPT kwa watu wazima na watoto
- Muda wa matibabu

9. Shirika la afya duniani (WHO) limependekeza kutolewa kwa IPT kwa watu wanaoishi na VVU; Nini maoni yako kuhusiana na jambo hilo?

Dodosa kuhusu usugu wa dawa

10. Unadhani ni mambo gani yanayohusiana na kituo cha afya ambayo yanawezesha utoaji wa IPT kwa watu wanaoishi na VVU?

Dodosa kuhusu ;

- Mafunzo kuhusu IPT
- Idadi ya wafanyakazi ukilinganiasha na kazi zilizopo kliniki

- Ungalizi na usimamizi kutoka katika uongozi wa juu wa afya
- Mwingozo wa utoaji IPT na rejista za wagonjwa
- Vitendea kazi kwa ajiri ya mawasiliano na elimu (mabandiko, vipeperushi na majarida)
- Ugavi wa Isoniazid na pyridoxine
- Uwepo wa vitendea kazi kurahisisha uibuaji wa wagonjwa kama TSQ
- Ushirikiano kati ya programu ya Kifua kikuu na ya VVU
- Mawasiliano ya mgonjwa na mhadumu wa afya
- Usiri wa huduma

11. Unadhani ni mambo gani yanayohusiana na kituo cha afya ambayo yanakwamisha utoaji wa IPT kwa watu wanaoishi na VVU?

Dodosa kuhusu ;

- Mafunzo kuhusu IPT
- Idadi ya wafanyakazi ukilinganisha na kazi zilizopo kliniki
- Ungalizi na usimamizi kutoka katika uongozi wa juu wa afya
- Mwingozo wa utoaji IPT na rejista za wagonjwa
- Vitendea kazi kwa ajiri ya mawasiliano na elimu (mabandiko, vipeperushi na majarida)
- Ugavi wa Isoniazid na pyridoxine
- Uwepo wa vitendea kazi kurahisisha uibuaji wa wagonjwa kama TSQ
- Ushirikiano kati ya programu ya Kifua kikuu na ya VVU
- Mawasiliano ya mgonjwa na mhadumu wa afya
- Usiri wa huduma

12. Unadhani ni mambo gani yanayohusiana na mgonjwa yanayomuwezesha kutumia IPT?

Dodosa kuhusu;

- Ufahamu wa mgonjwa juu ya IPT
- Unyanyapaa
- Msaada toka kwa jamii
- Idadi ya dawa
- Madhara ya Isoniazid

- Umbali mpaka kituo cha afya
- Usafiri/gharama za usafiri
- Kusahau siku ya kwenda kuchukua dawa

13. Unadhani ni mambo gani yanayohusiana na mgonjwa yanayomkwamisha/zuia kutumia IPT?

Dodosa kuhusu;

- Ufahamu wa mgonjwa juu ya IPT
- Unyanyapaa na msaada toka kwa jamii
- Idadi ya dawa
- Madhara ya Isoniazid
- Umbali mpaka kituo cha afya
- Usafiri/gharama za usafiri
- Kusahau siku ya kwenda kuchukua dawa

14. Nini mapendekezo yako ili kuboresha/kuongeza wigo wa utoaji huduma ya IPT kwa siku za usoni katika manispaa ya Songea?

KUFUNGA

Unalolote la ziada ungependa kuongeza?

Asante kwa muda wako

Appendix H: In-depth Interview Guide for Patients (English Version)

This is a patient in-depth Interview Guide for exploring factors influencing the implementation of IPT for PLHIV in CTCs in Songea municipality. Patients will be asked to provide their opinions based on their experiences of taking IPT.

DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENT

1. Health facility numbers.....
2. Respondent number.....
3. Age (years).....
4. Sex.....
5. Level of education.....
6. Marital status.....

INTERVIEW QUESTIONS

7. Based on your knowledge and experience of taking IPT; what do you understand about Isoniazid preventive therapy?

Probe about;

- Benefit and protective effect of IPT
- Treatment Regimen

8. What factors do you think enables you to take IPT?

Probe about;

- Knowledge of IPT
- Stigma
- Social support
- Number of drugs
- Drug side effects
- Distance to health care facility
- Transport/cost of transport
- Forgetfulness of drug collection dates

9. What factors do you think hinders you to take IPT?

Probe about;

- Knowledge of IPT

- Stigma
- Social support
- Number of drugs
- Drug side effects
- Distance to health care facility
- Transport/cost of transport
- Forgetfulness of drug collection dates

10. What are your opinions about IPT service provided in this health care facility?

Probe about; (for each probed issue, probe if it may hinder patient from taking IPT)

- Availability of drugs (Isoniazid and pyridoxine)
- Provider-client communication
- Service privacy
- Waiting time before getting services

11. What are your recommendations for future improvement of IPT service?

CLOSING

Is there anything more you would like to add?

Thank you for your time.

Kiambatanisho I: Mwongozo wa majadiliano na mgonjwa (kwa kiwahili)

Huu ni mwongozo wa majadiliano na mgonjwa unaolenga kuangalia mambo yanayowezesha au yanayokwamisha/zuia utoajia wa IPT kwa watu wanaoishi na VVU katika kliniki za VVU (CTC) katika manispaa ya Songea. Mgonjwa ataulizwa maswali kutokatana na uzoefu wake wa kutumia IPT.

TAARIFA BINAFSI ZA MSHIRIKI WA UTAFITI

1. Namba ya kituo cha afya.....
2. Namba ya mshiriki.....
3. Umri (miaka).....
4. Jinsia.....
5. Kiwango cha elimu.....
6. Hali ya ndoa.....

MASWALI YA MAJADILIANO

7. Kutokana na ufahamu na uzoefu wako wa kutumia IPT; Unaelewa nini kuhusiana na IPT?

Dodosa kuhusu;

- Faida na uwezo wa kuinga wa IPT
- Muda wa matibabu

8. Ni mambo gani unahisi yanakuwezesha kutumia IPT?

Dodosa kuhusu;

- Ufahamu juu ya IPT
- Unyanyapaa
- Msaada toka kwa jamii
- Idadi ya dawa
- Madhara ya Isoniazid
- Umbali mpaka kituo cha afya
- Usafiri/gharama za usafiri
- Kusahau siku ya kwenda kuchukua dawa

9. Ni mambo gani unahisi yanakukwamisha/zuia kutumia IPT?

Dodosa kuhusu;

- Ufahamu juu ya IPT
- Unyanyapaa
- Msaada toka kwa jamii
- Idadi ya dawa
- Madhara ya Isoniazid
- Umbali mpaka kituo cha afya
- Usafiri/gharama za usafiri
- Kusahau siku ya kwenda kuchukua dawa

10. Nini maoni yako kuhusu huduma ya IPT inayotolewa katika kituo hiki cha afya?

Dodosa kuhusu; (kwa kila jambo utakalododosa, dodosa kama linamkwamisha/zuia mgonjwa kutumia dawa)

- Uwepo wa Isoniazid na pyridoxine
- Mawasiliano ya mgonjwa na mtoa huduma
- Usiri wa huduma
- Muda wa kusubiri kabla ya kupata huduma

11. Nini maoni yako ili kuboresha huduma hii ya IPT kwa siku za badae?

KUFUNGA

Unalolote la ziada ungependa kuongeza?

Asante kwa ushiriki wako.

Appendix J: Observation Checklist adopted from WHO (English Version)

NUMBER OF A HEALTH CARE FACILITY

SN	NAME OF THE ITEM	PRESENT [Put a tick (v)]	ABSENT [Put a cross (x)]
1.	IPT Guidelines		
2.	Patient registers		
3.	Standard Screening tools (TB Screening Questions)		
4.	Isoniazid		
5.	Pyridoxine		
6.	Posters		
7.	Fliers		
8.	Pamphlets		

Appendix K: Approval Ethical Clearance

**MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
OFFICE OF THE DIRECTOR OF POSTGRADUATE STUDIES**

P.O. Box 65001
DAR ES SALAAM
TANZANIA
Web: www.muhas.ac.tz



Tel G/Line: +255-22-2150302/6 Ext. 1015
Direct Line: +255-22-2151378
Telefax: +255-22-2150465
E-mail: dpgs@muhas.ac.tz

Ref. No. MU/PGS/SAHC/Vol. X/

25th July, 2017

Mr. Festo Komba
Master of Public Health
MUHAS.

RE: APPROVAL OF ETHICAL CLEARANCE FOR A STUDY TITLED: FACTORS INFLUENCING THE IMPLEMENTATION OF ISONIAZID PREVENTIVE THERAPY FOR PEOPLE LIVING WITH HIV IN CARE AND TREATMENT CENTRES IN SONGEA MUNICIPALITY

Reference is made to the above heading.

I am pleased to inform you that, the Chairman has, on behalf of the Senate, approved ethical clearance for the above-mentioned study. Hence you may proceed with the planned study.

The ethical clearance is valid for one year only, from 24th July, 2017 to 23rd July, 2018. In case you do not complete data analysis and dissertation report writing by 23rd July 2018, you will have to apply for renewal of ethical clearance prior to the expiry date.

Dr. E. Balandya
DEPUTY DIRECTOR OF POSTGRADUATE STUDIES

cc: Director of Research and Publications
cc: Dean, School of Public Health and Social Sciences
cc: Dr. Gasto Frumence