

**DELAY IN SEEKING CARE AMONG TUBERCULOSIS PATIENTS  
ATTENDING TUBERCULOSIS CLINICS IN RUNGWE DISTRICT,  
TANZANIA.**

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**Master of Public Health Dissertation**

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TANZANIA.**

**By**

**Gilbert B. Tarimo**

**A dissertation submitted in partial fulfillment of the requirement for the Degree of Master of  
Public Health of Muhimbili University of Health and Allied Sciences**

**Master of Public Health Dissertation**

**Muhimbili University of Health and Allied Sciences**

**November, 2012**

**CERTIFICATION**

The undersigned certifies that he has read and hereby recommends for acceptance by the Muhimbili University of Health and Allied Sciences the dissertation entitled **Delay in seeking care among tuberculosis patients attending tuberculosis clinics in Rungwe district, Tanzania** in partial fulfillments for the Degree of Master of Public Health of the Muhimbili University of Health and Allied Sciences.

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Dr. Method Kazaura

(Supervisor)

Date: -----

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**AND**  
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I, **Gilbert B Tarimo**, declare that this **dissertation** is my own original work and that it has not been presented and will not be presented to any university for similar or any other degree award.

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**DEDICATION**

This work is dedicated to my lovely wife Olga, my father Benedict and my mother Bibiana.

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## ABSTRACT

**Background:** Tuberculosis is one of the major public health problems in Tanzania. The main control strategy in the country is passive case finding whereby people with symptoms are expected to go to health facilities for further investigation. Still there is delay in seeking care in the population. Delay in case detection and treatment may worsen the prognosis of the disease and spread of infection. It is therefore important to determine factors responsible for delay in seeking care in order to develop strategies to address them.

**Objectives:** The main objective of this study was to assess social and cultural factors that contribute to delay in seeking care among tuberculosis patients attending DOTS clinics in Rungwe District

**Materials and methods:** The study was a cross sectional analytical in nature conducted in Rungwe district involved 232 TB patients. Exit interview were used to collect data and data were analyzed computer software, Statistical Package for Social Science (SPSS) version 15. Convenience sampling was used to select study participants. Results were presented in frequencies, percentages and Chi-square test was applied to show the association between dependent and independent variables. Ethical issues were observed.

**Results:** The study revealed majority of the patients (71%) delayed to seek care. Older (above 44 years) patients were at a significant elevated risk (OR = 3.8; 95% CI = 1.7, 8.5), to delay in seeking for health care. Similarly, although not significant, females were twice as likely as males to delay to seek for health care (OR = 2.1; 95% CI = 0.9, 4.5). Social and traditional practices had significant contribution to delay in seeking medical care.

**Conclusion:** Factors associated with delay in seeking health care for more than 30 days after development of symptoms included age, gender, place of first resort and perceived severity of the disease.

**Recommendation:** Community should be sensitized on seeking appropriate health care, sensitization programs should take into consideration different groups in a society such as

women, elders, illiterate and poor by using culturally convenient media of communication to ensure that the whole community is reached.



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**ACRONYMS**

BCG Bacilli Calmette - Guerin

DOTS Directly Observed Treatment under Supervision

FIDELIS Fund for Innovative DOTS Expansion through Local Initiatives to Stop TB

MDR TB Multi Drug Resistant Tuberculosis

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### **OPERATIONAL DEFINITION OF TERMS**

**Patient delay:** A patient is said to be delayed when the time from the onset of the symptoms to the time of first visit to health facility exceed 30 days.

**Stigma :** A patient is said to be stigmatized if he/she feeling ashamed of having tuberculosis; have to hide tuberculosis diagnosis from others, isolated due to tuberculosis; and if tuberculosis affects the following: relation with others; work performance, marital relations, family responsibilities, and family relations.

**Cultural factors:** In this study cultural factors will include religious beliefs, traditional healing and other beliefs that influence individual on the cause and treatment of tuberculosis.



## CHAPTER ONE

### INTRODUCTION

#### 1.1: Background

Tuberculosis is an infectious disease caused by the bacillus *mycobacterium tuberculosis* which typically affects the lungs but can affect other parts of the body [1]. The disease spreads through air when a patient expels bacteria, for example, by coughing. In general relatively small proportion of people infected with mycobacterium tuberculosis will develop TB disease, people who have much higher chance of developing the disease are those infected with human immunodeficiency virus. Tuberculosis is also more common among men than women, and affects mostly adults in the productive age groups; around two-thirds of cases are estimated to occur among people aged 15-59 years [2].

Tuberculosis (TB) continues to be one of the major public health problems in the world; the burden is increasing as a result of poverty, population growth and HIV/AIDS [3]. In 1993 the World Health Organization declared TB to a global public health emergency at a time when estimated 7 to 8 million cases and 1.3 to 1.6 deaths occurred each year [2]. In 2010, it was estimated that there were between 8.5-9.2 million new TB cases in the world and 1.2-1.5 million deaths due to the disease.[2]. China and India accounted for 40% of notified tuberculosis case in 2010, Africa accounted for 24%. [2]. Upon early diagnosis of the disease, treatment success rate is high, in the year 2009, 87% of smear positive pulmonary tuberculosis cases were successfully treated.[ 2]. Direct observed treatment (DOTs) strategy was established in 1995 in order to control tuberculosis [3]. Poor and vulnerable populations are those most likely to contract infection, develop disease, have poor treatment outcomes, and experience severe social and economic hardship from the disease. If TB is not effectively diagnosed and treated among these groups, it can perpetuate the epidemic and put the whole population at continuous risk of TB [4].

In Africa, there were 2.3 million new cases and 254,000 deaths in the year 2010 [2]. Nine countries out of 22 high burden countries were in Africa. In Nigeria prevalence of tuberculosis was estimated to be 64,000 cases with incidence of 283 cases per 100,000 populations [1].

Tanzania like other countries in Africa share the same burden as far as TB is concerned. There were 63,453 TB cases in 2010[2]. Poor ventilated and overcrowded living condition have been associated with increased risk of TB infection, a study conducted in Tanzania, showed that 51% of TB patients interviewed were living in overcrowded rooms, four people in a single room [5]Rungwe district has noted an increase in new cases of tuberculosis in recent years; there were 527 new cases in 2011 compared to 435 in 2009[6].

The major strategy for case finding for many years has been passive case findings whereby people with cough and other related symptoms report to health facility for further investigation [7]. Diagnosis of TB among suspects is based on two sputum smear microscopy and for those who are smear negative, chest X-ray is needed for confirmation [5]. Another strategy is screening of all HIV infected patients to detect if they have tuberculosis.

Early case detection and treatment is of paramount importance in combating the disease, a study conducted in Kenya showed that socio-cultural factors, stigma, personal characteristics, economic factors and preference of self medication are associated with delay in seeking medical care among people with early symptoms of tuberculosis [8]. Delay in TB diagnosis may lead to increase infection in a community and worsen prognosis of the infected individual.

Tanzanian Government through the Ministry of Health and Social Welfare has adopted a Stop TB strategy which aims at strengthening DOTS strategy and empowering patients and communities to actively participate in prevention activities [9]. Stop TB strategy aims to achieve universal access to high-quality diagnosis and treatment for people with TB, to reduce the suffering and socioeconomic burden associated with TB, to protect poor and vulnerable populations from TB, TB/HIV and MDR-TB and to support the development of new tools and enable their timely and effective use.

Despite these developments, the disease still is causing high morbidity. Many of the risk factors could be addressed, for example, if over 90% of all children get immunized with BCG, they would be protected from developing severe form of tuberculosis. Ongoing poverty reduction programs are likely to address risk factors related to overcrowding in cities and towns, as well as those which are related to nutrition. Success of TB/HIV collaborative activities will contribute in reduction of tuberculosis burden and reduce source of disease transmission and further spread to susceptible populations. Factors which have been associated with delay include low knowledge, socio-cultural factors, stigma, personal characteristics, economic factors and preference of self medication. [8].

## 1.2 Problem Statement

Tuberculosis continues to be one of the major public health problems in the world. Tanzania is one of 22 countries with highest burden of tuberculosis worldwide. In 2010 it was estimated that there were 63,453 cases in the country [2]. The Government is making efforts to provide equitable access to high quality of care for diseases of public health importance like tuberculosis. [10]. Despite these efforts, the burden of tuberculosis in Tanzania is still high. The disease is not evenly distributed in the population, whether individually or geographically. Tuberculosis affects more people aged between 15 and 49 years, most of them living in overcrowded houses [5]. Dar es Salaam is contributing 24.3% of all cases of TB in a country, Mwanza 7.2%, Iringa 6.3%, Morogoro 6.2%, Mbeya 5.8%, Tanga 5.6% and other regions together contribute 44.2% [11].

Delay in case detection and treatment may worsen the prognosis of the disease and spread of TB infection. One case of smear positive tuberculosis can infect up to 10 people annually and over 20 during the natural course if untreated [12]. Early detection and prompt treatment of infectious TB cases is important in order to reduce TB infection. In Tanzania TB detection is mainly through screening of people with HIV infection and passive case finding where patients present themselves to the health facility to seek for care. The passive case finding depends on patient's demographic, social economic, and accessibility of the healthcare facilities as well as availability of competent staff and diagnostic equipments [13].

Studies have showed that patients delay in seeking care plays an important role to setback efforts of improving TB case finding[5, 12]. Other Studies have shown that delay in seeking health care for TB to be associated with lack of awareness about TB, its symptoms and transmission. Wandwalo et al[14] found that, patients with low education level and those who had no information about TB were more likely to delay in seeking health care. Most of these studies have been conducted in high burden TB regions, Dar es Salaam and Mwanza.

There is no sufficient knowledge about the social and cultural factors responsible for delay in seeking care for TB patients in low burden regions particularly in rural setting. This study

aimed to determine social and cultural factors associated with delay in seeking healthcare among patients with TB symptoms in Rungwe district. Determining these factors will provide information useful for designing proper communication messages to encourage symptomatic patients to seek health care early.

### **1.3 Rationale of the study**

Early diagnosis and treatment of Tuberculosis is crucial for reduction of infection rate and improving outcome of the treatment. Despite efforts made through media to sensitize community warning symptoms of TB still there is a significant delay in healthcare seeking among TB patients. There are a few studies in Tanzania which have tried to explore socio cultural factors associated with a delay. Findings from this study will provide useful information on magnitude and factors influence delay in healthcare seeking among TB patients. This information will be useful to others who will do studies in this area, and for planning of TB activities.

There are four types of delay in tuberculosis management:

- (a) **Patient delay**: time interval between onset of symptom and presentation to a health care provider
- (b) **Health care system delay**: time interval between the date of health-seeking behavior at a health care provider and the initiation of anti-tuberculosis treatment.
- (c) **Diagnostic delay**: time interval between the onset of symptoms and labeling of the patient as a tuberculosis patient (tuberculosis diagnosis).
- (d) **Treatment delay**: time interval between tuberculosis diagnosis and initiation of anti tuberculosis drugs

This study concentrated on patient delay because this is the one which have been shown to contribute more in total delay [5, 6, 9, 12].

#### 1.4 Research questions.

1. What proportion of TB patients delayed in starting treatment
2. What are social and cultural factors that are contributing to patients delay in seeking health care?

#### Conceptual framework

The figure below shows the relationship of the independent variables to the dependent variables. The variables which are underlined are the variables of interest, while the remaining variables aid to show how they contribute to the overall patient delay in seeking care.

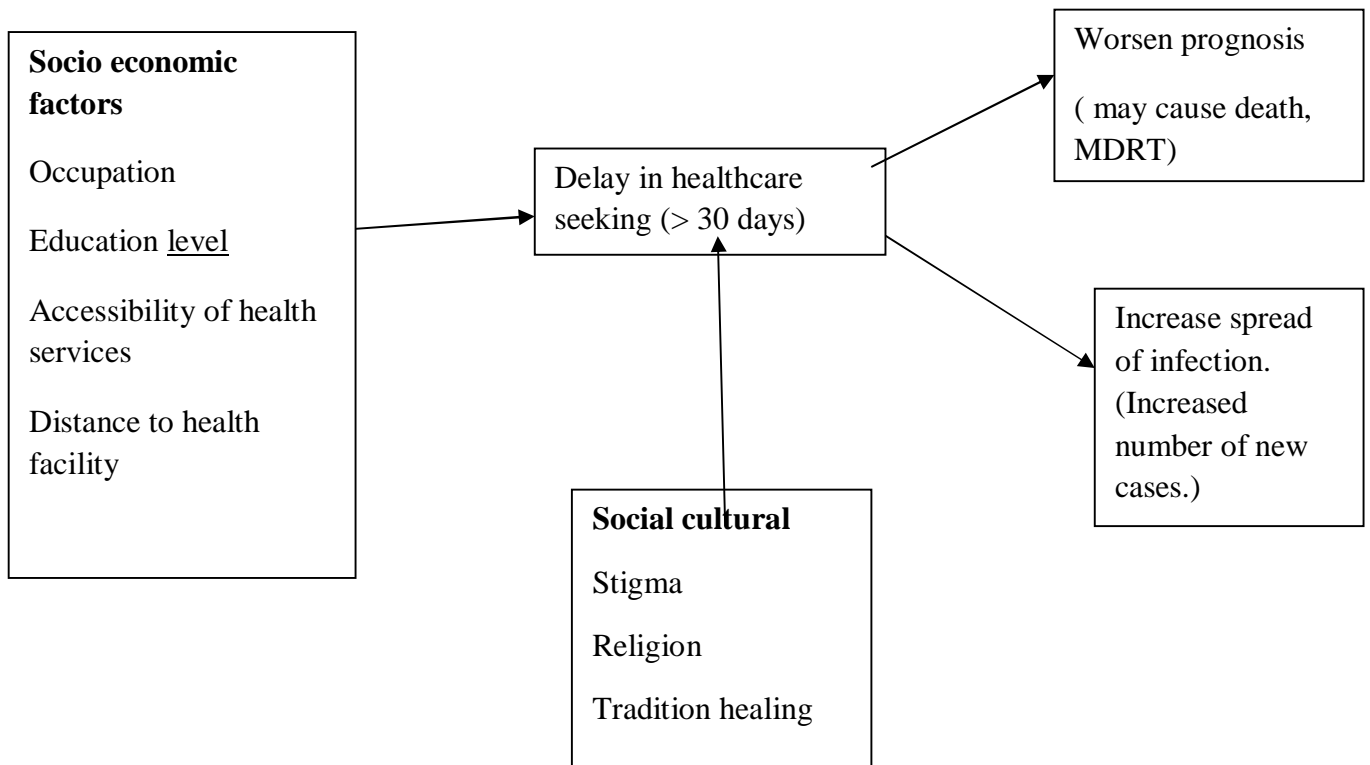


Figure 1: Conceptual frame work

## **1.4 Objectives**

### **1.4.1 Broad objective:**

To assess social and cultural factors that contribute to delay in seeking care among tuberculosis patients attending DOTS clinics in Rungwe District.

### **1.4.2 Specific objectives:**

1. To determine proportion of TB patients who delayed to seek health care in Rungwe district.
2. To determine association between socio-cultural factors and delay in health seeking care among TB patients attending DOTS clinics in Rungwe district
3. To determine association between perceived stigma and delay in healthcare seeking among TB patients attending DOTS clinics in Rungwe District.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **Introduction**

This chapter looks at various studies conducted looking at knowledge of tuberculosis in general population and among TB patients. The review of literature will also look at various studies conducted that looked at health seeking behavior and its associated factors in general population and in patients with TB symptoms.

Studies have identified several factors that are responsible for delay in diagnosis and treatment of tuberculosis. Delay in treatment has been categorized as patient's delay which is a time taken by the patient before consulting health facility from the onset of symptoms and health system delay, a time between receiving a patient and final diagnosis of TB.

A number of studies have found association between health seeking behavior and knowledge, awareness, stigma, gender differences, family support, social and cultural influences, distance to the health facilities, poverty, preference of buying drugs from medical stores and going to traditional healers. These factors influence behavior of people with TB symptoms and are responsible for delay in healthcare seeking.

#### **Factors affecting delay**

##### **2.1 Social factors**

###### **2.1.1 Patient delay**

Delay in tuberculosis diagnosis of TB has a negative impact in a community, it increases infectivity in a community and it is estimated that one untreated case of tuberculosis can infect 10 contacts annually and over 20 during the natural history of the disease until death [12]. Delay in tuberculosis diagnosis may also lead to patient developing more advanced stage of the disease which is difficult to treat and contribute to increase in cost of care and overall mortality. A study conducted in Ilala, Dar es Salaam showed that only 25.5% of the patients



reported to have been diagnosed within 4 weeks since initiation of symptoms that means 74.5% of the patients delayed to start treatment. It was found that the median time for delay was 7 weeks [5]. Financial constrains, seeking care from sources other than health facilities and low awareness of the symptoms was associated with this delay.

Social demographic characteristics of the patients have a role in diagnosis and treatment of tuberculosis. Gender and age differences have been reported to have influence in seeking care. In Pakistan it found that women had less access to health care than men, [12]. This may be attributed to low social economic status of women and lack of power of deciding to go to the health facility.

### **2.1.2. Poverty**

There is a relationship between poverty and tuberculosis. Poor people are more vulnerable to tuberculosis due to their living conditions, studies have shown that people living in overcrowded rooms[5]. Moreover infected individuals becomes less economically productive due to their ill health which result into poverty, therefore poverty and TB infection fuel each other[17]. The prevalence of TB has been higher in poor countries, majority of the 22 countries with high burden of TB are least developed countries. Delay in seeking treatment is more pronounced among poor patients, especially females and elders. It was found that a significant number of patients did not seek care due to lack of money for transportation to health facility[18]. Another study showed that delay over four weeks were associated with rural residence, transport time of over 2 hours, overnight travel, and high cost of transportation in such a way that people had to sell their assets to get money for transport[ 19].

### **2.1.3 Accessibility to health facility**

Accessibility to health facilities contribute to health seeking decisions. Difficult in access in to health services may account for delay. Distance from the health facilities, traveling costs and other indirect costs such as loosing work days may hinder patients from being tested. Studies in Ethiopia have shown that patients who had to travel longer distances to health facilities

(with the median transport time of 2 hours) had more chances to discontinue treatment [18]. This is also true for the ones who have to seek health care for the first time. Structural and financial factors may make healthcare services inaccessible for poor communities. Another study in China found that patients were not able to seek treatment due to poverty and distance to the health facilities [22]. On the other hand perceived quality of care may influence patients' decision to care seeking regardless of the distance to the health facility. A study done in Ethiopia found that 49% of the patients made their first visit in hospitals, out of them 34% reported that they visited hospital in order to get quality services regardless of the distance[24].

## **2.2 Socio-cultural factors**

### **2.2.1. Place of first resort**

Place where patient first visited have a contribution to delay in reporting to health facility. A study conducted by FIDELIS initiative found that patient visited traditional healers before they attend modern medical services, visited traditional healers had more delay to report to health facilities [20]. Some patients have religious beliefs that every illness can be cured by miracle. Studies in Ethiopia showed that 50.4% of the respondents believed that TB is caused by evil eye[18]. Another Study in Nigeria showed that 10 % of the respondents believed that TB is caused by spiritual attack [21]. Self medication in time of illness has a role in patient delay; this is associated with low knowledge and low perceived susceptibility of TB infection. In China it has been reported that farmers did seek healthcare only after they failed to treat themselves and most of them sought care from less qualified village care providers, this contribute to delay TB diagnosis[22].

## **2.3 Psychosocial factors**

### **2.3.1 Stigma**

Studies demonstrated that stigma prevent people from seeking care and diagnosis. Stigma of TB has persisted for a long time as a disease of the poor, recently HIV/AIDS stigma affect TB directly especially in areas with high prevalence of HIV. Therefore TB patients who are co infected with HIV suffers double stigma because the disease is regarded as symptomatic of HIV. Stigma found among TB patients in Ilala where 36% of them noted relatives, friends and neighbors and 46% prefer not to disclose their TB status due to fear of stigma[5]. Association of TB and HIV pause a challenge on early detection the disease, Ngamvisayapong et al found people who suspect themselves to have HIV infection do hesitate to test for TB due to fear of HIV detection[15]. On the other hand community members do suspect TB patient having HIV even though they are not [15]. Furthermore stigma has been shown to hinder people from early seeking healthcare because they fear of been diagnosed to have TB. A study conducted in Pakistan found that stigma exists in a society, 27% of respondents reported it, and both men and women were equally affected. People delayed to seek health care for the fear of been stigmatized [16]. In contrary another study conducted in Somalia indicated that patients who perceived high degree of stigma, reported earlier to the health facilities. [12]

## CHAPTER THREE

### METHODOLOGY

#### 3.1 Study area

Rungwe is one of 8 districts in Mbeya Region, it lies between  $08^{\circ} - 09^{\circ}$  South of Equator, and  $33^{\circ} - 34^{\circ}$  East of Greenwich, the District shares border with Kyela District in South, Makete District (Iringa Region) in East, Ileje District in West, and Mbeya District in the North. The Rungwe District headquarter is situated at Tukuyu Town along Mbeya – Malawi Highway, 72 Km. from Mbeya City. The district covers a total area of 2,211 km<sup>2</sup> with an estimated population of 407,085. It has the highest population density in the region. The district has a district hospital and two faith based hospitals making a total of three hospitals, five health centers and 54 dispensaries of which 40 are public owned, 9 owned by faith based organizations and 5 private. Regarding availability of human resource for health in the district, in 2011 there were 3 doctors, 1 dental surgeon, 2 pharmacists, 222 nurses and 79 clinical officers. The prevalence of HIV was 12% in 2004[6]. New tuberculosis patients were 435 in 2009, 506 in 2010 and 527 in 2011 with successful treatment of 93%.

#### 3.2 Study population

The study population was TB patients attending clinics in Rungwe District. There were 293 TB patients enrolled in DOTs clinics in Rungwe district during the study period.

#### **Inclusion criteria:**

All tuberculosis patients attending clinics during study period will be included in a study.

#### 3.3 Study design

This research employed a cross sectional analytical study. A cross-sectional study, a type of descriptive, observational study, involves measuring different variables in the population of interest at a single point in time. This simultaneous data gathering is often thought of as a snapshot of conditions present at that instant. . This design has advantage several advantages, such as the ease of assessing the prevalence of diseases and relatively low cost. Its

disadvantages are the inability to establish causal relationship. We decided to use this design due to the limited time and resource.

### **3.4 Variables.**

**3.4.1 Dependent variable:** Delay in seeking care for tuberculosis patients. This was obtained by asking patients the time interval between onset of symptom and presentation to a health care facility. Thirty days was used as cut-off point for delay.

### **3.4.2 Independent variables**

**Stigma:** Likert scale was used to measure perceived stigma of the patients, which ranges from 1 being highest degree of stigma to 5 lowest degree of stigma. Questions asked included: feeling ashamed of having tuberculosis, having to hide tuberculosis diagnosis from others; cost incurred by the long disease duration; isolation due to tuberculosis, and the extent to which tuberculosis affects the following: relation with others; work performance; marital relations; family responsibilities; chances of marriage; family relations. Reported perceived stigma was cross tabulated against delay to establish their relation.

### **Religious and Traditional beliefs**

Patients were asked how their religious and traditional beliefs influence their decision of seeking health care.

### **Education level**

Patients were asked their level of education, and then they were categorized in three groups. First group was those who never went to school, second group was those who had primary education and the third group was those who had above primary education.

## **Occupation**

Patients were asked about their current occupation or what they were doing before falling sick.

### **3.9. Ethical considerations**

The proposal was submitted for ethical clearance to conduct the study through Muhimbili University of Health and Allied Sciences (MUHAS), research and publications committee. All ethical issues were adhered to and addressed accordingly. Permission to conduct the study in the health facilities was sought from Rungwe District Executive Director (D.E.D), District Medical Officer (D.M.O) and other relevant authorities. Written or verbal consent was obtained from the patients before interview. Confidentiality was observed throughout the study, participants were not identified by names but code numbers. Participants were informed about the objectives of the study and their participation was voluntary.

All respondents were requested for their permission to record information through writing during the interview process and that the information generated was strictly to be used for research purposes only. There was no any risk involved on participating in this study.

### **3.5 Recruiting and training of research assistants**

The research assistants were chosen on the basis of having at least completed secondary school and training on clinical medicine or nursing.

Three research assistants were trained for two days on how to administer the research instrument to the respondents. This was important in order to familiarize the assistants with the intent and meaning of questions, sampling, sampling frame, administration of instrument and to give them enough experience in conducting interview in the field. After data had been collected, the interviewer reviewed all the questionnaires and compiles them together.

### 3.6. Pre- testing of tools

The Kiswahili interview schedules developed by the investigator were pre-tested in one of the dispensaries which was not included in a study to observe if it is understood by the patients. Debriefing was done to ask the respondents understanding of questions that appeared to cause difficulty during the interview. Questions were adjusted according to the pre-test results in order to achieve better clarity.

### 3.7 Sampling and sample size

#### a) Sample size determination

Sample size was calculated using the following formula:

$$n = Z^2 [p \times q] / e^2$$

Where n = minimum sample size

Z = standard deviation (1.96) which correspond to 95% confidence interval.

e= margin of error, estimated to be 5%

p = Estimated proportion of tuberculosis patients who delay to seek healthcare which was found to be 75% in a study done in Dar es Salaam region. [5]

q= 1-p

Therefore sample size was 288 patients.

#### b) Sampling technique

Study participants were selected from the district hospital, one health center and two dispensaries. These health facilities were purposely selected because they had a big number of tuberculosis patients.

### **3.8 Data collection techniques**

#### **a) Data collection instruments**

An interview schedule was used to capture data from tuberculosis patients attending TB clinics. Some of the statements used were adapted from the “diagnostic and treatment delay in tuberculosis, an in-depth analysis of the health seeking behavior of patients and health system response in seven countries of the Eastern Mediterranean Region “used by WHO (2006).

#### **b) Data collection procedures**

Consecutive patients were approached after leaving consultation room. They were asked for consent to be interviewed. Those who were unwilling to participate were excluded. The interview schedule developed in English was translated by the author into Swahili to ensure that, participants understand the content. In order to maintain content, it was then translated back to English. However, the Swahili version was only used. This technique ensured good cooperation from respondents as they were approached after being attended.

#### **c) Data sorting and editing**

After data collection, interview schedules were compiled. Field editing was done to check for errors, eliminate mistakes, making sure the responses were coded accordingly to make certain all the responses were filled so as to prevent missing data.

### **3.9. Data processing and analysis**

Data was sorted, coded and entered into the computer using statistical software, Statistical Package for Social Sciences (SPSS) version 15. Descriptive statistics such as frequency, percentage and mean was used to describe and summarize the data. The mean delay was calculated as average days the patients reported to take before consulting a health facility since the onset of the symptoms. Data obtained through Likerts scale was combined to get two scale (agree and disagree), and this was used to calculate percentage of the patients who had experienced stigma. The percentage of respondents with a certain characteristic (for example those who have visited traditional healers, those who visited health facility) was calculated. These independent variables were used for comparison between the patients who delayed and



those who did not delay. Analysis of contingency tables was done and Chi-square statistics were used to test for association between variables and level of significance. The cut-off point for level of significance was set at  $p\text{-value} < 0.05$ ) and all tests were two sided. Data were presented using tables and figures.

## CHAPTER FOUR

### RESULTS

#### 4.0 Introduction

We collected data from a district hospital, one health centre and two dispensaries providing services to TB patients in Rungwe District Council during the month of August 2012.

#### 4.1 Characteristics of the study sample

Initially, 288 tuberculosis patients were estimated to be a representative sample size for this study, however only 232 (80.5%) participated in the study. We could not reach the estimated sample size because health facilities had less number of patients than what it was expected because some of them had just finished their treatment circle, some patients (12) missed their clinic schedules and we could not get means to trace their domiciles, therefore it was not possible to interview them. Furthermore, other (8) patients were not ready to participate in a study because they were in a hurry and could not spare their time to be interviewed.

Table 1, shows the characteristics of study participants stratified by their sex. Of 232 TB patients, 154 (66.4%) were males and 78 (33.6%) were females. The average age was 41.3 (SD = 12.4) years; with a minimum age of 17 years and the maximum 79 years. With regards to marital status, 148 (63.8%) respondents, reported to be either married or cohabiting, 50 (21.6%) were widow and 34 (14.7%) to be currently single.

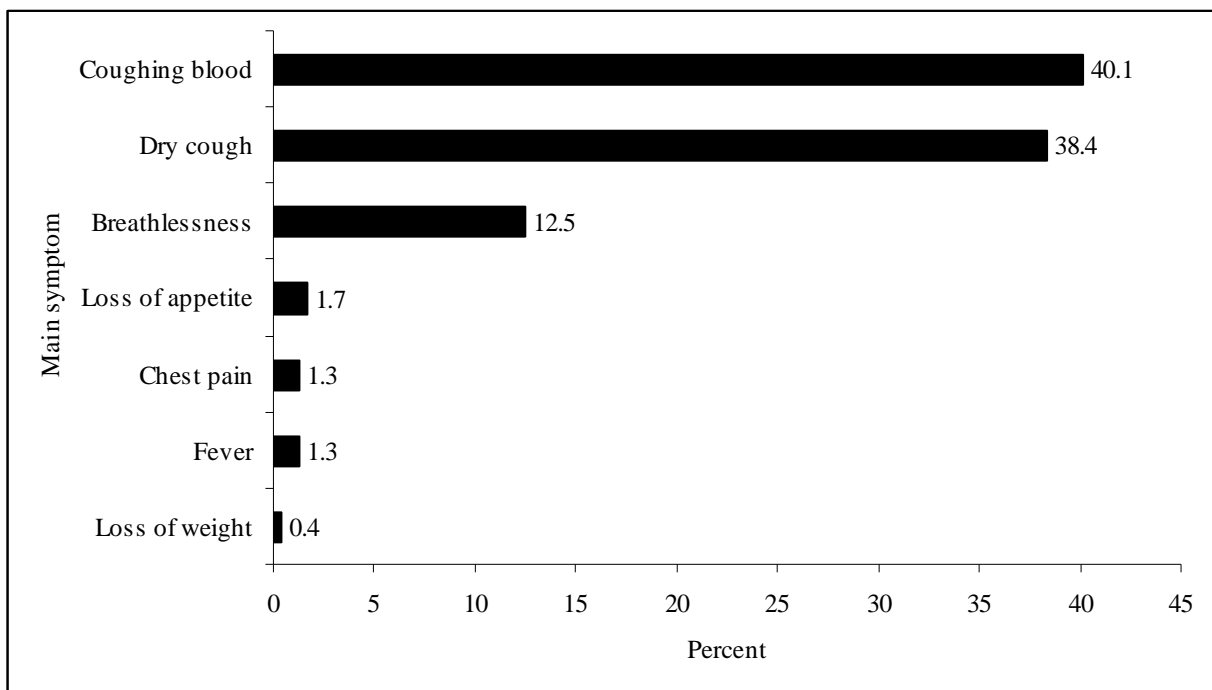
The majority, 165 (71.1%) of the respondent, reported to have attained primary education, while 34 (14.7%) had not completed primary education and 33 (14.2%) respondents reported to have had attained above primary education. Majority of the respondents, 127 (54.7%), were peasant followed by those doing business 65 (28%) and those reporting to be employed by government or privately employed were 37 (25.9%).

**Table 1: Characteristics of TB patients by sex, Rungwe District, 2012**

Characteristics	Males (n = 154)	Females (n = 78)	Total (n = 232)
	n (%)	n (%)	n (%)
<i>Age group (years)</i>			
15 – 24	5 (3.2)	2 (2.6)	7 (3.0)
25 – 44	92 (59.8)	55 (70.5)	147 (63.4)
45+	57 (37.0)	21 (26.9)	78 (33.6)
<i>Religion</i>			
Christian	137 (89.0)	75 (96.2)	212 (91.4)
Muslim	14 (9.1)	3 (3.8)	17 (7.3)
Other	3 (1.9)	0 (0.0)	3(1.3)
<i>Education level</i>			
None	26 (16.9)	8 (10.3)	34 (14.7)
Primary education	100 (64.9)	65 (83.3)	165 (71.1)
Above primary	28 (18.1)	5 (6.4)	33 (14.2)
<i>Marital status</i>			
Single	11 (7.1)	23 (29.5)	34 (14.7)
Married/Cohabiting	116 (75.3)	32 (41.0)	148 (63.8)
Widow/Divorced	27 (17.5)	23 (29.5)	50 (21.6)
<i>Occupation</i>			
Peasant	81 (52.6)	49 (62.8)	130 (56.0)
Informal employment	39 (25.3)	26 (33.3)	65 (28.0)
Formal employment	34 (22.1)	3 (3.8)	37 (15.9)

#### 4.2 Reported major symptoms before seeking for treatment

One hundred and eighty two (78.5%) respondents reported having chronic cough and coughing blood as their main symptom that prompted them to seek for health care. Other mentioned symptoms were breathlessness 29 (12.5 %), fatigue or weakness 10 (4.3 %), chest pain, fever, loss of weight and loss of appetite that were mentioned by 11 (4.7 %) of all patients (Figure 1).



**Figure 2: Reported major symptoms before seeking for treatment, Rungwe District, 2012**

#### 4.3 Reported delay among tuberculosis patients

The difference between time taken at the onset of symptoms and when the patient first visited the health facility was used to assess delay in reporting for treatment. A patient was considered to have reported late for treatment if the duration between the onset of the symptoms and seeking for treatment was more than thirty days [25, 26]. With this definition of late reporting for treatment, it was found that 165 (71.1 %) respondents reported late for treatment. The duration between onset of symptoms and seeking treatment ranged from 7 days to 180 days, with a mean of 64.8 (SD=37.6) days. On one hand out of 182 (78.5%) patients who had

chronic cough (dry or with blood), 132 (80.0%) patients reported late to the health facilities. Table 2 shows the association between reported delay for treatment and reported main symptoms before seeking for treatment. Reporting seeking late for treatment was found to be significantly associated with reported main type of symptom ( $\chi^2 = 9.79$ ,  $df = 3$ ;  $p$ -value = 0.02).

**Table 2. Distribution of TB patients by their reported main symptoms and delay status**

Main symptom	Delayed n (%)	Not delayed n (%)	Total n (%)
Coughing blood	63 (38.2)	30 (44.8)	93 (40.1)
Dry cough	69 (41.8)	20 (29.9)	89 (38.4)
Breathlessness	15 (9.1)	14 (20.9)	29 (12.5)
Other*	18 (10.9)	3 (4.5)	21 (9.1)

\* Include: Chest pain, fever, fatigue and loss of weight or appetite.

#### 4.4 Perception about delay

The respondent was asked about their perceptions on delay to seek care from health facilities since first experienced disease symptoms. Out of 232 respondents, 167 (72.3%) admitted that they were delayed to seek health care. On one hand, of the 164 patients who actually delayed, 27 (16.5%) considered themselves to have not delayed for treatment. On the other, of the 67 TB patients who were not actually delayed to seek treatment, 30 (44.8%) considered themselves to have delayed to first seek for treatment. The difference between perceived delay and actual delay to first seek health treatment was statistically significant ( $Z = 56.3$ ,  $p$ -value < 0.001). Some patients (16.5%) was not aware of the right time to report to the health facilities even after starting attending clinic where it was expected that they will get proper information about the disease.

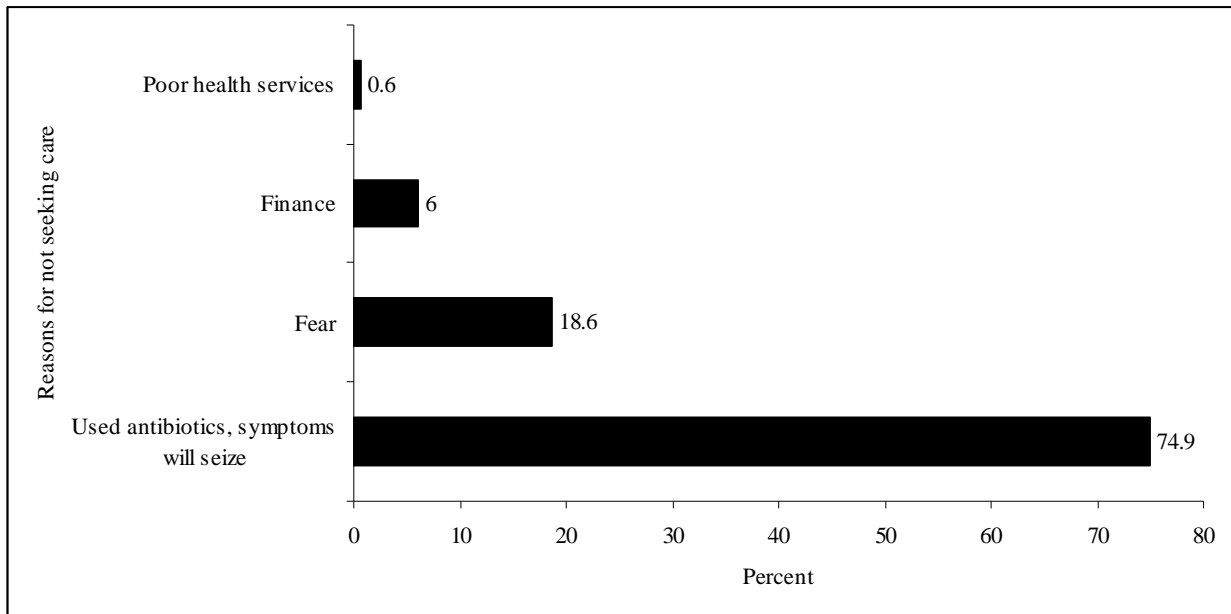
**Table 3. Relationship between perceived delay and actual delay of TB patients**

Perceived delay	Actual delay		Total
	Delayed	No delay	
Delayed	137 (83.5%)	30 (44.8%)	167 (72.3%)
No delay	27 (16.5%)	37 (55.2%)	64 (27.7%)
Total	164 (100.0%)	67 (100.0%)	231 (100.0)*

\* One patient did not report perceived delay

#### 4.5 Reasons for patient delay in seeking health care

Majority 125 (74.9%) of the patients who admitted that they delayed in seeking care from health facilities because they thought that symptoms they were feeling will go away without medication or with some antibiotics they were using, 31 (18.6%) mentioned fear of being diagnosed with a more serious problem in case they go to the health facility (Figure 2).



**Figure3. Reasons cited by TB patients for not seeking care on time**

#### 4.6 Place of first resort with the onset of the symptoms.

Less than half of patients, 108 (46.6%), reported to have directly visited the modern health facilities (hospitals, health centres and dispensaries) when they decided to seek for care. It was found that 124 (53.4 %) respondents visited other places before going to the health facilities. Of these, 96 (42.2%) patients reported to have used unprescribed drugs from pharmacy shops for a long time before reported to health facilities as their first action following onset of symptoms, 21 (9.1%) visited traditional healers and other five (2.2%) patients never went anywhere or they just attended prayers when attempting to get cured before going to health facilities (Table 4)..

**Table 4: Place of first visit after the onset of the symptoms (n=232)**

Reported place of first visit	Number (%)
Pharmacy	96 (41.4)
Hospital	56 (24.1)
Dispensary	34 (14.7)
Traditional healers	21 (9.1)
Traditional healer	18 (7.8)
Did nothing/prayers	7 (3.0)

#### 4.6 Reasons for visiting the first place where the patient sought treatment

Different reasons were given for visiting the mentioned destinations. They include patients having confidence in getting cured, 111 (47.8%), having been advised by friends or relative 51 (22.0%) and were convinced that services were available all the time, 31 (13.4%). Other reasons are indicated in Table 5.

**Table 5: Reasons for seeking care first at destined institution (n=232)**

Reasons for a visit	Number (%)
Confidence to get cured	111 (47.8)
Advised by relative/friend	51 (22.0)
Services available constantly	31 (13.4)
Services are free	27 (11.6)
Referred by health provider	12 (5.2)

#### **4.7 Reasons for not seeking health care to modern facilities as a first step**

The reasons why patients did not initially consult health facilities as their first health-seeking destination include, 51 (41.9%) who thought that symptoms are too simple and could simply fade away, 19 (15.3%) thought it was easy to get drugs from pharmacies and 15 (12.1%) thought traditional healers were the best for such symptoms (Table 6).



**Table 6: Reasons for not seeking health care from health facilities as a first step (n=124)**

Reasons for not visiting modern facility	Number (%)
Symptoms are simple would simply fade out	52 (41.9)
Easy to get drugs from stores	19 (15.3)
Traditional healers are the best	15 (12.1)
May be cured through prayers	13 (10.5)
Distance too far	13(10.5)
Long waiting times at facilities	8 (6.5)
Poverty to meet high costs	7 (5.6)

#### **4.8 Perceptions of patients related to tuberculosis**

Respondents were asked about their perception about the disease and how it affects their social and family relationships. More than three quarters, 175 (76.4%), reported that the disease has affected their work performance and 143 (61.6%) mentioned that the disease has affected their responsibilities in the family. About a quarter, 60 (25.9%) considered the disease as shameful such that 40 (17.2%) would hide. Other responses are presented in Table 7.

**Table 7: Perceptions of TB patients about TB as a disease (n=232)\***

Perception about TB	Number (%)
It is shameful	60 (25.9)
Put me under self isolation	53 (22.8)
Am forced to hide	40 (17.2)

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\* In some cases, respondents did not respond to all items

#### **4.9 Association between delay in seeking care and socio-demographic factors of TB patients**

Table 8 shows selected socio-demographic factors in relation to delay in seeking care. While marital status of TB patients was on border line, age of patient and occupation were significantly associated with delay.

**Table 8: Association between delay in seeking care and socio-demographic factors**

Socio-demographic factor	Total n (%)	Delay n (%)	No delay n (%)	$\chi^2$ ; p-value
<i>Sex</i>				1.17; 0.28
Male	154 (66.4)	106 (64.2)	48 (71.6)	
Female	78 (33.6)	59 (35.8)	19 (35.8)	
<i>Age group (years)</i>				16.56; < 0.001
Less than 45	151 (65.1)	94 (57.0)	57 (85.1)	
Above 44	81 (34.9)	71 (43.0)	10 (14.9)	
<i>Religion</i>				0.22; 0.64
Christian	211 (90.9)	151 (91.5)	60 (89.6)	
Other*	21 (9.1)	14 (8.5)	7 (10.4)	
<i>Education level</i>				2.91; 0.23
No formal	34 (14.7)	27 (16.4)	7 (10.4)	
Primary	162 (69.8)	116 (70.3)	46 (68.7)	
Above primary	36 (15.5)	22 (13.3)	14 (20.9)	
<i>Current marital status</i>				5.92; 0.05
Married	148 (63.8)	111 (67.3)	37 (55.2)	
Single	35 (15.1)	19 (11.5)	16 (23.9)	
Divorced/widow	49 (21.1)	35 (21.2)	14 (20.9)	
<i>Occupation</i>				9.32; 0.01
Peasant/housewife	131 (56.5)	99 (60.0)	32 (47.8)	
Private business	65 (28.0)	48 (29.1)	17 (25.3)	
Formal employment	36 (15.5)	18 (10.9)	18 (26.9)	
<i>First place visited</i>				7.51; 0.11
TH/Prayers	28 (12.1)	21 (12.7)	7 (10.4)	
Pharmacy	96 (41.4)	74 (44.8)	22 (32.8)	
Dispensary	34 (14.7)	18 (10.9)	16 (23.9)	
Health Centre	18 (7.8)	12 (7.3)	6 (9.0)	
Hospital	56 (24.1)	40 (24.2)	16 (23.9)	

\* Includes Muslim, other religions and no religion

**Table 9: Binary logistic regression analysis predicting delay to seek care for TB treatment**

Factor	Number (%) reporting delay	Odds Ratio (OR)	
		Unadjusted and 95% CI	Adjusted and 95% CI
<i>Sex</i>			
Female	59 (35.8)	1.4 (0.8, 2.6)	2.1 (0.9, 4.5)
Male	106 (64.2)	Reference	Reference
<i>Age group (years)</i>			
Less than 45	57 (85.1)	Reference	Reference
Above 44	10 (14.9)	4.3 (2.1, 9.0)	3.8 (1.7, 8.5)
<i>Current marital status</i>			
Married	37 (55.2)	1.2 (0.6, 2.4)	2.5 (1.0, 6.2)
Single	16 (23.9)	0.5 (0.2, 1.2)	0.7 (0.3, 2.2)
Divorced/widow	14 (20.9)	Reference	Reference
<i>Occupation</i>			
Private business	17 (25.3)	Reference	Reference
Formal employment	18 (26.9)	0.9 (0.5, 1.8)	1.6 (0.7, 3.8)
Peasant/housewife	32 (47.8)	0.3 (0.2, 0.7)	0.4 (0.1, 0.9)
<i>First place visited</i>			
TH/Prayers	7 (10.4)	1.2 (0.4, 3.4)	1.2 (0.4, 3.9)
Pharmacy	22 (32.8)	1.3 (0.6, 2.8)	1.4 (0.6, 3.3)
Dispensary	16 (23.9)	0.5 (0.2, 1.4)	0.5 (0.2, 1.4)
Health Centre	6 (9.0)	0.8 (0.3, 2.5)	0.5 (0.1, 1.7)
Hospital	16 (23.9)	Reference	Reference

**Risk factors for TB patients delay to seek health care**

Older (above 44 years) patients were at a significant elevated risk (OR = 3.8; 95% CI = 1.7, 8.5), independently of other factors, to delay in seeking for health care as compared to their counterparts. Similarly, although not significant, females were twice as likely as males to delay to seek for health care (OR = 2.1; 95% CI = 0.9, 4.5). The full list of predictors is presented in (Table 9).

## **CHAPTER FIVE**

### **5.0 DISCUSSION**

Delay to seek care has shown to be the major contributing factor for total treatment delay among tuberculosis patients [4, 5, and 6]. This study has looked for the reasons contributing to the TB patient delay in seeking care from the health facilities. Results from the study have shown unacceptably long delay duration between onset of symptoms and reporting to the health facilities. This duration ranged from 31 days to 180 days. Factors contributed to the delay were, inappropriate health seeking behavior and stigma attached to tuberculosis as it has been associated with HIV.

Several studies has revealed that delay in getting TB diagnosis and prompt treatment may lead to adverse effects on the patients, their families and the whole community as a diseased person will be transmitting infection as well as having poor prognosis[8, 12].

Early case detection and prompt treatment of infectious TB cases are the basis for achieving the millennium development goals, which aim to have halted and begun to reverse the incidence of TB by year 2015[2]. The stop TB strategy launched by W.H.O in 2006 aims at diagnosing at least 70% of people with infectious TB and successfully treats 85% of these patients[9]. Therefore understanding proportion of tuberculosis patient's delay in seeking care and reasons of delay is important in order to design appropriate intervention.

#### **5.1. Delay in seeking care among tuberculosis patients**

Health seeking behavior of TB patients plays a major role in their delay to seek care from health facilities. When they develop disease symptoms, some of the patients tend to seek care from other places before going to health facilities therefore they spend much time without proper treatment while the disease is progressing.

In this study it was found that 165 (71.1%) out of 232 patients had reported late for treatment. On the other hand out of 182 (78.5%) patients who had chronic cough (dry or with blood), 132 (72.5%) patients reported late to the health facilities. Thirty days were considered as a cut off point for patient delay, taking into account other studies conducted in Tanzania[14, 27, 28].

The mean duration of between the onset of symptoms and the time of care seeking was 64.8 days with a range of 7 to 180 days. This mean delay of 64.8 days found in this study is shorter than the reported mean of 162 days found in Mwanza[14] and 75 days which was found in Coast Region[28]. The difference may be probably explained by the increase of awareness in tuberculosis following various interventions. However this is consistent with a study done Nepal [29].

The magnitude of delay of seeking care among patients (71.1%) found in this study correlates to what was found in other studies conducted in Nigeria and Somalia[12, 30]. Another study conducted in Dar es Salaam in 2003 revealed the prevalence of delay to be slightly high 75% [5]. Furthermore chronic coughing were mentioned by most of the patients 182 (78.5%) as their main symptom that prompted them to seek health care. This was also found in other studies [5,3]. Others were breathlessness, fatigue, chest pain, fever, loss of weight and loss of appetite. Because chronic cough is one of the cardinal symptoms of tuberculosis, it was expected that patients with this symptom would suspect tuberculosis and seek care early, but this was not the case as 72.5% delayed to seek care. This may be contributed by the slow progression of the disease and unhealthy behavior of most of the community members of not seeking care until they have pain or unable to perform their responsibilities. This calls for a need to review health promotion interventions to address this challenge.

Reasons given by respondents who had prolonged delay in seeking care in the present study were: the hope that the symptoms will disappear by using unprescribed antibiotics from pharmacy shops 74.9%, fear of being diagnosed with serious disease 18.6%. Others mentioned financial constraint (6%) and previous bad experience in health facilities (0.6%). In comparison, other studies elsewhere have found long distance to the health facilities and health facilities being much occupied to be most common reasons mentioned by the patients[30]. The difference could be explained by the fact that the present study was conducted in a district with good coverage of health facilities where 85% of its population can access health services within five kilometers. A study conducted in Peru revealed that 20% of the patients delayed to seek health services because they were taking medications at home[31].

Tuberculosis patients would be expected to be knowledgeable about tuberculosis symptoms, diagnosis, and treatment [31]. The finding from the current showed that majority (83.5%) of the patients who actually delayed to seek care knew that they reported late for treatment. On the other hand 16.5% of the patients who delayed to seek care did not appreciate this fact. This may be an indication of low knowledge about the disease and hence there is a need to strengthen health education at clinical setting in order to equip the patients with a necessary knowledge which they will eventually be circulating in a community.

It can be concluded that patient delay is mainly dependent upon the health-seeking behavior of tuberculosis patients which is mainly determined by their socio-demographic characteristics, culture and degree of stigma felt [12].

## **5.2 Socio-cultural characteristics**

In this study we looked on social and cultural practices and how they could affect health seeking behavior of the tuberculosis patients. Factors which were investigated are education level, occupation, religious beliefs, traditional beliefs and treatment seeking behavior since the onset of the TB symptoms. Treatment seeking behaviors have been associated with socio-cultural and economic barriers [3]. Other studies have found association between care seeking behaviors and demographic characteristics such as age and gender [20].

The findings from this study have shown that female were two times more likely to delay, although this difference was not statistically significant, this concur with the results found in Coast Region Tanzania [28]. However this is in contrary to studies conducted in other countries whereby male gender has been associated with delayed treatment seeking behavior [31, 24]. Other studies in developing countries reported longer diagnostic delay in women [29, 32]. Delay among female have been attributed to their limited power of decision making, pre occupation with domestic responsibilities and unemployment. [29].

Findings of this study showed that patients with old age were more likely to delay in seeking care, using the age of 45 years as cut off, it was found that 87.6% of respondents who were above 44 years delayed to seek care while for those with less than 45 years was 61%. Similar

results was found in Ibadan, Nigeria which used the same cut off (30 days for delay and 45 years and above for age)[30]. In addition, patients who were single were less likely to delay compared to those who were married or widows. This difference may be explained by preoccupations with family commitments as the likely reasons why older and married TB patients delayed care seeking.

Another factor which have found to be associated with delay behavior in care seeking for tuberculosis patients in the current study was a lower education level, the findings showed that 79.4% of the patients with low level of education delayed to seek care, on the other hand 71.6% and 61.1% of those with medium and high level of education delayed to seek care respectively. This concurs with findings of other studies conducted in Peru and Zambia[31, 32]. This calls for a need to strengthen efforts of tuberculosis detection and creating awareness among this disadvantageous group[31]. This may be achieved through a well designed education campaigns which will take into account their needs and level of understanding. Furthermore, it have been found that people with low level of education are more at risk of contracting the infection as they may also be living and work in risk conditions ,such as overcrowded and poorly ventilated rooms, and having poor nutrition[31].

With regard to occupation, participants were categorized in three groups; formally employed peasants who included housewives and business men/women. The study finding showed that 75.5% and 73.8% of peasants and business men/women respectively delayed to seek care, while for those with formal employment, delay was 50.0%. A study conducted in seven Mediterranean countries found similar results [12]. Another study conducted in Dar es salaam by Iran et al revealed that the disease was more associated with poverty and unemployment [5]. Poor people are more vulnerable and yet they cannot afford health services, this may explain why unemployed patient had more chances of delay. Therefore efforts should be done to incorporate these vulnerable groups in poverty reduction strategies which in turn could contribute in reduction of tuberculosis burden.



Cough ( dry and with blood) was the main symptoms reported by the patients and which prompted them to seek health care .Other symptoms such as breathlessness, fatigue, loss of appetite, chest pain and fever were reported less frequently. These findings concur with reports from Coast Region Tanzania where 78% of tuberculosis patients presented with cough[28]. Another study conducted in Ilala Tanzania revealed that 60.1% of patients presented with cough [5]. With the onset of symptoms, majority (53.4%) of the patients sought care from places other than modern health facilities, most of them used over the counter drugs from pharmacy shops and others visited traditional healers or prayers, they visited modern health facilities after the informal treatment failed. Similar results have been found elsewhere [22]. Reasons for visiting mentioned destination were, confidence in getting cure 47.8%, advice from others 22%, other reasons were availability of services all the time, free services and referral by health provider. Similar results have been found somewhere else[12]. A significant number of patients (41.9%) considered that their illness was not severe and did nothing hoping that the symptoms will fade away by themselves or by using over the counter drugs.

Traditional beliefs such as witchcraft and enlargement of uvula were perceived causes of illness in this study. Patients attended traditional healers perceived their illness was caused by witchcraft, we also found some of the patients who believed that chronic coughing they were experiencing was due to enlargement of the uvula and went to traditional healers for uvulotomy. A study conducted by FIDELIS initiative in Tanzania found that patients reported to have attended traditional healers had longer delay [20]. Findings from this study shows that patients who attended traditional or religious healing had longer delay, however the difference was not statistically significant. Seeking care from places other than modern health facilities may prolong tuberculosis diagnostic delay and increase spread of the disease in a community [20].

In order to curb the spread of tuberculosis infection there should be efforts to educate drug sellers, traditional healers, religious leaders and the whole community about disease symptoms and merits of early diagnosis.

### **5.3 Perceived stigma**

Stigma is a major determinant of health seeking behavior among tuberculosis patients [12]. Studies have shown fear of being diagnosed with tuberculosis and fear of social isolation as obstacle to early seeking of health care [12, 15]. This study found approximately quarter of the respondents felt ashamed of been diagnosed with tuberculosis and 17.2% were forced to hide diagnosis. Twenty two percent of the patients noted friends /relatives distancing from them, 30% said that the disease is affecting their marital relation. Majority (76.4%) of the patients felt that the disease affects their work performance and 65.1% find the disease to be very costly. A study conducted in Dar es Salaam showed that 36% of the patient had noted social isolation, 46% preferred not to disclosure their condition [5].The difference may be attributed by the setting of the study where rural social solidarity can reduce stigmatization.

Patients who felt that the disease affects their marital relationship were less likely to delay to seek care .This indicates high degree of stigma was protective in that, it presumed to have motivated patients to seek care earlier. Similar results have been found in Somalia [12]

In this study we have tried to assess behavior related to social and cultural practices and stigma towards tuberculosis in Rungwe district which may be potential barriers in TB control. We found high (71.1%) proportion of the patient delayed to seek care. Patients with age older than 45 years were significantly associated with the delay. We also found that drug sellers and traditional healers were consulted during the onset of symptoms. We have to look on how we can use them to increase early diagnosis. It is important to strengthen education programs to whole community about TB symptoms, merits of early diagnosis and reduction of stigma.

#### **5.4 Study limitation**

This study had the following limitations:

1. The study was health facility based therefore we missed people with tuberculosis symptoms but not have attended health facilities whom might have different characteristics.
2. The results were based on self reports by the use of exit interviews to capture information from respondents. This might lead to the under or over reporting of the responses or giving a continuous response for the following statements which may lead to information bias. This was minimized by structuring the statements of the interview schedule so that some of them had different polarities (positive and negative statements) to keep the respondents from repetitively giving the same response for all subsequent statements

## **CHAPTER SIX**

### **6.0 CONCLUSIONS AND RECOMMENDATIONS**

In conclusion, our study showed that delay among patients in seeking care is common, perceived severity and place of first health resort play an important role in this delay.

#### **6.1 Conclusions**

1. This study has shown that 71% of the TB patients attending clinics in Rungwe district delayed to seek health care for more than 30 days. Significant factor associated with delay was age older than 44 years. Also female were two times more likely to delay compared to male, although this difference was not statistically significant.
2. The study found that people's perception about cause and severity of the disease is a strong determinant of their decision to seek health care.
3. It was also found that destinations like pharmacy shops, traditional healers and prayers were consulted by majority of the patients before going to health facilities.
4. The findings showed a considerable level of stigma against tuberculosis.

#### **6.2 Recommendations**

Based on results found in this study, the following recommendations are made:

1. Community should be sensitized on seeking appropriate health care, sensitization programs should take into consideration different groups in a society such as women, elders, illiterate and poor by using culturally convenient media of communication to ensure that the whole community is reached.
2. Health department of the local authorities should sensitize drug sellers, traditional healers and religious leader to refer symptomatic people for tuberculosis test.

3. A qualitative study approach can be conducted to have deeper understanding of the factors related to delay. A combination qualitative and quantitative can produce better results.
4. A community based study can be done to capture symptomatic individuals who are not attending health facilities.

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## 8. APPENDICES

### APPENDIX 1 PATIENTS QUESTIONAIR ENGLISH VERSION

Registration no.				
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Date of interview			
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Name of health facility .....

Place of Residence.....

Serial no.	QUESTIONS	CATEGORIES AND CODES	RESPONSE
1	Age of patient(in completed years)		
2	Observe sex of the patient and write relevant code.	(1). Male (2). Female	
3	What is your religion?	(1). Christian (2). Muslim (3). Traditional (4). Other(specify)	
4.	Marital status	(1). Married, cohabiting (2).Single (3). Divorced, separated, widow	

5.	What is your education level?	(1). No formal education (2). Primary school (3). Secondary school (4). College/University	
6.	What is your current occupation?	(1). Peasant (2). Business (3). Employed (4). Not employed (5). Housewife (6). Others (specify).	
7.	State symptom (s) that first made you to seek care for your illness.	(1). Cough (2). Coughing blood (3). Breathlessness (4). Chest pain (5). Fever (6). Fatigue/weakness (7).Loss of weight (8). Loss of appetite (9). Others (Specify)	
8.	How long did it take from the time you first feel sick and the time you went to health facility.	Days <input data-bbox="1029 1423 1135 1476" type="text"/> Weeks <input data-bbox="1029 1539 1135 1591" type="text"/> Months <input data-bbox="1029 1675 1135 1728" type="text"/>	
9.	D you consider this time is adelay or not?	(1). Yes if yes, go to question no 10. (2). No, if no, go to question no.11.	

10.	What do you think is the cause of your delay to seek healthcare.	<ul style="list-style-type: none"> <li>(1). Fear of what would be found in diagnosis</li> <li>(2). Hope that the symptoms will be go away by themselves</li> <li>(3). Fear of social isolation</li> <li>(4). Financial constrains</li> <li>(5). Poor health services</li> <li>(6). Other (specify)</li> </ul>	
11.	Where was your first place to seek care?	<ul style="list-style-type: none"> <li>(1). Traditional healer</li> <li>(2). Pharmacy shop</li> <li>(3). Dispensary</li> <li>(4). Health center</li> <li>(5). Hospital</li> <li>(6). Self medication</li> <li>(7). Prayers</li> <li>(8). Others (specify).</li> </ul>	
12.	Why did you go to that place? (Refer the place where he/she has mentioned in the above question).	<ul style="list-style-type: none"> <li>(1). Confidence in getting cure</li> <li>(2). Services available anytime</li> <li>(3). Referred by previous provider</li> <li>(4). Free services</li> <li>(5). Advised by somebody</li> <li>(6). Others (specify)</li> </ul>	
13.	Some people do not seek health care at the hospitals/ health centers or dispensaries when they have the same condition as you have, what do you	<ul style="list-style-type: none"> <li>(1). Too far</li> <li>(2). Long waiting time at the health facilities.</li> <li>(3). They have no money to pay</li> <li>(4). Bad experience</li> <li>(5). Belief that they can be cured by</li> </ul>	

	think are their main reasons?	<p>traditional medicines</p> <p>(6). Belief that they can be cured by prayers.</p> <p>(7). It is easy to get drugs from pharmacy shops.</p> <p>(8). Hope that the symptoms will go away by themselves.</p> <p>(9). They think it is a simple condition that they can treat themselves.</p> <p>(10). Others (specify)</p>	
14.	Did you have the same reasons?	<p>(1). Yes</p> <p>(2). No</p> <p>(3). Not applicable</p>	
15.	Do you feel ashamed for having this disease?	<p>(1). Strongly agree</p> <p>(2). Agree</p> <p>(3). Not sure</p> <p>(4). Disagree</p> <p>(5). Strongly disagree</p>	
16.	Do you have to hide other people that you have diagnosed that you have this disease?	<p>(1). Strongly agree</p> <p>(2). Agree</p> <p>(3). Not sure</p> <p>(4). Disagree</p> <p>(5). Strongly disagree</p>	
17.	Does this disease affect relation with the others?	<p>(1). Strongly agree</p> <p>(2). Agree</p> <p>(3). Not sure</p> <p>(4). Disagree</p> <p>(5). Strongly disagree</p>	

18.	Is the disease very costly to you due to its long duration of treatment?	(1). Strongly agree (2). Agree (3). Not sure (4). Disagree (5). Strongly disagree	
19.	Do you prefer to live isolated since you diagnosed that you have this disease?	(1). Strongly agree (2). Agree (3). Not sure (4). Disagree (5). Strongly disagree	
20.	Does this disease affect your work performance?	(1). Strongly agree (2). Agree (3). Not sure (4). Disagree (5). Strongly disagree	
21.	Does this disease affect marital relation?	(1). Strongly agree (2). Agree (3). Not sure (4). Disagree (5). Strongly disagree	
22.	Does this disease affect family responsibilities?	(1). Strongly agree (2). Agree (3). Not sure (4). Disagree (5). Strongly disagree	
23.	Does this disease affect your family relations?	(1). Strongly agree (2). Agree (3). Not sure (4). Disagree (5). Strongly disagree	

**APPENDIX 2 PATIENTS QUESTIONAIR SWAHILI VERSION**

**MASWALI KWA AJILI YA USAILI**

Namba.				
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Tarehe ya usaili

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Jina la kituo cha huduma .....

Mtaa/ Kijiji mgonjwa anapoishi .....

<b>Na.</b>	<b>MASWALI</b>	<b>AINA NA NAMBA ZA MAJIBU</b>	<b>NAMBA YA JIBU</b>
	<b>TAKWIMU ZA MDODOSWAJI</b>		
1	Nitajie umri wako.(miaka).	.....	
2	Jinsia	(1). Mwanamume (2). Mwanamke	
3	Nitajie dini yako.	(1). Mkristo (2). Muislam (3). Dini ya Asili (4). Nyingineyo(taja)	
4.	Hali ya ndoa	(1). Nimeoa/nimeolewa/Tunaishi paoja bila ndoa	

		(2). Sijaoa/ sijaolewa (3). Mjane/mgane/ Tumeachana	
5.	Kiwango chako cha elimu	(1). Sikusoma (2). Shule ya msingi (3). Shule ya sekondari (4). Chuo	
6.	Unafanya kazi gani?	(1). Mkulima (2). Mfanyabiashara (3). Nimeajiriwa (4). Sijaajiriwa (5). Mama wa nyumbani (6). Nyingine(taja).	
7.	Ni dalili gani iliyo(zilizo) kupelekea kutafuta huduma ya tiba kutokana na ugonjwa wako.	(1). Kukohoa (2). Makohozi yenye damu (3). Kushindwa kupumua (4). Kichomi (5). Homa (6). Udhaifu/ uchovu. (7). Kupungua uzito (8). Kukosa hamu ya kula (9). Nyinginezo (Taja)	
8.	Ulipita muda gani tokea ulipoanza kupata hizo dalili hadi ulipoenda hospitali/ kituo cha afya/ zahanati.	Siku <input type="text"/>  Wiki <input type="text"/>  Miezi <input type="text"/>	
9.	Wewe unaonaje,ulichelewa	(1). Ndiyo. Nenda swali na.10.	



	kwenda kupata huduma kwaenye kituo cha tiba?	(2). Hapana, nenda swali na.11.	
10.	Unafikiri nini kilisababishia uchelewe kwenda kupata huduma kwenye kituo cha tiba?	(1). Hofu ya kugundulika ninaugua kifua kikuu. (2). Nilidhani dalili zitaisha tu zenyewe (3). Hofu ya kutengwa na jamii (4). Sikua na fedha za matibabu (5). Huduma zisizoridhisha kwenye vituo (6). Nyingine (Taja)	
11.	Ni wapi kati ya sehemu zifuatazo ulikwenda kutafuta tiba kwa mara ya kwanza baada ya kuona hiyo(z) dalili.	(1). Tiba za asili (2). Duka la dawa (3). Zahanati (4). Kituo cha afya (5). Hospitali (6). Nilijitibu mwenyewe (7). Kwenye maombi (8). Nyingine (Taja).	
12.	Ni sababu gani ilikufanya uende sehemu hiyo uliyoitaja hapo juu? (Angalia jibu la swali la 11).	(1). Imani kuwa nitapona (2). Huduma zinapatikana muda wote (3). Nilishauriwa na mtoa huduma za afya (4). Huduma zinapatikana bila malipo (5). Nilishauriwa na mtu mwingine (6). Nyingine (Taja)	
13.	Baadhi ya watu huwa hawaendi kwenye vituo vya tiba ( Hospitalini, vituo vya	(1). Vituo viko mbali toka wanapoishi (2). Muda mrefu wa kusubiri matibabu vituoni	

	afya au zahanati) wanapopatwa na dalili kama zako, unafikiri ni kwa nini.	(3). Hawana hela za kulipia (4). Hawridhishwi na huduma zinazotolewa (5). Imani kuwa watapona kwa dawa za asili (6). Imani kuwa watapona kwa maombi. (7). Ni rahisi kununua dawa kwenye duka la dawa. (8). Imani kwamba dalili hizo zitaisha zenyewe. (9). Wanafikiri ni tatizo dogo hivyo wanaweza kujitibu wenyewe.  (10). Nyinginezo (Taja)	
14.	Je na wewe ulikua na sababu kama hizo?	(1). Ndiyo (2). Hapana (3). Haihusiki.	
15.	Je unaona aibu kuwa na ugonjwa huu?	(1). Nakubali kabisa (2). Nakubali (3). Sina hakika (4). Sikubali (5). Sikubali kabisa	
16.	Unalazimika kuwaficha wengine ukweli kuwa unaugua ugonjwa huu?	(1). Nakubali kabisa (2). Nakubali (3). Sina hakika (4). Sikubali (5). Sikubali kabisa	
17.	Je ugonjwa huu unaathiri	(1). Nakubali kabisa	

	mahusiano yako na watu wengine?	(2). Nakubali (3). Sina hakika (4). Sikubali (5). Sikubali kabisa	
18.	Je ugonjwa huu unakugarimu sana kutokana na kuchukua muda mrefu kuona?	(1). Nakubali kabisa (2). Nakubali (3). Sina hakika (4). Sikubali (5). Sikubali kabisa	
19.	Toka upate ugonjwa huu unapendelea kujitenga na watu wengine?	(1). Nakubali kabisa (2). Nakubali (3). Sina hakika (4). Sikubali (5). Sikubali kabisa	
20.	Je ugonjwa huu unaathiri utendaji wako wa kazi?	(1). Nakubali kabisa (2). Nakubali (3). Sina hakika (4). Sikubali (5). Sikubali kabisa	
21.	Ugonjwa huu unaathiri mahusiano yako katika ndoa?	(1). Nakubali kabisa (2). Nakubali (3). Sina hakika (4). Sikubali (5). Sikubali kabisa	
22.	Ugonjwa huu unasababisha ushindwe kutimiza wajibu wako katika familia?	(1). Nakubali kabisa (2). Nakubali (3). Sina hakika (4). Sikubali (5). Sikubali kabisa	
23.	Ugonjwa huu unaathiri mahusiano yako katika familia.?	(1). Nakubali kabisa (2). Nakubali (3). Sina hakika (4). Sikubali (5). Sikubali kabisa	

**APPENDIX 3: informed consent, English version.**

**MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES  
DIRECTORATE OF RESEARCH AND PUBLICATION**

**INFORMED CONSENT**

**PATINTS ID-NO .....**

**Consent to participate in this study**

Greetings!

My name is.....

I am a student at Muhimbili University of Health and Allied Sciences doing research on Delay in Seeking Care among Tuberculosis Patients Attending Tuberculosis Clinics in Rungwe District.

**The aim of this study**

The aim of this study is to determine social and cultural factors associated with delay in seeking health care among TB patients in Rungwe district.

**What Participation Involves**

If you agree to participate in this study you will be required to answer a series of question as required by the research Assistant or Principal Investigator.

**Confidentiality**

All the information which will be kept confidential and we shall use only the Identification NO.

**Rights to withdraw and Alternatives**

Your involvement in this study is your choice. You may get out of the study any moment you wish and no any penalty, even if you have already given your consent.

**Benefits:**

Your participation in this study will provide useful information for us and others stakeholders.

**In case of Injury:**

We do not expect any harm to occur to you or your family as a result of participating in this study

**Whom to contact**

In case of any inquiry please contact the Principal investigator, Tarimo Gilbert Muhimbili University of Health and Allied Sciences (MUHAS), P. O BOX 65001, Dar es Salaam, Mobile no. 0717 709612 or Dr.M.R. Kazaura, Muhimbili University of Allied Sciences, P.O BOX 65001, Dar es Salaam. **In case of any enquiry about this study you may call, the Chairman of the Senate Research and Publications committee, P.O BOX 65001 Dar es Salaam, Tel no. 2150302-6**

Signature

Do you agree?

Participant agrees

Participant disagrees

I have read/understood the contents in this form. My questions have been answered. I agree to participate in this study.

Signature of Participant .....

Signature of witness (if participant cannot read)

Signature of research assistant .....

Date of signed consent .....

**APPENDIX 4 Informed consent- Swahili version**  
**CHUO KIKUU CHA SAYANSI ZA AFYA MUHIMBILI**  
**KURUGENZI YA UTAFITI NA MACHAPISHO**

**FOMU YA RIDHAA**

**Namba ya utambulisho .....**

**Ridhaa ya Kushiriki katika utafiti huu**

Jina langu ni Tarimo Gilbert , mwanachuo wa chuo cha Sayansi za Afya Muhimbili, ninafanya utafiti juu ya sababu zinazopelekea wagonjwa wenye dalili za kifua kikuu kuchelewa kwaenda kwenye vituo vya tiba.

**Lengo la utafiti**

Utafiti huu una lengo la kukusanya taarifa kuhusu sababu zinazopelekea wagonjwa kuchelewa kwenda kwenye vituo vya tiba wanapokua na dalili za kifua kikuu.

**Usiri**

Habari zote tutakazo zipata kutoka kwako zitakuwa ni siri, wala hatutatumia jina bali namba yako ya utambulisho

**Madhara**

Hatutegemei kuwa utapata Madhara yoyote katika utafiti huu

**Haki ya kujitoa na vinginevyo**

Kushiriki katika utafiti huu ni uamzi wako. Kama utaamua kutoshiriki au utaamua kukatisha ushiriki hutapata Madhara yoyote. Uko huru kusimamisha Kushiriki wakati wowote hata kama ulikwisha toa Ridhaa Kushiriki.

**Faida**

Kama utakubali Kushiriki utafiti huu, tunategemea kwamba taarifa tutakazo zipata kutoka kwako zitakuwa na maana kwetu na kwa wadau wengine katika huduma za afya.

**Watu wa kuwasiliana nao**

Kama unamaswali katika utafiti huu unaweza kuwasiliana na **Mtafiti , Tarimo Gilbert** chuo kikuu cha Muhimbili, S.L.P 65001, Dar Es Salaam, simu Na. 0717 709612, au msimamizi wake Dr. M.R Kazaura. Chuo Kikuu cha Muhimbili, S.L.P 65001, Dar Es Salaam, Simu Na. 0715767719..

Kama utakuwa na swali lolote kuhusu kushiriki utafiti huu, unaweza kupiga simu kwa **Mwenyekiti wa kamati ya chuo ya utafiti na machapisho**, S.L.P 65001, Dar Es Salaam. Simu Na. 2150302-6

Sahihi

Je Unakubali?

Mshiriki amekubali [    ]

Mshiriki amekataa [    ]

Mimi..... nimeisoma/nimeelewa hii fomu, maswali yangu yamejibiwa.

Nakubali kushiriki katika utafiti huu

Sahihi ya Mshiriki .....

Sahihi ya Shahidi kama mshiriki hawezi kusoma na kuandika

.....

Sahihi ya Mtafiti

.....

Tarehe ya Makubaliano

.....