



**ASSESSMENT ON COMMUNITY-BASED HEALTH
EXTENSION PROGRAMME INTERVENTIONS IN UPTAKING
AND ADHERING TO TUBERCULOSIS TREATMENT AMONG
PATIENTS IN HAWASSA CITY, SOUTH ETHIOPIA**

MSW DISSERTATION RESEARCH PROJECT REPORT

(MSW-001)

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April 2015

Addis Ababa, Ethiopia

DECLARATION

I hereby declare that the dissertation entitled “**Assessment on Community-Based Health Extension Programme Interventions in Uptaking and Adhering to Tuberculosis Treatment among Patients in Hawassa City, South Ethiopia**” submitted by me for the partial fulfillment of Master of Social Work (MSW) to Indira Gandhi National Open University (IGNOU), Addis Ababa, Ethiopia is my own original work and has not been submitted earlier, either to IGNOU or to any other institution for the fulfillment of the requirements for any other programme of study. I also declare that no chapter of this manuscript in whole or in part is lifted or incorporated in this report from any earlier work done by me or others.

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Abbreviations and Acronyms

| | |
|---------------|---|
| ACSM | Advocacy Communication & Social Mobilization |
| AIDS | Acquired Immuno-deficiency Syndrome |
| ART | Antiretroviral Therapy |
| CDR | Case Detection Rate |
| CNR | Case Notification Rate |
| CSA | Central Statistical Agency |
| DOT | Directly observed Treatment |
| FGDs | Focus Group Discussions |
| FMoH | Federal Ministry of Health |
| HEP | Health Extension Programme |
| HEWs | Health Extension Workers |
| HIV | Human Immuno-deficiency Virus |
| HSDP | Health Sector Development Programme |
| HTP | National TB Programme |
| MDGs | Millennium Development Goals |
| MDR-TB | Multi-Drug Resistant Tuberculosis |
| MoH | Ministry of Health |
| MSF | Medicines Sans Frontiers |
| MTB | Mycobacterium Tuberculosis |
| PHC | Primary Health Care |
| PHCUs | Primary Health Care Units |
| RHB | Regional Health Bureau |
| RNTCP | Revised National Tuberculosis Control Programme |
| SNNPR | Southern Nations, Nationalities and People's Region |
| TB | Tuberculosis |
| TLCT | Tuberculosis and Leprosy Control Team |
| UHEW | Urban Health Extension Worker |

| | |
|---------------|-----------------------------------|
| UNICEF | United Nations Children Fund |
| VCHW | Voluntary Community Health Worker |
| WHO | World Health Organization |

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Abstract

The Health Extension Program (HE) is a defined package of basic and essential promotive, preventive and selected high impact curative health services targeting households. Evidence suggests that one of the main strategies to control tuberculosis (TB) is to find and treat people with active disease. Unfortunately, the case detection rates remain low in many countries. Thus, interventions to find and treat sufficient number of patients and then to control TB is needed. The study generally aimed at assessing the extent of contributions made by involving Health Extension Worker towards TB treatment uptake and adherence of patients to TB treatment in Hawassa City and Tula Sub-City. The study was used both quantitative and qualitative research designs. The sample size comprised of 60 respondents; of these who were the potential clients in the HEP, who were the participants in focus group discussions (FGDs). The quantitative data was analyzed using SPSS software and Ms Excel. The researcher used manual thematic qualitative data analysis technique using descriptive narration. In this study, the engagement of community-based implementation of TB treatment by involving health extension workers improved the CDR and TB treatment uptake as well as adherence which was found to be about (100.0%; their contributions towards identification of TB suspect cases and referral to health centers for diagnosing and evaluation was greater than 80.0% to support and motivate TB patients to adhere to their anti-TB treatment throughout the treatment course and 92.0% Directly Observed Treatment or implementing DOT with the health extension workers; while the other, 8.0% of them used DOTS with the help of TB treatment supporters. In conclusion, involving HEWs in TB control has improved the CDR and the TSR for smear-positive patient, particularly females. It could be used as an option to improve the trend in low CDR and to provide patient-centered services in high-burden countries, like Ethiopia. However, the cost-effectiveness of enhanced case finding and treatment outcome needs further study.

CHAPTER 1

INTRODUCTION

1.1 Background of the Problem

The world in which human beings are living faced with a number of multi-dimensional problems. These are already identified and previously known infectious agents that cause public health problems either locally or internationally. Their impact, in terms of economic repercussions, goes well beyond the immediate costs to health systems. They may impede trade or travel or cause disproportionate alarm.

During the twentieth century, over thirty emerging infections were identified in humans. They range from the TB, Ebola, Mrbaug, and Nipah viruses to the more common hepatitis C virus and HIV (Human Immunodeficiency Virus). The emergence of infectious agents has occurred throughout the world, causing many unexpected outbreaks (Breslow, 2002, p. 371). Such public health problems cause for widening development gaps, collapse of public health infrastructures, poverty, urbanization, civil strife, environmental change and degradation, and globalization of travel and trade are empirically confirmed to be the contributing factors for those outbreaks. Tuberculosis (TB) is thus one of those chronic infectious diseases affecting thousands of people in different corners of the globe.

Tuberculosis (TB) is a chronic infectious disease caused by *Mycobacterium tuberculosis* (MTB). It typically affects the lungs (pulmonary TB) but can affect other parts of the body as well (extra pulmonary TB). The disease is spread via droplet infection when people with pulmonary TB expel the bacilli while coughing, sneezing, talking, etc. Without treatment, mortality rates are high. Treatment using combinations of anti-TB drugs, developed in the 1940s and 1950s, can dramatically reduce mortality rates (WHO, 2011). Despite the availability of highly efficacious treatment for decades, the same document argued that TB remains a major global public health problem. Almost one-third of the world population (about 2 billion people) is infected with *M. tuberculosis*. TB is the second leading cause of death from an infectious disease worldwide, after HIV.

WHO declared that TB is a public health problem globally in early 1990s. The Organization set two TB control targets to be reached by the year 2000, namely, 70% and 85% case detection and

cure rate, respectively. In order to achieve those targets, WHO launched a strategy called 'Directly Observed Therapy, Short-Course' or 'DOTS' for short for TB control (WHO, 2006). Presently, the WHO recommended approach for TB Care and Control is the STOP TB Strategy launched in 2006. This Strategy was linked to the new global targets for reduction in TB cases and deaths that were set for 2015 as part of the Millennium Development Goals (MDGs) and the STOP TB partnership. By 2015, the targets would have been to reduce prevalence and death rates by 50%, compared with their levels in 1990 and to reduce the global incidence of active TB cases to less than 1 case per 1 million populations per year by 2050.

However, TB Case Notification Rate (CNR) remains low globally. From the estimated 8.7 million new TB cases, only 5.8 (67%) million newly diagnosed TB cases were reported by the National TB Control Programmes (NTPs) in the world. The same Report showed that case notification had stagnated in many countries in recent years.

Globally, efforts to control TB were strengthened in 1991, when a World Health Assembly Resolution recognized TB as a major global public health problem. Two targets for TB control were also established as part of this resolution - 70% of case detection rate and 85% of cure rate by the year 2000. This means that at least the 70% of new smear positive cases should be detected and at least the 85% of these cases should be treated. These two targets which were embedded within the Directly Observed Treatment (DOTS) strategy were launched by World Health Organization (WHO) in 1994. Subsequently, the WHO STOP TB Strategy was endorsed in 2006.

A successful fight against TB calls for the implementation of TB/HIV collaboration which is basically enabling all people living with HIV/AIDS benefit from packages of TB diagnosis and care and enabling all TB suspects benefit from packages of Provider Initiated HIV Counselling, Testing and subsequent services. Ethiopia has already adopted the global targets for TB control in that the country is implementing the DOTS and the STOP TB Strategy.

In the world, countries have adopted different strategies to handle TB and its consequences, including Ethiopia since its occurrence. Ethiopia was ranked seventh among the 22 high TB burden countries in the world in 2011. In 2011, the best estimated incidence and prevalence rate

of all forms of TB in Ethiopia were 258 per 100,000 and 237 per 100,000 respectively. TB mortality rate was 18 per 100,000 populations in the country.

TB control efforts in Ethiopia began in the early 1960s with the establishment of three TB centers in the major urban areas (i.e. Addis Ababa, Asmara and Harar). In 1992, the DOTS Strategy was incorporated into the standardized TB Prevention and Control Programme and piloted in selected parts of the country with a nation-wide adaptation in 1997. By 2011, the NTP reported that the country had achieved 100 percent geographical coverage of DOTS services.

In an effort to reduce those rates of incidence and prevalence in the country and to achieve 100% coverage, to increase the access to quality DOTS services and to maximize case detection in the country; the NTP expanded diagnostic and treatment services by increasing the number of public and private health facilities. These health facilities are providing the services and engaging all health care providers, including health extension workers.

In addition, Ethiopia has designed and implemented a Health Extension Programme (HEP). This Programme is a new initiative, which has been started in the Second Health System Development Programme (HSDP-II) which is a response to those findings of the study conducted on HSDP-I. The country introduced the Initiative to address basic preventive and promotive health care at community level targeting household as centre piece. Therefore, the main objective of HEP is to improve access and equity to preventive essential health intervention provided at kebele and household levels.

The HEP is thus a community-based health care delivery system aimed at creating healthy environment as well as healthy living at grassroots level. It is also designed to achieve a significant basic health care coverage in Ethiopia over five years through the provision of a staffed health post to serve every 5000 people. Every health post is staffed by two female health extension workers (HEWs) who had undergone a training to provide 16 major packages under the four components of the Programme for a year.

TB Prevention and Control is one of the 16 Programmes included in HEP Package at the community level. The Health Extension Workers (HEWs) are engaged in awareness creation, promotion of TB prevention, better TB diagnosis and treatment through early referral of persons

with suspected TB and patient treatment support (FMoH, 2012). Although Ethiopia has achieved 72% case notification rate of all forms of TB by extensive expansion of DOTS services in 2011, and massive involvement of HEWs in TB Prevention and Control activities at the grassroots level; there is still variations in CNR and Case Detection Rate (CDR) among regions and within region.

In addition to HEWs, at the community level, there are also groups of Voluntary Community Health Workers (VCHWs). It is important that HEP links with VCHWs to HEWs and ensures each group supports the work of the other. HEWs are most effective when working in collaboration with VCHWs both to extend contact with families and to the community, and to share different skills. While the strategies for the interventions focus on the household and community, the success calls for coordinated action at all levels. Health centers particularly have a crucial role to play in providing referral care, technical and practical support to the HEP. The woreda health offices similarly have an important role to play in support of the health centers and the health posts. Generally, the Ethiopian Government at different levels has shown high commitment in prioritizing the HEP by ensuring it to receive the necessary financial and political supports.

The Southern Nations and Nationality Peoples Region (SNNPR), on the other hand, is one of the foremost implementers of the TB Prevention and Control Programme. According to the recent Report of the SNNPR Health Bureau, 3340 health posts were built which contributed to increase the primary health service coverage to 94.8%. Yet, the health service utilization was 0.53 visit/capita/year. Up-to-date, SNNP-RHB (2012) reported that about 110% of the required rural and 88% urban health extension workers have been deployed in the Region since then.

With regards to TB Prevention and Control efforts, a number of studies have been conducted by different professionals from various fields of specialization using different perspectives, more of quantitative research methods as well as socio-cultural, economic and political contexts. These studies focused on ambulatory multi-drug resistant TB treatment outcomes in a cohort of HIV-infected patients in India (Isaakidis et al., 2011), determinants of health extension workers functionality (Getachew, 2009), implementation of the Health Extension Programme at meso-level (Mussie, 2013), predictors for survival among TB-HIV co-infected patients (Balewgie,

2012), determinant factors for TB among HIV patients after ART initiation (Kelemu, 2012), knowledge, attitude and practice on TB infection control (Yeshimebet, 2012), determinants for MDR-TB in patients with Pulmonary TB (Sefonias, 2012), treatment outcomes of TB among children under DOTS therapy (Dereje, 2012) in different parts of Ethiopia, and cost and cost-effectiveness of smear-positive tuberculosis treatment by health extension workers in Hawassa, southern Ethiopia (Datiko & Lindtjorn, 2010). These empirical-data based studies have mostly emphasized on some aspects of the issues under consideration at micro-level. However, these studies do remain in-deterministic in their conclusions.

Therefore, it seems at least imperative to conduct a study on contribution of voluntary urban health extension interventions to the effectiveness and efficiency of the TB treatment Programme at least in major capital cities of Ethiopia – meso-level though social work perspectives. Thus, this study aims at assessing contributions of voluntary community-based urban health extension interventions in uptaking and adhering to TB Treatment in one of the sub-cities of Hawassa City of South Ethiopia.

1.2 Statement of the Problem

Tuberculosis is chronic infectious diseases affecting thousands of people in Ethiopia every year. This disease is a major cause of morbidity and mortality in Ethiopia, including Hawassa. The country belongs to the list of those countries most affected by the infectious disease. Compounded with HIV/AIDS, TB has become a formidable threat to the country in general and the Southern City in particular (WHO, 2012). The prevention and control as well as eventual elimination of this ancient scourge of mankind require concerted effort by all. Countries in the world have adopted different strategies and approaches to that effort.

In Mumbai of India, for example, there has been a widely accessible DOTS Programme in place under the Revised National Tuberculosis Control Programme (RNTCP) for treatment of drug-susceptible tuberculosis treatment for drug-resistant, but such a service was, until recently, only available through the private sector. A recent study from Lesotho in Africa showed that starting early empirical treatment for suspected MDR-TB patients using a community-based treatment

TB/HIV officers who have led the implementation of the TB Programme across their respective communities, including Primary Health Care Units (PHCUs). On average, there are one health centre and five satellite health posts within each district. Each health centre has a designated TB Clinic, which is managed by a full-time and trained nurse. Each health post is staffed by two health extension workers.

Presently, there is a Comprehensive TB Prevention and Control Programme using DOTS Strategy and Voluntary Community-Based Approach at macro-, meso- and micro-levels in various socio-cultural, economic, and political contexts. Nevertheless, those above-stated efforts made to identify and to treat the TB cases are far below satisfactory. This will further worsen the situation of the Ethiopian society members at different levels until the trend is reversed. Therefore, one may pose questions for curiosity in the light of social work practice with TB patients in different contexts.

1.3 Research Questions

This study aimed at addressing the following questions:

- What types of TB treatment have been provided by voluntary community-based urban extension workers in the Sub-City in uptaking and adhering to the Strategy?
- What are the contributions of those intervening services provided by the health extension workers?
- To what extent, has the TB Treatment Strategy raised the levels of uptake and adherence to it? And
- What are the strengths and constraints of the TB Treatment Strategy in the Sub-City of Hawassa?

1.4 Objectives of the Study

The study generally aimed at assessing the extent of contributions of voluntary community-based urban health extension workers to TB treatment uptake and adherence of the patients in Tula Sub-City of Hawassa City, South Ethiopia. Specifically, the study intended:

To identify types of services provided to the patients enrolled in the TB Treatment Strategy in Tula Sub-City of Hawassa in Southern Ethiopia;

To assess the contributions of voluntary community-based urban HEWs in uptaking and adhering to TB Treatment in the study area;

To examine the levels of uptake and adherence to the DOT TB Treatment Strategy and approach in the catchment areas in Hawassa City; and

To identify strengths and constraints of the DOT Treatment Strategy in the study area.

1.5 Definition of Key Terms

- **Assessment** is the act of judging or forming an opinion about uptaking and adhering to TB treatment strategy.
- **Health Extension Programme (HEP)** is a key strategy to achieve its health related MDGs and increase access to and utilization of primary care by promoting community-based mother and child (MCH) services. The HEP is implemented by salaried health extension workers (HEWs). The Programme is also an innovative community-based service delivery which can be considered a corner piece (WHO, 2013, p. 14). Health care delivery is organized into a three-tier system (FMOH, 2011) in which the service delivery is characterized by a Primary Health Care Unit (PHCU) comprising five atellite health posts and one health centre to serve 5,000 and 25, 000 people respectively; a district hospital that serves 100, 000 people; a general hospital that serves a million people; and a specialized hospital that serves 5 million people. This Programme is a fundamental philosophy that if the right health knowledge and skill is transferred, households can take responsibility for producing and maintaining their own health. Substantial investments in human resources, health infrastructure, pharmaceutical supplies, and operational costs have been made for the successful implementation of Programme (FMoH, 2010, p. 14).
- **Health Extension Workers (HEWs)** are new type of community-based health workers, who are selected from the community in which they live. HEWs are all female (except in pastoralist and agro-pastoralist areas), to balance gender in the workforce and to ensure cultural sensitivity, as HEWs often conduct home visits to often conduct home visits to provide services to mothers and children. HEWs provide a total of 17 health interventions that target the

major diseases burden in the population, focusing on four areas: maternal, child and newborn health; disease prevention and control; personal and environmental hygiene and sanitation; and education.

- **Voluntary health extension workers** are those trained health extension workers who are working in the Health Extension Programme on voluntary basis.
- **Community-based approach** implies that those health extension workers who are working in the Programme in that they were selected from those members of the local community in which they live.
- **Uptaking** is the act or process by which TB treatment is taken into the TB patients' body system or the rate at which this happen.
- **Adherence** refers to the lengthy treatment course for patients with drug-sensitive disease is six to eight months long, and involves repeated interactions with health services. Challenges are on both the patient (demand) and provider (supply) side as adherence to at least six months of TB treatment is a challenge (Beith et al., 2007).
- **TB treatment defaulter** is a patient who interrupted treatment for two consecutive months or more (Frieden, 2004). However, this definition does not take into account the actual levels of treatment adherence of such patients and considers treatment adherence as a binary variable (i.e. whether someone misses treatment or not) without necessarily considering the actual days of missed TB medications. Although WHO training modules (WHO, 2010) have clear guidelines on how to address treatment interruptions of less than two months and how to compensate for missed doses, this is rarely implemented. This approach was probably a way of simplifying treatment adherence monitoring. Despite the fact that data on missed dosages are available from hospital records, such information has not been fully utilized to investigate the impact of non-adherence to TB medication on cure.
- Tuberculosis (TB) disease (active TB) refers to illness that occurs in someone infected with *Mycobacterium tuberculosis* and is characterized by clinical signs and symptoms, with **city** or without laboratory or radiographic evidence (WHO, 2014, p. xviii).
- **Sub-** "State" shall mean states formed in accordance with Article 47/II of the Constitution of the Federal Democratic Republic of Ethiopia (FDRE) and, for the

purposes of the Proclamation No. 250/2001, includes the Addis Ababa and the Dire Dawa City Administrations. The City Administration of Addis Ababa, in turn, is subdivided into ten sub-cities. Sub city is meso-level political administrative unit in Hawassa, Addis Ababa and Dire Dawa, for example (FDRE, 2001, p. 1599).

- **Kebele** is the smallest political and administrative unit in Ethiopia (FDRE, 1995).

1.6 Limitations of the Study

In order to effectively undertake the study, the researcher first identified risks and opportunities, and then devised coping mechanisms. However, there were some limitations which had been encroached into the process of undertaking this empirical study. The collection and presentation of qualitative data was deemed appropriate to address the objectives of this study. However, the qualitative data could not and should not be quantified to define characteristics of people, services or other characteristics under investigation.

Some of the HEWs and health workers may not be willing to participate in the empirical study for a variety of reasons. Data quality depends on the ability of the interviewers and FGD facilitators (who will be thoroughly trained), as well as the willingness and capacity of the respondents to collaborate (for whom as an enabling environment would be created and sensitive issues during the interview or FGD would be managed confidentiality).

There were a few limitations which might emanate from language-related challenges. Despite the fact that the researcher had engaged in proper preparation of materials and training of the data collectors, some data contents were found lost during translation and transcription of the qualitative data. Hence, the researcher was forced to address those limitations of the study by holding close consultation with those data collectors and social workers with rich experience in such types of data collection in the community thereby ensuring the verbatim transcription of the interviews and FGDs conducted with potential informants and by double checking, as well as comparing the notes with those ideas raised and recorded on the audio records. Generally, all those limitations in the study may run into the analysis of the data, their interpretations and conclusions drawn from those major findings of the study.

1.7 Organization of the Thesis

The thesis has five chapters. The first chapter introduces the readers to background of the problem, statement of problem, research questions, objectives and definitions of key terms in the study, limitations of the study and organization of the thesis. Chapter two presents relevant conceptual/theoretical and empirical literature reviews on TB and related issues under investigation.

Next, the thesis dwells on the study design and methods, including the background of the study area. The fourth chapter focuses on data analysis, interpretation and discussion of those major findings and results in the study. The last chapter draws conclusions from those well-supported major findings in the study and then to suggest social work practice and interventions to address those constraints in voluntary community-based health extension workers' efforts to boost the rates of uptake and adherence to TB Treatment DOTS Strategy in urban context.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter presents review of related literature on TB and related issues. It specifically focuses on the concept of health in general, health system and health indicators for tracking their progress towards the achievement of the set objectives and then goal(s). In addition, the chapter dwells on infectious diseases in general and TB in particular, TB control and prevention, elements of the TB control manual and perspectives of uptaking and adherence, including theories and empirical literature elsewhere in the world. Finally, it highlights important issues that have been running throughout the chapter.

2.2 Health: General overview

Ethiopia is the third most populous country in Africa with a predominantly young population and high rate of natural increase (CSA, 2012, p. 1). Yet, the country faces frequent droughts and is vulnerable to climate change. About 80% of diseases are attributable to preventable conditions that are related to personal and environmental hygiene, infectious diseases and malnutrition (MoH, 2012).

Major achievements of the country include: availability of a Comprehensive National Health Sector Development Programme, progress in tackling priority communicable diseases (mainly malaria and HIV), increment of per capita health expenditure, availability of primary health care units and a wonderful expansion of the Health Extension Programme and its 33, 000 health extension workers (HEWs) (WHO, 2013). The decrement in under-five mortality is also a major achievement.

In contrast, challenges in the health sector include: insufficient funding of the health sector, weak implementation capacity, shortage of the required workforce (particularly midwives and anaesthesiologists) and slow implementation of the new Health Management Information System

HMIS). Maternal and Neonatal deaths and low prevention of mother-to-child transmission (PMTCT) coverage also remain a major challenge. These issues are the main priorities of the current Health Sector Development Plan (maternal, newborn and child health; HIV, TB and malaria and nutrition) in Ethiopia.

The modalities for implementing each main focus area are stated as strategic approaches: (a) Support the contribute strengthening of health systems and services in line with the Primary Health Care Approach; (b) to reducing the burden of communicable and non-communicable diseases and conditions/injuries; (c) Contribute to reducing maternal, newborn and child mortality and improved sexual and reproductive health (SRH); and (d) Support the strengthening of partnership, coordination and resource mobilization (WHO, 2013).

Generally, there are major determinants of health in Ethiopia. These include: economic growth, income distribution, geographical difference, education, gender, food and nutrition behaviour, lifestyle-related factors, environmental factors related to water and sanitation, waste management, food safety and air quality are some of the major determinants that have direct impact on health outcomes of different socioeconomic groups of a country. Ethiopia recognized the profound effect of the social determinants of health (SDH) on health and its overall development endeavours.

Ethiopia has a large and extremely vulnerable population with over five million citizens facing high levels of malnutrition, poor access to health services, inadequate safe water supply, and poverty. Natural disasters like floods, drought and human epidemics, namely, cholera, malaria and measles have led to widespread health vulnerabilities in diverse population categories. Moreover, conflicts, cross-border tensions (increasing number of refugees) and massive population movements of daily labourers have greatly contributed to increased vulnerability of various segments of the population to risks of communicable diseases including meningitis, malaria and diarrhoeal diseases. Coverage and access of health services in pastoralist areas as well as the Developing Regional States (Gambella, Benishangul-Gumuz, Afar and Somali) is very low, making the population vulnerable to various health problems.

Ethiopia has developed a five-year national poverty reduction strategy called the Growth and Transformation Plan (GTP) as a means of ensuring economic growth, achieving the MDGs and

addressing the determinants of health. The seven pillars of the GTP are: (i) sustaining rapid and equitable economic growth;(ii) maintaining agriculture as a major source of economic growth; (iii) creating conditions for the industry to play a key role in the economy; (iv) enhancing expansion and quality of infrastructure development; (v) enhancing expansion and quality of social development; (vi) building capacity and deepening good governance; and (vii) promoting gender and youth empowerment and equity.

2.3 Health System

During the past three (or even four) decades, there has been a rapid evolution of concepts and research approaches to support managerial aspects of health development. Many of these have been described by specific terms such as operations/operational research, health services research, health management research, applied research and decision-linked research. Each of these has made crucial contributions to the development of health system research (HSR). This research is ultimately concerned with improving the health of people and communities, by enhancing the efficiency and effectiveness of the health system as an integral part of the overall process of socio-economic development, with full involvement of all partners.

What is meant by a health system? There are different interpretations of what a health system is. Some give a narrow definition and only consider the different levels of the public health care services as a health system. The inclusion of the district/woreda, district development committee, kebele development committee, and village development committee indicates, however, that some 22 years it has been widely recognized that local administration and other sectors than the health sector alone carry responsibility for the health of the people in a village, kebele, district, zone, sub city or region.

Many HSR researchers have a wider perception of health systems. They also include the private sector. The private sector has many possible components. These include:

- Non-governmental organization (NGO) care, provided by churches, Red Cross, local NGOs, etc.;

Medical practice by private doctors, nurses, or by quacks who provide injections and drugs without medical training. The pharmaceutical sector (licensed pharmacies or unlicensed sellers);

- The large ‘non-biomedical’ professionalized healing systems (Ayurvedic, Chinese, Unani, homeopathic, chiropractic, etc.); and
- Traditional (or folk) medicine, with traditional birth attendants, herbalists and diviners, who may either identify natural or supernatural causes of disease (witchcraft, angry ancestors) and others.

Although the MOH, in many developing countries, including Ethiopia, is still the principal provider of health care (if it is to achieve the most cost-effective care); it has to consider the use of the private sector and contract services out in cases where this would be cheaper. Consequently, the FMoH has already set standards of care and control for deviation in the private sector, as well as the public.

2.4 Health Extension Programme (HEP)

In line with the primary health care approach, Ethiopia has been implementing a health extension programme for the provision of preventive and basic curative services by community health workers at village level. Each village (called kebele) with an approximate population of 5000 has two female health extension workers with one year pre-service training and additional integrated refresher training. The programme is also being implemented in urban areas of the country (which constitute 16% of the population). In the same vein, Ethiopia has managed to use some of the assistance provided for specific diseases, for instance by the Global Fund, for the flexible strengthening of the health system.

The Health Extension Programme introduced a new cadre of government health workers, known health extension workers (HEWs), to deliver the programme at the community level in rural areas. The government aims to recruit and train HEWs resident in the local community. HEWs are females who are at least 18 years old and have completed the 10th grade of schooling. HEWs receive one year of training and are paid a government salary. More than 35,000 HEWs have

een trained since 2003, and they work in more than 14,400 rural health posts across Ethiopia. Each health post is built by the government, with significant inputs in the form of labour and materials from the local community, and serves an average population of 5,000 individuals. Most health posts are staffed by two HEWs, though up to four are deployed in larger communities. HEWs are supervised by nurses or environmental health professionals based at health centers in a nearby town. On average, a health centre oversees five health posts and together they comprise a Primary Health Care Unit (PHCU).

One of the main strategies to control tuberculosis (TB) is to find and treat people with active disease. Unfortunately, the case detection rates remain low in many countries. Thus, we need interventions to find and treat sufficient number of patients to control TB. We investigated whether involving health extension workers (HEWs: trained community health workers) in TB control improved smear-positive case detection and treatment success rates in southern Ethiopia

At the outset, the objectives of the Health Extension Programme were predominately health promotion and health prevention: to improve access to preventive essential health interventions at the household and village level; increase health awareness, knowledge, and skills; promote a healthy lifestyle; and improve the utilization of peripheral health services by bridging the gap between communities and health facilities. A key strategy of the Health Extension Programme is to extend the reach of HEWs in partnership with community volunteer cadres. This approach is now being institutionalized and scaled up through the health system-wide Health Development Army (HDA). Development Team Leaders of the HDA each oversee up to six HDA network leaders in their communities. Each network leader works with five neighboring households to model and diffuse healthy practices. In an average kebele, there are approximately 30 Development Team Leaders and 200 HDA network leaders.

Over time, the Health Extension Programme has expanded services for curative care. In 2010, HEWs were given responsibility for Integrated Community Case Management (ICCM), which added the treatment of pneumonia and severe acute malnutrition to their existing responsibilities for management of malaria and diarrheal diseases in children aged 2 to 59 months.

Given the expanded range of HEW responsibilities and plans for HEWs to have an enhanced role in community-based newborn care, senior leadership in the Federal Ministry of Health expressed interest in learning more about how HEWs spend their working hours and, specifically, how much of their time is spent on preventive and promotive activities compared to curative activities. Moreover, to inform policy decisions on the introduction and scale-up of community-based newborn care, including community-based treatment of Possible Severe Bacterial Infections (PSBI) in the newborn by HEWs, provide Directly Observed Treatment for TB patients at health post, identifying and referral of presumptive TB cases (TB suspects) and close contact of TB patients to health facilities for diagnostic evaluation and also they collect anti-TB drugs.

In general, the HEWs are the key actors for implementation and coordination of community TB care with the following responsibilities:

Provide continuous health education and train the health development army, TB patients, families of TB patients and the communities on TB;

✚ Train and support the health development army on presumptive TB cases (TB suspect) identification and referral, treatment adherence and retrieval of absentees, interrupters and lost to follow-up cases;

✚ Perform identification and referral of presumptive TB cases (TB suspect) for diagnostic evaluation;

✚ Collect Anti-TB drugs from the catchment health centre for TB patients on treatment from their kebeles;

✚ Provide Directly Observed Therapy (DOT) for TB patient at health post;

✚ Supervise TB treatment supporter to support TB patients to adhere to their treatment;

✚ Refill anti-TB drugs on weekly basis for TB patients taking DOT at home being supervised by treatment supporter.

Referring smear positive pulmonary TB cases to the health facility for follow-up sputum examination;

Supporting and motivating TB patients to adhere to their anti-TB treatment throughout their treatment course;

- Identification of side effects of anti-TB drugs and taking appropriate measure; and
- Retrieval of TB treatment interrupters/absentees and lost to follow up cases and referring back to health facility to resume their treatment.

DOT is a way of helping patients to take their medicine for TB. A person receiving DOT will meet with a health care worker/HEW everyday or several times a week at an agreed place e.g. the patient's home, the TB clinic or other convenient location. The health extension worker will observe the patient taking their medication at this place helping to ensure that higher treatment completion rates are achieved. Sometimes someone in their family or a close friend will be able to help in a similar way to the healthcare worker. The health extension worker will be actively involved in the administration of DOT and should actively monitor and ensure compliance. They should also be acceptable and accountable to the patient and to the health system.

2.5 Health Indicators

In Ethiopia, there are basic health indicators (FMoH) for improving maternal health: contraceptive acceptance; antenatal care coverage; deliveries attended by skilled attendant, and postnatal care coverage. Indicators for child health status include: live births; moderate malnutrition in < 3years; severe malnutrition in < 3yrs; health centres providing IMNCI services; penta3 immunization coverage; Measles immunization coverage. Moreover, there are health indicators for expanded programme of immunization (EPI), disease prevention and control, hygiene and environmental health, resources (such as assets, human resource, and finance), health service coverage and utilization, child mortality rate, maternal health rate, combat HIV/AIDS, malaria and other diseases; and environmental sustainability in line with the eight MDGs.

2.6 Infectious Disease: TB/HIV

With regard to the evolution of TB infection and disease in humans, WHO (2014) states that when a person inhales infectious droplets containing *M. tuberculosis*, most of the larger droplets become lodged in the upper respiratory tract (nose and throat), where infection is unlikely to develop. However, smaller droplet nuclei may reach the small air sacs of the lung (the alveoli), where infection may begin.

Regarding the characteristics of *Mycobacterium tuberculosis bacillus*, *Mycobacterium* is small rod-shaped bacilli that can cause a variety of diseases in humans. The *M. tuberculosis* is transmitted from human-to-human and is mainly spread by air borne route. The source of infection is a patient with pulmonary or laryngeal tuberculosis (TB) who expectorates bacilli. During coughing, speaking or sneezing, the patient produces tiny infectious droplets. These particles called droplet, are about 1 to 5 microns in diameter – about 1-5/1000 of millimetre. The droplet nuclei can remain suspended in the air for several hours, depending on the environment.

There are also risk factors for developing active TB. The risk depends on a number of factors, including those that lead to a weakened immune system, damaged lungs, or the intensity and duration of exposure – host immune defences; age; pregnancy; conditions; that damage the lung; intensity of exposure (i.e. number of inhaled bacilli). Similarly, those factors modifying TB epidemiology include: socio-economic development, TB treatment, HIV infection, and BCG vaccination (Medicines Sans Frontiers & Partners in Health, 2014, p. 15-19).

In order to evaluate the effective functioning of a National TB Programme in a country, the following are the most common epidemiological indicators: annual incidence rate of all TB cases, annual incidence rate of all smear-positive TB cases, prevalence of smear-positive TB, proportion of MDR-TB among new and previously treated cases, and HIV positivity rate among all TB patients.

Generally, TB today is the second major deadly disease among the infectious diseases, next to HIV/AIDS. While the absolute number of TB cases has been slightly decreasing since 2006, there are many parts of the world where the number of TB cases is still increasing (WHO, 2014). The same source documents that drug-resistant TB (DR-TB) is a growing worldwide problem, with no country or region spared. As of 2012, extensively drug-resistant TB (XDR-TB) has been identified in 84 countries, such that the average proportion of MDR –TB cases with XDR-TB is estimated to be 9% (WHO, 2012).

2.7 TB Control and Prevention

For the purpose of controlling and preventing TB, the Federal Ministry of Health (2012) prepared the Manual on TB Treatment which encompasses general and specific issues related to a burden of tuberculosis, HIV/AIDS, National TB, and TB/HIV Control Programme, particularly the National Tuberculosis Control Strategy. Specifically, the Manual also includes: operational definition of TB, clinical presentation of tuberculosis, diagnostic methods, case definitions, classification of TB and its treatment, treatment of TB in special situations, treatment of serious forms of extra-pulmonary TB, management of anti-TB drugs and their side-effects, monitoring of TB, treatment, management of TB treatment interrupters and TB treatment outcomes, drug-resistant tuberculosis and its treatment, TB infection control, community participation in TB and TB/HIV control, public-private mix in TB care, advocacy, communication and social mobilization for TB and TB/HIV, pharmaceuticals supply management system. monitoring and evaluation of TB and TB/HIV control activities, key indicators in TB and TB/HIV prevention and control, including data reporting, data flow and quality assurance, TB and TB/HIV data quality assurance, and supportive supervision and review meetings.

Tuberculosis is a major cause of morbidity and mortality in Ethiopia. TB has become a formidable threat to the country. Cognizant of the burden of TB, and TB/HIV Co-infection in the country, the prevention and control of TBL and TB/HIV remains the priority Health Programme in all phases of HSDP. TB is a major public health problem throughout the world. About a third of the world's population is estimated to be infected with tubercle bacilli and hence at risk of developing active disease.

The overall goal of the National TB and TB/HIV Prevention and Control Programme is to achieve the TB related MDGs and STOP TB Partnership targets set for 2015 and the global targets for the control of leprosy. The general objectives are to:(a)Interrupt transmission of the infections; (b) Reduce morbidity, mortality and disability; (c) Prevent emergence and spread of drug resistance; (d) Reduce burden of TB among people living with HIV; and (e) Reduce HIV burden among TB patients.

National Tuberculosis Control Strategy intends to build on the achievements of DOTS and to address the remaining challenges. WHO launched the STOP TB Strategy in 2006 to help achieve the Millennium Development Goals for TB in 2015. Ethiopia also adopted this Strategy to achieve the National TB and TB/HIV targets of the MDGs.

The Strategy also has six components where DOTS remains the most important component of the Strategy. The components are: (a) Pursue high quality DOTS expansion and enhancement; (b) Secure political commitment with adequate and sustained financing; (c) Ensure early case detection and diagnosis through quality assured bacteriology; (d) Provide standardized treatment with supervision and patient support; (e) Ensure effective drug supply and management; and (f) Monitor and evaluate performance and impact, and so on.

The main elements of the TB Treatment Strategy are:

- Sustain leprosy control activities in all endemic areas of the country;
- Use case detection as the main indicator to monitor progress;
- Ensure high-quality diagnosis, case management, recording and reporting;
- Strengthen routine and referral services;
- Discontinue the approach by campaign;
- Develop tools and procedures that are home/community-based, integrated and locally appropriate for the prevention of disabilities/impairments and for the provision of rehabilitation services;
- Promote operational researches in order to improve implementation of a sustainable strategy; and
- Encourage supportive working arrangements with partners at all levels.

In the same framework, the aims of TB Treatment are to: cure the TB patient and restore quality of life and productivity, prevent death from active TB or its late effects, prevent relapse of TB, prevent the development and transmission of drug resistance, decrease TB transmission to others, achieve the aims of TB treatment, and the patient should receive adequate chemotherapy.

AS to the monitoring of TB treatment Directly Observed Treatment (DOT), the health workers must take an active role to ensure that every patient takes the recommended drugs, in the right combinations, on the correct schedule, for the appropriate duration. The best way to ensure this is for a health worker or a community TB treatment supporter to watch each patient swallow every single dose of the drugs. This is called directly observed treatment - DOT. The Directly Observed Treatment can take place at a hospital, a health centre or health post, the patient's workplace, or at the home of the patient. DOT ensures that all Anti-TB drugs are swallowed. DOT is also supposed to build supportive relationship between patient and health worker or community TB treatment supporter.

A good relationship further enables the patient to discuss any question or fear about the disease and treatment. The success of directly observed treatment requires the patient's cooperation and motivation. Health workers and treatment supporters should have the appropriate communication skills when interacting with patients, provide all the necessary information about their treatment so that they understand the disease and adhere to the treatment. Essential pieces of information about TB disease include: (a) What is tuberculosis; (b) TB can be cured; (c) How TB spreads; (d) How to prevent TB from spreading; (e) Who else should be examined or tested for TB; and (f) the Importance and the necessity of DOT.

2.8 Housing Conditions and Health

O'Neil (2000) clearly indicates that living in a crowded, damp, mouldy house with poor water and sewage facilities and in need of major repairs is extremely hazardous to the health of residents. This is valid despite scientific cautions that the design of most of the studies cited above does not provide sufficient evidence to support causal statements. Statements of "causality" usually require longitudinal case-control studies that clearly isolate the particular variable or health threat under investigation (e.g., smoking and cancer and heart disease). Such studies would be difficult, expensive and indeed, unethical, in the case of housing because the accumulated evidence should require that hazardous housing be eliminated before any such study was completed.

The accumulated evidence also indicates that the health consequences of exposure to these various hazards are of sufficient magnitude that they constitute a serious public health problem. If the threat was the bacteria, the public health response would be to declare an emergency and quarantine the population. The problem with bad housing is that the alternative, in the absence of a major re-housing initiative, is no housing. Of even more insidious importance is the fact that children suffer the worst effects of bad housing.

All of the health consequences cited above, including infectious diseases, respiratory illness, and psychosocial problems have been found to be particularly prevalent in children who live in bad housing. The significance of this finding is that these health effects experienced in childhood may influence the health of the person throughout their life course. There is increasing evidence that childhood experiences of multiple chronic infections may have long term consequences for the immune system and the adult onset of various chronic conditions such as heart disease and diabetes. Adult mental health and, particularly depression, has been shown to be strongly correlated with early childhood experiences of psychosocial deprivation and trauma. The solution to this serious health threat is relatively simple.

Eliminating damp and mouldy houses, and ensuring a sufficient number of sanitary housing units to reduce overcrowding does not require millions of the Ethiopian Birr of medical research, expensive drugs or costly medical procedures. It simply requires an investment in the basic infrastructure of a community; an investment that not only will prevent a major public health problem but will also contribute to the economic well-being of the community and in the process to ameliorate the other major and associated risk factor to health – low socioeconomic status.

2.9 Theories of Uptaking and Adherence to TB Treatment

This section of the thesis argues that there are a number of health behaviour theories that contribute to understanding uptake and adherence to long-term medications, such as those for TB and HIV/AIDS. These theories are: the biomedical perspective; the behavioural (learning) perspective; communication perspective; cognitive perspective; health belief model; the protection-motivation theory; social-cognitive theory; information-motivation theory; behavioural skills (IMB) theory; and stage perspectives like(trans-theoretical model, TTM).

The **biomedical perspective** incorporates the biomedical in which patients are assumed to be passive recipients of doctors' instructions. Health or disease is traced back to biomedical causes,

such as bacteria or, is therefore focused on the patient's body. In keeping with this mechanistic view of illness and treatment, non-adherence is understood to be caused by patient characteristics behaviour.

Behavioural (learning) perspective incorporates behavioural learning theory (BLT) which is focused on the environment and the teaching of skills to manage adherence. It is characterised by the use of the principles of antecedents and consequences and their influence on interventions incorporating elements of BLT have also been reported to be effective for adherence to long-term medications.

Communication perspective suggests that improved provider-client communication will enhance adherence and implies that this can be achieved through patient education and good health care worker communication skills – an approach based on the notion that communication needs to be clear and comprehensible to be effective. It also places emphasis on the timing of treatment, instruction and comprehension.

Cognitive perspective includes theories such as the health belief model (HBM), social-cognitive theory (SCT), the theories of reasoned action (TRA) and planned behaviour (TPB) and the protection motivation theory (PMT). These theories focus on cognitive variables as part of behaviour change, and share the assumption that attitudes and beliefs, as well as expectations of future events and outcomes, are major determinants of health related behaviour. Generally, these theories propose, individuals will choose the action that will lead most likely to positive outcomes.

Health Belief Model (HBM) views health behaviour change as based on a rational appraisal of the balance between the barriers to and benefits of action. According to this Model, the perceived seriousness of, and susceptibility to, a disease influence individual's perceived threat of disease. The perceived benefits and perceived barriers influence perceptions of the effectiveness of health behaviour. In turn, demographic and socio-psychological variables influence both susceptibility and perceived seriousness, and the perceived benefits and perceived barriers perceived to action. Perceived threat is influenced by cues to action which can be internal or external factors.

According to the **protection-motivation theory**, behaviour change may be achieved by appealing to an individual's fears. Three components of fear arousal are: the magnitude of harm of a depicted event; the probability of that event's occurrence; and the efficacy of the protective response.

Social-cognitive theory evolved from social learning theory and may be the most comprehensive theory of behaviour change developed thus far. It posits a multifaceted causal structure in the regulation of human motivation, action and well-being and offers both the predictors of adherence and the guidelines for its promotion. The basic organising principle of behaviour change proposed by this theory is reciprocal determinism in which there is a continuous, dynamic interaction between the individual, the environment and behaviour. Social-cognitive theory suggests that while knowledge of health risks and benefits are a prerequisite to change, additional self-influences are necessary for change to occur.

Information-Motivation-Behavioural Skills (IMB) theory was developed to promote contraceptive use and prevent HIV transmission. IMB was constructed to be conceptually based, generalizable and simple. It has been tailored specifically to designing interventions to promote adherence to ART.

This theory focuses on three components that result in behaviour change: information, motivation and behaviour skills. Information relates to the basic knowledge about a medical condition, and is an essential prerequisite for behaviour change but not necessarily sufficient in isolation. A favourable intervention would raise the baseline levels of information, and target information gaps.

The second component is motivation, which results from personal attitudes towards adherence; perceived social support for the behaviour; and the patients' subjective norm or perception of how others with the condition might behave. Finally, behavioural skills include factors such as ensuring that the patient has the skills, tools and strategies to perform the behaviour as well as a sense of self-efficacy – the belief that they can achieve the behaviour. The components

mentioned above need to be directly relevant to the desired behaviour to be effective. They can also be moderated by a range of contextual factors such as living conditions and access to health services. Information and motivation are thought to activate behavioural skills, which in turn result in risk reduction behavioural change and maintenance. The theory is said to be moderately effective in promoting behaviour change, and has been shown to have predictive value for adherence of ART.

Self-regulation perspective is the main theory in this domain. Developed to conceptualise the adherence process in a way that re-focuses on the patient, the theory proposes that it is necessary to examine individuals' subjective experience of health threats to understand the way in which they adapt to these threats. According to this theory, individuals form cognitive representations of health threats (and related emotional responses) that combine new information with past experiences. The self-regulation theory offers little guidance related to the design of interventions and no meta-analyses examining evidence for the effectiveness of this theory were identified. This theory is most prominent among the stage perspectives.

Stage Perspectives *include a number of theories like the trans-theoretical processes of change earlier, and reasons that people move through these stages, typically relapsing and revisiting stages before success. This theory is said to offer an "integrative perspective on the structure of intentional change" – the perceived advantages and disadvantages of behaviour are crucial to behaviour change. Further research and analysis is therefore needed urgently to determine which perspectives of models might best improve uptake and adherence to long-term treatment of TB/HIV.*

CHAPTER 3

STUDY DESIGN AND METHODS

3.1 Introduction

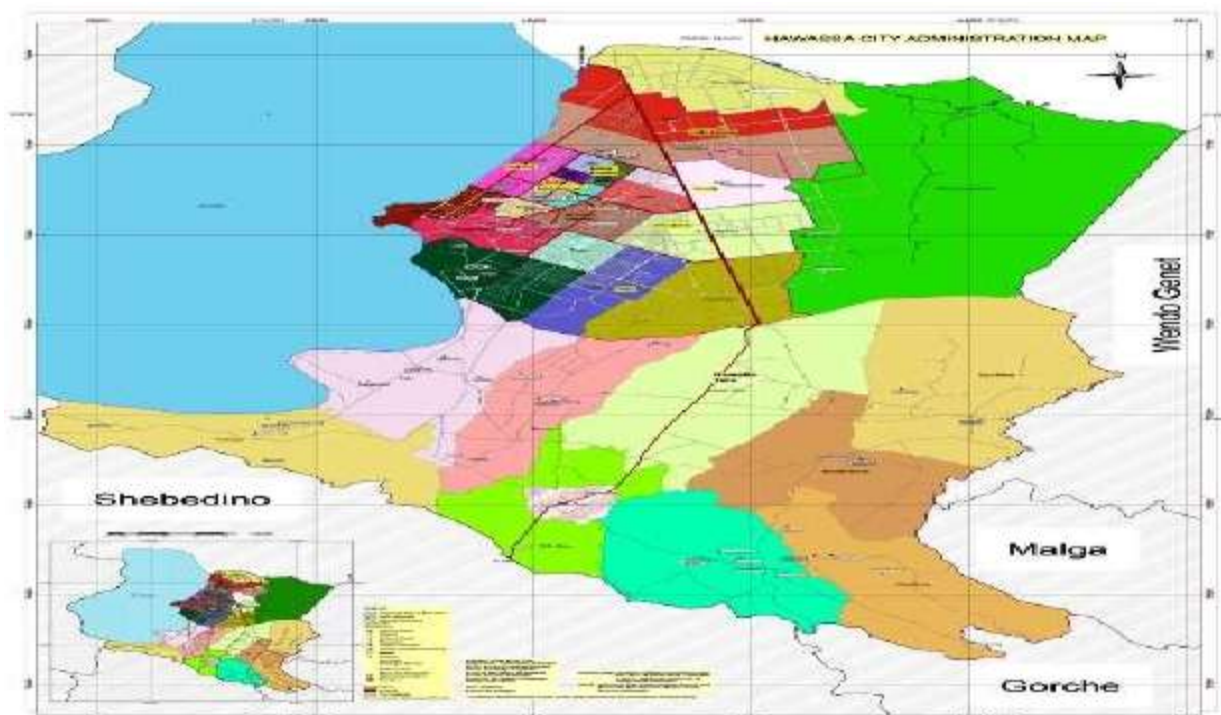
This chapter describes the study design and methods employed in the process of conducting this empirical study undertaking. First, it presents description of the study area, followed by the study design and methods used in the actual study. The next subchapter describes the universe of the study in terms of its target population covered, place and time reference. The third subchapter further dwells on the sample size and methods of sampling used in selecting and drawing the appropriate sample size. Subchapter four also describes the instruments and procedures of data collection employed in generating the pertinent quantitative and qualitative data for the study. Finally, it discusses about both the quantitative and the qualitative data analysis techniques employed in the study, as well as those ethical issues which were considered in the research process.

3.2 Description of the Study Area

Hawassa is one of the most beautiful and rapidly growing cities in Ethiopia. It is found at the heart of the Rift Valley and enclosed by Lake Hawassa, which is an ideal spot for fishing, boating and bird watching. The city was founded during the period of Emperor Haile Silassie I in 1959 and it was named after Lake Hawassa. It is, currently, the head quarter of the Sidama Zone Administration, as well as the capital of the Southern Nation, Nationalities and People's Regional State. Hawassa has become the home of over 50 Nationalities. All Nationalities enjoy their own identity, tradition, customs and cultures. It further serves as an excellent base to explore the lower Omo Valley of Ethiopia. The City has registered a dramatic growth in terms of investments and development of infrastructures so that it is favourable to live and visit.

Hawassa which is situated about 275 km away far from Addis Ababa. For administrative and political purpose, SNNPR is divided into 21 urban and 11 rural kebeles and 1 sub-city. According to CSA (2012), a total 351,567 persons live in Hawassa. Disaggregated by sex, 170,510 (48.5%) were females and 181,057 (51.5%) were males.

Regarding health infrastructures in Hawassa, there were 2 government owned hospitals, 3 privately owned hospitals, 11 public health centers, 50 private clinics, and 15 health posts. These health institutions were staffed by 4 specialists, 16 general practitioners (GPs), health officers, 340 nurses, 3 anaesthetists, 66 laboratory personnel, 44 pharmacy personnel, 13 sanitarians/environmental health science professionals and 3 radiologists. In Hawassa, the ten top diseases were found to be malaria; upper respiratory tract infections (URTIs); diarrheic; intestinal parasites; TB; STIs; disease of the eye; and psychiatry problems. Therefore, tuberculosis was the fifth major disease in the Capital city of the SNNPR.



SOURCE: BoFED, 2008

Fig 3.1 Maps of the Study Area and Hawassa City

3.3 Study Design and Methods

The researcher employed non-experimental research design which involves a mixed research method. The mixed method used both quantitative and qualitative research methods. Quantitatively, the researcher used descriptive sample survey in order to give accurate pieces of information on the extent of contributions of HEWs to the uptake and the adherence of TB Treatment in Tula Sub-City of Hawassa City under the auspices of the South Nations,

Nationalities and People's Regional State (SNNPR), Ethiopia. In order to generate the qualitative data and complement the quantitative data in the study, individual in-depth interviews with case informants through probing, semi-structured interviews with key informants, focus group discussions with a group of 12 persons, and documentary analysis using interview guide/protocol, FGD schedule/checklist and documentary analysis template/matrix, respectively were used.

3.4 Universe of the Study

The universe of the study encompassed the study population consisting of TB patients under the treatment, health managers and regional policy makers, health extension workers in Hawassa City and Tula Sub-City, other health professionals in TB Treatment Clinics/Units, voluntary community-based HEWs and local community representatives in the study sites. In the study, the researcher considered those TB patients and stakeholders of the Treatment Programme at four kebeles and nine health centers which had been implementing TB DOTS Programme in the City in the years 2013 and 2014.

3.5 Sampling Methods

In Hawassa City, there were a total of 1239 all forms of TB patients in 2013/14 (Hawassa City Health Bureau, 2014). The sample size comprised of 60 TB patient respondents that were selected among the enlisted patients in the record (i.e. sampling frame) using systematic sampling method. These respondents were also identified and drawn from the available list of 1239 TB patients under the Treatment. To this end, the researcher chose a random number between 1 and a sampling interval of 21 and then continued until those total samples of respondents to be drawn for the sample survey study in those areas became 60. In addition, among those potential clients of the HEP, a total of 12 persons were selected and become participants in the focus group discussions with the help of knowledgeable guides in the areas under consideration. Besides, a total of five case informants and ten key informants were interviewed to collect the qualitative data on those pertinent issues under investigation.

3.6 Data Collection: Tools and Procedures

The researcher purposively selected four kebeles and nine health centers as they have had potential health posts. A structured interview schedule was designed and used to largely collect the quantitative data. This research instrument was then pre-tested and piloted in order to ensure the validity and reliability of the interview schedule, as well as to check its soundness to the intended study purpose. To do so, the instrument was also translated from English into Amharic so that all respondents could respond understandably. Having pretested, conducted pilot study, generated feedbacks and incorporated them; the actual data collection was undertaken by preparing enough copies of the structured interview schedule.

In the same manner, the interview guide/protocol with (detail) questions was prepared, pretested and employed to conduct in-depth interviews with case informants, and with key informants for addressing the intended objectives of the study, respectively. The key informants were also composed of the Programme Officers and Coordinators at kebele level using interview protocol to guide the interviewing process. All interviews with the informants were arranged based on respective participants' convenience and was then conducted on a date, and at a place and time of their choices. The interviews thus covered a wide range of questions on the work of the UHEP and their roles in uptaking of TB Treatment and its adherence.

The other key data collecting instrument was focus group discussion (FGD) schedule/checklist. This is the instrument in qualitative research method which is preferred because it enables spontaneity in accessing people's ideas and thoughts at greater depth. The FGDs were conducted with those patients utilizing services in TB Treatment Programme, health extension workers and other health care providers using the FGD schedule. It was prepared in unstructured manner and administered in a group context. In addition, the researcher employed documentary analysis matrix in order to analyze the contents of different documents, such as TB Prevention and Control Policy, Strategy and Guidelines; files on the Programme, published journal articles, published research reports, as well as unpublished relevant materials, including web-based s prepared elsewhere in the globe.

3.7 Data Processing and Analysis

Following the completion of quantitative and qualitative data collection, the data were verified, organized and processed to make them ready for quantitative and qualitative data analyses. The data from the interview schedule were also verified, coded and fed into data entry template of the SPSS Version 20 software and then analyzed to produce outputs like frequency distribution, arithmetic mean and other measures of descriptive statistics. Besides, open-ended questions incorporated in the schedule were carefully collected, summarized and then coded into five or six major categories, including other(s) category.

For the qualitative data, a thematic and an interpretive approach that seek to present a holistic view of data were followed. Accordingly, the qualitative data were checked for completeness, arranged categorically, and the responses were then reduced in an interpretive manner in line with the objectives of the study. Thus, the results of the qualitative data analysis were classified into themes and analyzed in normative way. In some cases, direct quotations from data sources were used to present the informants' or participants' opinions and feelings in their own words and to give more meaning for the qualitative data analysis.

In what follows, the findings from the quantitative data analysis and results of the qualitative data analysis were compared, contrasted, complemented and interpreted by applying triangulation method(s). Finally, based on the interpretation and discussion of the findings and results of both types of data analysis, conclusions were thus drawn. The researcher used both quantitative and qualitative data while writing-up the MSW thesis in an integrated manner.

3.8 Ethical Considerations

TB is strongly associated with HIV/AIDS because of the perceived mode of transmission, which stigmatizes and discriminates patients. These are common in most African communities and Hawassa, Ethiopia in particular. TB like HIV/AIDS becomes difficult to discuss in public. Looking at the sensitive nature of the study, all patients were assured of confidentiality and anonymity. Information on patients, residential addresses, and health facilities to which patients were affiliated were collected for the purpose of follow-up. Respondents were informed that this information would not be made available to persons outside of the researcher context. The

respondents in the study were further assured that no person-identifiers would be used for writing-up the MSW thesis.

Regarding the ethical clearance, the Ethical Review Committee of Southern Nations, Nationalities and People's Regional Health Bureau approved this study. The researcher first discussed the objectives of the study with the Managers of the TB Programmes and kebele leaders about urban community-based TB care and obtained permission to proceed in the study process. Then, the researcher explained the overall aim of the study to the study participants and enrolled them after they had given their respective informed consent to her. The study participants were also informed about their rights to refuse or withdraw from the study at any time in the research process. The Ethical Review Committee thus approved the verbal consent in the light of the adherence to recommendations forwarded in the Guidelines for Clinical and Programmatic Management of TB, Leprosy and TB/HIV in Ethiopia (FMoH, 2012).

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

The chapter presents the analysis and interpretation of both quantitative and qualitative data in an integrative manner. The first section describes the socio-demographic and economic characteristics of the patient respondents, following this introductory statement. Section two is on different types of treatment provided to those TB patients in the Programme. Next, the contributions of those types of treatment strategy will be examined in the light of the overall objectives of the study in order to address those research questions. The fifth section focuses on the examination of the levels of uptake and adherence to TB Treatment Programme and Strategy. Finally, the study sheds light on the strengths and constraints of the Programme and Strategy under investigation in Hawassa City.

4.2 Socio-demographic and Economic Characteristics

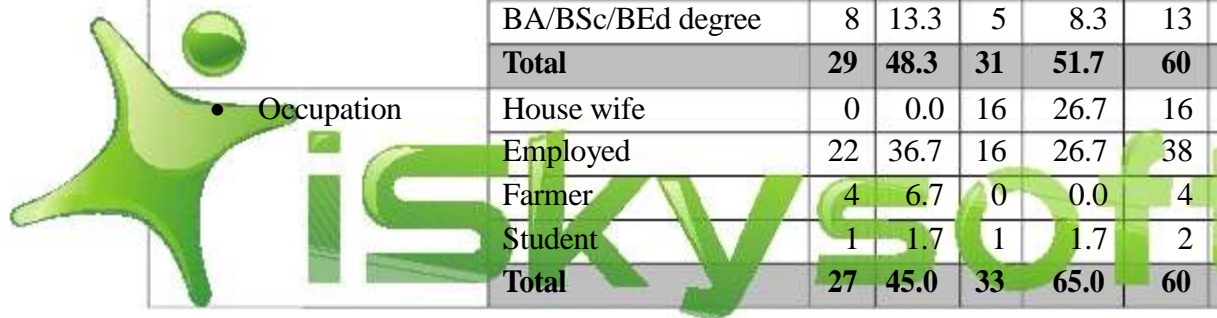
Table 4.1 shows that a total of 60 respondents participated in this study. Of the sixty respondents in the study, 30 respondents were selected from TB Clinic, the other 20 respondents were health care providers who had been working in the TB Clinic (according to the Supervisor of the Health Extension Workers) and the rest, 10 respondents were health extension workers who had been working in the Health Post situated in the City.

The study was found to be dominated by female TB patients and professionals. A total of 42 (seventy percent) males and 18 (forty percent) females participated as respondents in this study. Most of the patients and workers in the TB Treatment Programme in Tula Sub City and Hawassa City are females. Thus, the infectious disease has mostly affected females and attracted females with different knowledge and skills in the Southern Ethiopia.

As shown in Table 4.1, there is no as such dominant age category in the study. Only twenty-seven (45.0%) of the respondents in the study expressed their ages were in the age bracket which ranged from 25 to 34 years. However, the respondents' ages were found to get skewed a little towards young adult age category. This finding concurs with that vulnerable and/or risky age group in HIV/AIDS infection. In addition, the majority of the patients and professionals in the

Table 4.1 Socio-demographic and economic characteristic of study participants

| Variables | Categories | F | | | | % | |
|---------------------|-------------------------|-----------|-------------|-----------|-------------|--------------|--------------|
| • Sex | Male | 18 | | | | 30.0 | |
| | Female | 42 | | | | 70.0 | |
| | Total | 60 | | | | 100.0 | |
| • Age | Age category | Male | | Female | | Total | |
| | | f | % | f | % | f | % |
| | 15 – 24 | 3 | 5.0 | 7 | 11.7 | 10 | 16.7 |
| | 25 – 34 | 10 | 16.7 | 17 | 28.3 | 27 | 45.0 |
| | 35 – 39 | 3 | 5.0 | 3 | 5.0 | 6 | 10.0 |
| | 40 – 49 | 1 | 1.7 | 12 | 20.00 | 13 | 21.7 |
| | 50 – 59 | 0 | 0.0 | 2 | 3.3 | 2 | 3.3 |
| | 60+ | 1 | 1.7 | 1 | 1.7 | 2 | 3.3 |
| | Total | 18 | 30.0 | 42 | 70.0 | 60 | 100.0 |
| • Marital status | Single | 6 | 10.0 | 5 | 8.3 | 11 | 18.3 |
| | Married | 24 | 40.0 | 18 | 30.0 | 42 | 70.0 |
| | Divorced | 0 | 0.0 | 3 | 5.0 | 3 | 5.0 |
| | Widowed/Widower | 0 | 0.0 | 4 | 6.7 | 4 | 6.7 |
| | Total | 30 | 50.0 | 30 | 50.0 | 60 | 100.0 |
| • Religion | Orthodox Christian | 8 | 13.3 | 24 | 40.0 | 32 | 53.3 |
| | Protestant | 3 | 5.0 | 11 | 18.3 | 14 | 23.3 |
| | Muslim | 4 | 6.7 | 10 | 16.7 | 14 | 23.3 |
| | Total | 15 | 25.0 | 45 | 75.0 | 60 | 100.0 |
| • Educational level | Illiterate/No schooling | 5 | 8.3 | 2 | 3.3 | 7 | 11.7 |
| | Read & write | 6 | 10.0 | 12 | 20.0 | 18 | 30.0 |
| | Grades 1 - 8 | 8 | 13.3 | 3 | 5.0 | 11 | 18.3 |
| | Grades 9 -10 | 1 | 1.7 | 3 | 5.0 | 4 | 6.7 |
| | Grades 11-12 | 1 | 1.7 | 2 | 3.3 | 3 | 5.0 |
| | Diploma | 0 | 0.0 | 4 | 6.7 | 4 | 6.7 |
| | BA/BSc/BEd degree | 8 | 13.3 | 5 | 8.3 | 13 | 21.7 |
| | Total | 29 | 48.3 | 31 | 51.7 | 60 | 100.0 |
| • Occupation | House wife | 0 | 0.0 | 16 | 26.7 | 16 | 26.7 |
| | Employed | 22 | 36.7 | 16 | 26.7 | 38 | 63.3 |
| | Farmer | 4 | 6.7 | 0 | 0.0 | 4 | 6.7 |
| | Student | 1 | 1.7 | 1 | 1.7 | 2 | 3.3 |
| | Total | 27 | 45.0 | 33 | 65.0 | 60 | 100.0 |



TB Treatment Programme is living in wedlock. Forty-two (70.0%) of them stated that they were found to be married partners under one roof. These respondents are also followers of the Orthodox Christianity for some years. A total of 32 (53.3%) of the participants in the study expressed their religion as Orthodox Christianity.

As to the educational background of the respondents in the study, they are more or less from all types of educational statuses. Eighteen (about one-third percent) of the respondents were able to read and write, as well as a total of thirteen (about twenty-two percent) of them already held the Bachelor's degree in different fields of specialization. However, such less dominated level of educational status may negatively affect the comprehensive TB Treatment Programme. Those respondents in the study (38, about two-third percent) of them were employed in generating incomes to their households. This situation may, in turn, positively contribute to the stakeholders' concert efforts to TB prevention and control in Hawassa City.

Generally, the socio-demographic and economic characteristics of the respondents in the study under takings are moderately favourable to TB Treatment Programme except the educational achievements of the patients and the professionals. Here comes the question of raising awareness and imparting knowledge as well as skills in increasing the level of uptaking and adherence to the TB treatment under investigation in Hawassa.

As indicated in Table 4.2, in the order of those major symptoms of TB disease, coughing (100.0%), night sweating (86.7%), loss of weight (73.3%), fever (66.7%), and tiredness (60.0%) were found to account for the identified symptoms of the disease under investigation. Generally, the TB patients identified coughing, night sweating, weight loss, fever and tiredness as the major indicators of the infectious disease. Therefore, the patient respondents clearly and correctly identify the major symptoms of the disease.

Table 4.2 Information of respondents related to their tuberculosis history

| Item | Type of symptom | F | % |
|--|-------------------------------------|-----------|--------------|
| <ul style="list-style-type: none"> • The first symptom related to their illness | Coughing | 30 | 100.0 |
| | Fever | 20 | 66.7 |
| | Loss of weight | 22 | 73.3 |
| | Night sweating | 26 | 86.7 |
| | Chest pain | 12 | 40.0 |
| | Tiredness | 18 | 60.0 |
| | | | |
| <ul style="list-style-type: none"> • Source(s) of information about the availability of the TB treatment service(s) | Informed by health extension worker | 22 | 73.3 |
| | During house to house visit | 5 | 16.7 |
| | Informed by friends | 2 | 6.7 |
| | Other | 1 | 3.3 |
| | Total | 30 | 100.0 |
| <ul style="list-style-type: none"> • House to house visit by health extension worker | Yes | 30 | 100.0 |
| | No | 0 | 0.0 |
| | Total | 30 | 100.0 |

The respondents who participated in this empirical study were also asked about their sources of information about the availability of the TB treatment service(s) in their respective living area. A total of 22 (about seventy-three percent) of the patients confirmed the availability of the services under investigation. The major source of information on the availability of the TB treatment services were house-to-house visits made by the voluntary urban community-based health extension workers in Hawassa City. Thus, one can deduce that the urban health extension workers are the major source of information on the availability of the services to the TB patients in the intervention areas in Hawassa.

4.3 Types of TB Treatment

In the study, the researcher furthermore assessed the types of service made that most of the services were found to be made avail in those areas. Regarding those pieces of information which are available for treating tuberculosis in the Sub City and in Hawassa City, the findings of the study (based on views of the key informants and FGD participants, as well as the reviews of progress reports prepared by the respective Offices) identified the following services as for treating TB:

creating awareness of the basic facts about TB (including case finding, clinical presentation, diagnostic methods, case definitions, treatment in special situations, management of TB/HIV confection, treatment for multi-drug resistant tuberculosis (MDR-TB) and its basic facts, and other related issues); community participation in TB control; public-private mix in TB care; advocacy, communication and social mobilization for TB control; supply, management, operational rules, ordering, rational use and rational use of the TB pharmaceuticals; quality check and control; and monitoring and evaluation of TB control and prevention activities at different levels.

The analysis of the above-stated excerpted quotation from the qualitative data generated from key informants, discussants and documents showed that almost all necessary services were available for the treatment of tuberculosis in the City of Hawassa. Therefore, it can be conclude that TB treatment services are almost available in a comprehensive manner in Hawassa.

4.4 Contributions of TB Treatment Services provided and HEWs

The overall findings of the study indicated that both all types of services provided in the treatment of TB and by the health extension workers had contributed to awareness creation, capacitating the patients' family members on how to care and support the sick persons properly, adherence and uptake of the TB treatment. A total of 58 (about ninety-seven percent) of the respondents confirmed that the availability of supports on the part of HEWs in the process of treating the TB victimized person in Hawassa.

In addition, the health extension workers have been providing the patients with different types of support. The supports included: checked-up their clinical conditions or weight loss (58, 96.7%) on daily basis, observation of the patients' treatment daily (56, 93.3%), followed-up the patients'

appointment on their sputum check-up (52, 86.7%), provided health education on TB on continuous basis (39, 65.0%). Amongst the total number of respondents in the study, fifty-three (about eight-eighth percent) of them expressed that HEWs motivated the TB patients in the Programme. Moreover, two-third of the TB patients and professionals who had participated in this survey stated that the health extension workers supported the patients' family members in providing pieces of information on how to prevent tuberculosis at household level.

The health extension workers were found to facilitate referral of the patients to the nearby health facility for TB diagnosis (58, 96.7%), were found to be providers of health education on how to prevent tuberculosis to the patients' family members on a continuous basis (52, 86.7%), and assessed whether or not any sign and symptom of TB (such as coughing for more than two weeks). In such settings, the health extension workers were able to provide the patients' family members with all those types of support at the health post (53, 88.3%), and during house-to-house visits of the patients (49, 81.7%). The majority of the respondents (55, about ninety-two percent) were found to be aware of coughing the major mode of transmission of tuberculosis from the untreated patients to nearby another people.

4.5 Level of Uptake and Adherence

The level of uptake and adherence to TB treatment Programme was generally eight percent in Hawassa. However, twenty percent of the patient respondents identified themselves as defaulters due to feeling of abdominal discomfort while taking the medicine (3, 50.0%), because they forgot the medicine (2, 33.3%), and being busy (1, 16.7%). For that level of uptaking and adhering to the TB treatment in Hawassa the HEWs have been playing their active roles in iving pieces of advice on proper follow-up and check-up of the patients' sputum according to the schedule set, by counselling the patients about the side effects of improper medication of the TB medicine, and in educating the patients, including their family members in order to convince them of continuing the interrupted medication.

Table 4.3 Contributions of health extension workers to TB Control and Prevention

| • Information related to the role of health extension workers on TB | | f | % |
|---|--|-----------|--------------|
| <ul style="list-style-type: none"> • Availability of support by the HEWs in the process of TB patients' treatment | Yes | 58 | 96.7 |
| | No | 2 | 3.3 |
| | Total | 60 | 100.0 |
| <ul style="list-style-type: none"> • The types of support that HEWs are providing to TB patients | The HEWs observed daily treatment | 56 | 93.3 |
| | Follow the appointment on sputum check up | 52 | 86.7 |
| | Observe clinical condition/weight check up | 58 | 96.7 |
| | Provide continuous health education on TB | 39 | 65.0 |
| | | | |
| <ul style="list-style-type: none"> • HEWs motivate TB patients to adhere to their Anti-TB treatment throughout the treatment course | Yes | 53 | 88.3 |
| | No | 5 | 8.3 |
| | Not sure | 2 | 3.3 |
| | Do not want to reply | 0 | 0.0 |
| | Total | 60 | 100.0 |
| <ul style="list-style-type: none"> • TB patients and other professionals who have mentioned the support of HEWs to their family on how to prevent TB | Yes | 40 | 60.0 |
| | No | 20 | 40.0 |
| | Total | 60 | 100.0 |
| <ul style="list-style-type: none"> • The types of support that HEWs are providing to the family of TB patients | <ul style="list-style-type: none"> ▪ Provide continuous health education on how to prevent TB | 52 | 86.7 |
| | <ul style="list-style-type: none"> ▪ Asses if there is any sign and symptom of TB (e.g. coughing for more than 2 weeks) | 60 | 100.0 |
| | <ul style="list-style-type: none"> ▪ Referred to nearby health facility for diagnosis of TB | 58 | 96.7 |
| <ul style="list-style-type: none"> ▪ The process that HEWs reach to the community or household to give health education about prevention of TB | <ul style="list-style-type: none"> ▪ By visiting house to house to each household of patient | 49 | 81.7 |
| | <ul style="list-style-type: none"> ▪ At health post | 53 | 88.3 |
| | <ul style="list-style-type: none"> ▪ During community mobilization | 20 | 33.3 |
| <ul style="list-style-type: none"> ▪ Do you know that TB is transmitted from untreated person to another | Yes | 55 | 91.7 |
| | By coughing | 55 | 100.0 |
| | By sneezing | 29 | 52.7 |
| | During spit out of sputum any where | 18 | 32.7 |
| | No | 5 | 8.3 |
| <ul style="list-style-type: none"> • Awareness about prevention of TB | Yes | 56 | 93.3 |
| | No | 3 | 5.0 |
| | Not sure | 1 | 1.7 |
| | Total | 60 | 100.0 |

Table 4.4 Role of health extension workers in follow-up TB patient treatment

| Information related on TB patient treatment follow up | Response category | f | % |
|---|--|----|-------|
| Have you interrupted your medication throughout the course of treatment? | Yes | 6 | 20.0 |
| | I forgot | 2 | 33.3 |
| | I was busy | 1 | 16.7 |
| | I have abdominal discomfort when I took the medicine | 3 | 50.0 |
| | No | 24 | 80.0 |
| Do the HEWs observe your daily treatment? | Yes | 26 | 86.7 |
| | The HEWs counselled the presence of side effect of the medicine if the patients interrupted the medication | 24 | 92.3 |
| | The HEWs educated the whole family, including the patient to continue the medication even if there is interruption | 20 | 76.9 |
| | The HEWs give advice to do my sputum follow-up according to the schedule | 26 | 100.0 |
| | No | 4 | 15.4 |
| Are you satisfied with the services that you have got from health extension worker? | Yes | 24 | 80.0 |
| | No | 6 | 20.0 |
| | The HEWs tell us about different things at a time | | 66.7 |
| | The HEWs came to visit me when I was busy | 1 | 16.7 |
| | I couldn't understand her language (the HEW's language) | 1 | 16.7 |

Table 4.4 Supervisors of the health care providers

| Opinion of health care provider information related about the role of HEW in promoting TB prevention and control program | | f | % |
|--|---------------------------------|-----------|--------------|
| The capacity to conduct awareness creation for TB patient | Yes | 18 | 90.0 |
| | Through visiting house to house | 15 | 83.3 |
| | At health post | 18 | 100.0 |
| | Through ACSM | 6 | 20.0 |
| | No | 2 | 10.0 |
| Opinion of health care provider to the contribution of HEWs on promoting TB prevention and control | Need additional support | 1 | 5.0 |
| | Good | 6 | 30.0 |
| | Very good | 11 | 55.0 |
| | Excellent | 2 | 10.0 |
| | Total | 20 | 100.0 |
| The contribution of the health extension workers on early referral of persons with suspected TB to the nearest health centre for early diagnosis | Need additional support | 0 | 0.0 |
| | Good | 2 | 10.0 |
| | Very good | 2 | 10.0 |
| | Excellent | 16 | 80.0 |
| | Total | 20 | 100.0 |

Table 4.4 illustrates that those efforts made on then part of the health extension workers and their supervisors contributed to the effectiveness of the TB Treatment Programme in Hawassa. In this regard, a total of 18 (90.0%) of the supervisors in the study argued that the health extension workers and their colleagues had the capacity to organize and conduct awareness creation for TB patents at the health posts and while they were visiting the patients’ residences from house to house in the intervention areas. Eleven (55.0%) of the health extension workers’ supervisors expressed that the HEWs promoted the TB prevention and control in Hawassa in a very good

manner. Besides, a total of 16 (80.0%) responding supervisors stated that the health extension workers' contributions to early referral of persons with suspected TB to the nearest health centre for early diagnosis as an excellent effort.

Regarding whether or not the health extension workers provided TB treatment for TB patients at health posts, the supervisors who participated in the study confirmed that the HEWs were found to provide TB treatment to the patients in the health posts in the intervention areas. A total of 8 (40.0%) of the supervisors stated that the treatment provided so far was very good. Ten (fifty percent) of them also considered as an excellent because most of them were found to engage in such endeavours and had positive contribution to the implementation of TB Treatment Programme. A total of 13 (65.0%) of the supervisors argued that the HEWs contributed to referral networking between community and health facility in order to address the issues of TB in Hawassa City as clearly indicated in Table 4.5.

The findings of the study depicted in Table 4.6 show that a total of 20 (100.0%) health care providers' supervisors expressed that the HEWs did involve in tracing TB treatment defaulters in promoting the efforts of TB Prevention and Control Programme at health posts. In so doing, the HEWs provided TB treatment adherence counselling, referral back the defaulters and lost cases to follow-up cases, referring back the interrupters to the health facilities to resume their treatment. Therefore, the health extension workers contributed to the tracing defaulters and in assessing level of TB treatment adherence in an excellent level of involvement in Hawassa. One can conclude that the HEWs provided information related to the promotion of TB Prevention and Control Programme, got extremely significant involvement in tracing TB treatment defaulters and in assessing adherence level of the patients on the TB treatment in the City of Hawassa.

Table 4.5 Health care providers supervising health extension workers

| Opinion of health care provider Information related about the role of HEW in promoting TB prevention and control program | | f | % |
|--|--|-----------|--------------|
| Do HEWs provide TB treatment for TB patient at health post? | Yes | 20 | 100.0 |
| | But need additional | 4 | 25.0 |
| | Good support | 6 | 30.0 |
| | Very good | 8 | 40.0 |
| | Excellent | 2 | 10.0 |
| | Total | 20 | 100.0 |
| The opinion of health care provider on how HEW supporting and motivating TB patient to adhere to their anti TB treatment throughout the treatment course | All are engaged and contribute in an excellent way | 4 | 20.0 |
| | Most of them are engaged and contributed to an excellent way | 10 | 50.0 |
| | Some of them are engaged and contribute in an excellent way | 5 | 25.0 |
| | Some of them are engaged and contribute in good way | 1 | 5.0 |
| | Total | 20 | 100.0 |
| The contribution of HEW on referral net work between community and health facility to address the issue of TB | Need improvement | 0 | 0.0 |
| | Good | 2 | 10.0 |
| | Very good | 13 | 65.0 |
| | Excellent | 5 | 25.0 |
| | Total | 20 | 100.0 |

As clearly shown in Table 4.7, the health extension workers were found to be aware of and knowledgeable about TB and its modes of transmission. They stated that TB is transmitted by bacteria, coughing and sneezing and a curable disease if it was treated early and properly. Those HEWs who have been working in the TB Treatment Programme do have awareness of the basic facts of TB and are knowledgeable about these issues under investigation. In addition, the health extension workers created awareness of the prevention of TB, assessed those suspected patients who had been coughing for two weeks in the women HEWs' catchment areas and referred him/her early to the nearby health facility for TB diagnosis.

Table 4.6 Health care providers who are supervising the HEWs

| • Opinion of health care providers - Information related to the role of HEWs in promoting TB Prevention and Control Programme | | f | % |
|---|--|-----------|--------------|
| The involvement of HEWs in tracing TB treatment defaulters | Yes | 20 | 100.0 |
| | Provide house to house visits | 18 | 90.0 |
| | Provide treatment adherence counselling | 18 | 90.0 |
| | Retrieval of TB treatment interrupters and lost to follow-up cases | 20 | 100.0 |
| | Referring back the interrupters to health facility to resume their treatment | 20 | 100.0 |
| | No | 0 | 0.0 |
| How do you define the contribution of the health extension workers in assessing level of adherence of patients on TB treatment? | Needs additional support | 1 | 5.0 |
| | Good | 2 | 10.0 |
| | Very good | 2 | 10.0 |
| | Excellent | 15 | 75.0 |
| | Total | 20 | 100.0 |

The health extension professionals also supported and motivated the TB patients to adhere to their anti-TB treatment throughout the treatment course and provided the DOTS of TB at the health posts in the City. Thus, all of the voluntary community-based health extension workers confirmed that there were TB case clients in their respective areas. The health extension workers are providing their clients with those services using the community-based approach in their localities of the City.

All of those health extension workers have been following-up the TB case clients in their respective catchment areas as indicated in Table 4.8. While following-up their TB case clients, the health extension workers provided them with DOTS of TB throughout the treatment course, traced back lost clients in order to follow-up the Tb patients to continue their treatment, supported and motivated the patients to adhere to their anti-TB treatment throughout the treatment course, and monitored for side effects of the drug and could be referred to the health posts if any, as well as referred the TB patients for sputum follow-up to their respective health centre.

Table 4.7 Knowledge of HEWs about basic facts of TB treatment and future plan in the health posts

| HEWs knowledge on transmission of TB and how to plan on prevention | | f | % |
|--|--|-----------|--------------|
| Do you know what TB is? | Is a killer disease if not treated early | 8 | 80.0 |
| | Transmitted by bacteria | 10 | 100.0 |
| | Transmitted by coughing & sneezing | 10 | 100.0 |
| | It is a curable disease if treated early | 8 | 80.0 |
| What types of activity you incorporate to your plan on prevention of TB? | Awareness creation on prevention of TB | 10 | 100.0 |
| | Assess 2 weeks and more coughing patient in her catchment and early referral to nearby health facility for diagnosis | 10 | 100.0 |
| | Provide Directly Observed Treatment (DOTS) of TB at health post | 8 | 80.0 |
| | Continue Tracing lost cases to follow-up TB patients to their treatment | 10 | 100.0 |
| | Support and motivate TB patients to adhere to their anti-TB treatment throughout the treatment course | 8 | 80.0 |
| Do you have a TB case client in your catchment area? | Yes | 10 | 100.0 |
| | No | 0 | 0.0 |
| | Not sure | 0 | 0.0 |
| | Do not want to reply | 0 | 0.0 |
| | Total | 10 | 100.0 |

Table 4.9 shows that the health extension workers who worked in the health posts could properly propose different solutions to gaps in knowledge and skills on the part of the health care providers in the TB Prevention and Control Programme. These proposed solutions included: the fulfilment of necessary and crucial TB infection control materials (10, 100.0%); provision of supportive supervision from the health centres monthly and supervision from the district level health centres quarterly (10, 100.0%); and there should be increased linkages between health posts and health centres as well as the District Health Office and empowered the community members by offering health education on TB on day to day basis and by using ex-TB patients as Ambassador of Tb Prevention and Control Programme so that the local community members would then be motivated

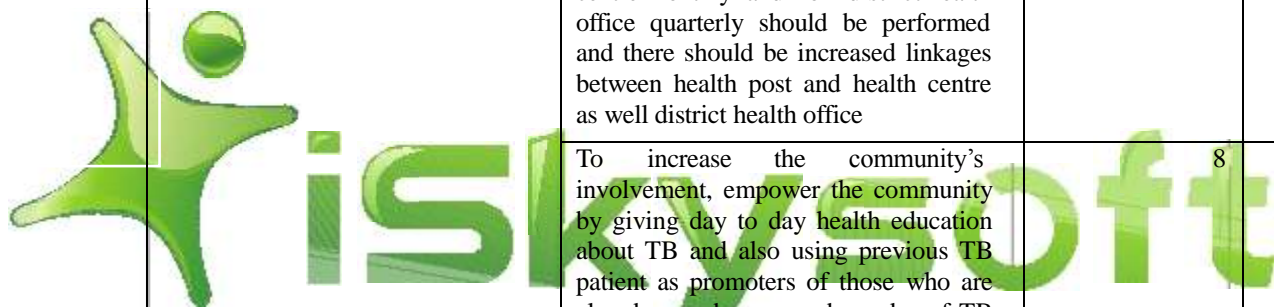
and got involved in the actual efforts of increasing the up-taking and adherence of the TB treatment (8, 80.0%) in Hawassa City.

Table 4.8 Knowledge of HEWs who are working in the health posts about TB

| HEWs' knowledge on transmission of TB | | F | % |
|---|--|----|-------|
| How do you follow-up a TB case client in your catchment? | Provide DOTs/directly observed treatment/of TB throughout the treatment course | 10 | 100.0 |
| | Tracing lost to follow-up TB patient to continue their treatment | 10 | 100.0 |
| | Supporting and motivating TB patients to adhere to their anti-TB treatment throughout the treatment course | 10 | 100.0 |
| | Monitoring for drug side effect and refer if any | 10 | 100.0 |
| | Refer the TB patient for sputum follow-up to their respective health centre | 10 | 100.0 |
| What challenge do you face in the community to address the TB prevention and control program? | Unavailability of logistics such as TB infection control material | 10 | 100.0 |
| | Lack of supportive supervision and close follow up from health centre as well district health office | 10 | 100.0 |
| | Low community involvement to reduce or/and to prevent TB | 6 | 60.0 |
| | Lack of support from community health promoter to address TB prevention | 8 | 80.0 |

Table 4.9 Health extension workers who are working in the health posts

| HEWs' knowledge on transmission of TB | | f | % |
|--|---|----|-------|
| What do you propose as a solution to these challenges? | In order to prevent TB at health post level the fulfilment of necessary TB infection control material is crucial | 10 | 100.0 |
| | For better implementation of community TB control programme supportive supervision from health centre monthly and from district health office quarterly should be performed and there should be increased linkages between health post and health centre as well district health office | 10 | 100.0 |
| | To increase the community's involvement, empower the community by giving day to day health education about TB and also using previous TB patient as promoters of those who are already cured as an ambassador of TB Prevention and Control Programme | 8 | 80.0 |



4.6 Strengths and Constraints of the Programme

The researcher further investigated the existing strengths and constraints of the Programme. The findings of the study are presented in tabular form as under:

SWOT Analysis

| | |
|---|---|
| <p style="text-align: center;">Strength</p> <ul style="list-style-type: none"> ▪ HEWs fully engaged on the prevention of TB in the community by improving access to care in rural community ▪ HEWs trained how to identify suspect, collect sputum, and provide DOT. So this increase the uptake of TB case detection ▪ The TB treatment adherence is high due to DOT and they observe house to house to every family ▪ No treatment interrupter or lost to follow up since they immediately trace the absentees ▪ Even if their health package is almost 16 they are highly contribute on prevention of TB | <p style="text-align: center;">Weakness</p> <ul style="list-style-type: none"> ➤ Weak sputum follow-up mechanism for TB patient during the 2nd 5th and 6th month for new patient and 3rd 5th and 8th month for previously treated cases ➤ No regular supportive supervision by their supervisor ➤ Weak linkage between the health centre and health post ➤ The reward mechanism to motivate HEW is weak so it leads to turn over |
| <p style="text-align: center;">Opportunity</p> <ul style="list-style-type: none"> • The access to find TB suspect by HEW is available • The HEW can refill the TB treatment in the health post • They are the member of kebeles management so that they have an opportunity to raise any issue of health aspect on challenging area to get immediate intervention and solution • All are female ,they know the detailed problem of women especially at the rural area • HEWs reside within the premises of the health post | <p style="text-align: center;">Treat</p> <ul style="list-style-type: none"> ❖ HEWs believed that they are underpaid considering their heavy workload ❖ Turn over ❖ TB patients may default their anti-TB medication if there is high turnover of HEWs ❖ If TB patient defaulted from their treatment They likely to develop drug resistance TB ❖ Low opportunity for upgrading of HEWs to change their level of career system |

In addition, according to the Health Department of Hawassa City (HDHC) (2014), there were the following multi-dimensional problems: shortage of refrigerators in some health institutions, scarcity of beds for TB patients, frequent turnover of TB/HIV Mainstreaming Officers and Focal Personnel and related issues.

CHAPTER 5

SUMMARY, CONCLUSION AND SUGGESTION

5.1 Summary of Major Findings

This study was conducted to assess the contributions of health extension workers in the uptake and adherence of TB treatment in Hawassa City. The majority of the urban voluntary health extension workers in the City were females in the age bracket of 25-34 years, Orthodox Christians and who lives in wed-locked context. In addition, they were able to read and write and got employed in different organizations in order to generate incomes and to have loaves of bread. All necessary types of services for up-taking and adhering to TB Treatment Programme in the City were already made available in those health posts and health centres. Fort these achievements and efforts, the health extension workers, their supervisors and the health care providers contributed significantly in a number of inter-related ways. Consequently, there was an overall 80.0% of uptake and adherence level to TB treatment at the health posts and other health centres. However, the above-stated effective and efficient achievements were engulfed by multi-dimensional problems in one way or the other related to those issues under investigation.

5.2 Conclusion

It can be conclude that the health extension workers are females, age 25-34 years, able to read and write, are employees of different organizations and are living in wed-locked context. There are also practices of providing all necessary services for TB Treatment Programme in order to achieve 80.0% of uptake and adherence level to the treatment. The health extension workers, the health care providers and their respective supervisors have contributed significantly to such achievements in the Programme. However, there are multi-faceted problems which may have ramifications in the different aspects of the TB Treatment Programme.

By way of conclusion, the active involvement of the HEWs in TB Control has improved the CDR and TSR for smear-positive patients and females in particular. It could be used as an option to improve the trend in low CDR and provide patient-cantered services in high-burden countries. However, the cost-effectiveness of enhanced case finding and treatment outcome needs further study. Based on these conclusions drawn from the empirical study findings, the researcher would like to suggest social work practice and intervention for action.

5.3 Suggestions for Action

Following those conclusions drawn from the empirically supported findings of the study, the researcher would suggest the following for social work interventions and actions:

- All stakeholders at different levels should work towards balancing the gender balance and increasing their educational status in line with the comprehensive requirements of TB Treatment Programme in Hawassa;
- This study has shown that the implementation of the Comprehensive TB Prevention and Control Programme in Hawassa in that this approach can be acceptable to the patients and the implementing the staff of core group. The implementation of this Programme in urban community-based Health Extension Programme is possible using the social work methods and approaches in a socio-cultural context;
- The concerned stakeholder(s) should ensure a private, confidential place for uptake and adherence counsellors to counsel the TB patients;
- The concerned health office(s) should ensure a steady payment schedule of pocket money or stipends for voluntary health extension workers;
- The health offices at different levels should address other critical and necessary issues related to TB patients, health extension workers, health care providers and their supervisors and even the latter's attrition and focus on retaining those already known part(s) of the Programme;
- All stakeholders in the Programme should also invest in training on-site supervision of the staff who are implementing the TB Treatment;
- The same stakeholders should pay attention to issues of teamwork, hierarchy, and teambuilding among staff involved in the implementing effective, efficient and the professional manner in the Programme;
- The health professionals should closely work in consultation with medical social workers thereby sharing different social work methods and approaches;
- Further investigations could also be made of how treatment supporters and counsellors of uptake and adherence should effectively implement the Programme; and

- As this study employed more of quantitative research method than qualitative research methods in its nature, further studies should be conducted on how the Programme is functioning by using mixed research methods properly.

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Appendices

Appendix A: Structured Interview Schedule

This is an interviewer administered questionnaire to assess the contribution of urban health extension worker in the uptake of TB treatment and adherence. Therefore, the investigator assures the participants that information here was kept secret, for this reason recording of participants name was avoided.

My name is _____; I am a data collector from health centers and health care workers who are engaged on TB diagnosis and management. The researchers of this study are from regional health bureau. You are selected as one of study subject by chance. The investigator employed me for this data collection to maintain your data strictly confidential. We believe that the findings of this study will have paramount for evaluation of the contribution of HEW on TB programs and to find out proper way for prevention of TB in community.

The information will be taken when you give permission, participation is totally voluntary. Your name and other personal identifiers will not be recorded on data collection format and the information that you give us will be kept confidential and will also be used for this study purpose only. The information that would be taken will be quite useful for the study. You will not face any problem if you do not want to participate in this study.

Are you willing to participate in this study?

1. Yes

2. No

Signature of the interviewer which shows that the respondent has consented (verbally) to take part in the study _____

Instructions: Please put “X” mark or write down the answer for questions on the appropriate space provided.

Part I. Questions for TB patients /Exit Interviews with clients /

I. Socio-demographic and economic characteristics

1. Age in years
2. Sex : Male () Female ()
3. Marital status
 - a. Single ()
 - b. Married ()
 - c. Divorced ()
 - d. Widowed ()
4. Religion
 - a. Orthodox ()
 - b. Muslim ()
 - c. Protestant ()
 - d. Other (specify).....
5. Educational level
 - a. No school ()
 - b. Primary school (specify grade).....
 - c. Secondary school (specify grade).....
 - d. Advanced education (specify grade).....
6. Occupation
 - a. House wife ()
 - b. Farmer ()
 - c. Student ()
 - d. Merchant ()
 - e. Government employee ()
 - f. Other (specify).....
7. Number of persons sharing with the same house
8. How do you usually come to the nearest health facility?
 - a. Walk ()
 - b. Public transport ()
 - c. Private transport ()
 - d. Other (specify).....
9. How long do you travel to reach the health facility

II. Information related to history of tuberculosis and the role of health extension workers

10. What was the first symptom that related to your illness? (check all that are mentioned)

- a. Cough ()
- b. Fever ()
- c. Loss of weight ()
- d. Night sweating ()
- e. Chest pain ()
- f. Tiredness ()
- g. Other (specify).....

11. How did you find out (knew) about the availability of the service here? (check all)

- a. Informed by health extension worker
- b. Informed by friends
- c. During house to house visit
- d. Other (specify)

12. Is there any health extension worker that is familiar to you?

- a. Yes
- b. No

13. If the answer for question number 12 is yes, is the health extension worker conducting a house to house visit?

- a. Yes
- b. No

14. If the answer for question number 13 is yes, for how long does the health extension worker visit you?

- a. Once a week
- b. every day
- c. Once in two weeks
- d. it depends on the interest of the worker

15. During her visit, how do you observe here service is friendly and understanding to you?

- a. Yes
- b. No

- c. Not sure
 - d. Do not want to reply
16. Does the health extension worker support you in the process of your treatment?
- a. Yes
 - b. No
 - c. Not sure
 - d. Do not want to reply
17. If the answer for question number 16 is yes, what type of support she is providing to you?
(check all that are mentioned)
- a. She observed my daily treatment ()
 - b. She support how to take my medication ()
 - c. She follow my appointment and inform me to go to nearby health centre to do my sputum check up ()
 - d. She observed on my clinical condition whether I have gain or loss my weight every month ()
 - e. She provide continuous health education not to interrupt my medication ()
18. According to your understanding, do you think the health extension worker supporting and motivating you to adhere to your ant-TB treatment throughout the treatment course?
- a. Yes
 - b. No
 - c. Not sure
 - d. Do not want to reply
19. What about your family do they get support from health extension worker to prevent TB
- a. Yes
 - b. No
 - c. Not sure
 - d. Do not want to reply
20. If the answer for question number 19 is yes, what type of support she is providing to your family? (check all that are mentioned)
- a. Provide continuous health education on how to prevent TB ()
 - b. Asses if there is any sign and symptom of TB ()
 - c. Other (specify).....

21. At what process the HEW reach to the community or house hold to give health education program
- By visiting house to house ()
 - At health post ()
 - Other (specify).....
22. During the health education program what are the topic she mentioned and educate most of the time? Please list out.....

23. Do you know the transmission of TB?
- Yes
 - No
 - Not sure
 - Do not want to reply
24. If the answer for question number 23 is yes, could you tell us some? (check all that are mentioned)
- By coughing ()
 - By sneezing()
 - During spit out of sputum anywhere()
 - Other (specify).....
25. Did the health extension worker educate you on how to prevent the transmission of TB from you to others?
- Yes
 - No
 - Not sure
 - Do not want to reply
26. Have you interrupt your medication through the course of treatment?
- Yes
 - No
 - Not sure
 - Do not want to reply

27. If the answer for question number 26 is yes, what was the reason for interruption?

- a. I forgot
- b. I was busy
- c. I have pain like abdominal discomfort when I took the medicine
- d. To get reset
- e. Other reason (specify).....

28. Did the health extension worker observe your daily treatment?

- a. Yes
- b. No
- c. Not sure
- d. Do not want to reply

29. If the answer for question number 28 is yes, what type of measure she took during your interruption?

- a. The health extension workers and my supporters counselled me there is a side effect if I interrupt my medication.
- b. The health extension workers educate the whole family including me to continue my medication.
- c. The health extension workers advise me to do my sputum follow-up.
- d. Other (specify).....

30. In general are you satisfied with the service that you get from HEW

- a. Yes
- b. No
- c. Not sure
- d. Do not want to reply

31. If the answer for question number 30 is No. could you tell us the reason why?

.....

.....

.....

Part II. Questions for health care provider who are working in health centre /supervisor/of the health extension worker.

1. Do the health extension workers have the capacity to conduct awareness creation for the patients?
 - a. Yes ()
 - b. No ()
 - c. Not sure ()
 - d. Do not want to reply ()
2. If the answer for question number 1 is yes, then how do they conduct awareness to the patients?
 - a. By visiting house to house ()
 - b. At health post ()
 - c. By collecting the patients at selected centers
 - d. Other (specify).....
3. How do you define the contribution of the health extension workers in promoting TB prevention?
 - a. Need additional support
 - b. Good
 - c. Very good
 - d. Excellent
 - e. Not at all
4. How do you define the contribution of the health extension workers on early referral of persons with suspected TB to the nearest health centre for early diagnosis?
 - a. Need additional support
 - b. Good
 - c. Very good
 - d. Excellent
 - e. Not at all
5. Do health extension workers provide TB DOT (Directly Observed Therapy) for TB Patient at health post
 - a. Yes ()
 - b. No ()

- c. Not sure ()
 - d. Do not want to reply ()
6. If the answer is yes for question number 5 how do you define the contribution of the health extension workers on providing Directly Observed Therapy (DOT) for TB patient at health post?
- a. Need additional support
 - b. Good
 - c. Very good
 - d. Excellent
 - e. Not started
7. How do you define the contribution of the health extension workers on supporting and motivating TB patients to adhere to their anti-TB treatment throughout the treatment course?
- a. All are engaged and contribute in an excellent way
 - b. Most of them are engaged and contribute in an excellent way
 - c. Some of them are engaged and contribute in an excellent way
 - d. Some of them are engaged and contribute in good way
8. If there is any, other than the above please notify it.....
9. How do you define the contribution of the health extension workers on establishing referral network between community and health facilities to address the issue of TB?
- a. Need additional support
 - b. Good
 - c. Very good
 - d. Excellent
10. Do the health extension workers Involved in tracing TB treatment defaulter?
- a. Yes ()
 - b. No ()
 - c. Not sure ()
 - d. Do not want to reply ()
11. If the answer for question number 9 is yes how can she trace the TB patient? Check all
- a. Provide house to house visit
 - b. Provide treatment adherence counselling
 - c. Retrieval of TB treatment interrupters and lost to follow-up cases

. Referring back the interrupters to health facility to resume their treatment.

12. How do you define the contribution of the health extension workers in Assessing level of adherence of patients on Tb treatment?

- a. Needs additional support
- b. Good
- c. Very good
- d. Excellent

Part III. Questions for health extension worker who are working in health post

1. What do you know about TB? -----

2. Do you have training on TB?

- a. Yes ()
- b. No ()

3. If yes for question number 2, do you have a plan on prevention of TB?

- a. Yes ()
- b. No ()

4. If yes for question number 3, what is your activity that incorporates to your plan about TB?

(Check for answer and tick)

- Awareness creation on prevention of TB
- Assess 2 week and more coughing patient in her catchment and early referral to nearby health facility for diagnosis
- Provide DOTs/directly observed treatment/of TB at health post
- Tracing lost to follow up TB patient to continue their treatment
- Supporting and motivating TB patients to adhere to their anti-TB treatment throughout the treatment course.

5. Do you have a TB case client in your catchment?

- a. Yes ()
- b. No ()
- c. Not sure ()
- d. Do not want to reply ()

. If the answer for question number 5 is yes, how do you follow these cases?

(Check for answer and tick)

- Provide DOTs/directly observed treatment/of TB throughout the treatment course.
- Tracing lost to follow up TB patient to continue their treatment
- Supporting and motivating TB patients to adhere to their anti-TB treatment throughout the treatment course.
- Monitoring for drug side effect and refer if any
- Refer the TB patient for sputum follow up to their respective health centre

7. Is there any challenge in the community to address the TB prevention and control program? ----

8. What do you suggest as a solution to these challenges? -----

Appendix B: Interview Guide/Protocol

Topic guide for community

1. What is the involvement of communities on TB prevention and control with the HEP

They are involved as TB treatment supporter for TB patient

They are involved as adherence supporter

✚ Involvement on suspect identification

✚ Involved to empower the community on TB prevention and control program

2. What do you think is the importance of HEP on the prevention and control of TB, what is their potential contribution?

✚ Give health education to patients, families and communities on TB prevention and control

(community Conversation, house to house)

Identification of suspects and referral to the Health facilities

- ✚ Follow-up of TB patients under treatment
- ✚ Addressing stigma
- ✚ Support and motivation of patients
- ✚ Tracing patients who interrupt treatment.

3. How do you feel the attitude of HEW towards clients?

- They have good relationship between them, even during home visit the HEW observed her client as her relatives, and they respect of them. They follow their TB patient effectively

Topic guide for policy maker/health manager /

1. What has been your involvement with HEP?

- ✚ Supportive supervision to the program
- ✚ Giving Refresher training
- ✚ Quarterly meeting
- ✚ Assessment on gaps
- ✚ Resource mobilization
- ✚ Receiving report and giving feed back

2. What do you think is the importance of HEP on the prevention and control of TB, what is their potential contribution on TB treatment uptake, adherence and out come?

- ✚ Give health education to patients, families and communities on TB prevention and control (community Conversation, house to house)
- ✚ Identification of suspects and contact tracing and referral to the diagnostic Health facilities
- ✚ Follow-up of TB patients under treatment
- ✚ Train front-line health agents who can support them in identification of suspects and treatment support
- ✚ adressing stigma
- ✚ Support and motivation of patients
- ✚ Recognising adverse effects, and complications during treatment
- ✚ Tracing patients who interrupt treatment.
- Adherence counselling for TB patient

✚ Directly observed treatment of TB and follow up

3. What are the strong points in the contribution of HEW for TB controlling mechanism and what could be improved?

Strengths

- ✚ Home to home visit for TB suspect identification and referral
- ✚ Daily follow up of TB treatment users
- ✚ Supporting the TB patient until completed their drug with adherence counselling
- ✚ Address lost to follow up cases to continue their drug
- ✚ Continuous health education to the community regarding how to prevent TB

Issues to improve

- ✚ Recording and reporting
- ✚ TB contact tracing and referral mechanism
- ✚ Availability of supply like TB drug.
- ✚ Continuous supportive supervision
- ✚

Interview for TB Programme Coordinator

Place of work: Tulla sub city

Sex: Female

Profession: Health officer

Responsibility: TB program coordinator

Work experience: more than ten year

What type of service available on controlling and prevention of TB?

Identification of TB suspect and Referral/Link of all suspects to nearby diagnostic health facilities.


- ✚ All OPD visiting clients (All Hospital and Health centers) should be asked for cough and undergo sputum AFB examination.
 - ✚ All Hospitals and health centers including the New Nucleus health centers should provide TB diagnostic and Treatment services for the referred cases
 - ✚ All HIV +ve clients (HCT, PIHCT and ART Clinic) should be screened for TB and all TB patient screens for HIV to strengthen TB/HIV collaborative activities.
 - ✚ TB infection control mechanism at each level
 - ✚ Media spot message how to prevent and control TB
 - ✚ ACSM /advocacy, communication, and social mobilization/
 - ✚ Comprehensive training for general health worker on TB
 - ✚ Supportive supervision
 - ✚ Mentoring
 - ✚ Catchment area review meeting
 - ✚ TB treatment adherence counselling service
 - ✚ Drug resistance TB treatment follow up service
2. The level of adherence and uptake of TB by %
- ✚ The uptake of TB all forms 100%
 - ✚ The level of adherence 84%
3. Factors that influence the uptake of TB services


Positive factors

- ✚ Accessibility
- ✚ Free of charge
- ✚ Engaged all care provider /public and private/
- ✚ Community awareness about TB
 - ✚ Availability of treatment guideline at each level
 - ✚ Availability of budget for training and supportive supervision


Negative factors

Trained staff turn over
Lack of commitment /at hospital level/

 me limitation on recording and reporting process

 Weak linkage between health centre and hospital


4. Strength part

 All hospital and health centre including private are TB diagnostic and treatment site and work for free of charge.

 The availability of TB trained man power

 Community TB implementation

 The involvement of health extension worker on TB prevention and control mechanism.

 High TB case detection/100%/ and very good treatment outcome/92%/

5. Constraints

 Limitation on TB infection control/ specifically at the health centre/

 Shortage of laboratory reagent for TB diagnosis

 Referral linkage

Appendix C: FGD Schedule/Checklist

This study aims to understand the contribution of HEW towards TB treatment and adherence in the community. All of you are invited to participate in the focus group discussions due to the roles and responsibilities you have in the community or the health system which could be useful to explore the engagement of HEWs on TB treatment uptake and adherence for TB treatment on the understanding of HEP and the related to the end result or outcome. During the interviews, we will discuss about a range of different issues that positively or negatively influence the services.

In order to participate in the study, we will ask you to provide the necessary pieces of information requested by the interviewers to the level best you know and without reservation as the information will be used to improve the health service delivery in the community. The interviews may take about one to two hours, on average. Your cooperation and participation in the discussion is much appreciated.

confidentiality: - all pieces of information collected from you will be kept confidential and will not be disclosed to other members of the community and health service providers. It will only be used for the purpose of the study. No one except the investigator will access the pieces of information gathered during the focus group discussions.

Topic guide for HEW

1. What do you think about the quality of care on TB treatment services provided?

The quality of care for TB treatment service focused on the following three major issues

- a. Assessing two weeks and more coughing patient and refer to health center for diagnostic and initiated treatment. Then referred back to health post for HEW to continue by directly observed treatment and follow up until they complete their treatment.
- b. Continuous home visit for patient's family to prevent transmission of TB through investigation of TB contact and refer to health center for examination also giving health education to the family as well to the community how to prevent the transmission.
- c. TB infection control mechanism at house hold level.

In general, HEWs are responsible for providing TBDOT services, improving disease prevention and control, and promoting health education for TB infection control and adherence counselling for TB treatment user for better out come.

2. How do you know what the community or clients think about the service you provide? What do they like best what they complain about?

We do have health development army in the community at each kebeles, they comment about each service freely and discussed with their team. There is also monthly meeting through one to five teams. They like the availability of TB treatment service and also giving emphasis to each and every TB suspect and trace to interrupter. They complain about interruption of supply like TB drug.

3. What things influence the service?

Positive influences

- ✚ ensuring patients' adherence to anti – TB treatment through IEC
- ✚ creating awareness in the community about TB; increase health care seeking behaviour
- ✚ Early defaulter tracing and referral
- ✚ TB contact investigation and refer for examination
- ✚ TB suspect identification and referral
- ✚ Excellent treatment out come

Negative influences

- ✚ Stigma and discrimination
- ✚ TB and HIV co-infection
- ✚ Drug resistance TB/DR TB/

Appendix D: Documentary Analysis Template/Matrix

Strengths

- ✚ The availability of TB focal person at each level
- ✚ The availability of TB treatment supporter for each patient on the continuation phase
- ✚ The empowerment of the community on TB prevention for health seeking behaviour
- ✚ The contribution of health extension worker on TB DOT program and adherence counselling improve the case detection and treatment out come
- ✚ The access of TB diagnostic and treatment.

Constraints

- Referral linkage between health centre and hospital
- Sputum follow up on their schedule
- Recording and reporting

Appendix E: List of Non-governmental Organizations (NGOs) and Community-Based Organizations (CBOs) in Hawassa City (2013/2014)

| S. No. | Name of organization | Type of organization | Area of intervention |
|---------------|--|-----------------------------|-----------------------------|
| 1 | DOT Ethiopia | NGO | Atote |
| 2 | EUSE | NGO | Hawassa |
| 3 | Hawassa Chamber of Commerce Associations | CSO | Hawassa |
| 4 | Raey Lewegen Humanitarian Organization | NGO | Hawassa |
| 5 | TLCC Orphanage | NGO | Gebeya Dar |
| 6 | United Nations World Food Programme | International NGO | Piazza |
| 7 | Wolayita Development Association | CBO | Arab Sefer |



**Appendix 1: PROFORMA FOR SUBMISSION OF MSW PROJECT PROPOSAL FOR
APPROVAL FROM ACADEMIC COUNSELLOR AT STUDY CENTRE**

Enrolment No _____

Date of Submission: _____

Name of the Study Centre: St. Mary's University

Name of the Guide: Sebsib Belay (Mr)

Title of the Project: **Assessment on Community-Based Health Extension**

Programme Interventions in Uptaking and Adhering to Tuberculosis

Treatment among Patients in Hawassa, South Ethiopia.

Signature of the Student: _____

Date: _____

Enrolment No: **ID_099130738**

Approved/Not Approved

Name: _____

Address: _____

Date: _____

Name: **Sebsib Belay (Mr)**

School of Graduate Studies

St. Mary's University

Address of the Supervisor: Addis Ababa, Ethiopia

Signature:

**STUDY ON COMMUNITY-BASED HEALTH EXTENSION
PROGRAMME INTERVENTIONS IN UPTAKING AND ADHERING
TO TUBERCULOSIS TREATMENT AMONG PATIENTS IN HAWASSA
CITY, SOUTH ETHIOPIA**

MSW DISSERTATION RESEARCH PROJECT PROPOSAL

(MSW-001)

FIKIRTE ABERRA BERRI

ENROLLMENT No. ID 099130738

PROJECT SUPERVISOR

SEBSIB BELAY (MR)

INDIRA GANDHI NATIONAL OPEN UNIVERSITY

SCHOOL OF SOCIAL WORK

JULY 2014

ADDIS ABABA, ETHIOPIA

I. Introduction

The world in which human beings are living faced with a number of multi-dimensional problems. These are already identified and previously known infectious agents that cause public health problems either locally or internationally. Their impact, in terms of economic repercussions, goes well beyond the immediate costs to health systems. They may impede trade or travel or cause disproportionate alarm.

During the twentieth century, over thirty emerging infections were identified in humans. They range from the TB, Ebola, Mrbaurg, and Nipah viruses to the more common hepatitis C virus and HIV (human immunodeficiency virus). The emergence of infectious agents has occurred throughout the world, causing many unexpected outbreaks (Breslow, 2002, p. 371). Such public health problems cause for widening development gaps, collapse of public health infrastructures, poverty, urbanization, civil strife, environmental change and degradation, and globalization of travel and trade are empirically confirmed to be the contributing factors for those outbreaks. Tuberculosis (TB) is thus one of those chronic infectious diseases affecting thousands of people in different corners of the globe.

Tuberculosis (TB) is a chronic infectious disease caused by *Mycobacterium tuberculosis* (MTB). It typically affects the lungs (pulmonary TB) but can affect other parts of the body as well (extra pulmonary TB). The disease is spread via droplet infection when people with pulmonary TB expel the bacilli while coughing, sneezing, talking, etc. Without treatment, mortality rates are high. Treatment using combinations of anti-TB drugs, developed in the 1940s and 1950s, can dramatically reduce mortality rates (WHO, 2011). Despite the availability of highly efficacious treatment for decades, the same document argued that TB remains a major global public health problem. Almost one-third of the world population (about 2 billion people) is infected with *M. tuberculosis*. TB is the second leading cause of death from an infectious disease worldwide, after HIV.

WHO declared that TB is a public health problem globally in early 1990s. The Organization set two TB control targets to be reached by the year 2000, namely, 70% and 85% case detection and cure rate, respectively. In order to achieve those targets, WHO launched a strategy called

‘Directly Observed Therapy, Short-Course’ or ‘DOTS’ for short for TB control (WHO, 2006). Presently, the WHO recommended approach for TB Care and Control is the STOP TB Strategy launched in 2006. This Strategy was linked to the new global targets for reduction in TB cases and deaths that were set for 2015 as part of the Millennium Development Goals (MDGs) and the STOP TB partnership. By 2015, the targets would have been to reduce prevalence and death rates by 50%, compared with their levels in 1990 and to reduce the global incidence of active TB cases to less than 1 case per 1 million populations per year by 2050.

However, TB Case Notification Rate (CNR) remains low globally. From the estimated 8.7 million new TB cases, only 5.8 (67%) million newly diagnosed TB cases were reported by the National TB Control Programmes (NTPs) in the world. The same Report showed that case notification has stagnated in many countries in recent years.

Globally, efforts to control TB were strengthened in 1991, when a World Health Assembly Resolution recognized TB as a major global public health problem. Two targets for TB control were also established as part of this resolution - 70% of case detection rate and 85% of cure rate by the year 2000. This means that at least the 70% of new smear positive cases should be detected and at least the 85% of these cases should be treated. These two targets which were embedded within the Directly Observed Treatment (DOTS) strategy were launched by World Health Organization (WHO) in 1994. Subsequently, the WHO STOP TB Strategy was endorsed in 2006.

A successful fight against TB calls for the implementation of TB/HIV collaboration which is basically enabling all people living with HIV/AIDS benefit from packages of TB diagnosis and care and enabling all TB suspects benefit from packages of Provider Initiated HIV Counseling, Testing and subsequent services. Ethiopia has already adopted the global targets for TB control in that the country is implementing the DOTS and the STOP TB Strategy.

In the world, countries have adopted different strategies to handle TB and its consequences, including Ethiopia since its occurrence. Ethiopia was ranked seventh among the 22 high TB burden countries in the world in 2011. In 2011, the best estimated incidence and prevalence rate of all forms of TB in Ethiopia were 258 per 100,000 and 237 per 100,000 respectively. TB mortality rate was 18 per 100,000 populations in the country.

ol efforts in Ethiopia began in the early 1960s with the establishment of three TB centers in the major urban areas (i.e. Addis Ababa, Asmara and Harar). In 1992, the DOTS Strategy was incorporated into the standardized TB Prevention and Control Programme and piloted in selected parts of the country with a nation-wide adaptation in 1997. By 2011, the NTP reported that the country had achieved 100 percent geographical coverage of DOTS services.

In an effort to reduce those rates of incidence and prevalence in the country and to achieve 100% coverage, to increase the access to quality DOTS services and to maximize case detection in the country; the NTP expanded diagnostic and treatment services by increasing the number of public and private health facilities. These health facilities are providing the services and engaging all health care providers, including health extension workers.

In addition, Ethiopia has designed and implemented a Health Extension Programme (HEP). This Programme is a new initiative, which has been started in the Second Health System Development Programme (HSDP-II) which is a response to those findings of the study conducted on HSDP -I. The country introduced the Initiative to address basic preventive and promotive health care at community level targeting household as centerpiece. Therefore, the main objective of HEP is to improve access and equity to preventive essential health intervention provided at kebele and household levels.

The HEP is thus a community-based health care delivery system aimed at creating healthy environment as well as healthy living at grassroots level. It is also designed to achieve a significant basic health care coverage in Ethiopia over five years through the provision of a staffed health post to serve every 5000 people. Every health post is staffed by two female health extension workers (HEWs) who had been undergone a training to provide 16 major packages under the four components of the Programme for a year.

TB Prevention and Control is one of the 16 Programmes included in HEP Package at the community level. The Health Extension Workers (HEWs) are engaged in awareness creation, promotion of TB prevention, better TB diagnosis and treatment through early referral of persons with suspected TB and patient treatment support (FMoH, 2012). Although Ethiopia has achieved 72% case notification rate of all forms of TB by extensive expansion of DOTS services in 2011,

and massive involvement of HEWs in TB Prevention and Control activities at the grassroots level; there is still variations in CNR and Case Detection Rate (CDR) among regions and within region.

In addition to HEWs, at the community level, there are also groups of Voluntary Community Health Workers (VCHWs). It is important that HEP links with VCHWs to HEWs and ensures each group supports the work of the other. HEWs are most effective when working in collaboration with VCHWs both to extend contact with families and to the community, and to share different skills. While the strategies for the interventions focus on the household and community, the success calls for coordinated action at all levels. Health centers particularly have a crucial role to play in providing referral care, technical and practical support to the HEP. The woreda health offices similarly have an important role to play in support of the health centers and the health posts. Generally, the Ethiopian Government at different levels has shown high commitment in prioritizing the HEP by ensuring it to receive the necessary financial and political supports.

The Southern Nations, Nationality and Peoples Region (SNNPR), on the other hand, is one of the foremost implementers of the TB Prevention and Control Programme. According to the recent Report of the SNNPR Health Bureau, 3340 health posts were built which contributed to increase the primary health service coverage to 94.8%. Yet, the health service utilization was 0.53 visit/capita/year. Up-to-date, SNNP-RHB (2012) reported that about 110% of the required rural and 88% urban health extension workers have been deployed in the Region since then.

With regards to TB Prevention and Control efforts, a number of studies have been conducted by different professionals from various fields of specialization using different perspectives, more of quantitative research methods as well as socio-cultural, economic and political contexts. These studies focused on ambulatory multi-drug resistant TB treatment outcomes in a cohort of HIV-infected patients in India (Isaakidis et al., 2011), determinants of health extension workers functionality (Getachew, 2009), implementation of the Health Extension Programme at meso-level (Mussie, 2013), predictors for survival among TB-HIV co-infected patients (Balewgizie, 2012), determinant factors for TB among HIV patients after ART initiation (Kelemu, 2012), knowledge, attitude and practice on TB infection control (Yeshimebet, 2012), determinants for

DR-TB in patients with Pulmonary TB (Sefonias, 2012), and treatment outcomes of TB among children under DOTS therapy (Dereje, 2012) in different parts of Ethiopia. These empirical-data based studies have mostly emphasized on some aspects of the issues under consideration at micro-level. However, these studies do remain in-deterministic in their conclusions.

Therefore, it seems at least imperative to conduct a study on contribution of voluntary urban health extension interventions to the effectiveness and efficiency of the TB treatment Programme at least in major capital cities of Ethiopia – meso-level though social work perspectives. Thus, this study aims at assessing contributions of voluntary community-based urban health extension interventions in uptaking and adhering to TB Treatment in one of the sub-cities of Hawassa City of South Ethiopia.

Statement of the Problem

Tuberculosis is chronic infectious diseases affecting thousands of people in Ethiopia every year. This disease is a major cause of morbidity and mortality in Ethiopia, including Hawassa. The country belongs to the list of those countries most affected by the infectious disease. Compounded with HIV/AIDS, TB has become a formidable threat to the country in general and the Southern City in particular (WHO, 2012). The prevention and control as well as eventual elimination of this ancient scourge of mankind require concerted effort by all. Countries in the world have adopted different strategies and approaches to that effort.

In Mumbai of India, for example, there has been a widely accessible DOTS Programme in place under the Revised National Tuberculosis Control Program (RNTCP) for treatment of drug-susceptible tuberculosis treatment for drug-resistant, but such service was, until recently, only available through the private sector. A recent study from Lesotho in Africa showed that starting early empirical treatment for suspected MDR-TB patients using a community-based treatment approach in mainly HIV-infected adults resulted in high culture conversion, although significant mortality remained (Isaakidis et al., 2011).

In Ethiopia, a tuberculin survey was carried out during 1953 to 1955 showing an annual risk of infection of 3.0% in the same framework (FMoH, WHO and UNICEF, 2006). The second tuberculin survey was conducted between December 1987 and April 1990 and the results

indicated a risk of infection of 1.4% revealing a reduction of 2.2%, when compared to the first study (5, 6). A limitation of both surveys is that bacteriological parameters were not used to differentiate infection from disease prevalence.

Based on those empirical findings, three TB Centers were set up in the country in 1960s. The Central Office of the National Tuberculosis Control Programme (NTCP) was then established in 1976. In 1992, a standardized TB Prevention and Control Programme, incorporating Directly Observed Treatment, Short Course (DOTS), was started as a pilot in Arsi and Bale Zones of Oromia Region. The DOTS Strategy has been subsequently scaled up in the country and implemented at the national level. In 1994, it was decided to combine the National TB Control Programme and the Leprosy Control Programmes into one National Tuberculosis and Leprosy Control Programme (NTLCP), under the coordination and technical leadership of the MoH (FMoH, WHO & UNICEF, 2006).

The Epidemiology/AIDS Department of the MoH was further restructured and named the Disease Prevention and Control Department (DPCD) in June 2000. The TB and Leprosy Control Programme was subsequently accommodated within this Department and the former coordinating Office was renamed Tuberculosis and Leprosy Control Team (TLCT). Following the 2009 reform at the Federal Ministry of Health (FMoH), the TLCT was integrated with other communicable disease control activities and restructured under the newly formed Health Promotion and Diseases. At the national level, the Prevention General Directorate manages TB Programme who oversees a team of 11 TB Programme Officers who are assigned to each region.

Each regional state has a TB and Leprosy Unit that is led by a Regional TB Coordinator who oversees the harmonization of Programme design and implementation across the respective sub-cities, zones, and districts. These coordinators work closely with the district level full-time TB/HIV officers who have led the implementation of the TB Programme across their respective communities, including Primary Health Care Units (PHCUs). On average, there are one health centre and five satellite health posts within each district. Each health center has a designated TB Clinic, which is managed by a full-time and trained nurse. Each health post is staffed by two health extension workers.

Presently, there is a Comprehensive TB Prevention and Control Programme using DOTS Strategy and Voluntary Community-Based Approach at macro-, meso- and micro-levels in various socio-cultural, economic, and political contexts. Nevertheless, those above-stated efforts made to identify and treat the TB cases are far below satisfactory. This will further worsen the situation of the Ethiopian society members at different levels until the trend is reversed. Therefore, one may pose curiosity questions in the light of social work practice with TB patients in different contexts.

Research Questions

- What types of TB treatment have been provided by voluntary community-based health extension workers in the Sub-City in uptaking and adhering to the Strategy?
- What are the contributions of those intervening services provided by the health extension workers?
- To what extent, has the TB Treatment Strategy raised the levels of uptake and adherence to it? And
- What are the strengths and constraints of the TB Treatment Strategy in the Sub-City of Hawassa?

Objectives of the Study

The study is generally aimed at assessing the extent of contributions of voluntary community-based health extension workers to TB treatment uptake and adherence of the patients in Tula Sub-City of Hawassa City, South Ethiopia. Specifically, the study intends:

- To identify types of services provided to the patients enrolled in the TB Treatment Strategy in Tula Sub-City of Hawassa in South Ethiopia;
- To assess the contributions of HEWs in uptaking and adhering to TB Treatment in the study area;
- To examine the levels of uptake and adherence to the DOT TB Treatment Strategy and approach in the catchment areas in Hawassa City; and
- To identify strengths and constraints of the DOT Treatment Strategy in the study area.

Study Design and Methods

The researcher will employ non-experimental research design which involves a mixed research method. The mixed method will use both quantitative and qualitative research methods. Quantitatively, the researcher will use descriptive sample survey in order to give accurate pieces of information on the extent of contributions of HEWs to the uptake and the adherence of TB Treatment Tula Sub-City in Hawassa City under the auspices of the South Nations, Nationalities and Peoples Regional State (SNNPR), Ethiopia. In order to generate qualitative data and complement the quantitative data in the study, individual in-depth interviews with case informants through probing, semi-structured interviews with key informants, focus group discussions with a group of 12 persons, and documentary analysis using interview guide/protocol, FGD schedule/checklist and documentary analysis template/matrix, respectively will be used.

Universe of the Study

The universe of the study will encompass the study population consisting of TB patients under the treatment, health managers and policy makers, health extension workers in Hawassa City and Tula Sub-City, other health professions in TB Treatment Clinics/Units, voluntary community-based HEWs and local community representatives in the study sites. In the study, the researcher will consider those TB patients and stakeholders of the Treatment Programme at four kebeles and nine health centers which have been implementing TB DOTS Programme in the City in the years 2013 and 2014

Sampling Methods

The sample size comprises of 60 TB patient respondents that will be selected among the enlisted patients in the record (i.e. sampling frame) using systematic sampling method. These respondents will be identified and drawn from the available list of TB patients. To this end, the researcher will choose a random number between 1 and a sampling interval and then continue until the total number of sample of respondents will be drawn for the sample survey study in those areas. In addition, among those potential clients of the HEP, a total of 12 persons will be selected and become participants in the focus group discussions with the help of knowledgeable

guides in the areas under consideration. Besides, a total of five case informants and ten key informants will be interviewed to collect the qualitative data on those pertinent issues.

Data Collection: Tools and Procedures

The researcher will purposively select four kebeles and nine health centers as they have potential health posts. A structured interview schedule will be designed and used to largely collect quantitative data. This research instrument will be pre-tested and piloted in order to ensure the validity and reliability of the interview schedule as well as to check its soundness to the intended study purpose. To do so, the instrument will be translated from English into Amharic so that all respondents could respond understandably. Having pretested, conducted pilot study, generated feedbacks and incorporated them; the actual data will be undertaken by preparing enough copies of the interview schedule.

In the same manner, the interview guide/protocol with (detail) questions will be prepared, pretested and employed to conduct in-depth interviews with case informants, and with key informants for addressing the intended objectives of the study, respectively. The key informants will be the Programme Officers and Coordinators at kebele level using interview protocol to guide the interviewing process. All interviews with the informants will be arranged based on respective participants' convenience and will be conducted on a date, and at a place and time of their choices. The interviews will cover a wide range of questions on the work of the UHEP and their roles in uptaking of TB Treatment and adherence.

The other key data collecting instrument is focus group discussion (FGD) schedule/checklist. This is the instrument in qualitative research method which is preferred because it enables spontaneity in accessing people's ideas and thoughts at greater depth. The FGDs will be conducted with those patients utilizing services in TB Treatment Programme, health extension workers and other health care providers using the FGD schedule. It will be prepared in unstructured manner and administered in a group context. In addition, the researcher will use documentary analysis matrix in order to analyze the contents of different documents, such as TB Prevention and Control Policy, files on the Programme, published journal articles and research

reports, as well as unpublished relevant materials, including web-based files prepared elsewhere in the globe.

Data Processing and Analysis

Following the completion of quantitative and qualitative data collection, the data will be verified, organized and processed to make them ready for quantitative and qualitative data analyses. The data from the interview schedule will be verified, coded and fed into data entry template of the SPSS Version 20 software and then analyzed to produce outputs like frequency distribution, weighted mean and other measures of descriptive statistics. Besides, open-ended questions incorporated in the schedule will be carefully collected, summarized and then coded into five or six major categories, including other(s) category.

For the qualitative data, a thematic and an interpretive approach that seek to present a holistic view of data will be followed. Accordingly, the qualitative data will be checked for completeness, arranged categorically, and the responses will then be reduced in an interpretive manner in line with the objectives of the study. Thus, the results of the qualitative data analysis will be classified into themes and analyzed in normative way. In some cases, direct quotations from data sources will be used to present the informants' or participants' opinions and feelings in their own words and to give more meaning for the analysis.

In what follows, the findings from the quantitative data analysis and results of the qualitative data analysis will be compared, contrasted, complemented and interpreted by applying triangulation method(s). Finally, based on the interpretation and discussion of the findings and results of both types of data analysis, conclusion will be drawn. Both quantitative and qualitative data will then be used while writing-up the thesis in an integrated manner.

Organization of the Thesis

This document will consist five chapters. The first chapter introduces readers to background of the problem, statement of problem, research questions, objectives and definitions of key terms in the study, limitations of the study and organization of the thesis. Chapter two presents relevant conceptual/theoretical and empirical literature reviews on TB and related issues under investigation. Next, the thesis dwells on the study design and methods, including the background

of the study area. The fourth chapter focuses on data analysis, interpretation and discussion of those major findings and results in the study. The last chapter draws conclusions from those well-supported major findings in the study and then to suggest social work practice and interventions to address those constraints in voluntary community-based health extension workers' efforts to boost the rates of uptake and adherence to TB Treatment DOTS Strategy in urban context.

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